STORM SANDY MEDIATION TRAINING

Presented by the US District Court for the
Eastern District of New York
Gerald P. Lepp ADR Administrator
Robert M. Levy, ADR Judge

May 22, 2014

AGENDA

Moderators: *Simeon H. Baum, Esq.*
President, Resolve Mediation Services, Inc. (www.mediators.com)

Peter H. Woodin, Esq., JAMS

8:00 – 8:30 **Coffee and Sign-in**

8:30 – 8:35 **Analysis of Importance of Storm Sandy and Sandy Mediations**
Hon. Carol Bagley Amon, Chief Judge EDNY

8:35 – 8:50 **Description & Analysis of CMO – History and Context of Sandy Cases and Description of Case Management Order**
Hon. Cheryl L. Pollak
Hon. Gary L. Brown
Hon. Ramon E. Reyes, Jr.

8:50 – 9:00 **Description & Analysis of ADR Program**
Hon. Robert M. Levy

9:00 – 9:15 **Meteorological Overview**
I. Ross Dickman, Meteorologist-In Charge for the National Weather Service in New York

9:15 – 9:45 **The View from FEMA – Description & Analysis of FEMA Legal Compensation Scheme**
Ramoncito J. deBorja, Deputy Associate Chief Counsel, FEMA Office of Chief Counsel

9:45 – 10:30 **Plaintiffs' Liaisons Description & Analysis of Flood Issues**

10:30 – 10:40 **Break**

10:40 – 11:25 **Defendants' Liaisons Description & Analysis of Flood Issues**

11:25 – 11:45 **Flood Related Q&A Session**

11:45 – 12:30 **Plaintiffs' Liaisons Description & Analysis of Wind Issues**

12:30 – 1:15 **Lunch**

1:15 – 2:00 **Defendants' Liaisons Description & Analysis of Wind Issues**

2:00 – 2:20 **Wind Related Q&A Session**

2:20 – 3:05 **Mediation Process Reflections with Liaison Panelists**

3:05 – 3:15 **Break**

3:15 – 4:30 **Mediators' Forum & Q&A**

4:30 **Close**

You are Cordially Invited to the EDNY Mediators:

STORM SANDY MEDIATION TRAINING

Presented by the US District Court for the
Eastern District of New York
Date & Time: Thursday, May 22, 2014, 8:30 AM - 4:30 PM
Venue: The Brooklyn Court house of the Eastern District of New York
225 Cadman Plaza East, Brooklyn, New York 11201.
FREE OF CHARGE
Registration & Continental breakfast will be served at 8:00 AM
Lunch and refreshments will be provided.
(An Application for CLE credits will be filed)

Introduction by:
Hon. Carol Bagley Amon, Chief Judge EDNY

Hurricane Sandy Judicial Committee:
Hon. Cheryl L. Pollak
Hon. Gary L. Brown
Hon. Ramon E. Reyes, Jr.

ADR Program Introduced by:
Hon. Robert Levy

Meteorological Overview by Nationally Recognized Meteorologist

The View from FEMA:
Ramoncito J. deBorja, Deputy Associate Chief Counsel, FEMA Office of Chief Counsel, LLP

Briefing on Key Sandy Substantive Law and Issues by:

Plaintiffs' Liaison Counsel:
Javier Delgado, The Merlin Law Group, P.A.
Tracey Rannals Bryan, Gauthier Houghtaling & Williams

Defendants' Liaison Counsel:
Gerald J. Nielsen, Nielsen, Carter & Treas, LLC
Jared T. Griesman, White Fleischner & Fino, LLP

Special Mediation Process Considerations and Reflections

Including Mediator Forum

Program Moderators:

Simeon H. Baum, President, Resolve Mediation Services, Inc. *(www.mediators.com)*

Peter H. Woodin, JAMS

PLEASE RETURN THE ATTACHED REGISTRATION FORM BY PRESSING SEND

OR BY EMAILING THE REGISTRATION FORM TO: sandycases_nyed@nyed.uscourts.gov

THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF NEW YORK

STORM SANDY MEDIATION TRAINING

May 22, 2014

Program Moderators --
Simeon H. Baum, Esq., Resolve Mediation Services, Inc. (*www.mediators.com*)
Peter H. Woodin, Esq., JAMS

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8. Tracey Rannals Bryan, *Presentation of Particulars of Damages Related to Exterior Sheathing Caused by Flood (Via Hyperlink)*

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14. William F. "Chip" Merlin, Jr., *Corban v. USAA: A Case Providing Far too Little Because It was Rendered Far too Late*, 79 Miss. L.J. Supra 129 (2009)

15. Don Wood and John Wood, *Insurance Recovery After Hurricane Sandy: Correcting the Improper Depreciation of Intangibles Under Property Insurance Policies*, Torts, Insurance & Compensation Law Section Journal, New York State Bar Association, Volume 42, No. 1, Winter 2013 Issue

16. Clay F. Morrison, *Reference Materials Regarding Building Components Affected by Windstorm, Resulting Water Intrusion, and Technical Publications*

17. Merlin Law Group, P.A., *Business Income Losses Caused by Hurricane Sandy Are Recoverable Despite Anti-Concurrent Causation Exclusions*, January 20, 2013 (http://www.propertyinsurancecoveragelaw.com)

18. Merlin Law Group, P.A., *Avoiding the Anti-Concurrent Causation Trap – Understanding Business Interruption Claims*, Part 59, February 6, 2011 (http://propertyinsurancecoveragelaw.com)

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Resolve Mediation Services, Inc.

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(212) 753-0396 (fax)
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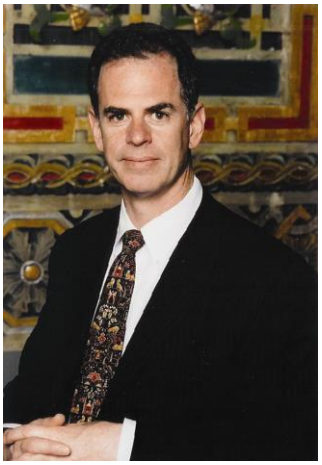
(www.mediators.com)

Simeon H. Baum
President



Simeon Baum, President of Resolve Mediation Services, Inc., has successfully mediated over 1,000 disputes. He has been active since 1992 as a neutral in dispute resolution, assuming the roles of mediator, neutral evaluator and arbitrator in a variety of cases, including the highly publicized mediation of the Studio Daniel Libeskind-Silverstein Properties dispute over architectural fees relating to the redevelopment of the World Trade Center site, Trump's $ 1 billion suit over the West Side Hudson River development, and Archie Comics' shareholder/CEO dispute. He was selected for New York Magazine's 2005 - 2014 "Best Lawyers" and "New York Super Lawyers" listings for ADR, and Best Lawyers' "*Lawyer of the Year*" for ADR in New York for 2011 and 2014, and for the International Who's Who of Commercial Mediation Lawyers 2012-14.

An attorney, with 30 years' experience as a litigator, Mr. Baum has served as a mediator or ADR neutral in a wide variety of matters involving claims concerning business disputes, financial services, securities industry disputes, reinsurance and insurance coverage, property damage and personal injury, malpractice, employment, ERISA benefits, accounting, civil rights, partnership, family business, real property, construction, surety bond defaults, unfair competition, fraud, bank fraud, bankruptcy, intellectual property, and commercial claims.

Mr. Baum has a longstanding involvement in Alternative Dispute Resolution ("ADR"). He has served as a neutral for the United States District Courts for the Southern and Eastern Districts of New York Mediation Panels; New Jersey Superior Court, Civil Part, Statewide; Commercial Division, New York State Supreme Court, New York & Westchester Counties; U.S. Bankruptcy Court, Southern & Eastern Districts of New York; the New York Stock Exchange; National Association of Securities Dealers; the U.S. Postal Service, the U.S. Equal Employment Opportunity Commission, and CPR, and National Academy of Distinguished Neutrals (NADN), among others.

Mr. Baum's peers have appointed him to many key posts: e.g., Member, ADR Advisory Group, Commercial Division, Supreme Court, New York County; ADR Advisory Group and Mediation Ethics Advisory Committee, N.Y. State Unified Court System. Founding Chair of the N.Y. State Bar Association's Dispute Resolution Section, he was also subcommittee chair of the N.Y. State Bar Association's ADR Committee; Legislative Tracking Subcommittee Chair of the ADR Committee of the Litigation Section of the American Bar Association; Charter Member, ABA Dispute Resolution Section Corporate Liaison Committee; President, Federal Bar Association's SDNY Chapter, and Chair of the FBA's national ADR Section. He is past Chair of the New York County Lawyers Association (NYCLA) Committee on Arbitration and ADR. Besides serving on the NYCLA's Committee on Committees, he is past Chair of the Joint Committee on Fee Dispute and Conciliation (of NYCLA, ABC NY, and Bronx County Bar Associations), and is on the Board of Governors, NYS Attorney-Client Fee Dispute Resolution Program. He is also a Fellow of the American Bar Foundation. He is a Director for the New York NADN panel.

Mr. Baum has shared his enthusiasm for ADR through teaching, training, extensive writing and public speaking. He has taught ADR at NYU's School of Continuing and Professional Development, and he teaches Negotiation, and Processes of Dispute Resolution (focusing on Negotiation, Mediation and Arbitration) at the Benjamin N. Cardozo School of Law. He developed and conducts 3-day programs training mediators for the Commercial Division, Supreme Court, New York, Queens, and Westchester Counties. He has been a panelist, presenter and facilitator for numerous programs on mediation, arbitration, and ADR for Judges, attorneys, and other professionals. Mr. Baum is a graduate of Colgate University and the Fordham University School of Law.

PETER H. WOODIN

Peter H. Woodin is a mediator and arbitrator with JAMS, where he specializes in the resolution of complex, multi-party litigation. He has successfully mediated settlements in a wide range of disputes, including insurance coverage, products liability and personal injury, environmental contamination and Superfund, consumer class actions, professional liability, intellectual property, employment discrimination, trusts and estates, and numerous other business and commercial matters. He has served as settlement administrator, court-appointed mediator and special master in various multi-district and other complex litigations involving pharmaceuticals and other products (Zyprexa, Baycol, DES, Agent Orange), investment partnerships, employment discrimination, and governmental audits. He also served as Deputy Special Master for the federal September 11 Victims Compensation Fund and, serving as party-appointed mediator, designed and implemented an ADR program for the mediation of claims in the 1993 World Trade Center Bombing Litigation.

Mr. Woodin is a graduate of Columbia Law School, where he was a Stone Scholar and editor of the Law Review, and subsequently served as law clerk to Judge Jack B. Weinstein (EDNY). In addition to his ADR practice at JAMS, Mr. Woodin currently teaches negotiation as an adjunct professor at Columbia Law School and has appeared as a speaker and panelist on numerous court-related and other educational programs around the country. He is active in various bar associations, including service as the immediate past Chair of the ADR Committee of the Association of the Bar of the City of New York. A detailed professional bio for Mr. Woodin may be found on the JAMS website at http://www.jamsadr.com.

TRACEY RANNALS BRYAN

In the last twenty-one years of practice, Tracey Rannals Bryan has achieved substantial verdicts and settlements for her clients. Now, as Of Counsel in the firm of Gauthier, Houghtaling & Williams she represents seriously injured persons, families of brain damaged children, students who have been sexually assaulted by teachers, and numerous other persons and companies in wide-ranging disputes.

Ms. Bryan has prosecuted numerous automobile collision and medical malpractice cases involving severe personal injury and wrongful death. She possesses specialized knowledge in cases involving birth trauma, failure to timely diagnose cancer, and specializes in disaster recovery cases nationwide. Ms. Bryan also litigates complex product liability and premises liability cases.

After earning a degree in Political Science from Newcomb College of Tulane University in 1990, Ms. Bryan graduated with a law degree from Tulane University School of Law in 1993, where she was an attorney in the Tulane Civil Law Clinic. She practiced for several years as a defense attorney in New Orleans, representing various corporations and insurance companies. Since 1996, Ms. Bryan has been an Adjunct Professor of Law at Tulane Law School, teaching senior law students Trial Advocacy skills, and was recently named one of the top attorneys in New Orleans by City Business. She is a frequently sought-after speaker at seminars and institutes for fellow professionals. Earlier this year she was appointed by the United States District Court, Eastern District of New York as Plaintiffs' Liaison Counsel in Hurricane Sandy Litigation.

Ms. Bryan is a member of the American Association for Justice, Louisiana Association for Justice and the New Orleans, Louisiana State, Federal, and American Bar Associations. She is admitted to practice before the United States Supreme Court; United States Court of Appeals; Fifth Circuit; United States District Court, Eastern, Western, and Middle Districts of Louisiana; and the Eastern and Southern Districts of New York, and all Louisiana State Courts.

Ms. Bryan is the mother of four children, and she is also the co-founder and President of the Jack of Hearts Foundation, which is dedicated to funding pediatric cardiac research, to improve survival rates for children with complex heart defects, one of whom is her son, Jack.

Personal Information

Updated January 30, 2014

Name**: Rocco Calaci**
Address**: 302 Vaughan Street, Fort Walton Beach Florida 32548**
Telephone: **850-830-8656**
e-mail: **rjsm99@hotmail.com**

Curriculum Vitae

Education

- Master of Science degree – International Relations; Troy State University (1989)
- Bachelor of Arts degree - Eastern Illinois University (1984)
- Department of Defense Weather Specialist School (1968)
- Department of Defense Weather Technician Course (1978)
- Department of Defense Severe Weather Course (1981)
- Department of Defense Tropical Forecasting Course (1983)
- Department of Defense Radar Interpretation Course (1988)
- Department of Defense WSR-88D NEXRAD Doppler Radar Course (1994)
- Department of Defense WSR-88D NEXRAD Doppler System Manager Course (1994)
- National Weather Service symposiums on hurricane characteristics (1993, 1994, 1997, 2000, 2010)
- Several seminars and symposiums conducted by the American Meteorological Society on hurricane development. (2010, 2011)
- Several seminars sponsored by Florida State University Meteorology Department on Gulf Coast severe weather patterns surrounding hurricanes and tornadoes (1994,1995)

Experience

- Total of over 40 years experience in meteorology for the Department of Defense and commercial agencies as a weather observer, forecaster, instructor, and consultant on a global scale (United States, Europe, Asia)

- Total over 30 years directly involved with the analysis, tracking, and forecasting tornadoes, hurricanes, and typhoons on a global scale.

- Over 25 years of expertise in severe weather along the Gulf Coast, including waterspouts, tornadoes, hurricanes, and severe thunderstorms. Provided in-depth analysis and re-construction of the following storms:

  - Tropical Storm Alberto and Tropical Storm Beryl (1994)
  - Hurricanes Erin and Opal (1995)
  - Hurricane Danny (1997)
  - Hurricane Charley, Frances, Ivan and Jeanne (2004)
  - Tropical Storm Cindy, Hurricane Dennis, Katrina, Rita and Wilma (2005)
  - Tropical Storm Fay and Hurricane Ike (2008)
  - Hurricanes Isaac and Sandy (2012)

- Director; Meteorological Operations for White House activities. Developed numerous forecasts for such functions as 2004 presidential inauguration, White House outdoor activities and Pentagon flight operations (2001 – 2005).

Javier Delgado, Esq.

Merlin Law Group, P.A.

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Bar Admissions
Florida
Texas
New York
District of Columbia
U.S. District Court, Middle District of Florida
U.S. District Court, Southern District of Florida
U.S. District Court, Northern District of Texas
U.S. District Court, Eastern District of Texas
U.S. District Court, Southern District of Texas

Education
Nova Southeastern Law University, Fort Lauderdale, Florida
Juris Doctorate (2001)

Florida International University, Miami, Florida
Bachelor of Science, Criminal Justice (1995)

Classes/Seminars Taught
"Superstorm Sandy: Lessons Learned: Now What?- Anti-Current Causation: Wind or Flood?"- WIND Regional Symposium, May 2014, Newark, New Jersey

"Panel Discussion: BI & CBI? What Makes it so Complex? A Legal, Financial, Actuarial and Modeling Perspective"- EQECAT 2014 U.S. Catastrophe Modeling Conference, May 2014, Ft. Lauderdale, Florida

"Environmental Claim Considerations- Part II"- FAPIA Spring Conference, May 2014, Ft. Lauderdale, Florida

"A Basic Understanding of National Flood Insurance"- South Florida Condo & HOA Expo, April 2014, Miami, Florida

"WIND Appraiser Certification®" - Windstorm Insurance Network Annual Conference, January 2013

"Hiring Qualified Expert Witnesses & How to Use Expert Witnesses in Court" – The Engineering Science and Mathematics of Forensic Investigations Lab Day Event, Texas, June 2012

"The Main Event"- 36th Annual Convention of the National Association of Catastrophe Adjusters, Inc., January 2012, Las Vegas, Nevada

"WIND Umpire Certification, WIND Umpire Recertification", Windstorm Insurance Network Annual Conference, January 2011

"The Appraisal Process: Theory, Reality, or Extinction," WIND, January 2010

"Learning From Those on the Other Side of Claims Negotiations: Persuasive, Professional, and Ethical Techniques of Adjustment for the Policyholder," FAPIA Summer Conference 2010

"Proofs of Loss, EUOs, & Requests for Documentation," FAPIA Winter Conference 2010

"Tales from the Dark Side," FAPIA Winter Conference 2010

"Speed Adjusting: A Fast and Furious Look at the Concerns and Considerations of Insurance Claims and How They Can Affect Public Adjusting," FAPIA Summer Conference 2009

"The current legal state of law in Galveston with respect to Hurricane Ike cases," Seminar for Texas Public Adjusters, 2009

"The Merlin Guide: How to ethically and efficiently adjust claims in Texas," Seminar for Texas Public Insurance Adjusters, 2009

"Maximizing Recovery: Best practices and surrounding Law and Ordinance coverage, ACV, RCV, Matching, and Building Codes," Seminar for Texas Public Insurance Adjuster, 2009

"Instructor of Windstorm Umpire Certification Course," The Law in Texas on Insurance Appraisals

Professional Associations and Memberships

American Bar Association Tort, Trial, and Insurance Section
American Bar Association Construction Law Section
Florida Real Property Section

Texas Insurance Law Section
Texas Litigation Law Section
Texas Consumer and Commercial Law Section
Texas Section on Hispanic Issues
District of Columbia Tort Section
District of Columbia Affairs Section
District of Columbia Antitrust and Consumer Law Section
Former Insurance Property Adjuster
Houston Hispanic Chamber of Commerce
American Association of Justice
Florida Association of Public Insurance Adjusters (FAPIA) Associate Member
New York Bar Association
Windstorm Insurance Network
Windstorm Certified Appraisal Umpire

RAMONCITO J. DEBORJA

Ramoncito "Chito" deBorja is a Deputy Associate Chief Counsel with the Department of Homeland Security, Federal Emergency Management Agency, Office of Chief Counsel in the Federal Insurance and Mitigation Administration Legal Division. Mr. deBorja is responsible for handling, overseeing, and coordinating litigation arising out of programs nationwide administered by the Federal Insurance and Mitigation Administration ("FIMA"). A substantial portion of Mr. deBorja's practice area involves litigation dealing with the National Flood Program ("NFIP"), a program administered by FIMA. Prior to becoming a Deputy Associate Chief Counsel with FEMA in 2010, Mr. deBorja served as a Trial Attorney beginning in 1999. Mr. deBorja also served as an Assistant City Solicitor with the City of Philadelphia Law Department from 1995 through 1999. Mr. deBorja is a 1994 graduate of the Syracuse University College of Law. He earned his Bachelor of Arts in 1991 from California State University, Long Beach. Mr. deBorja is licensed to practice law in the state of Pennsylvania.

- Directed technical support for meteorological operations to the NASA Space Shuttle program (2003 – 2005) Edwards AFB California..

- Director of Meteorological Support for the following facilities: (2001 - 2006)

    - US Army Chemical Warfare Center (Fort Leonard Wood Missouri)

    - US Army UAV Development Program (Fort Huachuca Arizona)

    - US Army Helicopter Training Program (Fort Rucker Alabama)

    - Joint Command Anti-Ballistic Missile Program (Kwajalein Atoll, Pacific Ocean)

    - US Naval Pilot Training Center (Kingsville Texas)

    - Department of Defense Armament Test Center (Eglin AFB, Florida)

- Director; typhoon development and prognosis techniques in support of the Ballistic Missile Defense Command in the Pacific Ocean for the Department of Defense (2003-2005)

- Chief Meteorologist StormGeo Inc. Directed expansion of forecasting client list. Developed new methods for hurricane development and forecasting. Performed site specific forecasting for various clients in the Gulf of Mexico, West Africa, Norway and Brazil.

- Forensic meteorologist for the past 17 years. I am responsible for determining the exact details of how hurricanes, hail, high speed winds and other meteorological elements affected a site specific address during any given storm. This consists of an analysis of all surface and upper air wind conditions, radar and satellite imagery, microburst potential, severe weather, wind shear and numerous other weather elements.

- Federal certification as a meteorologist across the United States and globally for almost 40 years. (1968 - 2007)

- Federally certified in the operation and interpretation of NEXRAD Doppler weather radar products. This certification is rare outside of government agencies.

- Member of Forecast Improvement Group, American Meteorological Society. The FIG is designed to find new techniques and prognosis methods to improve the accuracy of meteorological forecast products.

- Recognized as expert witness by Federal court in the area of forensic meteorology; specifically re-construction and interpretation of weather events surrounding hurricanes and other severe weather events.

- Meteorological support director for over 100 Top Secret projects for the US Government. (1970 - 2006)

- Selected by Department of Defense to develop Single Station Analysis and Forecasting Course for Air Force and Marine Corps personnel. This course taught advanced analysis and forecasting techniques based upon limited data. This course is the basis for meteorologists deployed to Iraq and Afghanistan in support of military operations.

- Responsible for the development and management of operational hurricane support and severe weather forecasting to the US Army from 2001 to 2005 for 9 locations.

I. Ross Dickman

I. Ross Dickman is the Meteorologist-In-Charge of the National Weather Service Forecast Office covering the New York City Metropolitan Area. He leads a team of top meteorologists and hydrologists responsible for issuing forecasts and warnings for nearly 20 million persons living in southern Connecticut, southeast New York, northeast New Jersey, Long Island and New York City. Working closely with media, state and local emergency management, he is a passionate leader whose innovation has improved weather forecast accuracy and warning lead times, saving lives and property. Ross has a deep commitment to public service that began in 1990 after receiving a B.S. in Meteorology from Penn State University. He has worked in various NWS locations from California to Massachusetts to Puerto Rico to New York. Ross was one of the key meteorologists at National Weather Service in Boston during Hurricane Bob and the Halloween Eve Storm of 1991, better known as "The Perfect Storm." Ross joined management by 1995 as the severe weather and regional aviation meteorologist at National Weather Service's Eastern Region Headquarters in Bohemia, N.Y. In 2004, Ross became deputy chief of the Eastern Region Meteorological Services Division where he provided policy development and oversight for thirty one field offices. This responsibility lead to his current position in 2008 where he has dealt with a myriad of weather-related hazards affecting the NY region, including Hurricane Irene and Superstorm Sandy.

ROBINSON & COLE LLP
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Gerald P. Dwyer, Jr.

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ADMISSIONS

Commonwealth of Massachusetts
State of Connecticut
State of New York
U.S. District Court, District of Connecticut
U.S. District Court, District of Massachusetts
U.S. District Court, Eastern District of New York
U.S. District Court, Northern District of New York
U.S. District Court, Southern District of New York

Kip Dwyer is a member of the Litigation Section and focuses his practice on complex commercial litigation. Admitted to practice in New York, Connecticut, Massachusetts, and Washington, Mr. Dwyer has a geographically expansive practice, maintaining a presence in both our firm's New York City and Hartford offices.

Mr. Dwyer primarily represents insurance and financial services companies in significant litigation involving various insurance-related activities and products, ranging from marketing of flood insurance to the scope and availability of business interruption coverage for the terrorist attacks on September 11. He is currently representing major carriers in the litigation concerning Hurricane Katrina losses in Louisiana and Mississippi. Mr. Dwyer serves as national coordinating counsel for a major Connecticut-based insurer in Hartford on Chinese drywall claims. In addition to his insurance-related practice, Mr. Dwyer also represents clients in other commercial disputes, including securities fraud, unfair trade practices, construction defect, and products liability matters.

Mr. Dwyer also has extensive experience in the increasingly important area of electronic discovery, including the pitfalls involved in litigation holds and document preservation generally; the reasonable retrieval of archived, damaged, or fragmented data; and the effective use of current discovery rules to obtain an adversary's electronically stored information.

Mr. Dwyer frequently writes and lectures on matters of concern to the insurance industry. He is an adjunct professor in the Insurance LL.M. program of the University of Connecticut School of Law. Mr. Dwyer has been named to the Metro New York ***Super Lawyers***® list in the area of Insurance Coverage since 2006 (*Super Lawyers* is a registered trademark of Key Professional Media, Inc). In addition, Mr. Dwyer previously chaired Robinson & Cole's in-house litigation and trial skills program.

Prior to joining the firm, Mr. Dwyer practiced in the law department of a prominent Hartford-based insurer. In that position, he managed coverage and claims-handling litigation against the carrier pending in courts throughout the country.

EDUCATION

- J.D., magna *cum laude*, Gonzaga University School of Law
- A. B., Colgate University, History.
- LL.M., with distinction, Georgetown University, International and Compliance Law

PROFESSIONAL ASSOCIATIONS

- American Bar Association, Tort and Insurance Practice Section, Property Insurance Committee, 2001 to present, Vice Chair; Newsletter Editor, 2001 to 2005
- Connecticut Bar Association, 1998 to present, International Law Section of Young Lawyers Division, 1999, Cochair; Insurance Committee, 2007 to 2009, Presenter and Moderator

- New York State Bar Association

COMMUNITY INVOLVEMENT

- Connecticut Children's Medical Center, 2008 to present, Member of Quality Subcommittee to the Board of Directors)
- Hike for Tikes, Co-founder
- Travelers Claim University, Instructor
- University of Connecticut School of Law, Adjunct Professor
- *University of Connecticut Insurance Law Journal*, Peer Reviewer

HONORS & AWARDS

- Listed in Connecticut and Metro New York *Super Lawyers*® in the area of Insurance Coverage since 2006 (Super Lawyers is a registered trademark of Key Professional Media, Inc.)
- Named as Robinson+Cole "Mentor of the Year" in 2008 & 2011

WHITE FLEISCHNER & FINO, LLP

Jared T. Greisman

Partner

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Download my V-card

Print this biography

Jared Greisman joined White Fleischner & Fino in 1997 and handles many aspects of civil litigation, including insurance coverage and subrogation, and litigation of matters involving business disputes (hedge fund advisors, collateral managers, partnerships), torts, construction defects, faulty products and equipment. Jared has appeared in numerous state and federal courts, at the trial level and the appellate level, throughout the United States on behalf of domestic and foreign insurers and businesses.

News

THE UNITED STATES DISTRICT COURT, EASTERN DISTRICT OF NEW YORK, APPOINTS JARED GREISMAN AS DEFENDANTS' LIAISON COUNSEL FOR HURRICANE SANDY CASES

JARED GREISMAN SUCCESSFUL IN ARGUING IN NEW YORK'S HIGHEST COURT AGAINST OPEN-ENDED EXPOSURE FOR PUBLIC WORKS CONTRACTORS

Practice Areas

Insurance Coverage

Subrogation

Commercial

Personal Injury and Property Damage Liability Defense

Memberships

Florida Bar Association

Bar Admissions

New Jersey 1998
New York 1999
Florida 2001
U.S.D.C., S.D.N.Y.
U.S.D.C., E.D.N.Y.
U.S.D.C., D.N.J.

Education

Cornell Law School
J.D., 1997

Rollins College
B.A., 1992

- Selected by NASA to assist in post-accident investigation on the explosion of Atlas-Centaur rocket at Kennedy Space Center (1987)

- Publishes Daily Weather Newsletter received by approximately 4000 recipients including the FAA, several regional airports, emergency management facilities along the Gulf Coast, law enforcement agencies, off-shore companies and a variety of private businesses and individuals.

- Selected by the Department of the Air Force to perform several post-event meteorological evaluations involving tornadic/tropical storm activity on a world-wide basis (1985-1994)

- Instructor for the Department of Defense in several meteorological subjects including Severe Weather Forecasting, Radar Interpretation, Prognosis Techniques, and Satellite Meteorology (1981-1984)

- Worked with the Japanese Meteorological Agency in the development of forecast techniques for Pacific typhoons (1985-1986)

- Conducted the first NEXRAD Doppler Workshop on Tropical Systems in 1994 involving Department of Defense and National Weather Service. Initiated several forecasting techniques used in evaluation of potential damage caused by tropical systems.

- Developed NEXRAD Doppler Interpretation training course for Eglin AFB, Hurlburt AFB, and Pensacola NAS (1990-1996)

- Awarded Master Meteorologist badge by the US Air Force (1990)

- Worked with Unisys as an operational meteorological consultant in development of several NEXRAD products used for the analysis, tracking, and forecasting of severe weather, including tropical systems (1991-1993)

- Worked on committee consisting of Department of Defense, National Weather Service, and Federal Aviation Administration personnel to administer operating procedures for Northwest Florida NEXRAD Doppler radar 1993 to 1996.

- I am a Viet Nam War veteran

- Member of the Aviation Meteorology Council, National Weather Association.

John W. Houghtaling II - Biography

John Houghtaling is managing partner and majority owner of Gauthier, Houghtaling and Williams, the law firm that paved the way to the $358 billion dollar U.S. tobacco settlement in 1998. The firm specializes in claim insurance litigation, with offices in New Orleans, Houston and New York. Houghtaling concentrates on disaster recovery law. In 2005 he was hired by the attorney general of Louisiana to protect policyholder rights in the wake of Hurricane Katrina. Over the years he has amassed settlements and verdicts of over $300 million for his individual clients, including over $100 million dollars for property owners following Hurricanes Ike and Katrina. In response to the BP Horizon Oil Spill in 2010, Houghtaling teamed with business partner and actor, Kevin Costner, to promote new technology to combat environmental damage to the Gulf of Mexico. For the last six years, Houghtaling has ranked as one of CityBusiness Magazine's top 50 lawyers in New Orleans, and he was named a Louisiana SuperLawyer in 2010 through 2012. In addition, Houghtaling chairs numerous charitable fundraising campaigns, including raising over a million dollars in 2012 for the Harris County Sheriff's Office Foundation.

Anthony Johnson

Meteorologist
A.M.S. Certified Consulting Meteorologist #433
A.M.S. Television Seal of Approval #265
A.M.S. Certified Broadcast Meteorologist #8

3912 W. Dale Ave.
Tampa, FL 33609
813-878-2929
AJohnsonWX@gmail.com

33 Years of Broadcast Weather Experience in a Top 20 Market

Education

Bachelor of Science, Cum Laude,
Florida State University, 1979
Major: Meteorology; Minor: Mathematics
University of South Florida, 1976
Harris Computers Systems Training, Ft. Lauderdale 1979 & 1980
University of Wisconsin, Madison – McIDAS Programming 1980 & 1989
National Severe Storms Forecasting Seminar, Kansas City, 1983
National Hurricane Center Forecasting Course, Miami, 1984
McIDAS User's Group, U.W., Madison, annually 1989-1997
Governor's Hurricane Conference, annually 1994-1997 & 2001
National Hurricane Conference, 1999-2001
A.M.S. Weathercaster's Conference, 1982, 1999-2001, 2010
A.M.S. Annual Meeting 1982, 2001

Experience

Meteorologist, WTVT, Tampa, FL 1979-2013

The station was a CBS affiliate initially and became a FOX O&O in 1997. WTVT was named the #1 Fox affiliate in the country for 2 years and was the #1 CBS affiliate in the Southeast in the 1980's. Produced and anchored weathercasts for Good Day Tampa Bay and for 6p.m. and 10p.m. weathercasts on weekends. Conducted research for and anchored special weather packages such as "Surviving the Storm". Have anchored weathercasts in all time slots at different points in time throughout my career. "Owned" the weather story in many severe weather situations including hurricane coverage. Energetic, love weather and interact well with news anchors. Coordinated with vendors and scheduled weather personnel. Developed, implemented and maintain an internship program. Evaluated and procured hardware and software weather packages from vendors. Wrote a newsletter and maintained a severe weather observer network of 250 observers. Experienced in all operations of radar, satellite (GOES, POES, METEOSAT), DIFAX and Family of Services hardware and software. Assisted in the design of the weather office facility and its functionality. Wrote articles for a Hurricane and Severe Weather Guide. Implemented the first all-computer graphics weather presentation in the country in 1979.

Jeffrey Major is currently Chief Operating Officer and Executive Vice President of Canopy Claims Management LLC. Mr. Major has over 30 years of experience in the construction and insurance claims fields. From 1983 through 1992 Mr. Major was a general contractor and he has remained involved in construction projects as a subcontractor consultant/estimator and construction project manager. He has inspected or consulted on the new construction of a wide variety of structures including single family dwellings, historic properties, commercial properties, schools, high rise mixed use buildings, and various other types of properties.

Beginning in 1990 Mr. Major worked as an estimator and claims adjuster eventually acquiring the firm Professional Adjusters, Inc. Following his successful acquisition of Professional Adjusters Inc., from 1998 until 2011 he was president of The Major Group Inc. a construction consulting, estimating, and adjusting company. Since 2011 he has been CEO of Property Casualty Solutions Inc. and CEO of Major Property Consulting. In December 2012 he also became COO and executive vice president of Canopy Claims Management.

Over the past 24 years Mr. Major has estimated, consulted, and adjusted over 1500 claims totaling over $350,000,000. Since 1992 he has inspected, estimated, and adjusted claims resulting from more than ten major storms including Hurricanes Andrew, Ivan, Jean, Charles, Wilma, Katrina, Rita, Ike, Irene, and Sandy. Mr. Major holds public adjusting licenses in the states of New Jersey, Kentucky, Nevada, New York, Oklahoma, South Carolina, Texas, Utah, Virginia, and Vermont. He is also a registered with the National Insurance Producer Registry.

Meteorological Consultant, Weathervision, 1979-1998
Provided forecasting services for agricultural interests, utilities, shipping and pilots. Performed weather investigations for insurance companies and provided expert testimony in court cases.

Instructor, International Academy, 2000
Taught a 3 credit hour college level course in meteorology.

Water Resources Planner, Southwest Florida Water Management District, 1978.
Installed and maintained hydrometeorological weather instruments. Collected and analyzed data from those instruments.

Law Firm of Gregory, Cours, Paniello, Johnson & Hayes, et al., 1978.
Bid on real estate foreclosures. Researched precedents in legal cases for attorneys.

Honors

Graduated cum laude
Member of Phi Beta Kappa, Arts & Sciences Honor fraternity
Inducted into Chi Epsilon Pi, Meteorological Honor fraternity
Inducted into Pi Mu Epsilon, Mathematics Honor fraternity
Who's Who in Science and Engineering, 1992-present
Who's Who in the World, 1993-present
Who's Who in America 1999-present
Who's Who in the South and Southwest, 1997-present

Professional Membership

American Meteorological Society, National Chapter
West Central Florida Chapter of the American Meteorological Society –
President 1989-1991 & 1994-2010
Vice President 1984-1985
Secretary 1983-1984
American Association for the Advancement of Science

Equipment Used

Meteorologix (Kavouras): Triton i7 and RADAC 2100
Weather Central: Genesis, ADONIS, Metline, Storm Sentinel & MagicTrack
Enterprise: Radar
Baron: Storm Track Radar
LPATS: Lightning Position and Tracking System
McIDAS: X, XCD, XSD, UNIDATA/ Alden: Difax

Community Service

Wrote the meteorological portion of Tampa's 2012 Olympic bid.
Speak on weather at schools, Kiwanis clubs & churches
Participate in local celebrity fundraisers
Volunteer as a school enrichment volunteer
Participant in "The Great American Teach-In"
Participant in The March of Dimes "Walk America"

WILLIAM F. MERLIN, JR., ESQUIRE

Florida Board Certified Civil Trial Lawyer

Merlin Law Group, P.A.

777 S. Harbour Island Boulevard, Suite 950, Tampa, FL 33602

PH (813) 229-1000 FAX (813) 229-3692

EDUCATION

- Juris Doctorate, University of Florida, 1982
- Bachelor of Science, Business Administration, University of Florida, 1980

EDUCATIONAL HONORS

- Law Review – Executive Editor
- Moot Court
- Florida Blue Key Leadership Honorary
- Omicron Delta Kappa Scholastic Honorary
- SAVANT Leadership Honorary
- Who's Who Among College and University Students

EXPERIENTIAL DIGEST

- *1996 - Present*

Merlin Law Group, P.A.

Practice limited to Insurance Dispute Resolution, Insurance Claim Documentation and Presentation, and Insurance-Related Litigation on Behalf of Policyholders and Claimants; Bad Faith Litigation; Civil Trial; Insurance Agent Negligence.

- *1985-1996*

William F. Merlin, Jr., P.A.

Practice limited to Insurance Dispute Litigation on Behalf of Policyholders and Claimants; Bad Faith Litigation, Civil Trial

- *1982-1985*

Butler, Burnette & Freeman, P.A.

Property Insurance Defense

PUBLIC SPEAKING ENGAGEMENTS, SEMINAR PAPERS AND AWARDS

- **AV Rated Martindale Hubble**

- **Award,** *Best Lawyer in America*

- **Award,** LexisNexis Insurance Law Center Person of the Year 2008 Policyholder Attorney of the Year, Honorable Mention, 2008

- **Award,** *Florida's SuperLawyers,* 2007-2012

- **Award,** *National Association of Public Insurance Adjusters* (*NAPIA) Co-Person of the Year*, 2007

- **Award**, *Florida Trend's* 2004-2012 Florida Legal Elite; one of 800+ attorneys (or 1.6% of lawyers practicing in the State of Florida) – one of seven in the field of Insurance Law.

- **Award**, 2002, Outstanding Amicus Brief of the Year, United Policyholders (ATLA Winter Convention 2002)

- **Award**, 1990 Eagle Talon, *For Dedication to the Highest Ideals of The Academy of Florida Trial Lawyers.*

- Speaker, "*Gulf Coast & Southeast Insurance Case Law Update*" WIND 2013

- Speaker, "*Making the Expert Opinion Count & Current Issues of Concern to Public Adjusters*" NAPIA Mid-Year Meeting 2012

- Speaker, "*Practical Lessons Public adjusters Can Learn From Recent Litigation Against Insurers*" 2012 FAPIA Fall Conference

- Speaker, "*The Theory of Indemnity and What Constitutes a Loss*" FPCC Conference 2012

- Speaker, "*Trying Your Catastrophe Claim in the Court of Public Opinion*" 2012 FJA Meeting

- Speaker, "*Appraisals, Ethics, and Bad Faith Issues*" 2012 TAPIA Spring Conference

- Speaker, *"Gulf Coast Case Law"*, WIND 2010 and Texas WIND

- Speaker, *"The Legal, Ethical and Practical Adjustment Issues from Windstorm Claims to Walls, Windows, and Roofs"* FAPIA Winter Conference 2010

- Speaker, *"The Legal, Ethical and Practical Adjustment Issues from Windstorm Claims to Walls, Windows, and Roofs"*, WIND 2010

- Speaker, *"Hospitality Industry Insurance Litigation Update"*, The Hospitality Law Conference 2009

- Speaker, *"Completing and Complying With the Technical and Practical Requirements of Proofs, Loss, Examinations Under Oath, Request for Documents, Inspection of Premises, and General Requests for Cooperation"*, FAPIA Mid-Year 2009

- Speaker, "*Discovery of Insurer Misconduct – Uncovering Pattern & Practice"* Insurance Bad Faith and Settlement Institute 360 Advocacy Institute 2009

- Speaker, *"Fully Understanding How Windstorms Affect Buildings is Crucial to Proper Adjustment and Valuation"* NAPIA FPCC Conference 2009

- Speaker, *"Subrogation Do's and Don'ts", NAPIA FPCC Conference 2009*

- Speaker, *"Speed Adjusting, A Fast and Furious Look at the Concerns and Considerations of Insurance Claims and How They Can Affect Public Adjusting"*, FAPIA Summer Conference 2009

- Speaker, *"The Merlin Guide: How to ethically and efficiently adjust claims in Texas*", Seminar for Texas Public Adjusters, 2009

- Speaker, "*The Process Matters: Appraisals, Prompt Payment and Bad Faith in Texas",* Seminar for Texas Public Adjusters, 2009

- Speaker, *"Fact or Fiction: Expert analysis of Hurricane Ike*", Seminar for Texas Public Adjusters, 2009

- Speaker, *"Maximizing Recovery: Best practices and surrounding Law and Ordinance coverage, ACV, RCV, Matching, and Building Codes",* Seminar for Texas Public Adjusters, 2009

- Speaker, *"Successful Solicitations and Salutations: Sell and Close Right to Succeed*", FAPIA, 2009

- Speaker, *"Electronic Discovery Concerns for Adjusters, Insurers, and Policyholders: What you May Not Know Can Hurt You,"* WIND 2009, January 27, 2009

- Speaker, *"How Ethical and Knowledgeable Claims Handling Adds Value to Your Clients Claim",* 2008 NAPIA Mid-Year Meeting, December 6, 2008

- Speaker, *"The Rules of the Game, A discussion comparing and contrasting the rules, regulations, and requirements for Northeastern U.S. and the Gulf Coast states",* NAPIA/MAPIA, October 24, 2008

- Speaker, *"Is Your Association really Ready for Another Hurricane in 2008*?", CAI North Gulf Coast Chapter, March 19, 2008

- Speaker, *Hurricane Coverage and Litigation Issues, Including Florida's New Valued Policy Law and the Question of Concurrent Causation*; Florida Justice Association Annual Workhorse Seminar, Orlando, FL, February 14, 2008

- Speaker, *Who's on First? Excess Policies and Multiple Insurers*; 2008 Windstorm Conference, Jacksonville, FL, February 4-8, 2008

- Speaker, *RULES OF THE ROAD – A Different Methodology For Proving Duty and Breach*, Florida Justice Association 2007 Winter CLE Seminar, Beaver Creek, CO, December 13-17, 2007

- Speaker, *Establishing the Right Trial Theme for Your Bad Faith Case*; National Advanced Forum on Bad Faith Litigation, Miami, FL, November 11, 2007

- Speaker, *Ten Things a Florida Public Adjuster Can do to Raise Professionalism and Become More Successful*; 2007 FAPIA Summer Conference, Captiva Island, FL, August 10, 2007.

- Speaker, *Plugging the Gaps: Dealing with Inconsistent Terms in Your Layered Insurance*; 2007 Risk Insurance Management Society Conference, New Orleans, LA, April 30, 2007.

- Speaker, *Coming Up With Evidence Out of the Blue – Creative Bad Faith Discovery*; American Association for Justice Mid Year Convention, Miami Beach, FL, February 11, 2007.

- Speaker, *Unfair Claims Practices*; Academy of Florida Trial Lawyers 2006 Winter Seminar, Snowmass, CO, December 15, 2006.

- Speaker, *Practical and Legal Lessons from the 2004 and 2005 Hurricanes for Every Policyholder Representative*; National Association of Public Insurance Adjusters 2006 Mid Year Meeting, San Francisco, CA, December 1, 2006.

- Speaker, *Peace of Mind: Getting Adequate Insurance Protection*; APCM's 2006 Regional Conference – Florida Region, Lake Buena Vista, FL, November 10, 2006.

- Speaker, *Dealing With Disaster: How to Survive Being Flooded Out, Burned Up, or Blown Away*; 2006 Community Associations Institute, Inc. 2006 National Conference, Palm Springs, CA, May 4, 2006.

- Speaker, *Property Insurance 101: What Else to We Cover? Extra Coverages*; American Bar Association's Tort and Trial Section Presents Emerging Issues in Homeowner's Insurance, Carlsbad, CA, April 27, 2006.

- Speaker, *How to Apply Coinsurance Deductible Clauses in Property Insurance Policies*; 2006 Florida Association of Public Insurance Adjusters Semi Annual Meeting, Tallahassee, FL, April 4, 2006.

- Speaker, *Condominium Leadership Before & After a Hurricane Catastrophe*; Seventh Annual Windstorm Insurance Conference, Orlando, FL, February 10, 2006.

- Speaker/Panelist, *The Return of the Hurricane Panel: Part II*; Seventh Annual Windstorm Insurance Conference, Orlando, FL, February 9, 2006.

- Speaker, *The First Party Bad Faith Claim*; Academy of Florida Trial Lawyers Winter Seminar, Vail, CO, December 15-18, 2005.

- Speaker, *Limiting-or Expanding- the Scope of Discovery in the Bad Faith Case Post-*Campbell *and* Saldi; American Conference Institute12th Advanced Forum on Litigating Bad Faith and Punitive Damages, Miami Beach, FL, November 15 & 16, 2005.

- Speaker, *Recovering from Catastrophe: A Lesson in Leadership*; Community Associations Institute, Inc. Community Leadership Forum, Atlanta, GA October 20, 2005.

- Co-Chairperson and Speaker/Co-Presenter, *The Unlicensed Practice of Law and Unlicensed Public Adjusting*, Sixth Annual Windstorm Insurance Conference, Tampa, FL, February, 2005.

- Speaker, *Insurance Companies' Obligations to Arrive at Good Faith Evaluation of Damages*; National Association of Public Insurance Adjusters Annual Convention; Farmington, PA, June, 2004.

- Speaker, Case Law Up-Date on Insurance, Florida Bar Annual Convention, Boca Raton, FL, June, 2004.

- Speaker, *Perfected Bad Faith? Instructions for Filing a Civil Remedy Notice of Insurer Violation*; Florida Association of Public Insurance Adjusters; Tallahassee, FL; April, 2004.

- Speaker, *Why Can't We Just All Get Along*?, Windstorm Conference, New Orleans, LA, February, 2004

- Speaker, *How To Handle a Mold Claim*, Tampa Bay Paralegal Association, Tampa, FL, February, 2004

- Speaker, *Insurance Company Obligations to Arrive at Good Faith Evaluations of Damage*, Florida Association Public Insurance Adjusters Convention, Hollywood, FL, August, 2003

- Speaker, *Utilizing Computer Software In the Claims Evaluation Process: Can It Be Done in Good Faith*?, American Conference Institute 9th Annual Advanced Forum on Litigating Bad Faith and Punitive Damages, San Francisco, CA, April, 2003

- Speaker, *The Perspective from the Plaintiff's Bar: Is It Always Bad Faith if You Can't Agree on Amount?*, ABA Tort Trial and Insurance Practice Section, CLE Program/Seminar, Property Insurance Law; New Orleans, LA, March, 2003

- Speaker, *Insurance Company Obligations to Arrive at Good Faith Evaluations of Damage*, 2003 FAPIA Winter Convention; Tallahassee, FL; March 2003

- Speaker, *Dispelling the Mysteries of the Deductible Clause: The Policyholder's Perspective*, Florida Windstorm Conference; Orlando, FL; February, 2003

- Speaker, *Practical Considerations for Plaintiff Attorneys Handling Mold Claims*, Harris Martin's Mold Litigation: Beyond the Basics 2002 Conference, Miami, FL, October, 2002.

- Speaker, *Claims Adjustment Rules: What Insurance Companies Recognize, Lawyers Need to Learn and Judges Must Recognize,* American Trial Lawyers Association Convention, Atlanta, GA, July, 2002.

- Speaker, *Withholding Overhead and Profit is Wrong if Insurance Companies Are Trying to Act Right,* NAPIA Convention, Uncasville, CT, June, 2002.

- Speaker, *Practical Considerations for Plaintiff Attorneys Handling Mold Claims*, American Conference Institute, New York, NY, April, 2002.

- Speaker, *The Rules of Claims Adjustment: What Insurance Companies Recognize and Lawyers Need to Learn;* Ontario Trial Lawyers Convention, Toronto, Canada, April, 2002.

- Speaker, *Withholding Overhead and Profit is Wrong if Insurance Companies Are Trying To Act Right*; Florida Windstorm Conference, Orlando, FL, February, 2002.
- Speaker, *Practical Considerations for Plaintiff Attorneys Handling Personal Injury and First Party Mold Claims*, American Conference Institute, Miami, FL, December, 2001.

- Speaker, *Bad Faith Bullies, DUI Drivers, Bankrupt Insureds, Insolvent Insurers and PIP Bad Faith,* 2001 Insurance Bad Faith Seminar, Academy of Florida Trial Lawyers, Tampa, FL, September, 2001.

- Speaker, *Practical Considerations for Public Adjusters Recovering Mold Claims*, Florida Association Public Insurance Adjusters, St. Petersburg, FL, August, 2001.

- Speaker, *Allstate and Colossus: How to Deal With Them in 2001,* Vermont Trial Lawyers Association, Burlington, VT, July, 2001.

- Panel, *Florida Condominium Loss Adjusting Symposium*, Florida Windstorm Conference Orlando, FL, June, 2001.

- Speaker, *How To Hammer Allstate*, Michigan Trial Lawyers Association, Novi, Michigan, March, 2001.

- Speaker, *The Myth, Truth and Role of The American Trial Lawyer,* Australian Plaintiff Lawyers Association, Brisbane, Australia, February, 2001.

- Speaker, *Fees, Fees and More Fees*, DCA Seminars, Ft. Lauderdale and Tampa, FL, November, 2000.

- Speaker, *Breaking the Grip of the Good Hands People from Allstate,* Academy of Florida Trial Lawyers, September, 2000.

- Speaker, *Colossus: What We Know Today;* Association of Trial Lawyers of America; Chicago, Illinois; August, 2000.

- Speaker, *Collision Course With the Colossus Program: How To Deal With It;* American Trial Lawyers Association, New Orleans, Louisiana; May, 2000.

- Speaker, *Unfair Claims Actions In The Aftermath of Talat,* Winter Meeting of Florida Association of Public Insurance Adjusters, Tallahassee, FL, April 2000.

- Speaker, *The Allstate Uninsured Motorist Claim,* Connecticut Trial Lawyers Association, Waterbury, CN, April, 2000.

- Chairperson and Speaker, American Conference Institute On Bad Faith and Punitive Damages, San Francisco, CA, March, 2000.

- Speaker, *Overcoming Allstate's Trade Secrets and Work-Product Objections,* Kentucky Trial Lawyers Association, Louisville, KY, March, 2000.

- Speaker, *Protecting the Blown-Away Policyholder: Good Faith Claims Handling After Hurricanes and Other Windstorms*, Florida Windstorm Conference, Orlando, FL, February, 2000.

- Speaker, *Overcoming Allstate's Trade Secrets and Work-Product Objections,* Arkansas Trial Lawyers Association, "How to Hammer Allstate Seminar", Little Rock, Ark., February, 2000.

- Speaker, *Allstate Telephone Seminar: Taking the Driver's Seat Against Allstate, State Farm and Others 'When You've Been Dolfed'*, ATLA National Telephone Seminar, December, 1999.

- Speaker, *Diego & Chip's Excellent Bad Faith Seminar*, DCA Seminars, Ft. Lauderdale, FL, December, 1999.

- Speaker, *Allstate Bad Faith Conduct and the Uninsured Motorist Claim*, Connecticut Trial Lawyers Association Seminar, "How to Hammer Allstate," Trumbell, Conn., October, 1999.

- Television Appearance, *Legally Speaking,* Tampa, FL; August, 1999.

- Speaker, *Claims Professionalism, Unfair Claims Practices, and Claims Negotiation,* Annual Meeting Florida Association of Public Insurance Adjusters, Key Biscayne, FL, August 1999.

- Speaker, *How To Maximize Bad Faith Punitive Damage Awards Through "Pooling,"* Mealey's Bad Faith Litigation Conference, Boston, MA; May 1999.

- Speaker, *Discovery of Bad Faith Claims From the Plaintiff's Perspective,* American Bar Association, San Francisco, CA April 1999.

- Published Interview, *The Plaintiff's Perspective,* Mealey's Bad Faith Reporter, February 1999.

- Speaker, *First Party Casualty Claims From the Plaintiff's Perspective,* January, 1999, DCA Seminars, Inc., Miami & Tampa, FL, January 1999.

- Speaker, *Unfair Claims Practices,* Mid-Year Meeting of National Association of Public Insurance Adjusters, Orlando, FL, December 1997.

- Speaker, *Overcoming Allstate's Trade Secret and Work-Product Objections,* Montana Trial Lawyers Association, Missoula, MN February 1997.

- Speaker, *Does this Insurance Policy Cover Anything? An Insured's Perspective of the Late Twentieth Century All-Risk Policy",* American Bar Association, National Institute On Insurance Coverage, Orlando, FL, 1994.

- Speaker, *The Plaintiff's Attorney; Champion of the Oppressed or Modern Day 49er,* Cajun Club, Tampa, FL, 1993.

- Speaker, *Discovery From the Insured's Viewpoint,* 1993 National Institute on Arson, American Bar Association, New Orleans, Louisiana.

- Speaker, *Actual Cash Value and the Broad Evidence Rule in the Wake of Hurricane Andrew,* National Association of Public Insurance Adjusters Annual Convention, Miami, FL, 1992.

- Paper & Videotape Presentation, *Collecting From Your Insurer in the Wake of Hurricane Andrew,* National Association of Public Insurance Adjusters Annual Convention, United Policy Holders, Miami, FL, 1992.

- Guest Lecturer, *The Role of the Civil Attorney Following Fire Damage and Injury,* Pinellas County Junior College, St. Petersburg, FL, 1991.

- Speaker, *Cross-Examining the Fire Expert,* Florida Advisory Committee on Arson Prevention and Association of Arson Investigators, 1991.

- Speaker, *Examinations Under Oath and the Proof of Loss,* National Association Of Public Insurance Adjusters Annual Convention, Carmel, CA, 1985.

PROFESSIONAL AFFILIATIONS

- **Member of The Florida, Mississippi, Texas, California, Tennessee, New York, New Jersey, and District of Columbia Bar**

- **Florida Bar Board of Legal Specialization and Education**
    - Board Certified Civil Trial Lawyer

- **American Association for Justice / AAJ** (*Formerly known as the* Association of Trial Lawyers of America / ATLA)
    - Insurance Oversight Committee
    - Bad Faith Insurance Litigation Group,
      Chairperson 1996-1998
    - President's Club Member
    - *Founding Officer,* Property and Fire Loss Insurance Litigation Group
      1993

- **Florida Justice Association / FJA** (*Formerly known as the* Academy of Florida Trial Lawyers / AFTL)
    - *Eagle Benefactor Membership Status*

- **American Bar Association**

    - *Co-Chairperson,* Subcommittee on Business Interruption Coverage, Insurance Coverage Committee
      1994-1995

    - *Co-Chairperson* – Task Force to revise the standard appraisal clause in insurance policies
      1993-1994

    - *Vice-Chairperson* – Subcommittee on Property Insurance Law 1988-1998

    - Tort & Injury Practice Section

    - Litigation Section

- **Hillsborough County Bar Association**

- **Windstorm Insurance Network**

    - *Secretary - 2010*
    - *Co-Chair* of 2005 Annual Conference
    - *Board of Directors* 2004 – 2009

- **Citizen's Property Insurance Corporation Mission Review Task Force**, 2008 – 2009, Appointed by Gov. Crist

MORRISON & MORRISON, INC.
Property Loss Consulting Services Nationwide

Clay F. Morrison, CPPA-IIA

Loss Consultant, Adjuster & Claim Appraiser

(Rev 03/14/14)

BACKGROUND SUMMARY

Clay Morrison is the President of Morrison & Morrison, Inc., a licensed and appointed adjusting firm based in League City, Texas. Clay has extensive experience as a commercial real estate developer, is a current partner in a real estate holdings company, is the former owner of a successful insurance restoration company, and was a former consultant to one of the largest insurers in the world. His extensive experience includes adjusting claims in every major hurricane of the last 11 years including Ivan, Katrina, Rita, Ike and Super Storm Sandy. Clay has also served in an expert or appraiser capacity on losses throughout the U.S. and is frequently appointed as an umpire for insurance appraisals. He was one of the first licensed public adjusters in the State of Texas when licensing took effect in 2003, has completed the NFIP flood certification course and has managed and/or consulted on insurance losses ranging up to $44 million. Clay has been a featured speaker at numerous venues including insurance industry conferences, realty associations, chambers of commerce and Rotary clubs throughout the U.S.

EMPLOYMENT HISTORY

2004- Present	Morrison & Morrison, Inc. Founder & President (Property loss consulting, appraisal services & public adjusting)
	Kemah Holdings, LLC (Commercial real estate holdings company, managing member in charge of development)
2001- 2004	Independent Public Adjuster (Public adjusting & appraisal services)
	Kemah Holdings, LLC (Commercial real estate holdings company, managing member in charge of development)
1996-2001	Morrison Construction Inc. Founder & President (Independent consultant, certified remediation contractor and commercial/residential restoration contractor for State Farm. Catastrophic damage assessment and claims negotiations on commercial and residential losses)
1992-1996	Fabrico, Inc. Founder & President

toll free 866.723.5787 tel 281.808.8702 fax 281.332.5274 2951 Marina Bay Dr. #130-315 League City, TX 77573

EDUCATION, CERTIFICATIONS & POSITIONS HELD

1987	Bachelor of Science Houston Baptist University
1998	CMR (Certified in Mold Remediation) Indoor Air Quality Association
2004	NFIP (Flood certification course attendee) National Flood Insurance Program
2007	CPPA (Certified Professional Public Adjuster) Insurance Institute of America
2009-2012	Board of Directors- NAPIA (National Association of Public Insurance Adjusters)
2009-2011	Vice President - TAPIA (Texas Association of Public Insurance Adjusters)
2010-2013	WIND- (Windstorm Insurance Network) Certified Windstorm Umpire
2010-2013	Education Chairman- NAPIA (National Association of Public Insurance Adjusters)
2011	WIND- (Windstorm Insurance Network) Education Committee Member
2011-2012	President- TAPIA
2012-2013	Chairman- TAPIA
2013	WIND- (Windstorm Insurance Network) Certified Windstorm Appraiser
2013	TDI (Texas Department of Insurance) Approved TWIA Umpire
2014	Board of Directors- GCAD (Galveston County Central Appraisal District)
2014	WIND- (Windstorm Insurance Network) Fellow Professional Designation
2014	Board of Directors- NEPTA (National Emergency Planning & Training Association)
2014	TWIA (Texas Windstorm Insurance Association) Workgroup Member- Voluntary Coastal Wind Insurance Portal

INDIVIDUAL ADJUSTER LICENSING

Texas, Florida, Georgia, South Carolina, North Carolina, Missouri, Oklahoma, Kentucky, New Jersey

MORRISON & MORRISON FIRM APPOINTMENTS

Texas, Florida

PUBLIC SPEAKING, EXPERT PANELS, & ARTICLES PUBLISHED

1998	Consultant, & Presenter for new adjuster training State Farm Insurance, Houston, TX
2009	"Resolving Hurricane Ike Claims" Luncheon Speaker Houston Association of Realtors, Houston, TX
2009	"Hurricane Damage and Devaluation of Commercial Property" Seminar

Speaker & expert panel member
O'Connor & Associates, Houston, TX

2009 "Resolving Hurricane Ike Claims" Seminar
Speaker & expert panel member

2010 "The Ultimate Roofing Seminar"
Speaker & expert panel member
Tampa, FL

2010 "Purchase Like Pros" Radio Show
Radio show guest expert
950 am- The Mike Landry Show, Houston, TX

2010 "Small PA Firm, Big Results"
Published article
NAPIA, National trade association

2011 "Hurricane Preparedness" Luncheon
Speaker
Texas City/La Marque Chamber of Commerce, Texas City, TX

2011 "The ABC's of Appraisal" – Annual Conference
Speaker
Texas Association of Public Insurance Adjusters, Dallas, TX

2012 "After The Tornado- Surviving Your Insurance Claim"- Luncheon
Speaker
The Rotary Club of Joplin, MO

2012 "Unlocking the Enigma-Water Versus Wind" - Annual Conference
Speaker
Windstorm Insurance Network (WIND), Orlando, FL

2012 "Understanding Estimating Software" - Community Redevelopment Program
Speaker
United Policyholders, Bastrop, TX

2012 & 2013 "PA 101, The fundamentals of insurance adjusting"- Annual Conference
Speaker
Texas Association of Public Insurance Adjusters

2013 "Considerations for Adjusters Handling Disaster Claims"- Annual Conference
Speaker
First Party Claims Conference, Providence, RI

MEMBERSHIPS, SPECIAL ACHIEVEMENTS & COMMUNITY SERVICE

2010-Present Texas Children's Hospital
Ambassador

2010-2012 League City Little League
Board of Directors

2013 Al Garza's Premier Martial Arts
AGMA Karate Black Belt
AGMA Krav Maga Level 7

2014 NRA- National Rifle Association
Lifetime Member

OTHER PUBLICATIONS

- 2010, Author, *Corban v. USAA: A Case Providing Far Too Little Because It Was Rendered Far Too Late*, Mississippi Law Journal

- 2007, Co-Author, *Lessons learned after the storms*, Trial, Journal for the American Association for Justice

- 2006, Author, *Property Coverage and Full Recovery*, Florida Community Association Journal

- 2004, Author, *Practical Considerations for Plaintiff Attorneys Handling First-Party Insurance Claims*, Mold – A Mold Property and Personal Injury Litigation Magazine

- 2000, Author, *Colossus: Taking on a Giant*, Trial, Journal of the Association of Trial Lawyers of America

- 1993, Author, *Discovery From the Insured's Viewpoint,* American Bar Association, National Institute on Arson

- 1990, Author, *Pollution and Environmental Losses Under First Party Policies; The Insured's View,* American Bar Association

- 1987, Author, *Bad Faith Insurance Actions*, Matthew Bender
- 1984, Associate Editor, *Supplement to Homeowner's Policy Annotations,* American Bar Association

- 1983, Associate Editor, *Supplement to Property Insurance Annotations,* American Bar Association

- 1981, Comment, *Conflict of Laws – Torts: Significant Relationships v. Lex Loci Delicti – Florida Enters the Modern Era,* 33 Fla. L. Rev. 359, 436 (1981).

THOMAS C. PENNEBAKER

Mr. Pennebaker is a General Attorney within the Federal Emergency Management Agency's Office of Chief Counsel, assigned to the Federal Insurance and Mitigation Administration's Legal Division. He has been with FEMA's Office of Chief Counsel since 2010 defending the National Flood Insurance Program direct side insurance operations in litigation and assisting in drafting policy, regulations and other guidance for the agency and program-participating stakeholders. Prior to joining FEMA, he worked with the Nielsen Law Firm, L.L.C. for ten years in defending the Write Your Own ("WYO") program participating insurance companies in trial court and appellate proceedings in matters across the country, and in litigating alleged civil rights violations brought pursuant to 42 U.S.C. § 1983 against various Louisiana police departments and municipalities. Prior to joining Nielsen Law Firm, L.L.C., he clerked for the three judges of the 40th Judicial District Court in St. John the Baptist Parish in Louisiana, all civil and criminal matters for all three judges. He is an alumnus of the Louisiana State University Paul M. Hebert Law Center (class of 1996) and an alumnus of the Louisiana State University E. J. Ourso College of Business (class of 1993). Mr. Pennebaker is licensed to practice in the State of Louisiana in both state and federal courts, and has been admitted *pro hac vice* in multiple federal courts across the country.

SETH A. SCHMEECKLE

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From our New Orleans office, Seth focuses on Third Party Insurance Coverage – General Liability, Environmental & Toxic Tort Liability Coverage, Marine Insurance Coverage, Construction Defect Liability Coverage, Oil & Gas Liability Coverage, Professional Liability Coverage, Employer's Liability Coverage, Public Sector Coverage, Property Insurance Coverage, and Bad Faith Claims Litigation.

Having earned a B.S. in Biochemistry and minors in Chemistry, Math, Psychology, and Zoology & Physiology in 1997 where he was also elected to Phi Beta Kappa, Mr. Schmeeckle's undergraduate educational work significantly developed his analytical and problem solving skills. Applying those skills during law school led Mr. Schmeeckle to earn a seat on the Louisiana Law Review from 1998-2000. Mr. Schmeeckle became a shareholder of the firm in 2006.

Mr. Schmeeckle's practice areas focus on the representation and counseling of insurance companies with an extensive background in managing mass tort litigation on behalf of large groups of insurers. He strives to provide his insurer clients with a focused and innovative solution to the most complex of issues.

Mr. Schmeeckle has developed a well-rounded liability coverage practice involving all claims arising under general liability policies and employer's liability/worker's compensation policies of insurance. Special focus in Mr. Schmeeckle's practice area concern construction defect coverage related litigation, and the additional insured issues associated with those claims. Additionally, he has significant experience in general liability coverage disputes involving environmental, toxic tort, and long-latent disease issues. Throughout his career, Mr. Schmeeckle has guided insurers through their litigation concerning the validity of various exclusions in liability policies, provided pre-litigation counseling, developed both reservation of rights letters and cost sharing agreements, litigated bad faith issues focused on demands for policy limits and the reasonability of settlements, and handled class actions. On occasion, Mr. Schmeeckle has been able to expand his coverage litigation into the admiralty realm.

Following Hurricane Katrina in 2005, Mr. Schmeeckle had the opportunity to represent several insurers in first-party coverage disputes under both homeowner and commercial policies arising out of storm losses. Mr. Schmeeckle extended his practice to Texas in 2010 to assist insurers with their Hurricane Ike litigation. Mr. Schmeeckle's first-party practice ranges from pre-litigation counseling, the taking of examinations under oath, and the handling of appraisals to litigating both residential and commercial property losses. Included in his first party practice is the litigation of key coverage issues surrounding the viability of the water damage exclusion, lack of coverage for felled trees which caused no damage, valued policy law issues, the proper methodology for calculating Business Income losses both generally and those associated with the actions of civil authority, and bad faith claims.

Mr. Schmeeckle has argued before both state and federal district courts, state appellate courts, and the United States Court of Appeals for the Fifth Circuit on behalf of his insurer clients.

AREAS OF PRACTICE

Environmental & Toxic Tort Liability Coverage

Marine Insurance Coverage

Construction Defect Liability Coverage

Oil & Gas Liability Coverage

Professional Liability Coverage

Employer's Liability Coverage

Public Sector Coverage

Property Insurance Coverage

Bad Faith Claims Litigation

ADMISSIONS

Louisiana

Texas

EDUCATION

Louisiana State University, B.S., 1997

Louisiana State University School of Law, J.D., 2000

RECOGNITION

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AV Rated

Super Lawyers Rising Star

New Orleans Magazine Top 50 Lawyer

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SETH A. SCHMEECKLE
MATTERS OF NOTE

Publications

Travis B. Wilkinson and Seth A. Schmeeckle, *Coverage Issues Under Homeowners' Insurance Policies in Chinese Drywall Cases*, Insurance Coverage Law Bulletin, Vol. 10, No. 8 (Sep. 2011)

Wystan M. Ackerman and Seth A. Schmeeckle, *Handling the Flood of Coverage Litigation: Lessons Learned from Katrina*, Coverage, Vol. 20, No. 3 (May/June 2010)

Anne E. Briard and Seth A. Schmeeckle, *Is an Insurer Obligated to Defend the Prosecution of Affirmative Claims on Behalf of Its Insured?*, Insurance Coverage Law Bulletin, Vol. 8, No. 4 (May 2009)

Gregory C. Fahrenholt and Seth A. Schmeeckle, *A New Approach: Disclaiming Coverage for Arson to a Vacant Building in Standard Fire Policy States*, Insurance Coverage Law Bulletin, Vol. 7, No. 10 (Nov. 2008).

Seth A. Schmeeckle and Ralph S. Hubbard III, *Selecting Defense Counsel and Controlling the Defense: Who Makes the Call When Rights are Reserved?*, Insurance Coverage Law Bulletin, Vol. 3, No. 3 (Apr. 2004).

Speeches and Addresses

Seth A. Schmeeckle, Address at the ABA YLD Spring Conference: Insurance Coverage in Times of Natural Disaster (May 15, 2009)

Seth A. Schmeeckle, Address at CNA Commercial and Property Casualty Insurance Company: Catastrophic Claims (Aug. 16, 2007)

Organization and Management of Large Insurance Defense Groups

In 2002, Mr. Schmeeckle commenced his service as Deputy Liaison Counsel in the *Bryson Adams, et al. v. Environmental Purification Advancement Corporation, et al*, Civil Action No. 99-1998, USDC-WDLA involving the organized defense effort of more than fifty different families of liability insurers.

Following Hurricane Katrina in 2005, Mr. Schmeeckle was named co-Liaison Counsel for the Defendants in the *In Re Canal Breaches Consolidated Litigation*, No. 05-4182, USDC-EDLA, to serve as one of two Liaison Counsel for the defendants involved in the post-Katrina levee breach litigation wherein Mr. Schmeeckle was charged with the coordination of the alleged defendant tortfeasors, defendant general liability insurers, and more than 200 defendant first party insurers.

In 2007, Mr. Schmeeckle served the first party insurance industry as Coordinating Counsel for a large volume of first party insurers in the consolidated litigation before Judge Eldon E. Fallon of the USDC-EDLA involving a multitude of lawsuits filed by Chase Home Finance LLC against various first party insurance carriers alleging a myriad of Hurricane Katrina theories of recovery.

In 2010, Mr. Schmeeckle was selected to the Insurance Steering Committee for the *In Re: Chinese Manufactured Drywall Products Liability Litigation*, No. 09-md -2047 USDC-EDLA representing both liability and property insurers.

William ("Bill") Treas

Biographical Information

Bill Treas is a partner with the law firm of Nielsen, Carter & Treas, LLC in New Orleans, Louisiana. The firm represents most of the major insurance company participants in the National Flood Insurance Program (NFIP) on a national basis. He is head of the litigation department for the firm and is responsible for all NFIP trials for the WYO companies the firm represents. Mr. Treas has been involved in NFIP litigation for over a decade starting with cases stemming from Tropical Storm Allison in 2001 and managing massive amounts of litigation from Hurricanes Katrina and Ike. Mr. Treas has tried several NFIP cases all over the country and has spoken at flood program conferences and training sessions. Mr. Treas is admitted to practice in several courts including: the U.S. Supreme Court, U.S. Court of Appeals for the Fifth Circuit, U.S. Court of Appeals for the Sixth Circuit, U.S. Court of Appeals for the Ninth Circuit, U.S. District Courts for the Eastern, Middle, and Western Districts of Louisiana, U.S. District Court for the Northern District of Florida, U.S. District Courts for the Eastern and Southern Districts of Texas, and the Louisiana Supreme Court.

In the Lower Manhattan Financial District Post-Sandy

Credit: Alexius Tan

Sandy and Its Impacts

43 deaths… 6,500 patients evacuated from hospitals and nursing homes… Nearly 90,000 buildings in the inundation zone… 1.1 million New York City children unable to attend school for a week… close to 2 million people without power… 11 million travelers affected daily… $19 billion in damage…

By any measure, Sandy was an unprecedented event for New York City. Never in its recorded history had the city experienced a storm of this size. Never had a storm caused so much damage. Never had a storm affected so many lives. As of the writing of this report, individuals, families, businesses, institutions, and, in some ways, the city itself are still recovering from this devastating natural disaster and will continue to do so for years.

As it turns out, it took an improbable set of factors coming together in exactly the worst way to give rise to the catastrophic impacts of this storm. (*See sidebar: A Brief History of Sandy*)

There was, for example, the storm's timing. Its arrival on the evening of October 29 coincided almost exactly with high tide on the Atlantic Ocean and in New York Harbor (high tide arrived at the Battery in Lower Manhattan at 8:54 p.m., and the surge peaked there at 9:24 p.m.). This meant that water levels along much of the city's southern coastline already were elevated, with typical high tides about five feet higher than water levels at low tide. And, on the night of Sandy's arrival, it was not just a normal high tide but a "spring" tide, when the moon was full and the tide was at the very peak of its monthly cycle—generally up to half a foot higher than the average high tide. (*See maps: Water Levels Around New York City on October 29*)

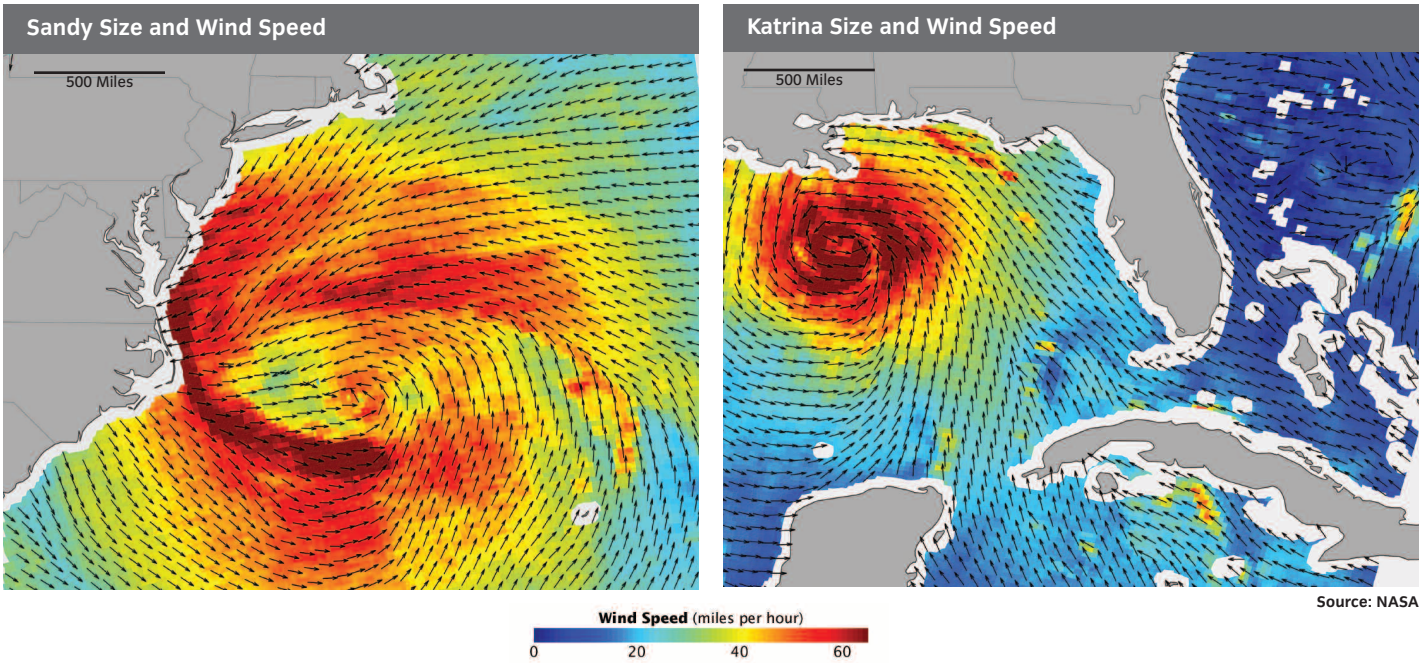
Then there was the storm's size. When Sandy made landfall, its tropical-storm-force winds extended 1,000 miles from end to end, making it more than three times the size of Hurricane Katrina. Storm size—the area over which strong winds blow—correlates closely with storm surge, the rise in water level caused by the storm's low pressure and the force of its winds pushing against the water. (*See graphic: Sandy Size and Wind Speed; see graphic: Katrina Size and Wind Speed*)

Because Sandy was such a massive storm, it generated a massive surge. And that surge, coming on top of the spring high tide, created a "storm tide" of over 14 feet above Mean Lower Low Water at the Battery, shattering the previous record of 10 feet, set when Hurricane Donna arrived in New York in 1960. (*See chart: High Water Events at Lower Manhattan*)

Finally, there was the unusual path Sandy took to the city's shores. Most hurricanes that approach the Northeast glance the coastline or curve east and head out to sea before they ever reach New York. But as Sandy came spinning north along the east coast of the United States, winds spiraling counterclockwise, the storm encountered weather systems that caused it to take a different course—one that would spell disaster for parts of the city. A high-pressure system to the north blocked the storm's advance. At the same time, a low-pressure system that was pushing eastward towards the Atlantic coast energized the storm and reeled it in. Steered between these two systems, Sandy made a westward turn—and headed straight for land just as it was increasing in intensity. At 7:30 p.m. on October 29, 2012, Sandy slammed into New Jersey head-on, seven miles north of Atlantic City, with maximum winds of 80 miles per hour.

The storm's angle of approach put New York City in the path of the storm's onshore winds, the worst possible place to be. The winds earlier that day had been blowing in a generally southward direction in the New York area. However, as Sandy arrived, its winds shifted, instead moving in a generally northwesterly direction. It was this shift that helped push the storm's massive surge—and its large, battering waves—directly at the south-facing parts of the city.

As a result of all of these factors, Sandy hit New York with punishing force. Its surge and waves battered the city's coastline along the Atlantic Ocean and Lower New York Bay, striking with particular ferocity in neighborhoods across South Queens, Southern Brooklyn, and the East and South Shores of Staten Island, destroying homes and other buildings and damaging critical infrastructure. Meanwhile, the natural topography of the city's coastline channeled the storm surge that was arriving from



Source: NASA

A Brief History of Sandy

Sandy was no ordinary hurricane. It was a meteorological event of colossal size and impact. It was a convergence of a number of weather systems that came together in a way that was disastrous for the New York area.

Sandy, however, began innocently enough—far from New York and almost three weeks before its arrival on the area's shores. It was October 11, late in the Atlantic hurricane season, when a tropical wave formed off the west coast of Africa. By October 22, the wave had evolved into a weather system in the Caribbean called Tropical Storm Sandy, the 18th named storm of the 2012 hurricane season. (*See map: Sandy Storm Path*)

A tropical storm is a cyclone—a system of clouds and thunderstorms rotating around a central "eye"—that originates in tropical waters and gets its energy from those warm waters. Sandy gained wind speed as it curled north. By October 24, it was a hurricane—a storm with wind speeds of at least 74 miles per hour (mph)—with an eye visible on satellite images. Sandy made landfall on Jamaica on October 24 as a Category 1 hurricane then intensified to a Category 3 hurricane before hitting Cuba on October 25, according to the National Hurricane Center.

While the storm moved across the Bahamas, it weakened to a Category 1 hurricane—but began to grow significantly in size. It continued to grow as it traveled north of the islands. After passing the Bahamas, Sandy turned northeast, beginning its trek through the Atlantic Ocean, paralleling the eastern coast of the United States. Its winds whirled counterclockwise, raising water levels all the way from Florida to Maine.

Although most hurricanes on a northward track along the US coast continue to hug the coast or eventually curve east and out to sea before they reach New York, Sandy encountered two other weather systems that caused it to shift direction and abruptly intensify yet again. One was a high-pressure system to the north that blocked Sandy's northward advance. The other was a low-pressure system pushing eastward over the southeastern United States that reenergized Sandy. Steered between these two weather systems, Sandy turned sharply west just as it was reaching another peak of intensity.

When Sandy made landfall in Brigantine, New Jersey, just north of Atlantic City, at 7:30 p.m. on October 29 with 80-mph winds, it was technically no longer a hurricane. Two-and-a-half hours before it had made landfall, the National Hurricane Center had reclassified Sandy as a "post-tropical cyclone" because the storm had evolved in such a way that it no longer possessed the technical characteristics of a hurricane: It lacked strong thunderstorm activity near its center; its energy did not come from warm ocean waters but from the jet stream; and it had lost its eye.

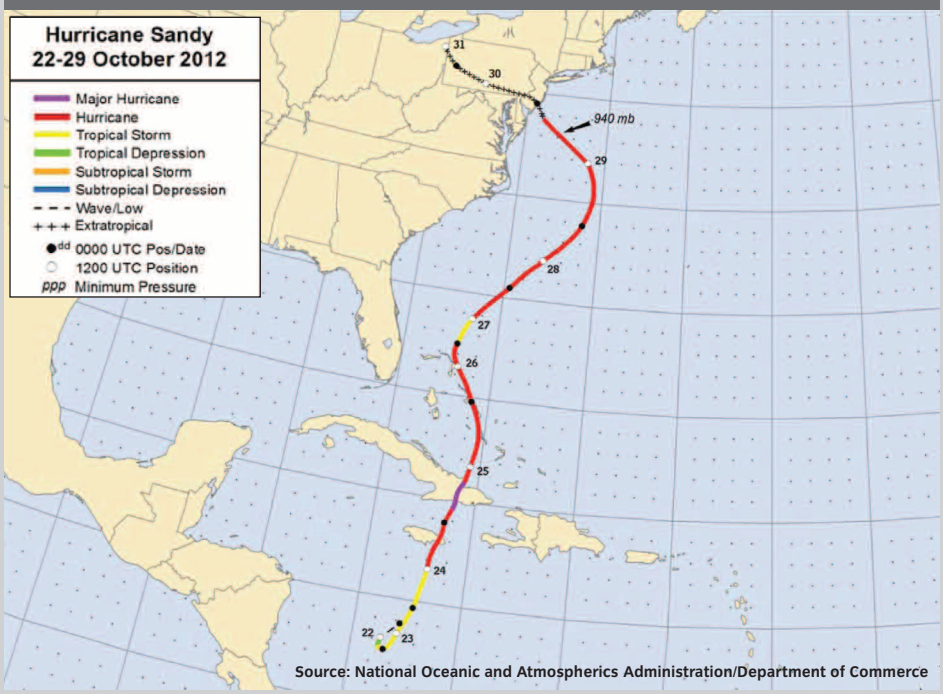
No matter what Sandy was called, though, the storm never lost its large wind field or its large radius of maximum wind (which is why weather experts still considered it a "hurricane strike" when it hit the New York region). In fact, when the storm made landfall, its tropical-storm-force winds extended 1,000 miles—three times that of a typical hurricane. It was those winds, as well as the storm's low pressure, that were responsible for its catastrophic storm surge.

The storm's angle of approach was also significant. Because Sandy came at the coast of New York at a perpendicular angle, its counterclockwise onshore winds drove the surge—and the surge's large, battering waves—directly into the city's coastline.

After landfall, Sandy slowed and weakened while moving through southern New Jersey, northern Delaware, and southern Pennsylvania. It finally lost its defined center while passing over northeastern Ohio late on October 31. For the next day or two, what remained of Sandy continued over Ontario, Canada before merging with a low-pressure area over eastern Canada and heading out to sea for good.

At that point, of course, New York still was reeling from the storm's effects—and was only beginning to cope with the extent of the damage.

Sandy Storm Path



Source: National Oceanic and Atmospherics Administration/Department of Commerce

Sandy by the Numbers

Sandy made landfall three times: at Bull Bay, Jamaica, on October 24; at Santiago de Cuba, Cuba, on October 25; and finally at Brigantine, New Jersey, on October 29

The storm's wind speed was 80 mph at landfall in New Jersey.

Its wind field extended for 1,000 miles.

In the US, $50 billion in total damages have been attributed to the storm, making it more costly than any other storm except Hurricane Andrew in 1992 and Hurricane Katrina in 2005.

the ocean northward into New York Harbor, elevating water levels in Jamaica, Sheepshead, Gravesend, and Gowanus Bays, as well as in Upper New York Harbor and the East and Hudson Rivers. At the same time, the storm surge also was pushing water into Long Island Sound, and from there south.

In short, the ocean fed bays, the bays fed rivers, the rivers fed inlets and creeks. Water rose up over beaches, boardwalks, and bulkheads. It was an onslaught of water.

In total, a staggering 51 square miles of New York City flooded—17 percent of the city's total land mass. The floodplain boundaries on the flood maps from the Federal Emergency Management Agency (FEMA) in effect when Sandy hit had indicated that 33 square miles of New York City might be inundated during a so-called "100-year" flood, or the kind of flood estimated to have only a 1 percent chance of occurring in any given year. However, Sandy's storm tide caused flooding that exceeded the 100-year floodplain boundaries by 53 percent citywide. In Queens, the area Sandy flooded was almost twice as large as the floodplain area indicated on the maps. In Brooklyn, the area that flooded was more than twice as large as the floodplain. In certain communities, flooded areas were several times the size of the floodplains on FEMA maps. (*See map: Sandy Inundation*)

The urban character of New York City magnified the impact of the flooding. More than 443,000 New Yorkers were living in the areas that Sandy flooded when the storm struck. In all, 88,700 buildings were in this inundation zone—buildings containing more than 300,000 homes and approximately 23,400 businesses. Much of the city's critical infrastructure also was within flooded areas—including hospitals and nursing homes, key power facilities, many elements of the city's transportation networks, and all of the city's wastewater treatment plants.

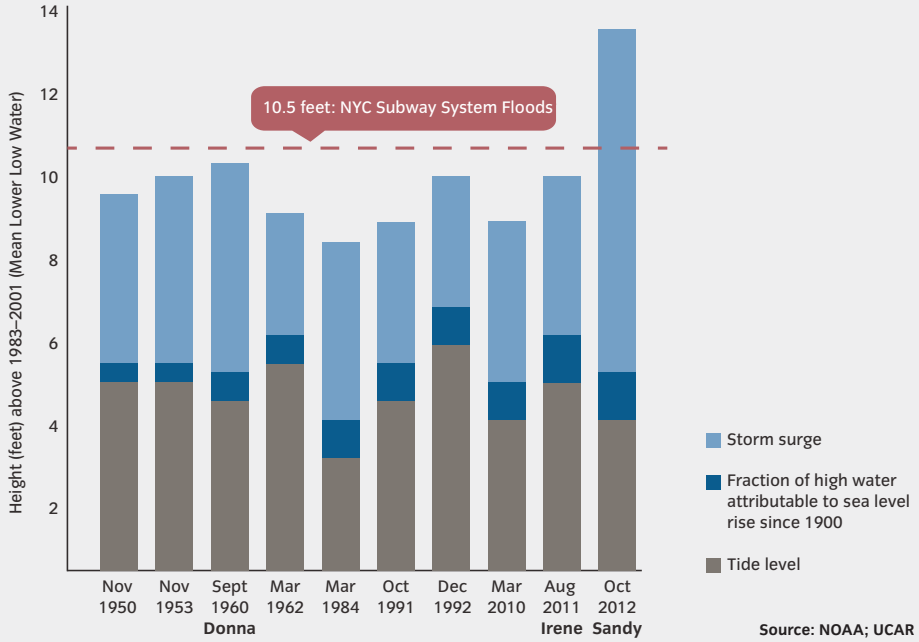
In many places, it was not only the extent of flooding that was significant; it was also the depth of floodwaters. Water heights of several feet above ground level were prevalent in many coastal areas. Near Sea Gate, on the Coney Island peninsula in Brooklyn, the water reached 11 feet above ground level, and at Tottenville on Staten Island, they rose to 14 feet.

Many storms have hit New York with higher winds than Sandy's 80-mile-per-hour peak wind gusts. Many storms have brought more rain than the half inch that Sandy dropped in parts of New York. However, Sandy's storm surge—and the devastation it caused—was unlike anything seen before. The surge, and the flooding and waves that came with it, had an enormous impact on the city.

Sandy's Impact on New York

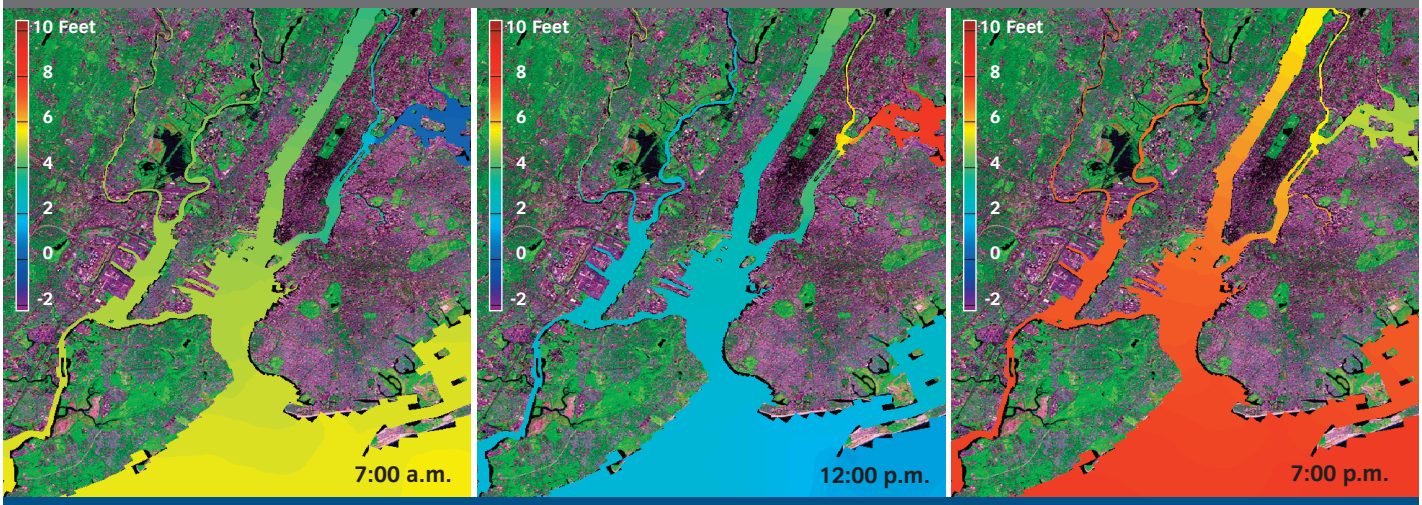
Any catalogue of the woes that Sandy brought to New York City must start with the tragic deaths of 43 people, the vast majority of whom perished from drowning in areas where waters rose rapidly as a result of the surge. Of these deaths, 23 occurred in Staten Island (including

High-Water Events in Lower Manhattan



Source: NOAA; UCAR

Water Levels Around New York City on October 29



Tidal cycles are different in different parts of the Harbor—with lower water levels in Long Island Sound coinciding with higher levels in the Lower and Upper New York Bay and vice versa. On the evening of October 29th, just before the arrival of Sandy's surge, the tidal cycle was bringing higher tides to the City's south and lower tides to its north.

Source: CMS at Stevens Institute of Technology

10 in the neighborhood of Midland Beach alone), with the remainder spread throughout Queens, Brooklyn, and Manhattan. The storm took an especially high toll on the young and old, with victims ranging from a 2-year-old boy to a man and a woman aged 90.

In other cases, the storm spared lives, but still turned them upside down. It destroyed homes that families had tended to over generations (of the hundreds destroyed or determined to be structurally unsound by the Department of Buildings (DOB), with over 60 percent in Queens and almost 30 percent in Staten Island). It impacted many businesses that New Yorkers had started from scratch (not just those in Sandy's inundation area, but 70,000 in areas that lost power during the storm). In some cases, it severely affected those with the fewest resources to draw on—residents of public housing developments, for example, since many of these developments are located on the coastline and were thus particularly vulnerable to extreme weather events. More than 400 New York City Housing Authority buildings containing approximately 35,000 housing units lost power, heat, or hot water during Sandy.

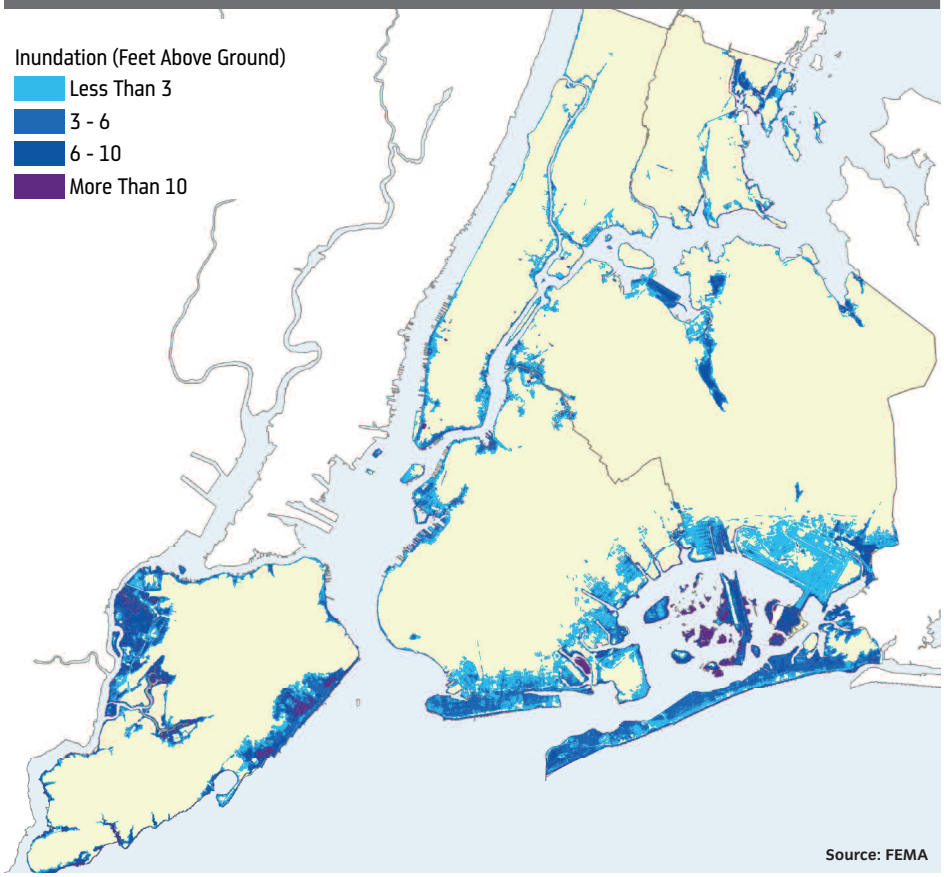
Meanwhile, facilities and services that are crucial to the well-being of all New Yorkers fully or partially shut down for the duration of the storm, and in some cases, for long periods afterwards. Disruptions to some systems (such as power) affected the functioning of others (healthcare, transportation, and telecommunications, among others). The trials of some communities (flooding and power outages in hubs like Southern Manhattan) created tribulations for others (those living elsewhere who could not work because their offices could not open). The storm was a reminder of how interconnected the city's systems are.

It also highlighted significant vulnerabilities in many of these systems and in certain geographic areas of the city. Below are brief summaries of some of the major impacts of the storm on the city's coastline, buildings, infrastructure, and selected neighborhoods. Further information, analysis, and initiatives can be found in the relevant chapters of the report.

Coastline and Waterfront Infrastructure

During Sandy, the coastline of the southern half of the city felt the full force of the storm. Ocean-facing areas generally experienced the destructive impact of waves reported to be 12 feet or more, along with flooding, while other coastal areas experienced only flooding, though the damage from that flooding was still serious and long-lasting.

Sandy Inundation



Although barges and other "floating" infrastructure played a key role in the city's recovery from Sandy, damage to "fixed" waterfront infrastructure was extensive. The storm damaged boardwalks, landings, and terminals. Waves and retreating waters caused coastal erosion, with New York's beaches losing up to 3 million cubic yards of sand or more citywide, including 1.5 million cubic yards on the Rockaway Peninsula alone.

Though the storm surge generally devastated areas that it touched, the city's nourished beaches, dunes, and bulkheads did help to mitigate its impact, particularly where these protections were combined to form multilayered defenses.

For more on coastal protection, see Chapter 3.

Buildings

Building damage from Sandy was widespread and in many cases severe. In some areas, storm surge and rising floodwaters pushed houses right off their foundations or caused walls to collapse. Elsewhere, floodwaters filled basements and ruined electrical and other building systems, as well as personal possessions. As of December 2012, DOB had tagged nearly 800 buildings as having been structurally damaged or destroyed across the five boroughs, with tens of thousands more impacted, including buildings containing nearly 70,000 housing units that were registered with FEMA and determined to have sustained some level of damage. Over 100 of the lost homes and businesses were destroyed by storm-related fires, which were often electrical in nature, caused largely by the interaction of electricity and seawater.

Overall, there were several predictors of how the storm impacted New York's building stock. Some of these predictors related to the characteristics of the inundation that buildings faced. Not surprisingly, shoreline areas that experienced the strong lateral forces of waves had many more damaged buildings than areas with still-water flooding only. Other predictors related to a building's physical characteristics (such as building height and construction type) as well as age, which, in turn, determined the regulations in force when the building was constructed. Overall, older, 1-story, light-frame buildings suffered the most severe structural damage—representing just 18 percent of the buildings in the areas inundated by Sandy, but 73 percent of all buildings tagged as structurally damaged or destroyed by DOB as of December 2012.

Although high-rise buildings did not generally experience as much structural damage, they

Boardwalk damage in the Rockaways

Credit: Daniel Avila/NYC Parks

often lost mechanical building equipment housed in basements, rendering buildings uninhabitable and leaving residents stranded on upper floors and businesses closed until repairs could be made.

For more on buildings, see Chapter 4.

Insurance

For many New Yorkers, insurance issues have compounded the problem of building damage from Sandy, with the extensive flood damage from the storm focusing attention on flood insurance. Most large commercial properties obtain insurance, including flood insurance, through the private market. Although most homeowners in New York City have homeowners insurance, these policies typically do not cover flood damage, and homeowners and small business owners seeking flood coverage generally purchase policies through the National Flood Insurance Program (NFIP), which is administered by FEMA.

When Sandy struck, however, most New York City property owners affected by the storm did not have adequate flood insurance—or any flood insurance at all. This was the case for a variety of reasons. For example, more than half of all buildings and about half of the residential units in the area flooded by Sandy were outside of FEMA's 100-year floodplain—so the owners of these buildings were probably unaware of the risks that they faced and, at any rate, were not required by the terms of their mortgages to have flood insurance (since Federally backed mortgages require such coverage only for buildings in the 100-year floodplain). Even among those in the floodplain, many were not insured for flood damage (less than 50 percent of residential buildings in the pre-Sandy 100-year floodplain had flood insurance). This was either because they did not comply with, and their mortgage lenders did not enforce, the terms of their mortgages (about one-third of residential buildings with Federally backed mortgages in New York when Sandy hit did not have flood insurance), or because they did not have mortgages in the first place. Meanwhile, in many cases, those who were insured discovered, after Sandy, that they were not covered for certain losses, such as damages in basements.

Going forward, premiums in the private insurance market may increase in the near term, particularly in flood-prone areas, but the private insurance market overall, despite large losses from Sandy, is expected to remain competitive, with signs, as of the writing of this report, that the market may already be stabilizing. Because of reforms to the NFIP enacted before Sandy, however, property owners insured by the NFIP are likely to see large and permanent increases in flood insurance premiums—unless changes to the NFIP are enacted.

For more on insurance, see Chapter 5.

Utilities

Sandy dealt a serious blow to the city's utilities—particularly its electric utilities, due in part to the fact that some of the most important utility infrastructure is on the waterfront. Close to 2 million people lost power at some point during the storm, with almost a third of these customers in Manhattan. In fact, parts of Lower Manhattan and Brooklyn even lost power prior to Sandy, when Con Edison preemptively disconnected them from the city's grid to protect equipment and reduce potential downtime. Almost all areas south of the Empire State Building followed when floodwaters inundated several of the city's substations in Southern Manhattan. On Staten Island and in the Rockaways, meanwhile, 120,000 customers lost power due to substation damage, while all around the city, strong winds took down overhead lines, affecting another 390,000 customers.

Generally, damaged substations were repaired quickly, with power restored to most customers in Manhattan, for example, within four to five days. Repairing damage to the whole overhead system, though, took almost two weeks, even with the help of thousands of utility workers from other states. Damage to electrical equipment within buildings took considerably longer in many cases, leaving some places in the Rockaways and other hard-hit areas without power or heat for weeks as crews of electricians and plumbers, many of them sent by the City free of charge as part of its Rapid Repairs program, went door-to-door to check and repair equipment.

Other utility systems experienced varying degrees of disruption. Con Edison's steam system, which services 1,700 large buildings in Manhattan, including major hospitals, was unable to supply steam to one-third of its customers when the storm inundated four of the system's six plants and flooded utility tunnels. It took nearly two weeks to restore service to these customers.

The natural gas system generally performed better, although 84,000 customers lost service, mostly in Brooklyn, where National Grid shut off gas valves close to the coast to isolate flooded pipes from the rest of its distribution system. Within hard-hit areas, each affected customer had to be checked by plumbers before service was restored, which took several weeks.

For more on utilities, see Chapter 6.

Liquid Fuels

For many New York City drivers, the post-storm period might have brought back memories of the oil crises of the 1970s. For days and weeks, long lines were the norm at gas stations that still had fuel. Although initial reports suggested that stations primarily closed because they did not have the power to pump gas, in fact over 90 percent of the city's gas stations were outside of the areas of the city that experienced widespread power outages. Instead, the real problem was that the stations had no gas to pump. This was due to severe breakdowns in the supply chain serving New York caused by

storm damage to fragile infrastructure in New Jersey and on the New York City waterfront.

The storm shut down refineries for several weeks, stopped marine and pipeline deliveries for three to four days, and damaged storage terminals. As a result, for four days after the storm, the system received no new supply, and for almost a month after that, supply was limited. As soon as drivers returned to the roads, long lines at gas stations followed. Within one week of Sandy's landfall, less than 20 percent of stations were able to sell fuel at any given time.

Working with the Federal government and the State National Guard, the City set up a fueling program for critical and public service fleets including emergency responders, utility vehicles, ambulances, and school buses. Regular consumers had to wait several weeks for the system to recover fully, though license plate-based rationing did reduce lines and a host of regulatory waivers helped bring supply back into balance with demand.

For more on liquid fuels, see Chapter 7.

Charging cell phones in the East Village

Credit: Matt Kane

Healthcare

Sandy placed an unprecedented strain on the city's healthcare system as a whole, and disrupted services in affected communities across New York. Six hospitals closed—four in Manhattan, one in Brooklyn, and one on Staten Island—requiring City and State health officials, co-located at the City's Office of Emergency Management, to coordinate the evacuation of nearly 2,000 patients. Hospitals that remained open—frequently owing to the heroic efforts of staff, who pumped out or diverted water, repurposed lobbies to serve as inpatient rooms, and siphoned gasoline from vehicles to run generators—struggled to meet the needs of incoming patients.

Nursing homes and adult-care facilities were also affected by flooding and power outages. Twenty-six facilities closed and five partially closed, resulting in the evacuation of 4,500 patients. At the community level, flooding caused over 500 buildings with doctors' offices, clinics, and other outpatient facilities to close. Many patients who could not reach their normal providers had to postpone care or sought help at hospital emergency rooms, further straining the entire system.

For more on healthcare, see Chapter 8.

Telecommunications

Sandy caused outages across phone, wireless, cable, and Internet services. Short-term outages affected the greatest number of customers and were a direct result of power loss, which knocked out cable and Internet service in homes and businesses immediately.

Wireless service was also affected when backup batteries powering cell sites ran down, generally four to eight hours after grid power was lost, reducing or eliminating service to over a million cell customers in New York City. Even customers with working cell networks found that charging mobile devices was a challenge in areas without power, though many businesses and cell companies set up charging stations in affected areas.

Meanwhile, flood damage at critical facilities in Southern Manhattan, Red Hook, and the Rockaways disrupted landline and Internet service throughout the neighborhoods they served for up to 11 days. Generally, providers with modern networks and hardened facilities were able to restore service faster, while those that had not adequately protected facilities from flooding faced longer and more extensive outages.

In coastal areas, flood damage to building telecommunications equipment and cabling caused long-term outages, with some providers using flood damage as an opportunity to swap in new, more resilient equipment rather than simply fixing in-place infrastructure—a benefit to customers over the long term, but frequently at the cost of considerable short-term inconvenience. For example, in commercial buildings in part of Southern Manhattan, Verizon opted to replace corroded copper cables with fiber. The result was that in a sample of 172 buildings, nearly 60 percent did not have service fully restored 60 days after Sandy, with 12 percent still out after 100 days.

For more on telecommunications, see Chapter 9.

A gas station line in Sunnyside, Queens

Credit: Brian Kingsley

Transportation

During Sandy, many highways, roads, railroads, and airports flooded. At the same time, all six East River subway tunnels connecting Brooklyn and Manhattan were knocked out of service by flooding, along with the Steinway Tunnel that carries the 7 train between Queens and Manhattan, the G train tunnel under Newtown Creek, the Long Island Railroad and Amtrak tunnels under the East River and the PATH and Amtrak tunnels under the Hudson River. Major damage occurred to the South Ferry subway station in Lower Manhattan, as well as to the subway viaduct connecting Howard Beach, Broad Channel, and the Rockaways. Service also was disrupted on the Staten Island Ferry, the East River Ferry, and private ferries. The loss of ferry service during and after Sandy stranded some 80,000 normal weekday riders, while the loss of subway service stranded another 5.4 million normal weekday riders.

Exacerbating flooding was the loss of electrical power, which made it difficult to pump out tunnels, clean up damaged subway stations, and begin restoring service. The difficulty in "dewatering" the tunnels further increased the damage from Sandy, as sensitive mechanical, electrical, and electronic equipment soaked in corrosive salt water. In addition to subway tunnels, flooding closed three vehicular tunnels into and out of Manhattan, interrupting the commutes of 217,000 vehicles.

Although major bridges reopened as soon as winds dissipated and portions of the transportation network not directly flooded experienced little damage, over 500 miles of roads suffered significant damage and the subway system remained out of service in the days after the storm, even as crews worked around the clock to restore service. This led to significant gridlock on roads and bridges into Manhattan as people tried to return to work by car. The commuting challenges led City and State officials to implement temporary measures to manage travel and congestion. These measures included restrictions on single-occupant vehicles using bridges and tunnels across the Hudson and East Rivers, increased East River ferry service, and the successful "bus bridges"—an above-ground replacement for the subways that sent hundreds of buses back and forth on the bridges between Brooklyn and Manhattan. These measures enabled over 226,000 commuters to cross the East River—almost triple the number able to cross before they were in place.

One week after Sandy struck, many subway lines had been fully or partially restored, but some elements of the system remained closed much longer, with repairs projected to take months and even years. However, the opening of A train service to Broad Channel and the Rockaways just prior to the release of this report shows the strong commitment of the region's transportation agencies to the restoration of service as quickly as possible.

For more on transportation, see Chapter 10.

Parks

The Department of Parks & Recreation (DPR) closed all City parks the day before Sandy, and the parks remained closed after the storm while DPR worked continuously to complete park inspections, reopening many facilities within three days—aided by legions of volunteers who helped bag debris and gather fallen branches. However, nearly 400 parks were damaged significantly and remained closed for major repairs. Across the city approximately 20,000 street and park trees were damaged or downed. Beaches and waterfront park facilities were hard-hit by storm surge, erosion, and coastal flooding, with two miles of scenic boardwalk destroyed primarily in the Rockaways as well as in Coney Island and on the East Shore of Staten Island.

Notwithstanding this loss, many DPR facilities—including beaches, wetlands, and other natural areas—played a role in protecting adjacent communities, serving as a buffer for these areas. In addition, some newer parks, which designers had planned with extreme weather risks in mind, weathered the storm with comparatively little damage. For example, Brooklyn Bridge Park generally fared well because of its elevation and use of resilient coastal edges and plantings. Meanwhile, the new park being constructed at the center of Governors Island—on a site elevated with fill—also largely was protected from Sandy's surge.

For more on parks, see Chapter 11.

Water and Wastewater

High-quality drinking water continued to flow uninterrupted to New York City during and after Sandy. However, in areas with power outages, the pumping systems in high-rise buildings ceased to function, leaving residents on upper floors with empty taps and no way to flush toilets. Meanwhile, a fire in Breezy Point in Queens caused significant disruption to that neighborhood's private water distribution system.

By contrast, Sandy's storm surge had a major impact on the city's wastewater treatment system. Ten of 14 wastewater treatment plants operated by the Department of Environmental Protection (DEP) released partially treated or untreated sewage into local waterways (though water quality samples showed impacts to be minimal due to dilution from the enormous volume of water flowing through the Harbor from the surge). In addition, 42 of 96 pumping stations that keep stormwater, wastewater, or combined sewage moving through the system were temporarily out of service because they were damaged or lost power.

While many facilities in neighboring municipalities were impaired for several weeks, New York City was treating 99 percent of its wastewater within just four days of the storm's end, and 100 percent within 2 weeks.

As for the city's stormwater and combined sewers, though Sandy was not a major rain event and the sewers generally performed as designed during the storm, the unprecedented volume of the surge was beyond the capacity of the system to handle. As the surge finally

Station out of service due to subway system shutdown Credit: MTAPhotos

receded, the system did help to drain floodwaters, though the sand and debris left by the surge did slow this process.

For more on water and wastewater, see Chapter 12.

Other Critical Networks

Thankfully, New York's food supply chain continued to function reasonably well during and following the storm. This supply chain is made up of wholesale distributors, which bring food to the city and often store it in warehouses, and retailers, which supply food directly to New Yorkers. The city's food distributors depend heavily on transportation networks to make deliveries and electricity for their refrigeration systems, so they experienced a slight strain when the area's bridges were temporarily closed and power outages were at their peak. Fortunately, though, Hunts Point, the city's largest food distribution center—and a key distribution point for much of the fresh food that comes into the city—largely was unaffected.

Location dictated Sandy's impact on food retailers. For example, when power went out in Southern Manhattan, many supermarkets and bodegas lost perishable food. Meanwhile, many food retailers in Coney Island and Brighton Beach (almost 30 supermarkets and 50 bodegas) and nearly all retailers in the Rockaways and Broad Channel were affected by storm surge or flooding. Unless they had generators, these retailers were also without power and also lost inventory. Many food pantries—an important source of nourishment for the city's vulnerable populations often located in the basements of churches and other buildings—similarly experienced flooding. This left some areas without access to food within a reasonable distance.

The City and FEMA stepped in and over a three-month period gave out almost 4 million meals from hot-food distribution sites in areas such as South Queens and Southern Brooklyn.

New York City's solid waste system, too, generally functioned well, despite some damage to its facilities, its vehicle fleet, and New York City's rail network. Truck-based collection resumed almost immediately after the storm, even though many Department of Sanitation workers themselves had homes damaged by the storm. In addition to diligently removing the regular daily volume of solid waste, these employees managed to cart away over 400,000 tons of excess debris from waterlogged homes and businesses—to widespread acclaim.

Blackout in Chelsea from Southern Manhattan power outage Credit: Dan Nguyen

Because some facilities responsible for receiving New York City's solid waste were affected by the storm, the City made contingency plans for disposal—for instance, diverting over 10 percent of the city's residential and institutional solid waste from a waste-to-energy facility in New Jersey to other facilities. Rail transport of solid waste also experienced disruptions. Important lines were down for five days on Staten Island and in the Bronx, during which time solid waste was stored in containers or shipped out on transfer trailers.

For more on food supply and solid waste, see Chapter 13.

Communities

While Sandy affected neighborhoods all across New York City, the storm hit five coastal areas particularly hard—the Brooklyn-Queens Waterfront, the East and South Shores of Staten Island, South Queens, Southern Brooklyn, and Southern Manhattan. Three of the five areas (the East and South Shores of Staten Island, South Queens, and Southern Brooklyn) were directly exposed to storm surge and destructive waves along the shore, and all experienced widespread inundation. Across the five areas—which are home to 685,000 people—physical and economic damage was extensive and long-lasting.

Building damage in these areas was pervasive and in many cases devastating. Neighborhoods in South Queens, Southern Brooklyn, and along the East and South Shores of Staten Island accounted for over 90 percent of the buildings in Sandy-inundated areas citywide and over 70 percent of the buildings tagged by DOB as having been seriously damaged or destroyed citywide as of December 2012. Buildings along the Brooklyn/Queens Waterfront and in Southern Manhattan, meanwhile, often lost critical building systems, expensive mechanical equipment, and personal property and inventory located on ground floors. Residents of high-rise buildings—including elderly New Yorkers and those with physical limitations—found themselves, in many cases, stranded on upper floors when their buildings lost elevator service. Many of these impacts were felt particularly acutely by residents of public housing developments located on the waterfront.

Across these communities, there was also damage done to critical infrastructure, often affecting not just these communities, but the city as a whole. For example, many of Southern Manhattan's vehicular tunnels were inundated during the storm, resulting in their closure for up to three weeks following Sandy, eliminating key connections between New York City and New Jersey and between New York's boroughs. Southern Manhattan's subway tunnels flooded as well, and most subway lines were down between three and seven days, impairing the system citywide. Wastewater treatment plants in several neighborhoods also saw flooding and damage, and all five communities experienced power outages.

The recovery of these neighborhoods is vital not only to the people who live and work in them, but to the city as a whole. This report would not be complete without plans to address the vulnerabilities that Sandy exposed in these areas and that climate change likely will exacerbate in the future. The initiatives in this report aim to help these communities stand strong again.

For the Brooklyn-Queens Waterfront, see Chapter 14. For the East and South Shores of Staten Island, see Chapter 15. For South Queens, see Chapter 16. For Southern Brooklyn, see Chapter 17. For Southern Manhattan, see Chapter 18.

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

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IN RE HURRICANE SANDY CASES

ORDER

14 MC 41

----------X

THIS DOCUMENT APPLIES TO:

ALL RELATED CASES

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CASE MANAGEMENT ORDER NO. 1

INTRODUCTION

On October 29, 2012, the weather event officially designated as Hurricane Sandy made landfall in southern New Jersey, causing severe damage to several states along the East Coast from Florida to Maine.[1] The storm surge struck New York City, causing property damage in excess of $50 billion, leaving many people homeless and without power.

Currently, more than 800 actions have been filed by property owners in the United States District Court for the Eastern District of New York against various insurers and more cases are expected. The Board of Judges has appointed a committee, consisting of three magistrate judges (the "Committee"), to recommend procedures to ensure proper case filing and relation practices, to establish a plan for expedited discovery, and to facilitate the efficient resolution of these matters in a manner designed to avoid duplication of effort and unnecessary expense. Nothing in this Case Management Order is intended to slow the resolution of any case. Individual cases that are at an advanced stage should not be delayed needlessly as a result of this Order, and counsel are encouraged to employ their own resources in attempting to resolve these cases.

In an effort to explore possible ways in which these matters may be managed more

[1] *Hurricane Sandy One Year Later,* FEMA, http://www.fema.gov/hurricane-sandy.

effectively, the Committee requested certain basic data about the pending cases from plaintiffs' counsel and obtained written submissions from both plaintiffs' and defendants' counsel setting forth their positions on the best ways to organize and streamline case management. On February 5, 2014, the Committee met with counsel representing all parties to these cases to solicit input and suggestions.

In entering this Case Management Order, the Committee is cognizant of the various interests that need to be balanced here. On the one hand, the Court must ensure that victims of the storm, many of whom were rendered homeless for a time and who may be left without the necessary records or access to qualified contractors to effect repairs, receive an expeditious review of their claims, while at the same time, safeguarding insurers from meritless or inflated claims. As the letters filed by counsel demonstrate, however, there is no universal approach that will facilitate a speedy and fair resolution to these cases. The Court has taken certain steps to ease the burden and expense upon the litigants and the Court. For example, the Court entered consolidated *pro hac vice* orders eliminating the need for out-of-district counsel to file such motions for every case. In addition, with the approval of the Board of Judges, the Court enters the following Order:

I. Appointment of Liaison Counsel

In order to conduct future case management activities more efficiently, the Committee hereby designates Liaison Counsel to assist the Court in coordinating the efforts of all parties.

A. Plaintiffs' Liaison Counsel - The Committee has designated Tracey Rannals Bryan of Gauthier Houghtaling & Williams, and Javier Delgado of Merlin Law Group as Plaintiffs' Liaison Counsel. Plaintiffs' Liaison Counsel shall forward to all plaintiffs' counsel any communication that is designated by the Court as non-case specific.

B. Defendants' Liaison Counsel - The Committee has designated Gerald J. Nielsen of

Nielsen, Carter & Treas, LLC, and Jared T. Greisman of White Fleischner & Fino, LLP as Defendants' Liaison Counsel. Defendants' Liaison Counsel shall forward to all defendants' counsel any communication that is designated by the Court as non-case specific.

II. Misjoinder of Plaintiffs

As an initial matter, the Committee's review of the cases that have been filed to date has revealed that there remain a number of "mass joinder" cases, where plaintiffs joined large groups of property holders in one complaint,[2] with the only common factor being that the property owners held insurance policies with the same insurance company. The Committee has identified a number of these misjoined cases that are listed in Exhibit A attached hereto. Several district judges, *sua sponte,* dismissed similar complaints without prejudice to refiling, based upon their determination that the plaintiffs were impermissibly joined. See, e.g., Funk v. Allstate Ins. Co., No. 13 CV 5933 (JS) (GRB) (E.D.N.Y. Dec. 13, 2013); Dante v. National Flood Ins. Program, No. 13 CV 6297 (NG) (RER) (E.D.N.Y. Nov. 21, 2013).

Accordingly, IT IS HEREBY ORDERED that within 14 days of the date of this Order, counsel shall dismiss all plaintiffs except the first named plaintiff in each misjoined action listed in Exhibit A hereto, without prejudice to refiling in accordance with this Order's Case Relation Rule set forth below.

IT IS FURTHER ORDERED that within 14 days of this Order, the parties shall provide the

[2]In its submission to the Committee, plaintiffs' counsel suggested that not only would it be "convenient and efficient" to proceed by joining the plaintiffs in this manner, but that "it would also result in a considerable savings to the parties in terms of filing fees." No. 14-MC-41, Entry 65. This Court has previously ruled that plaintiffs cannot avoid paying statutorily-mandated filing fees through improper mass joinder. See In re BitTorrent Adult Film Copyright Infringement Cases, Nos. 11 CV 3995, 12 CV 1147, 12 CV 1150, 12 CV 1154, 2012 WL 1570765, at *12-13 (E.D.N.Y. July 24, 2012), *report and recommendation adopted sub nom.* Patrick Collins, Inc. v. Doe 1, 288 F.R.D. 233 (E.D.N.Y. 2012).

Committee with a list of any additional cases (not listed in Exhibit A) in which plaintiffs continue to be joined improperly solely because they share a common defendant, and dismiss all but the first named plaintiff in those cases in accordance with this Order.

III. Relation and Consolidation of Cases

In soliciting filings from counsel, the Committee directed counsel to "file a letter in accordance with Local Rule 50.3.1(d) (the "Case Relation Rule"), explaining how counsel proposes to group the cases." To date, no attorney has proposed a comprehensive plan for relating the cases and several have specifically opposed relation or consolidation of any cases. Notwithstanding these positions, the Committee has determined that, based on the information available, one subgroup of cases will benefit from relation to a single judicial officer.

A. Cases Relating to the Same Property

In a number of instances, multiple cases have been filed relating to the same property, most often where the property is insured under separate policies, such as wind and flood damage policies ("Common Property Cases"). The Committee has compiled a preliminary list of Common Property Cases, attached as Exhibit B to this Order.

Although some counsel have opposed relation or consolidation of the Common Property Cases, the Committee, after careful consideration, has determined that there would be a significant savings of judicial resources if multiple cases relating to the same property were assigned to the same district judge and magistrate judge under the Case Relation Rule. Damages to a particular structure, edifice or property may involve common questions of fact which potentially could be resolved by joint inspections and experts. Relating the cases that deal with a single property to the same judges may also eliminate the risk of inconsistent determinations.

The Committee makes no recommendation with regard to the question of whether any of

the Common Property Cases should be otherwise consolidated for purposes of discovery and/or trial. That decision will be left to the assigned judges.

Accordingly, IT IS HEREBY ORDERED that within 14 days of the date of this Order, all cases relating to the same property, listed in Exhibit B hereto, shall be deemed related under the Case Relation Rule, and assigned to the district judge and magistrate judge currently assigned the lowest docket number.[3]

IT IS FURTHER ORDERED that within 14 days of this Order, the parties shall provide the Committee with a list of any other Common Property Cases (not listed in Exhibit B) that should be related in accordance with this Order.

B. Cases Subject to Certain Common Defenses

Counsel for defendants have identified several state law claims common to many of plaintiffs' cases, which defendants contend should be dismissed, including, *inter alia*, state law claims alleging bad faith or negligent claims handling, certain forms of relief, such as punitive damages, treble damages, and/or attorneys' fees, and requests for jury trial. A number of district judges have already dismissed such claims, finding that the allegations are not viable under New York law. See, e.g., Funk v. Allstate Ins. Co., No. 13 CV 5933 (JS) (GRB) (E.D.N.Y. Dec. 13, 2013); Dufficy v. Nationwide Mut. Fire Ins. Co., No. 13 CV 6010 (SJF) (AKT) (E.D.N.Y. Dec. 2, 2013).

Rather than require each judge to resolve motions to dismiss such claims, plaintiffs are ORDERED within 14 days of the Order to voluntarily withdraw such claims, or if not, submit a letter to the assigned judge, explaining the legal basis for continuing to pursue such claims in any

[3]Counsel should ensure that when relating cases, the cases are filed in the proper courthouse in accordance with the Eastern District Division of Business Rule, Local Rule 50.1(d).

particular action.

IV. Uniform Automatic Discovery Practices in Sandy Cases

The parties generally agree that a uniform, automatic discovery procedure should be adopted to speed resolution of these matters while also reducing costs for the parties and the burdens on the Court. Counsel advise that, in FEMA cases, insurers are compensated based upon the total payout such that as long as damages are properly documented, carriers have an incentive to pay. Accordingly, rather than waiting for the Court to schedule a Rule 16 conference, the parties are directed to disclose certain information in an expedited manner so that the parties can evaluate their respective cases. The following discovery schedule shall control the first phase of discovery in Hurricane Sandy cases in lieu of the initial disclosures required by Federal Rule of Civil Procedure 26 to avert the need for a Rule 16 conference in these cases and, in the absence of a showing to the contrary, the need to serve document requests and interrogatories.

A. Automatic Disclosures by Plaintiffs

1. Within 60 days of the date of this Order (or in the case of subsequently filed cases, within 60 days of the filing of the Answer) unless such information has already been provided or appears on the face of the complaint, plaintiffs in all Hurricane Sandy cases shall provide the following information to defendants' counsel:

   a. the complete name of each insurer and all policy numbers for each policy of insurance held by, or potentially benefitting each plaintiff and/or property on the date of the loss (including without limitation wind, flood, fire or a combination thereof), and all claims numbers for any claims made for losses relating to Hurricane Sandy;

b. the address of each property for which a loss is claimed;

c. the current address of each plaintiff property owner;

d. an itemized statement of claimed damages for each property, including contents; if the contents claim is no longer in dispute, a statement to this effect must be made;

e. a statement as to whether there have been any amounts paid or offered to be paid under the policy, and if so, the difference claimed in this suit, including an itemization of those items for which plaintiff is making a claim of underpayment and any supporting documentation;

f. if no payments have been made or offered, a statement of the reasons provided by defendant;

g. whether there have been any prior attempts at arbitration or mediation; and

h. identify any other Hurricane Sandy related lawsuits filed or contemplated for that particular property or plaintiff.

2. Within 60 days of this Order (or in the case of subsequently filed cases, within 60 days of the filing of the Answer), plaintiffs shall produce to defendants' counsel the following documents:

a. all documents supporting or evidencing the claimed loss, including loss estimates from other insurers, any adjuster's reports, engineering reports, contractor's reports or estimates; photographs, claim log notes, documents relating to repair work performed after Hurricane Sandy, including contracts, bids, estimates, invoices or work tickets

for completed work;

b. all documents reflecting any payments received to date from any insurer, FEMA, or from any other governmental program federal, state or local;

c. with respect to flood damage claims, all documents relied upon by plaintiff as satisfying Proof of Loss requirements and documentation required by SFIP 44 C.F.R. Pt. 61, App.A(1), Art. VII(J)(3),(4);

d. any written communications exchanged between the insured or insurer relative to the claimed loss, including any proof of loss required by the applicable policy.

B. Automatic Disclosure by Defendants

1. Within 60 days of the date of this Order (or in the case of subsequently filed cases, within 60 days of the filing of the Answer), defendants in all Hurricane Sandy cases shall provide the following information to plaintiffs:

a. if no payment on the policy has been made or offered, an explanation for the declination of coverage, including but not limited to:

i. any policy exclusions that apply;

ii. whether coverage is denied due to non-payment of premiums;

iii. if there is a dispute as to the nature of the damage incurred and its coverage under the policy;

iv. if there is a dispute as to the value of the claimed losses, and

v. any other legal basis on which coverage has been denied.

b. if payment on the policy has been made or offered, defendant's understanding of the nature of the dispute;

c. whether mediation or arbitration has been attempted in the case.

2. Within the same 60-day period, defendants are ORDERED to provide the following documents and information to plaintiffs' counsel:

a. all non-privileged documents contained in the claims file pertaining to the subject policy, including any letters of declination of coverage and notices of nonpayment of premiums;

b. any documentation relating to an assessment of the claimed loss, including all loss reports and damage assessments, adjuster's reports, engineering reports, contractor's reports, photographs taken of the damage or claimed losses, and any other evaluations of the claim;

c. the names and addresses of the adjusters for each claim;

d. all claim log notes;

e. records of payments made to the insured pursuant to the policy;

f. all expert reports and/or written communications that contain any description or analysis of the scope of loss or any defenses under the policy.

Nothing in this Order shall be construed to limit the information to be exchanged in any particular case. Counsel for each party is encouraged and expected to provide any information that would reasonably be helpful to their adversary in evaluating the case for mediation/arbitration purposes. Any information not exchanged during this period cannot be used in the mediation/arbitration process. The parties are strongly urged to meet and confer in good faith on the exchange of information.

C. Privilege

A party shall produce a privilege log for those documents that it is not producing on the basis of privilege 14 days prior to the completion of the production described in Section IV above. The log should include the author of the document, the recipient of the document, the date of the document, and the nature of the privilege asserted.

Documents for which a privilege is properly asserted include communications between counsel and client, documents created in anticipation of litigation, communications between or among plaintiffs' counsel, and communications between or among non-insurer defendants' counsel, insurer defendants' counsel and their respective clients. Documents routinely prepared in the ordinary course of business, including but not limited to adjusters' reports and other expert analyses, including draft reports, are not privileged and should be produced.

V. Alternative Dispute Resolution

Within 14 days of the completion of the expedited discovery procedure outlined above, the parties are Ordered to submit a Notice of Arbitration in accordance with Local Rule 83.7 in the form attached hereto as Exhibit C, or in the alternative, the parties may submit a stipulation in the form attached as Exhibit D, consenting to mediation. All arbitrations and mediations are to be concluded within three months of submission of the Notice of Arbitration or Consent to Mediation. Mediation may, at the discretion of the Court, be conducted by a magistrate judge rather than a mediator. Cases that are not resolved through arbitration, mediation, or voluntary settlement will be returned to the assigned district judge and magistrate judge for trial.

Within 14 days of the date of this Order, Defendants' Liaison Counsel is Ordered to confer with defendants' counsel and provide the Committee with a list of commonly occurring legal issues and defenses that defendants anticipate, from experience, may arise in a number of these cases,

along with relevant case law or other authority addressing these issues.

Within 7 days thereafter, Plaintiffs' Liaison Counsel is Ordered to confer with plaintiffs' counsel and provide the Committee with any contrary legal authority addressing the issues and defenses identified by Defendants' Liaison Counsel, and provide the Committee with any other issues that plaintiffs anticipate may arise in these cases.

While the ultimate determination of any such legal issue or defense may well be fact driven, and the outcome of any legal defense or issue will be determined by the individual judge assigned to each case, the Committee seeks this information in order to educate and fully prepare our mediators and arbitrators with the hope of expediting the settlement process. These submissions are intended to be summary in nature and may be made by letter; they are not intended to be full briefs on the issues.

SO ORDERED.

Dated: Brooklyn, New York
February 21, 2014

/S/ CHERYL L. POLLAK
Cheryl L. Pollak
United States Magistrate Judge

/S/ GARY R. BROWN
Gary R. Brown
United States Magistrate Judge

/S/ RAMON E. REYES, JR.
Ramon E. Reyes, Jr.
United States Magistrate Judge

MEDIATION INSTRUCTIONS
TO COUNSEL IN EDNY MEDIATION
(last updated 08/21/2012)

I. Date for mediation session and selecting Mediator

Unless otherwise provided in the Mediation Referral Order, the first mediation session will take place approximately four to six weeks after the date of the Mediation Order. Counsel are to select the Mediator, schedule the first mediation session, and (1) electronically file and (2) confirm in writing to the ADR Administrator, Gerald P. Lepp (Fax 718-613-2368) , the name of the Mediator, and the date, time, and place of the first mediation session. Counsel are to confer with each other and to speak directly with the potential Mediator, in scheduling the first mediation session. A mediation session should be scheduled for an entire day. Trial Counsel, a representative of their client with full settlement authority, and the Insurance Adjustor shall attend the mediation sessions in person.

Counsel may select the Mediator from the EDNY Panel of Mediators which is listed on the ADR website www.nyed.uscourts.gov/adr and also schedule the session. The names of the mediators, their areas of concentration together with addresses and telephone numbers are listed on the website. **Each mediator shall receive a fee of $600 for the first four hours or less of the actual mediation. Time spent preparing the mediation will not be compensated. Thereafter, the mediator shall be compensated at the rate of $250 per hour. The mediator's fee shall be paid by the parties to the mediation.**.

Any party that is unable or unwilling to pay the Mediator's fee may apply to the referring judge for a waiver of the fee, with a right of appeal to the District Judge in the event the referral was made by a Magistrate Judge.

Counsel may also agree to a particular mediator whether or not he/she is on the EDNY panel or to use the services of an independent Alternative Dispute Resolution organization. Compensation of mediators not on the EDNY Panel is determined by agreement among Counsel and the mediator.

If Counsel select the mediator, then the name of the Mediator, date, time and place of the mediation session, shall be confirmed in a letter to all Counsel with a copy to the Mediation Office (fax: 718-613-2368). The Confirmation Letter shall be filed electronically (ECF) with the Court.

Please be aware that many of the EDNY panel mediators provide private mediations as well. **It is very important that you identify yourself to the mediator as a party in a case which was court-ordered to mediation.**

Alternatively, the Mediation Department may be requested to select the Mediator. In such case, the Mediation Department will provide the parties with a list of available EDNY Panel Mediators with experience in the subject of the case. Within seven (7) days, Counsel shall rank their choices for the Mediator. Counsel shall each have one vote in which to rank their preferences. Counsel are to numerically rank their preferences for the Mediator; for example, the

first choice “1", the second choice “2", the third choice “3", and so on. The ADR Administrator will select the Mediator who gets the lowest number on the combined lists of preferences and notify counsel on ECF. In accordance with Administrative order 2004-08 (as of August 2, 2004) electronic filing became mandatory in the Eastern District of New York for all cases (pro se cases are excluded).

II. Submissions

The mediation statement is intended to inform the mediator about the case from the party’s view. Before drafting the mediation statement, counsel should discuss with the mediator any particular requirements that the mediator may have.

The Local Civil Rule 83.11(b) (4) provides that “no less than seven days prior to the first mediation session, each party shall submit directly to the mediator a mediation statement not to exceed ten pages double-spaced, not including exhibits, outlining the key facts and legal issues in the case. The statement will also include a description of motions filed and their status, and any other information that will advance settlement prospects or make the mediation more productive. Mediation statements are not briefs and are not filed with the Court, nor shall the assigned Judge or Magistrate Judge have access to them.”

Unless otherwise agreed by the parties and the mediator, the submissions shall not be exchanged among counsel.

III. Attendance in Person required of Trial Counsel, Insurance Adjustor, and Party Representative with full settlement authority at each Session and Session Location.

Attendance in person at each mediation session is required of the trial counsel, insurance adjustor (if any) and the party or its representative with full settlement authority to settle the matter in the case of a business or governmental entity or a minor. The names and general job titles of the employee(s) or agents of the corporation or insurance company who will attend the mediation session should be included in the mediation statement. **Availability by telephone is unacceptable.**

Mediation sessions may be conducted at the offices of the mediator, the Courthouses of the Eastern District at Central Islip and Brooklyn, and with the consent of all Counsel, a Counsel’s conference room. Telephone the Mediation Office for reservations at the Courthouses. (Telephone 718-613-2577 or FAX 718-613-2368)

IV Finalizing agreement

Oral agreements should be committed to writing and signed at the mediation session. In addition, a stipulation of discontinuance should be prepared and filed. A form of stipulation of discontinuance is attached hereto.

V. Questionnaire for Attorneys in Mediated Cases

After the mediation has taken place, please evaluate the performance of your Mediator and return your evaluation to:

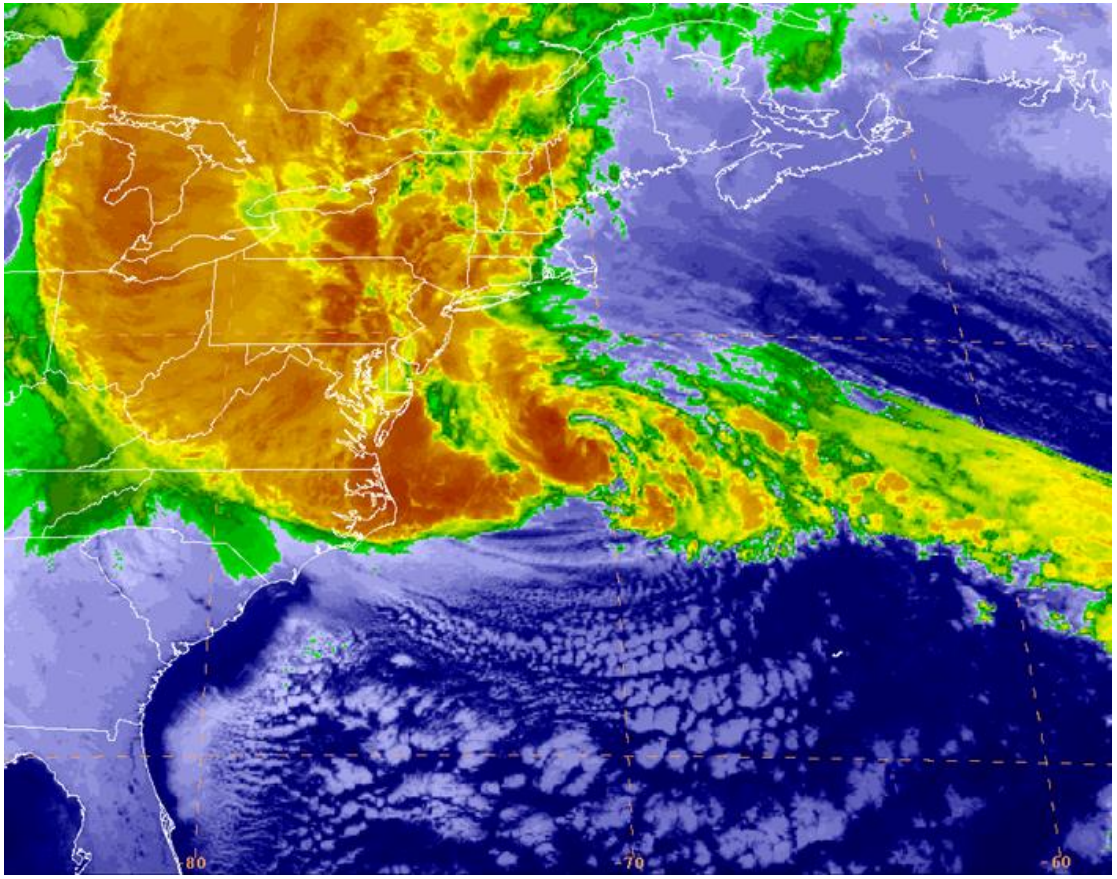
Gerald P. Lepp, ADR Administrator
US District Court
225 Cadman Plaza East
Brooklyn, NY 11201

VI. Other Resources

EDNY Local Civil Rule 83.11 Court-Annexed Mediation (Eastern District Only)

EDNY ADR website www.nyed.uscourts.gov/adr

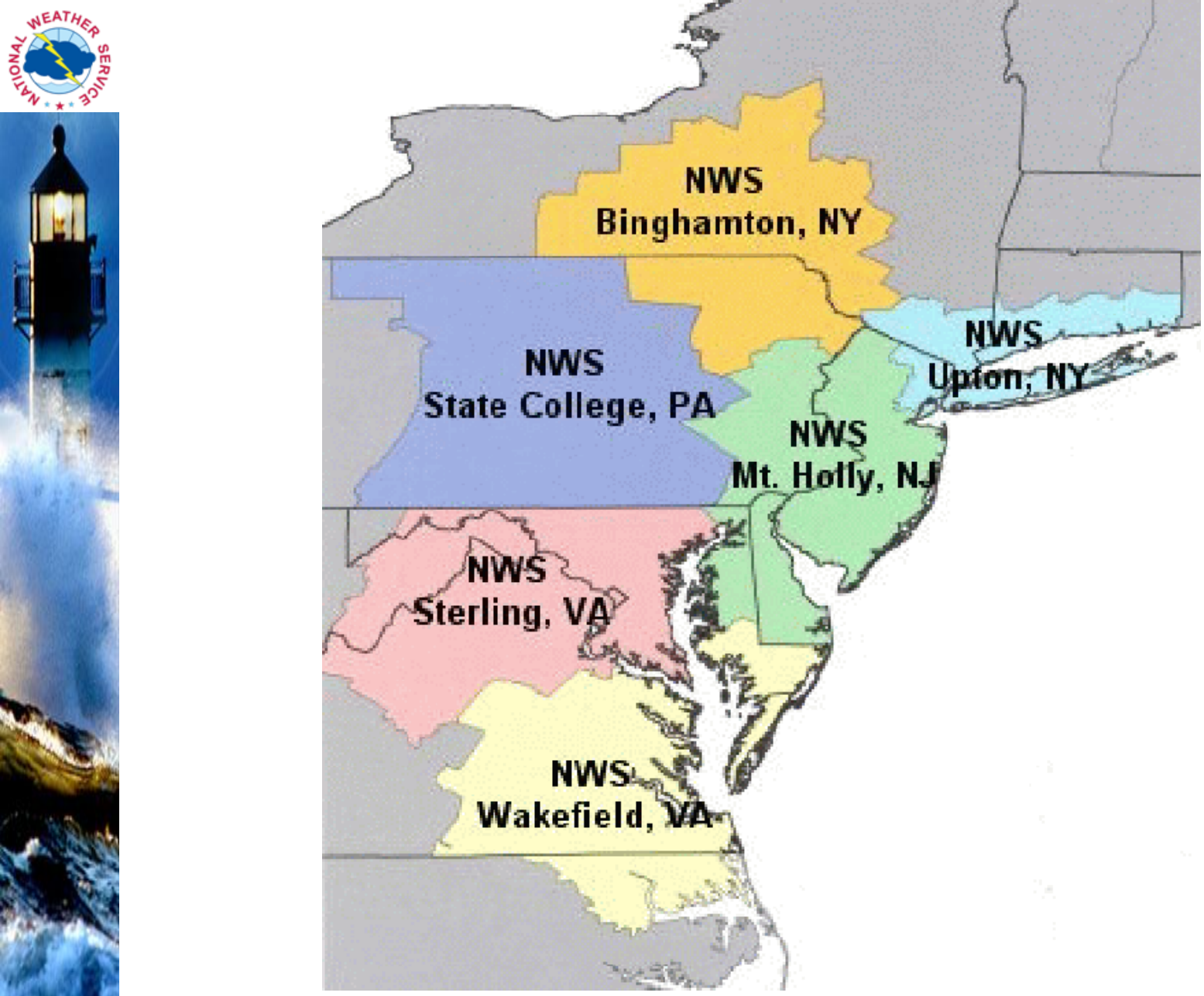
Hurricane/Post-Tropical Cyclone Sandy Overview



I. Ross Dickman

Meteorologist-In-Charge, NWS New York, NY

May 22, 2014



WFOs serving the Middle Atlantic region

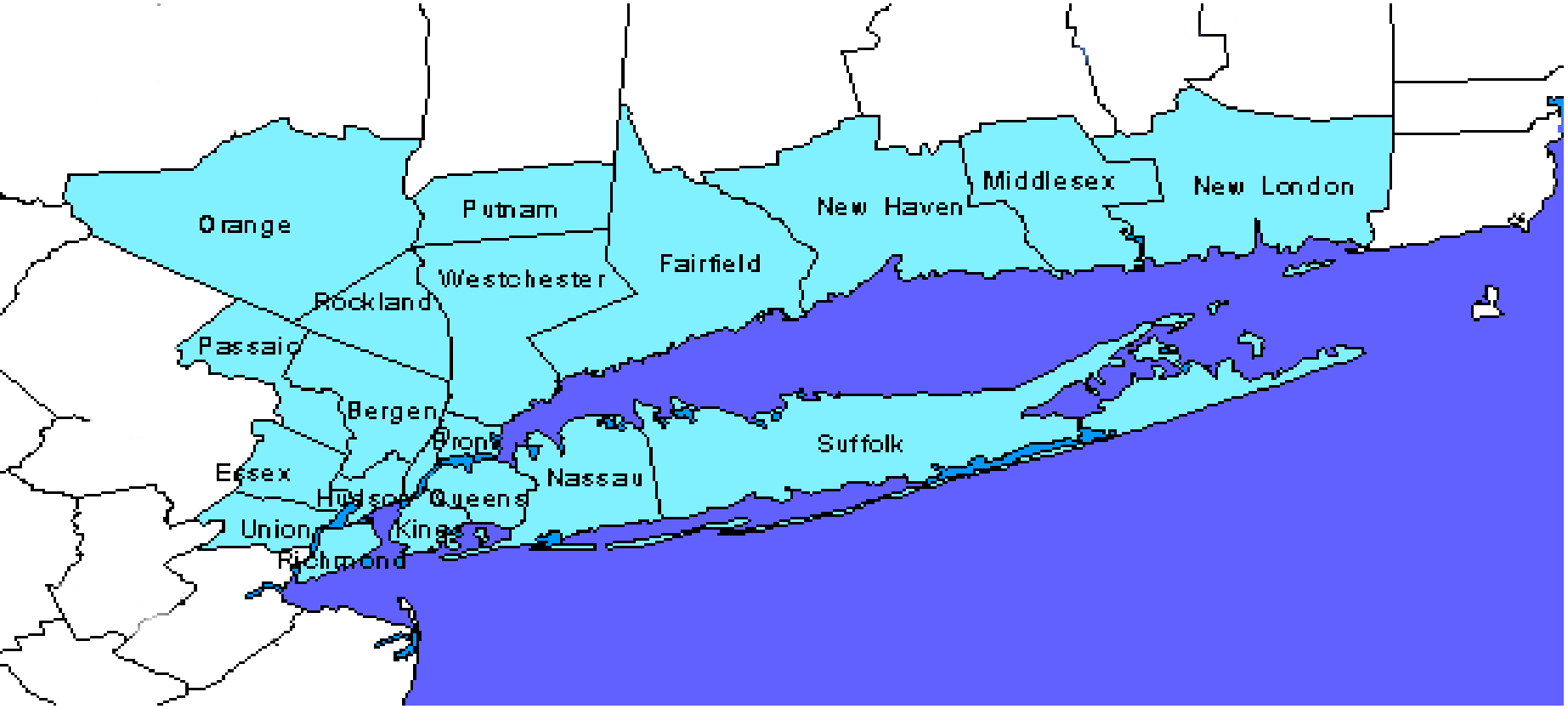
Weather Forecast Office
New York, NY

NWS New York Personnel

- Senior Forecasters : 5
- General Forecasters: 8
- Meteorological Interns: 4
- Electronic Technicians: 3
- Hydrologist: 1
- Management: 5
- IT position: Vacant
- Administrative support: 1
- Total Personnel: 27

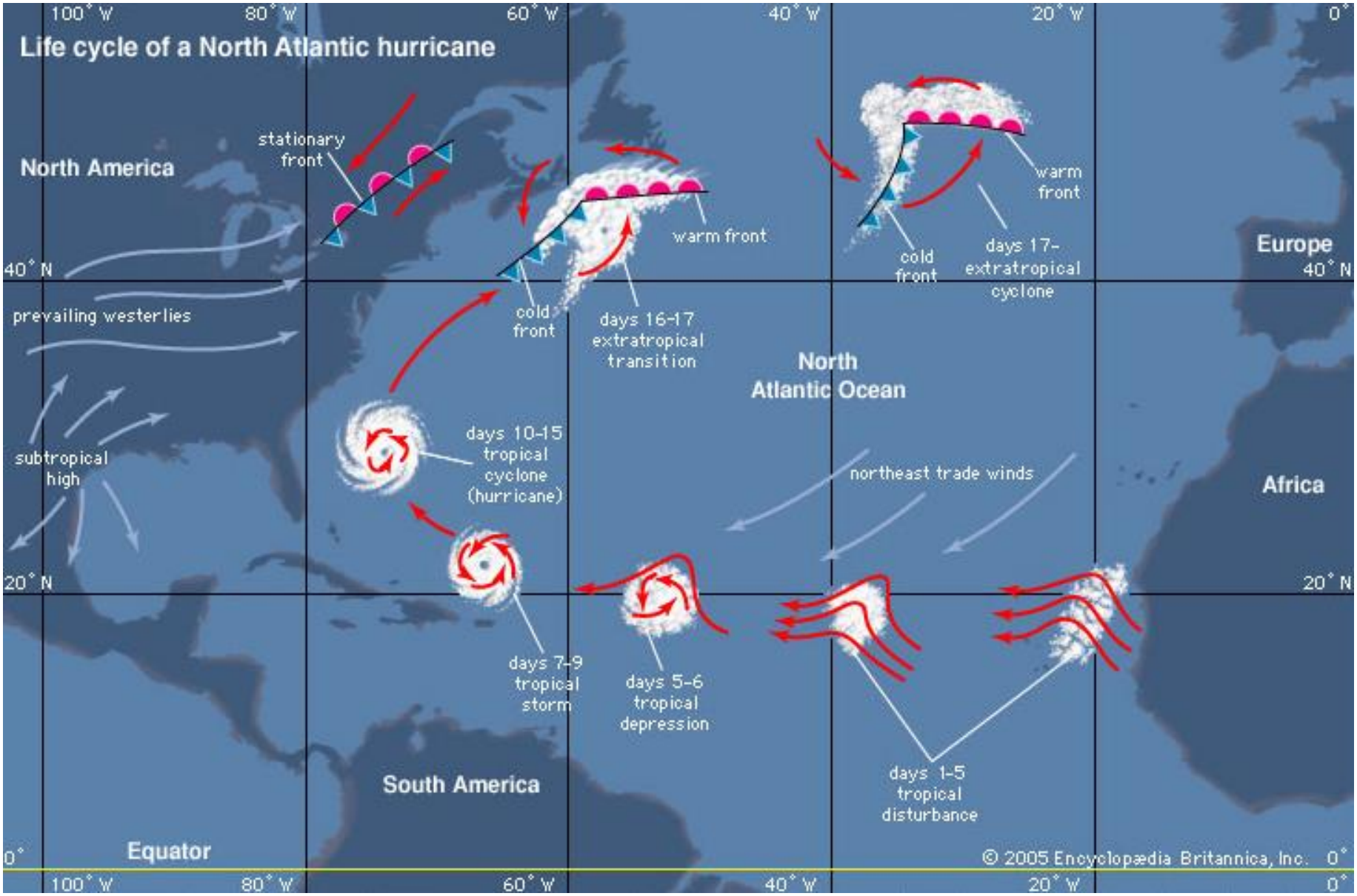
Area of Responsibility

Service Area

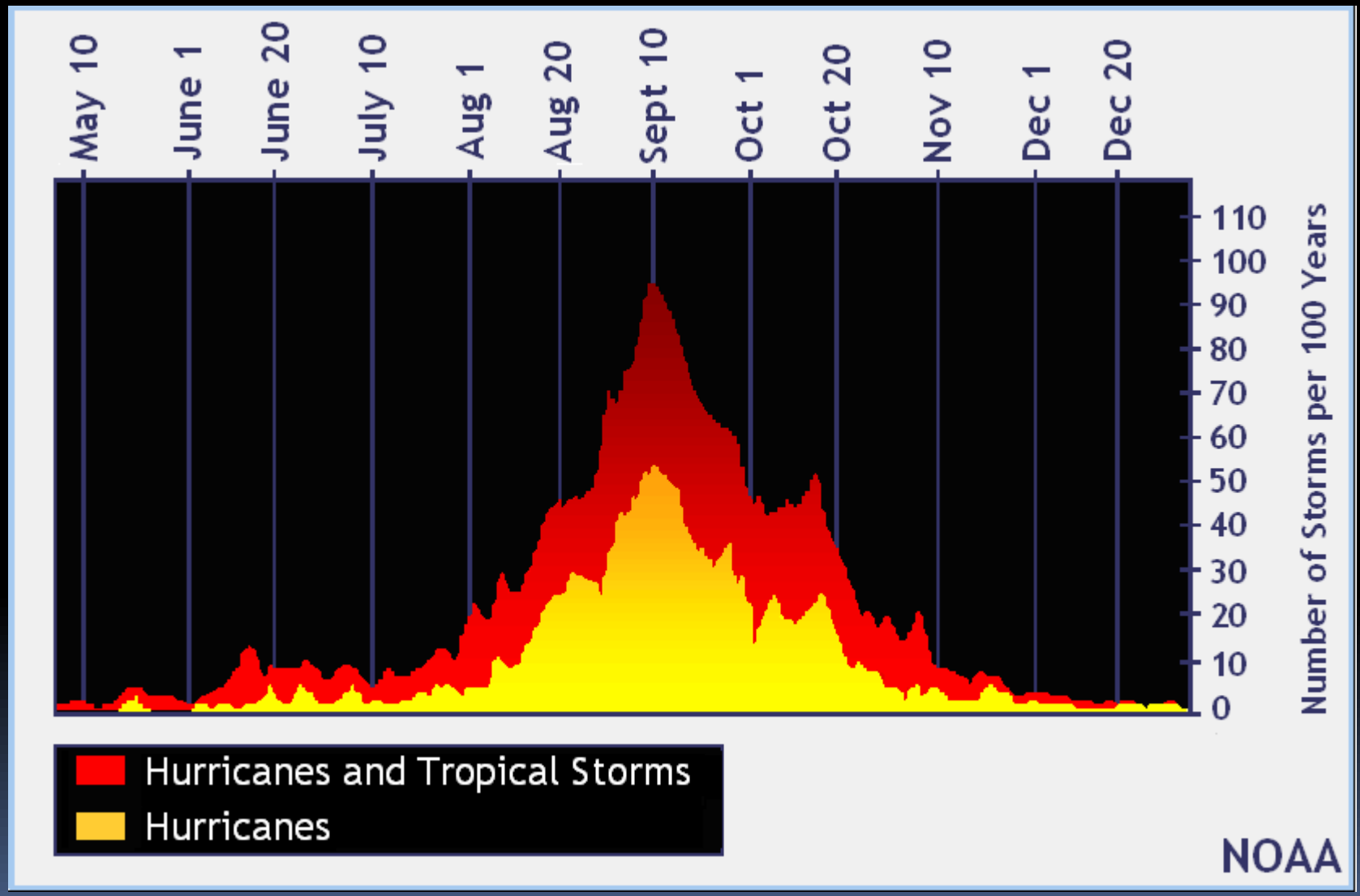


Population ~ 20 Million; 7% US Population

Life Cycle of a Tropical Cyclone

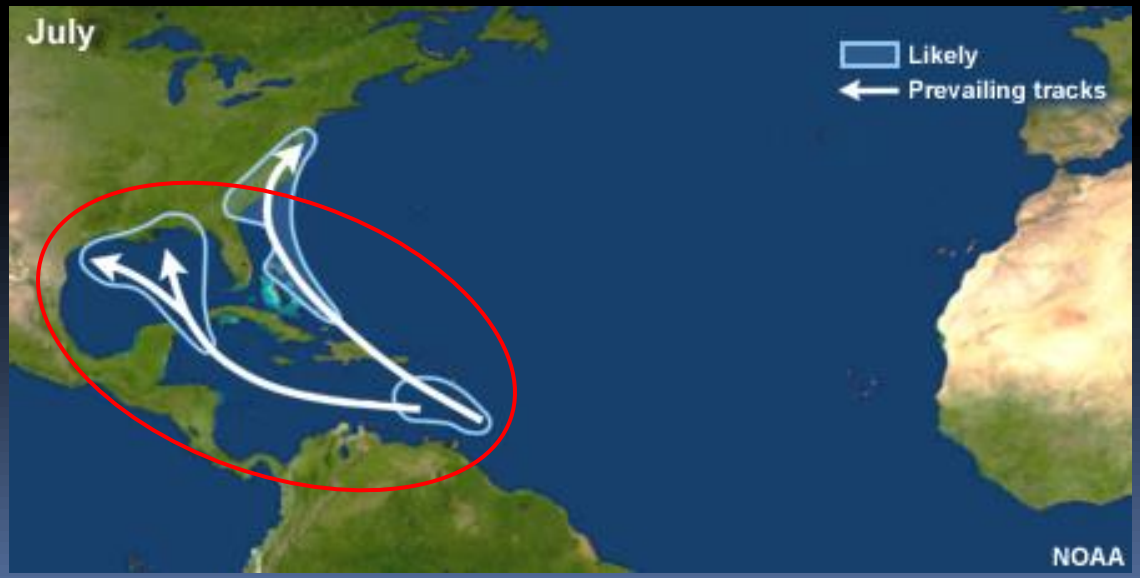


Annual Climatology of Atlantic Hurricanes



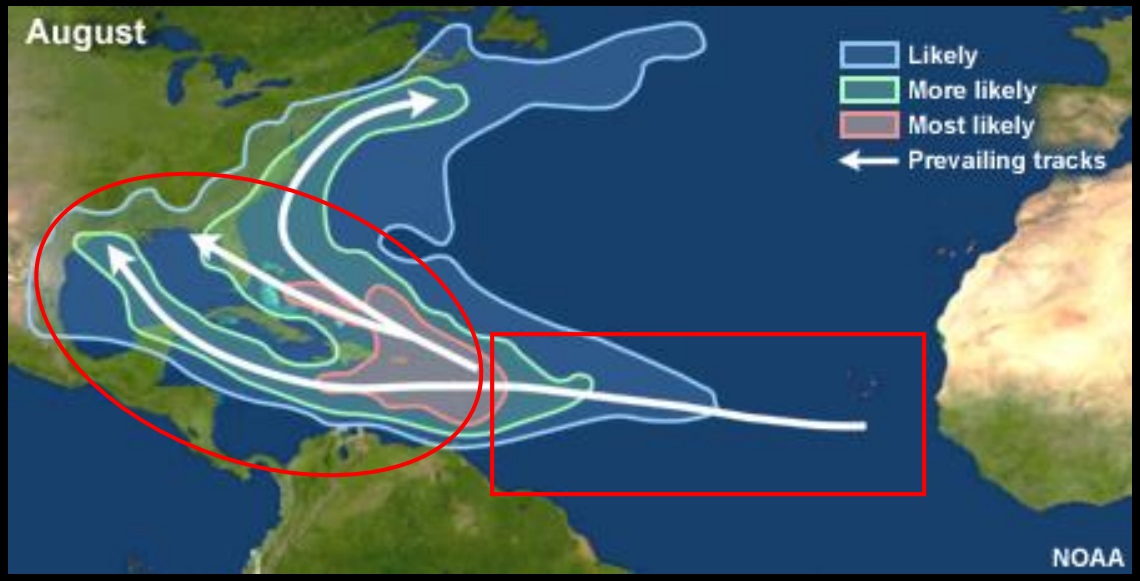
Climatological Areas of Origin and Tracks

June: On average about 1 storm every other year. Most June storms form in the northwest Caribbean Sea or Gulf of Mexico.

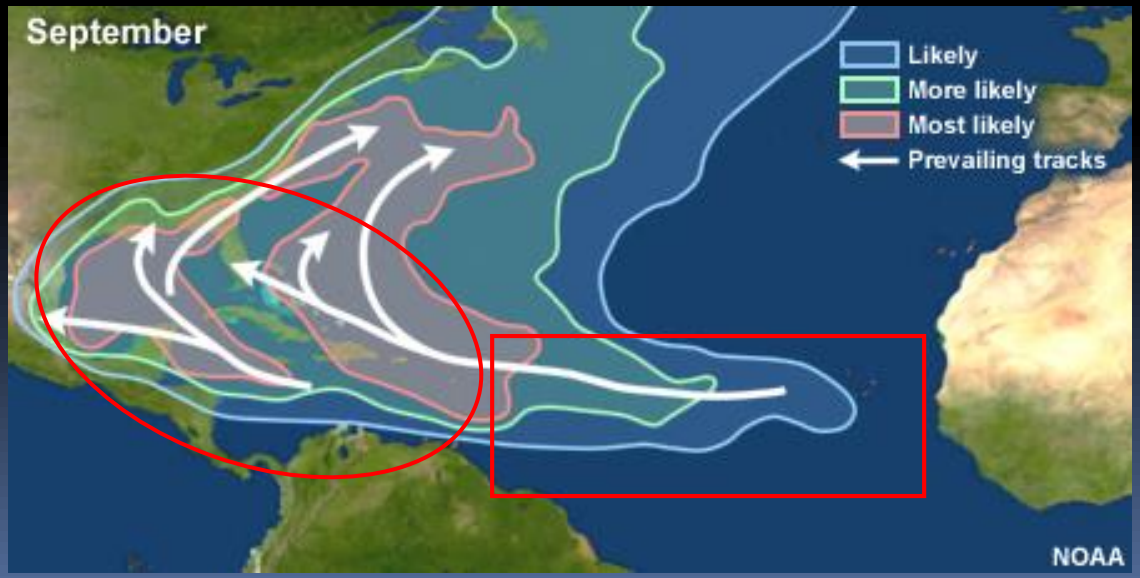


July: On average about 1 storm every year . Areas of possible development spreads east and covers the western Atlantic, Caribbean, and Gulf of Mexico.

Climatological Areas of Origin and Tracks



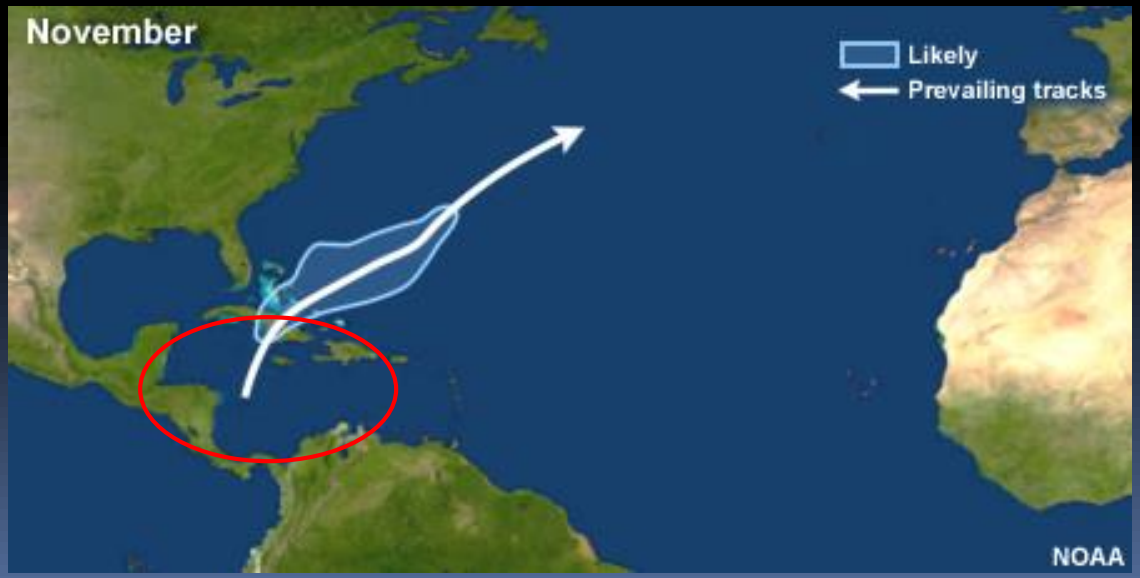
August: Activity usually increases in August. On average about 2-3 storms form in August. The Cape Verde season begins.



September: The climatological peak of the season. Storms can form nearly anywhere in the basin. Long track Cape Verde storms very possible

Climatological Areas of Origin and Tracks

October: Secondary peak of season in mid-October. Cape Verde season ends. Development area shifts westward, back into the Caribbean, Gulf of Mexico, and western Atlantic.



November: Season usually slows down with about 1 storm occurring ever other year. Storm that do form typically develop in central Caribbean.

Hurricane Hazards

Wind

Waves / Rip Currents

Tornadoes

Storm Surge

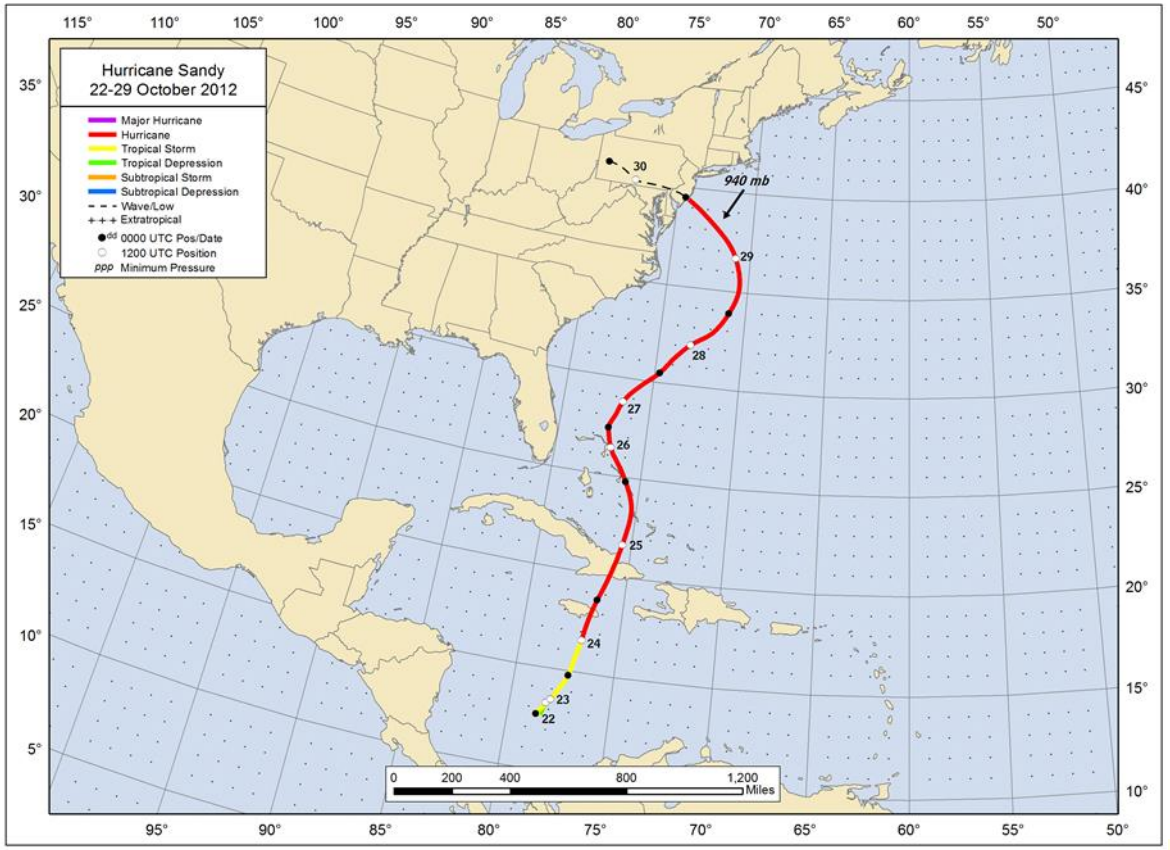
Rainfall / Inland Flooding

Saffir-Simpson Hurricane Wind Scale

Category	Winds	Summary
1	74-95 mph	Very dangerous winds will produce some damage
2	96-110 mph	Extremely dangerous winds will cause extensive damage
3	111-129 mph	Devastating damage will occur
4	130-156 mph	Catastrophic damage will occur
5	157 + mph	Catastrophic damage will occur

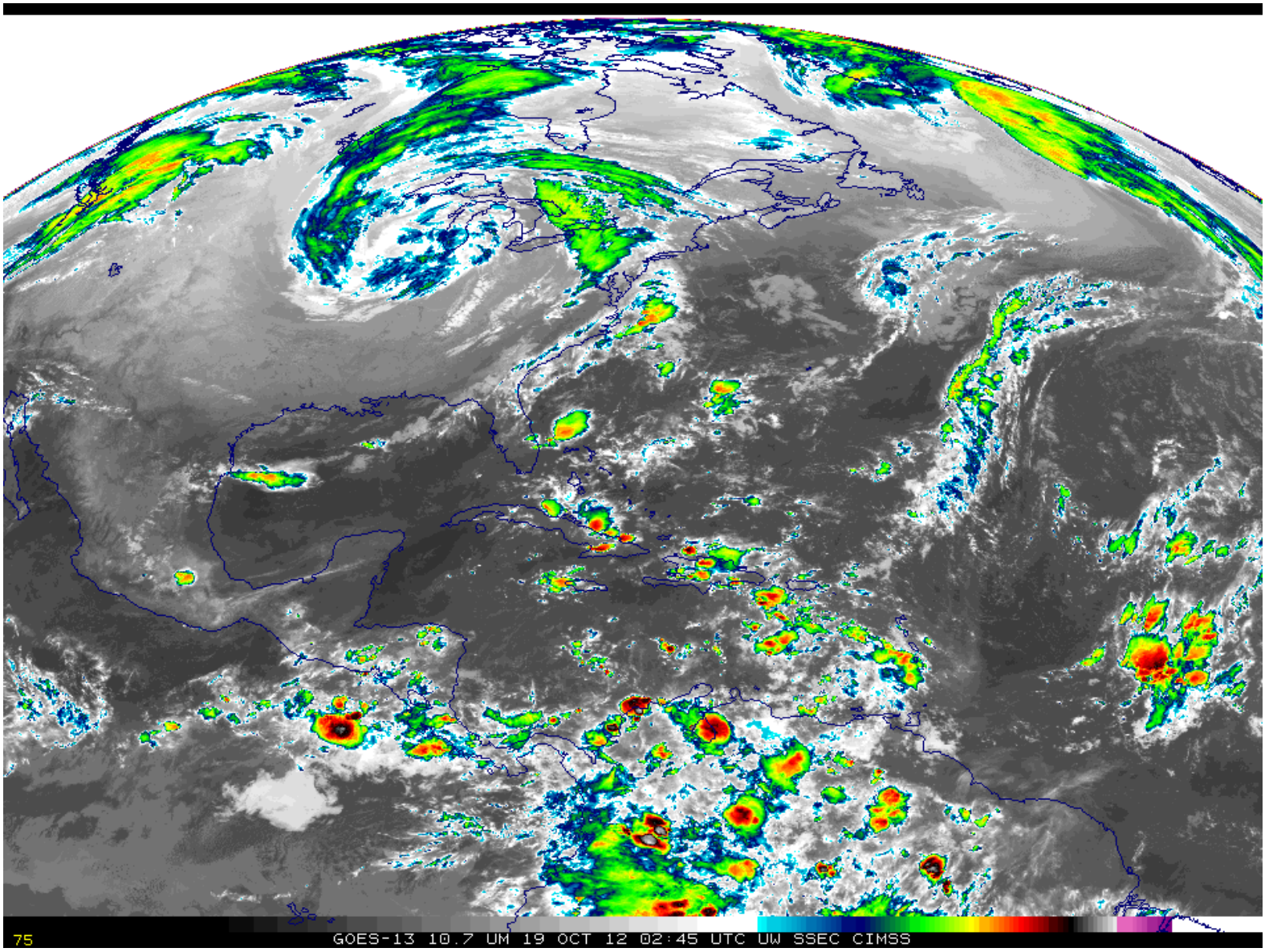
www.nhc.noaa.gov/aboutsshs.shtml

HURRICANE/POST-TROPICAL CYCLONE SANDY OVERVIEW

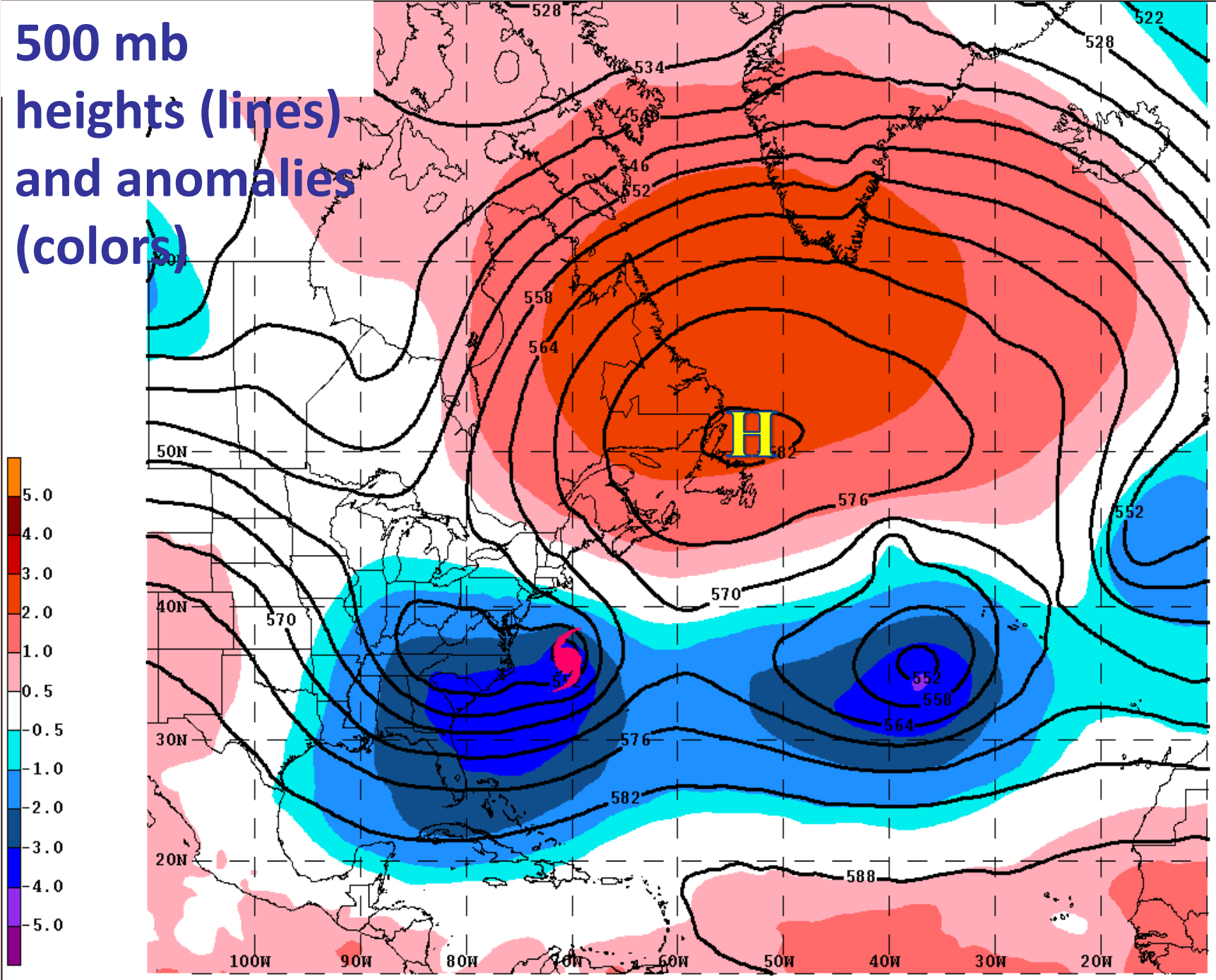


- Observed Min. Central Pressure at Landfall…945 mb (NJ)
- 72 Direct Deaths in U.S…Deadliest NE Hurricane in 40 years
- Observed Max. Sustained Wind…69 mph (RI)
- Total Damage Estimate…$50 Billion
- Observed Max. Wind Gust…90 mph (NY/NJ)
- 8.5 million people lost power
- Observed Max. Storm Surge…12.65 feet (Kings Point,NY)
- Heavy rainfall (5-8 inches) mainly south/west of track
- Observed Max. Rainfall…12.83 in (MD)
- Tropical Storm Force Winds 945 miles from center
- Heavy Snow (max 3 feet) in portions of WV,MD,VA,NC

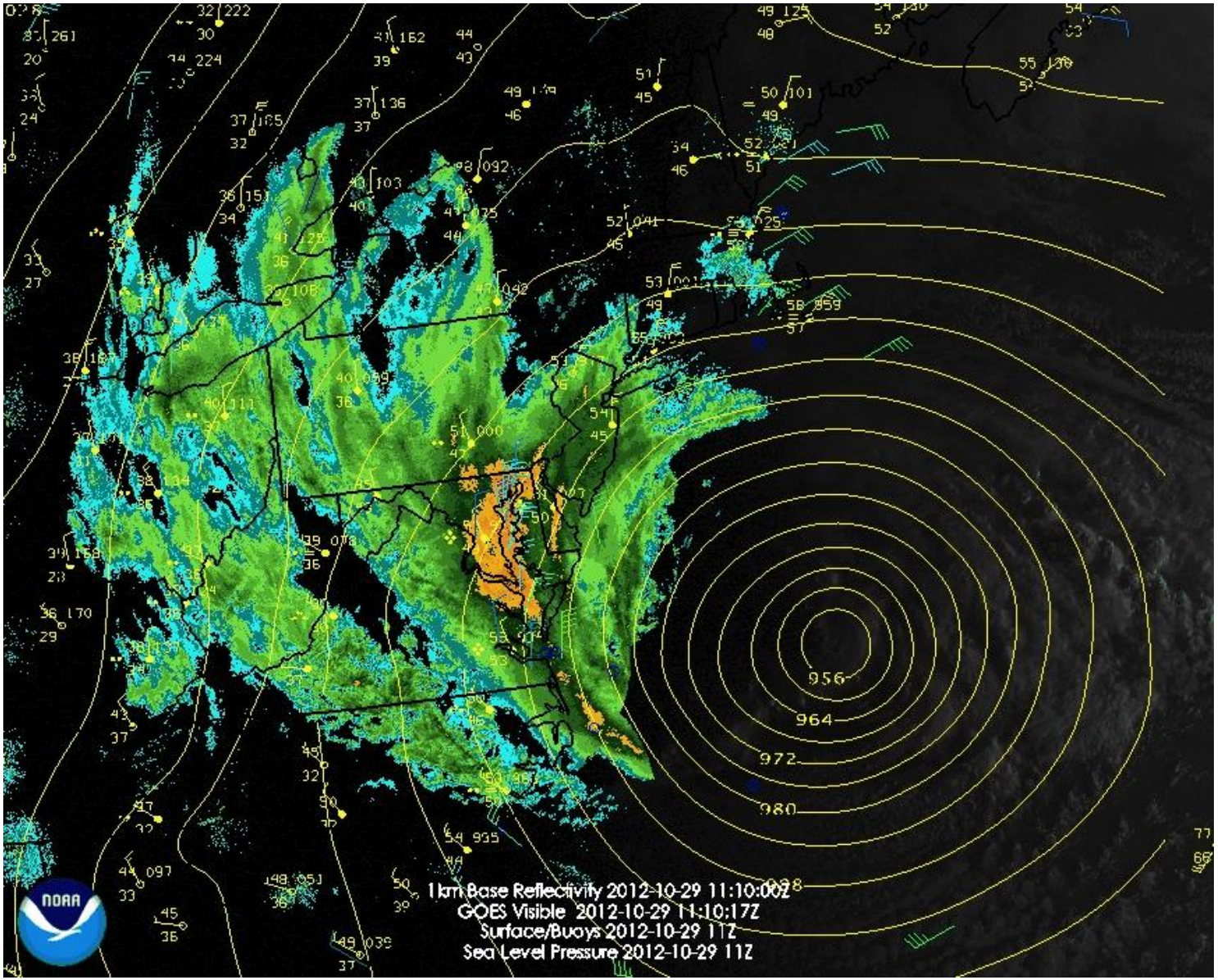
HURRICANE/POST-TROPICAL CYCLONE SANDY OVERVIEW



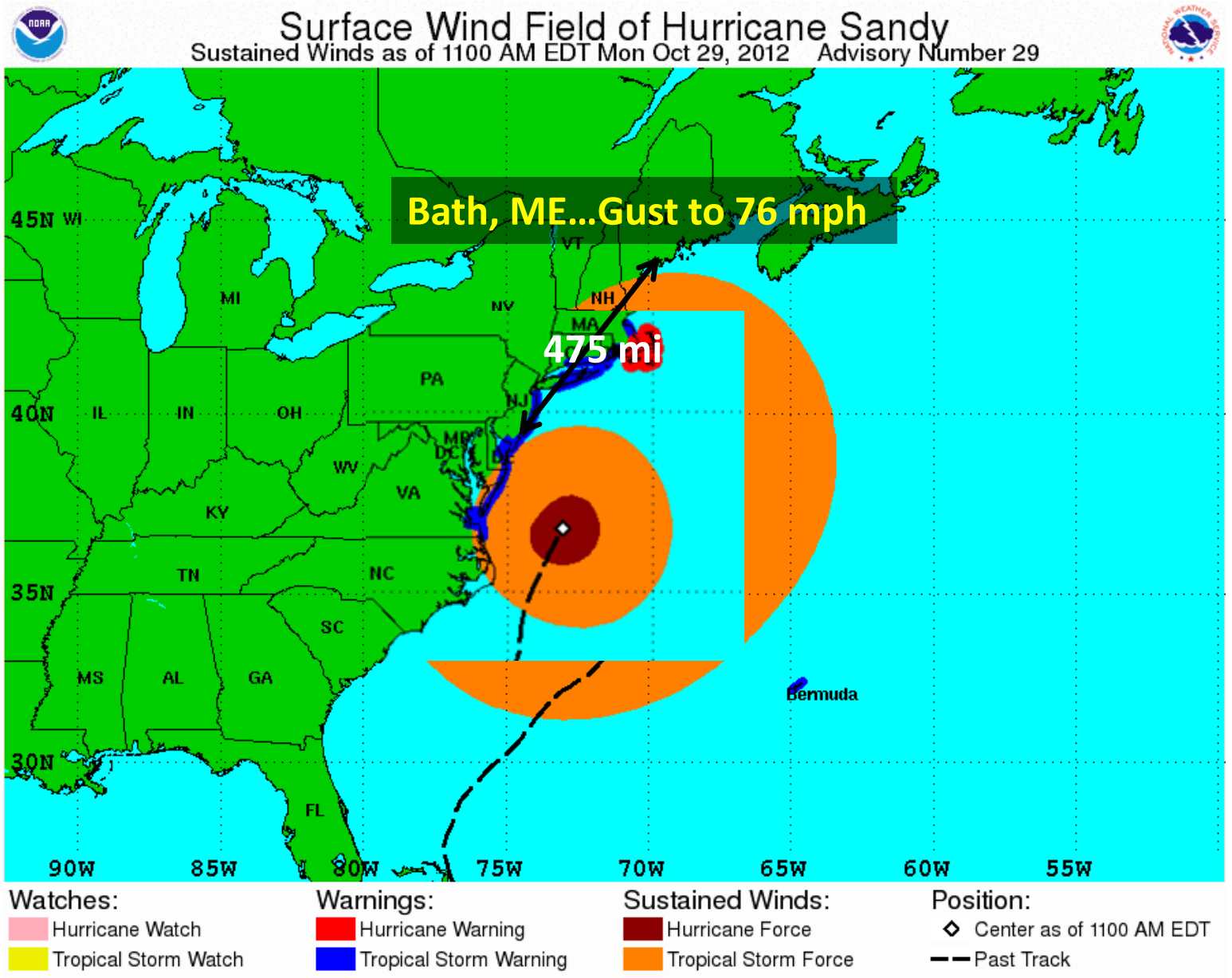
500 mb heights (lines) and anomalies (colors)



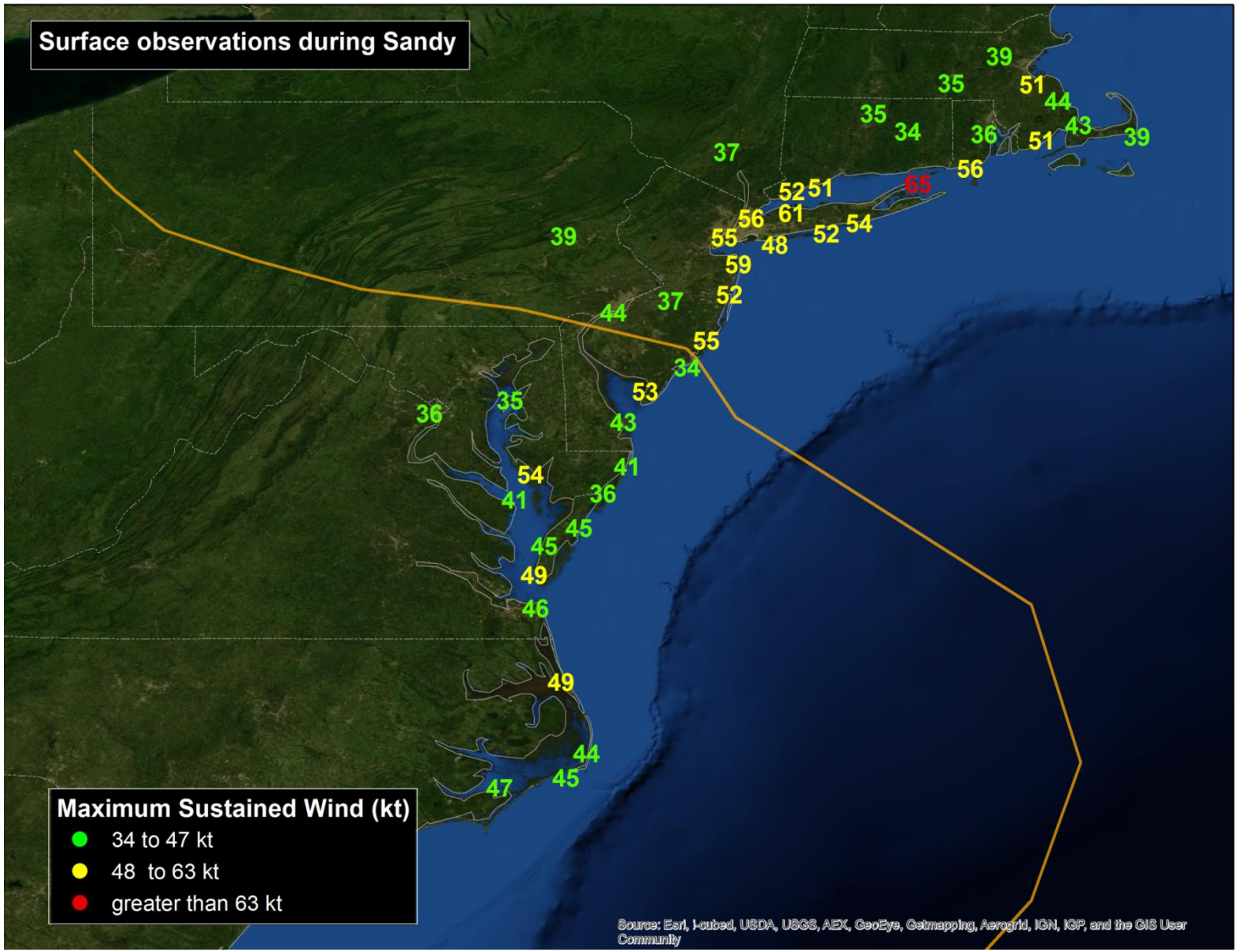
HURRICANE/POST-TROPICAL CYCLONE SANDY OVERVIEW



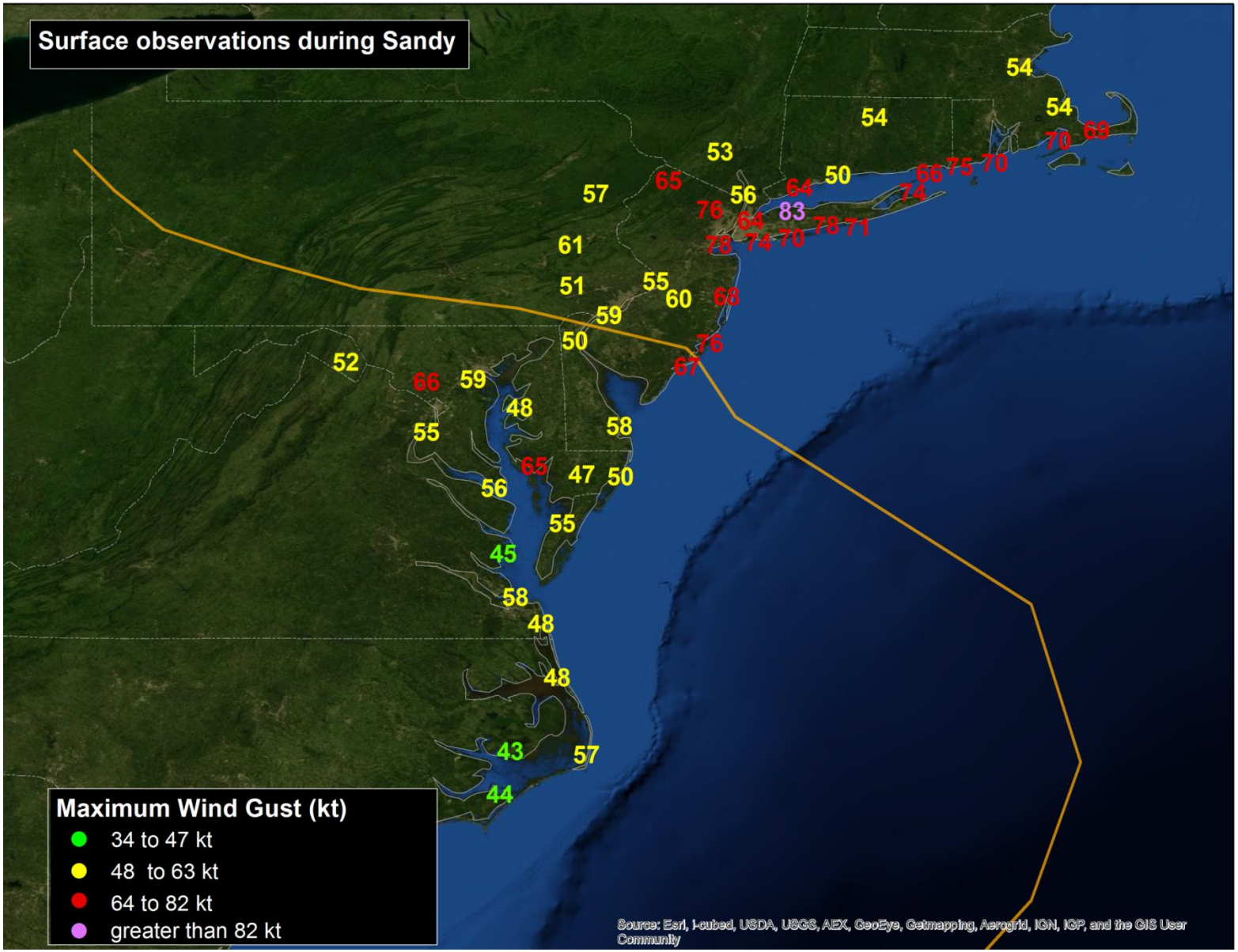
HURRICANE/POST-TROPICAL CYCLONE SANDY OVERVIEW



HURRICANE/POST-TROPICAL CYCLONE SANDY OVERVIEW

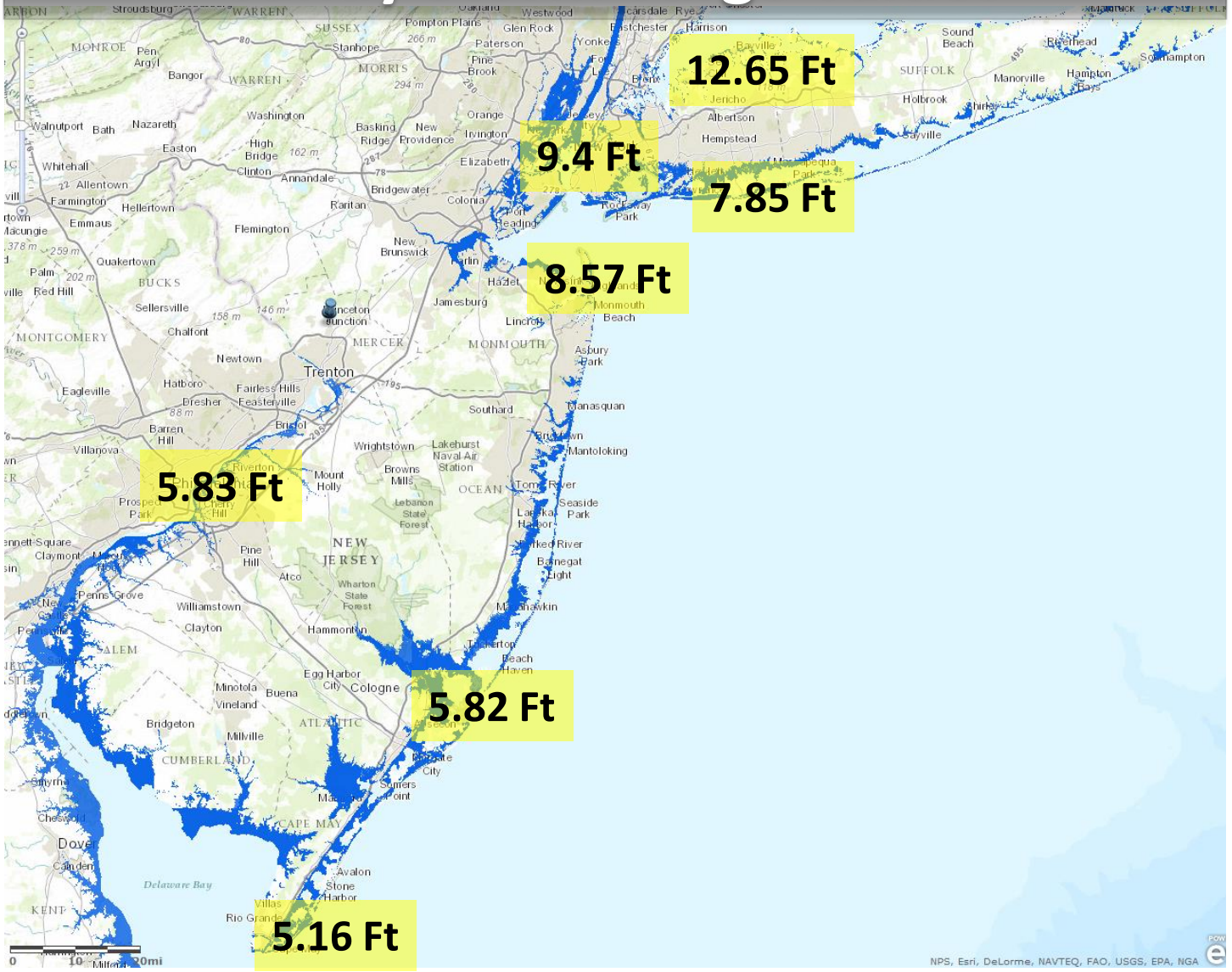


HURRICANE/POST-TROPICAL CYCLONE SANDY OVERVIEW



HURRICANE/POST-TROPICAL CYCLONE SANDY OVERVIEW

Sandy Storm Surge Values



NATIONAL WEATHER SERVICE NEW YORK NY
129 PM EDT SUN OCT 28 2012

...LIFE THREATENING COASTAL FLOODING EXPECTED MONDAY THROUGH TUESDAY MORNING...

CTZ009>012-NJZ006-106-108-NYZ071>075-078>081-176>179-290130-
/O.CON.KOKX.CF.W.0003.121029T1000Z-121030T1900Z/
SOUTHERN FAIRFIELD-SOUTHERN NEW HAVEN-SOUTHERN MIDDLESEX-
SOUTHERN NEW LONDON-HUDSON-EASTERN ESSEX-EASTERN UNION-
SOUTHERN WESTCHESTER-NEW YORK (MANHATTAN)-BRONX-
RICHMOND (STATEN ISLAND)-KINGS (BROOKLYN)-NORTHWESTERN SUFFOLK-
NORTHEASTERN SUFFOLK-SOUTHWESTERN SUFFOLK-SOUTHEASTERN SUFFOLK-
NORTHERN QUEENS-NORTHERN NASSAU-SOUTHERN QUEENS-SOUTHERN NASSAU-
129 PM EDT SUN OCT 28 2012

...COASTAL FLOOD WARNING REMAINS IN EFFECT FROM 6 AM MONDAY TO 3 PM EDT TUESDAY...

* LOCATIONS...ALONG NEW YORK HARBOR...NEWARK BAY...THE ARTHUR KILL...THE TIDALLY AFFECTED PORTIONS OF THE HACKENSACK AND PASSAIC RIVERS...LONG ISLAND SOUND...THE SOUTHERN AND EASTERN SHORES OF LONG ISLAND...AND TIDALLY AFFECTED PORTIONS OF THE HUDSON AND CONNECTICUT RIVERS.

* TIDAL DEPARTURES...BETWEEN 2 TO 3 FT ABOVE ASTRONOMICAL TIDES TONIGHT DURING HIGH TIDE WITH LOCALLY HIGHER VALUES...3 TO 4.5 FT ABOVE ASTRONOMICAL TIDES MONDAY MORNING...AND POTENTIAL FOR 6 TO 11 FT ABOVE MONDAY NIGHT INTO TUESDAY MORNING. THE HIGHER END OF THE RANGE RELEGATED TO THE NEW YORK HARBOR...WESTERN LONG ISLAND SOUND AND THE LONG ISLAND SOUTH SHORE BACK BAYS.

* HIGH SURF AND BEACH EROSION...BREAKING WAVES ARE EXPECTED TO BUILD TO 15 TO 20 FT ALONG OCEAN FACING SHORELINES BY LATE MONDAY INTO MONDAY NIGHT. THE DESTRUCTIVE WAVES ON TOP OF THE STORM SURGE WILL CAUSE SIGNIFICANT DAMAGE TO COASTAL INFRASTRUCTURE NEAREST TO SEA LEVEL. AT THE SAME TIME...5 TO 10 FT WAVES ARE POSSIBLE ALONG EXPOSED EASTERN AND NORTHEASTERN FACING PORTIONS OF LONG ISLAND SOUND...PECONIC BAY...AND NEW YORK HARBOR. THIS IS EXPECTED TO CAUSE MAJOR BEACH EROSION AND WASHOVERS. THIS WILL ESPECIALLY BE FELT FOR FIRE ISLAND COMMUNITIES SUCH AS FAIR HARBOR...OCEAN BEACH...CHERRY GROVE...FIRE ISLAND PINES AND DAVIS PARK.

WITH THE HIGH TIDES THROUGH TONIGHT...WITH WIDESPREAD MODERATE COASTAL FLOODING LIKELY BY THE MONDAY MORNING HIGH TIDE CYCLE. MAJOR COASTAL FLOODING...POSSIBLY TO RECORD LEVELS...IS LIKELY DURING THE MONDAY NIGHT HIGH TIDE CYCLES. MODERATE TO MAJOR COASTAL FLOODING IN POSSIBLE INTO THE TUESDAY MORNING AND EARLY AFTERNOON HIGH TIDES CYCLE.

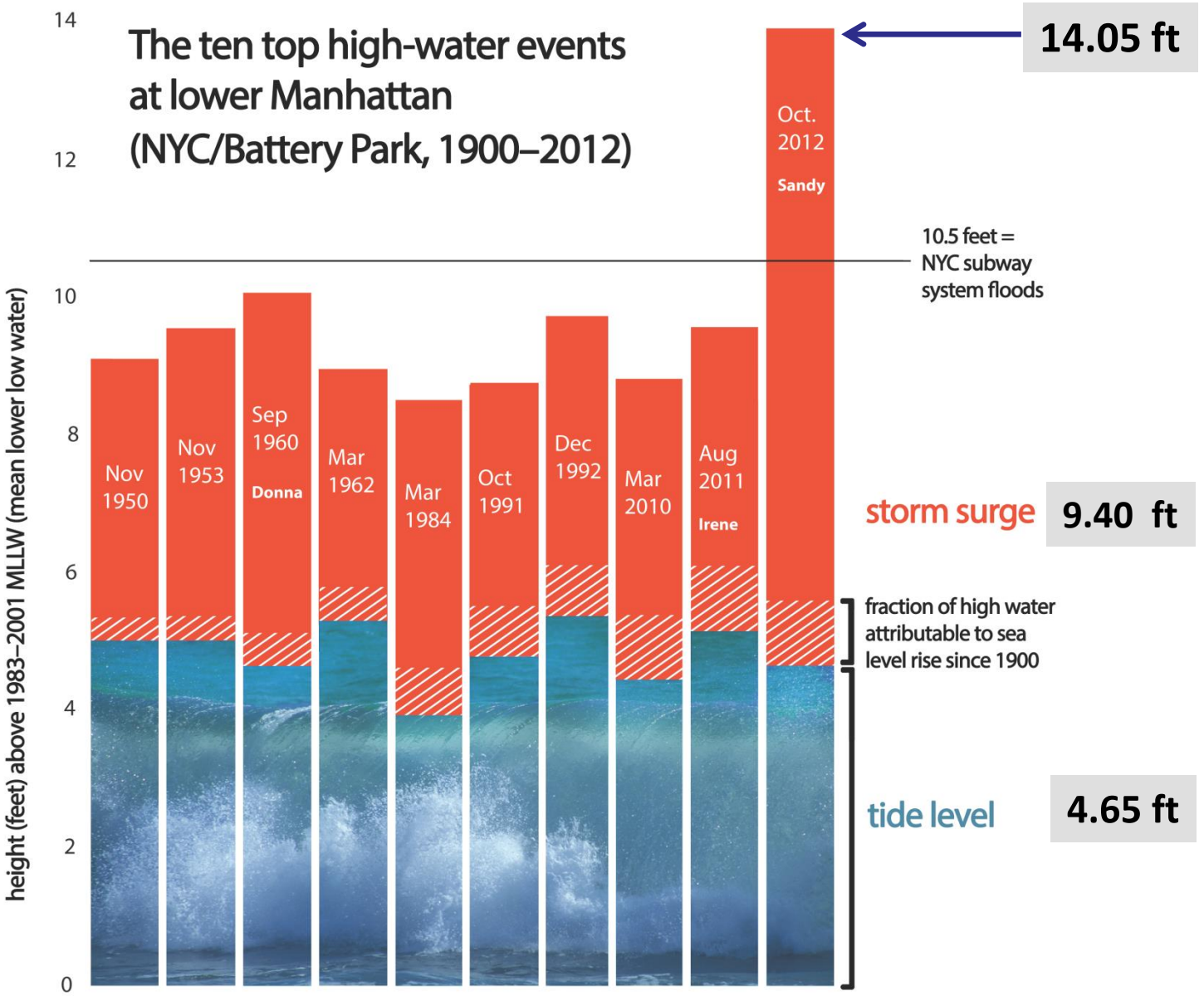
* IMPACTS...A LONG DURATION COASTAL FLOOD EVENT IS EXPECTED WITH MINOR COASTAL TO LOCALLY MODERATE COASTAL FLOODING THROUGH TONIGHT AND MODERATE TO MAJOR FLOODING ON MONDAY...WITH POTENTIALLY RECORD BREAKING FLOODING MONDAY NIGHT INTO EARLY TUESDAY MORNING. THE EXACT TRACK AND TIMING OF THE COASTAL STORM WILL DETERMINE THE MAGNITUDE OF COASTAL FLOODING MONDAY NIGHT THROUGH TUESDAY MORNING'S HIGH TIDE CYCLES...BUT THE POTENTIAL IS INCREASING FOR SIGNIFICANT INUNDATION AND DAMAGE TO STRUCTURES IN HISTORICALLY FLOOD PRONE SPOTS.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

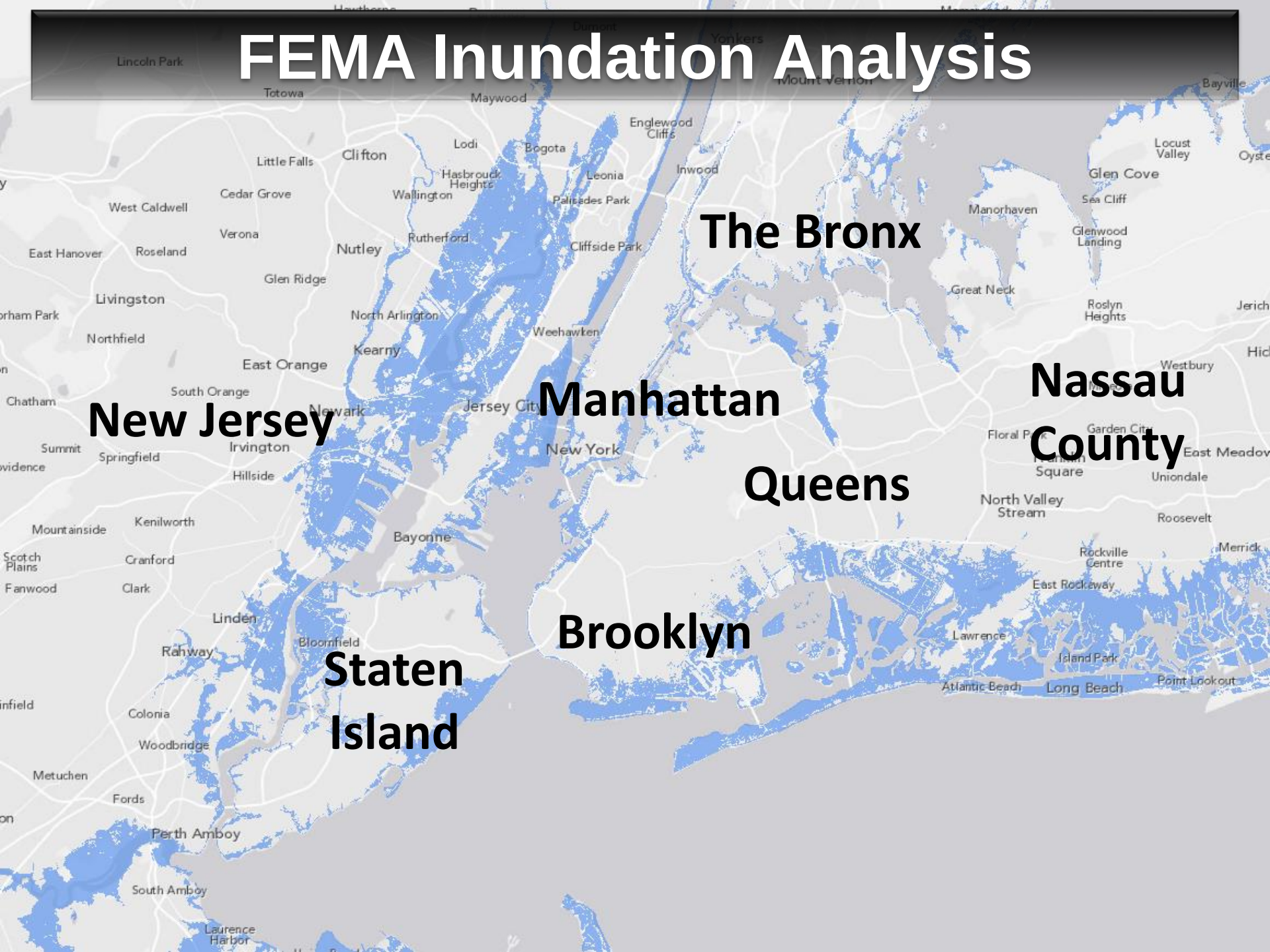
A COASTAL FLOOD WARNING MEANS THAT FLOODING IS EXPECTED OR OCCURRING. COASTAL RESIDENTS IN THE WARNED AREA SHOULD BE ALERT FOR RISING WATER...AND TAKE APPROPRIATE ACTION TO PROTECT LIFE AND PROPERTY.

&&

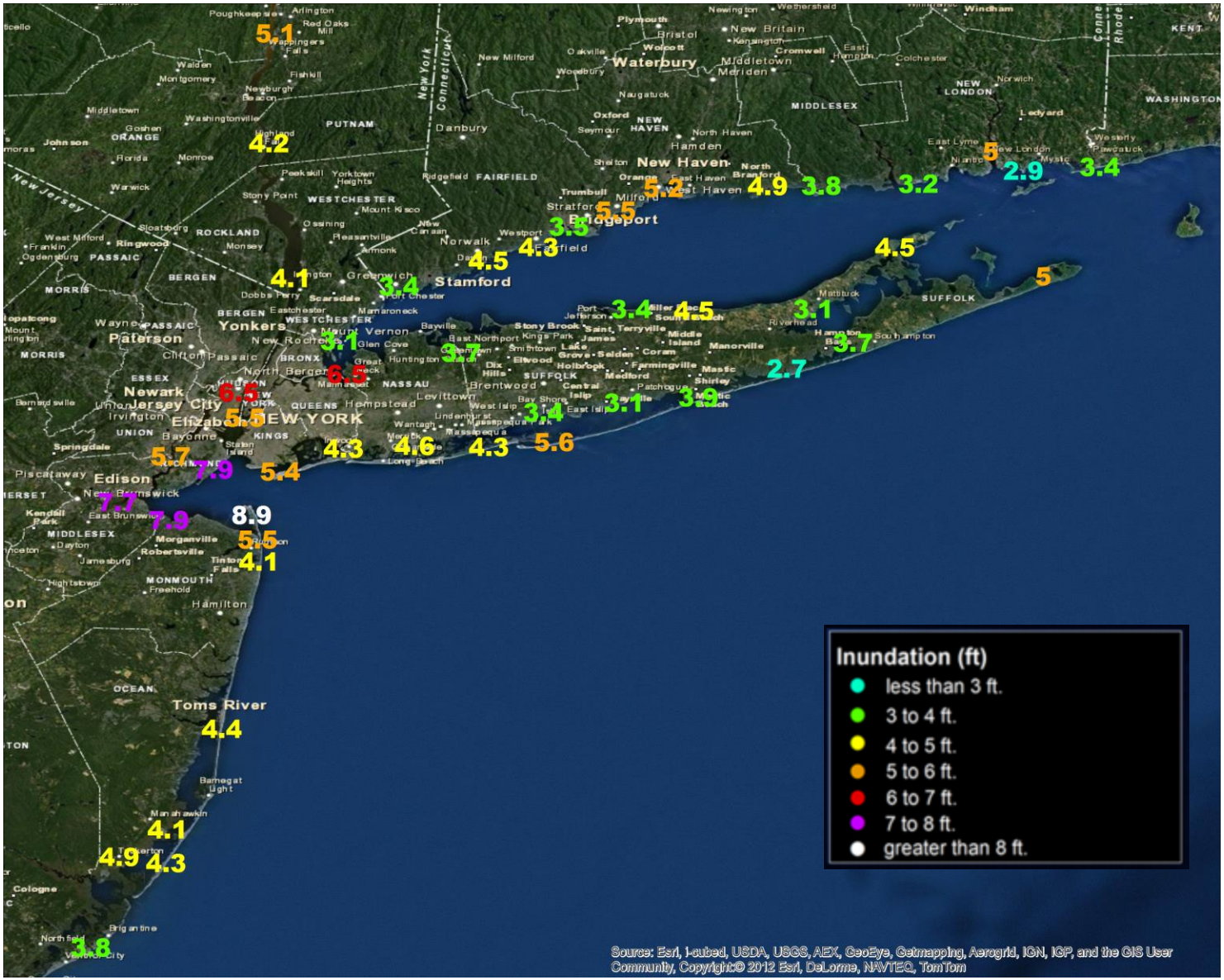
HURRICANE/POST-TROPICAL CYCLONE SANDY OVERVIEW



FEMA Inundation Analysis



HURRICANE/POST-TROPICAL CYCLONE SANDY OVERVIEW



USGS High-Water Marks

USCG Station, Sandy Hook, NJ
8.9 ft above ground level

Staten Island, NY
7.9 ft above ground level

Fire Island, NY
5.6 ft above ground level

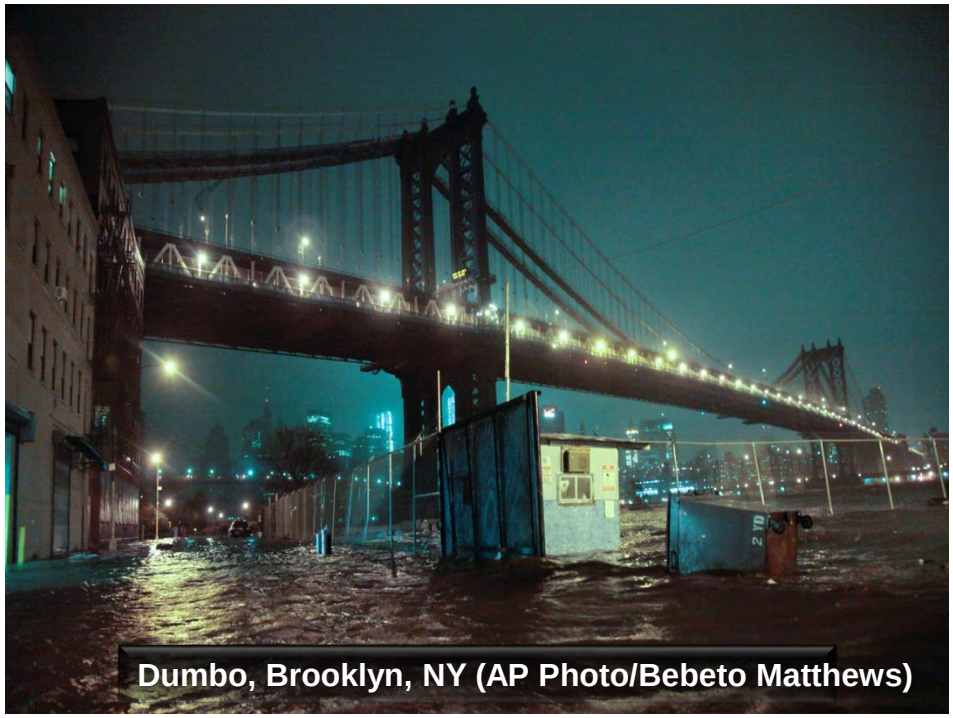
Weehawken, NJ
6.5 ft above ground level

PATH station, Hoboken, NJ
AFP PHOTO / The Port Authority of New York & New Jers

Harvey Cedars, Long Beach Island, New Jersey
(AP Photo/The Philadelphia Inquirer, Clem Murray)

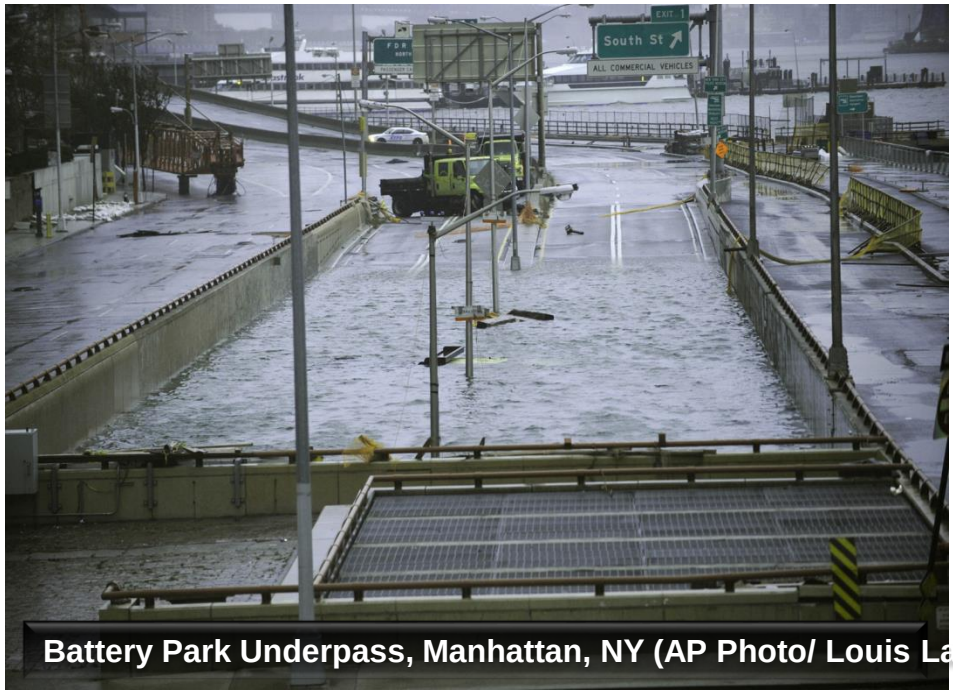
Atlantic City, NJ (Tom Mihalek/Reuters)

Union Beach, NJ (blog, Spleeness)



Dumbo, Brooklyn, NY (AP Photo/Bebeto Matthews)

Bellport, NY (Lucas Jackson/Reuters)



Battery Park Underpass, Manhattan, NY (AP Photo/ Louis La

Lindenhurst, NY (AP Photo/Jason DeCrow)

East Haven, CT (AP Photo/Jessica Hill)

Stratford, CT (Ned Gerard)

South Kingstown, RI (AP Photo/Steven Senne)

Scituate, MA (David L Ryan/Boston Globe)

PATH Station, Hoboken, NJ
AFP PHOTO / The Port Authority of New York & New Jersey

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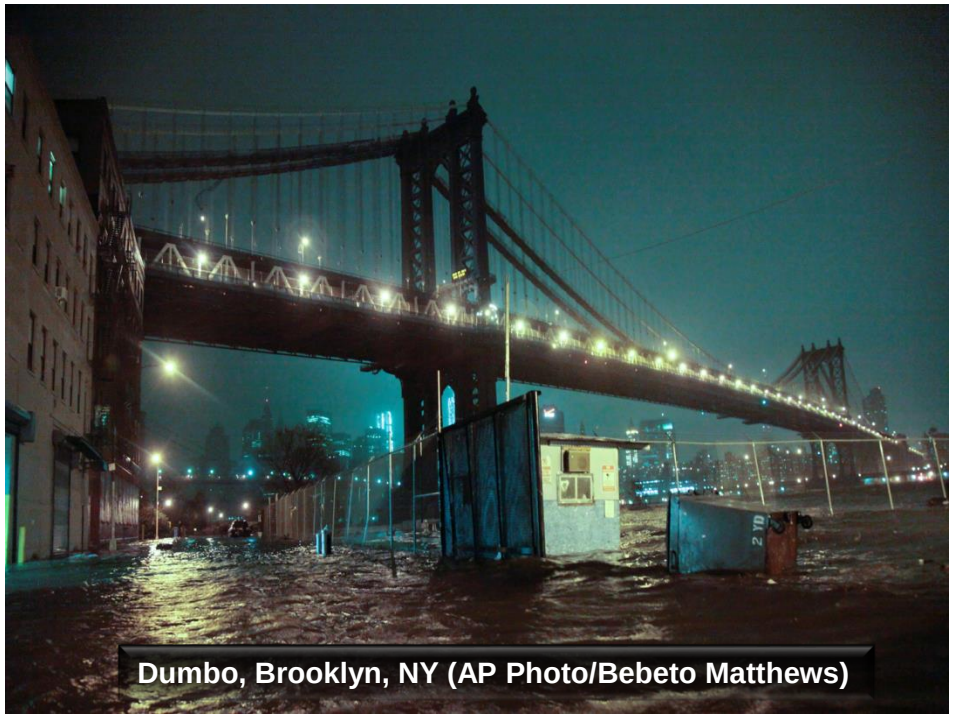
Dumbo, Brooklyn, NY (AP Photo/Bebeto Matthews)


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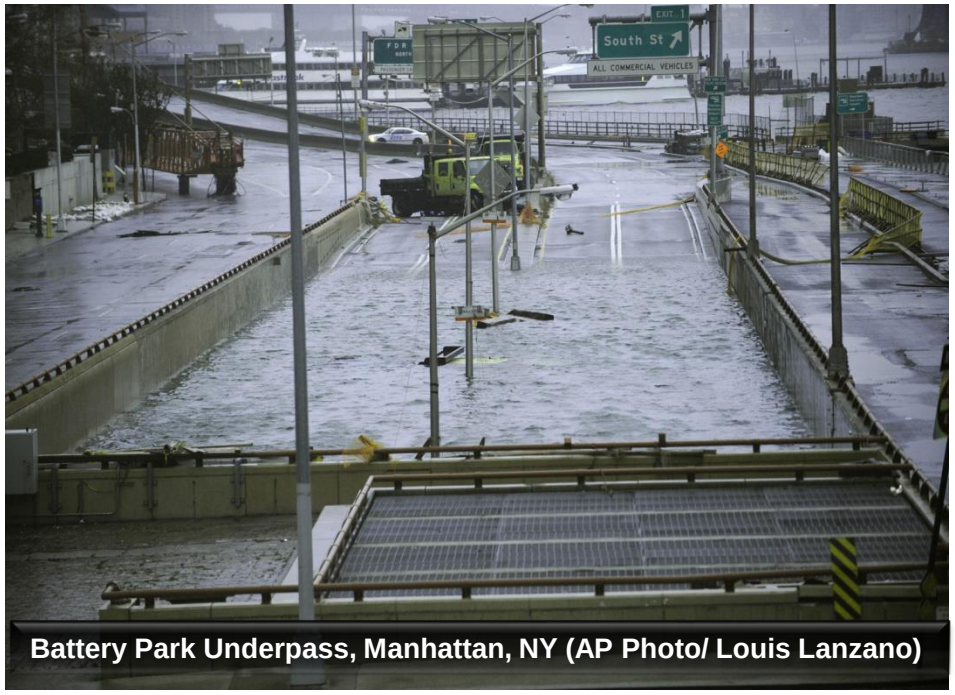
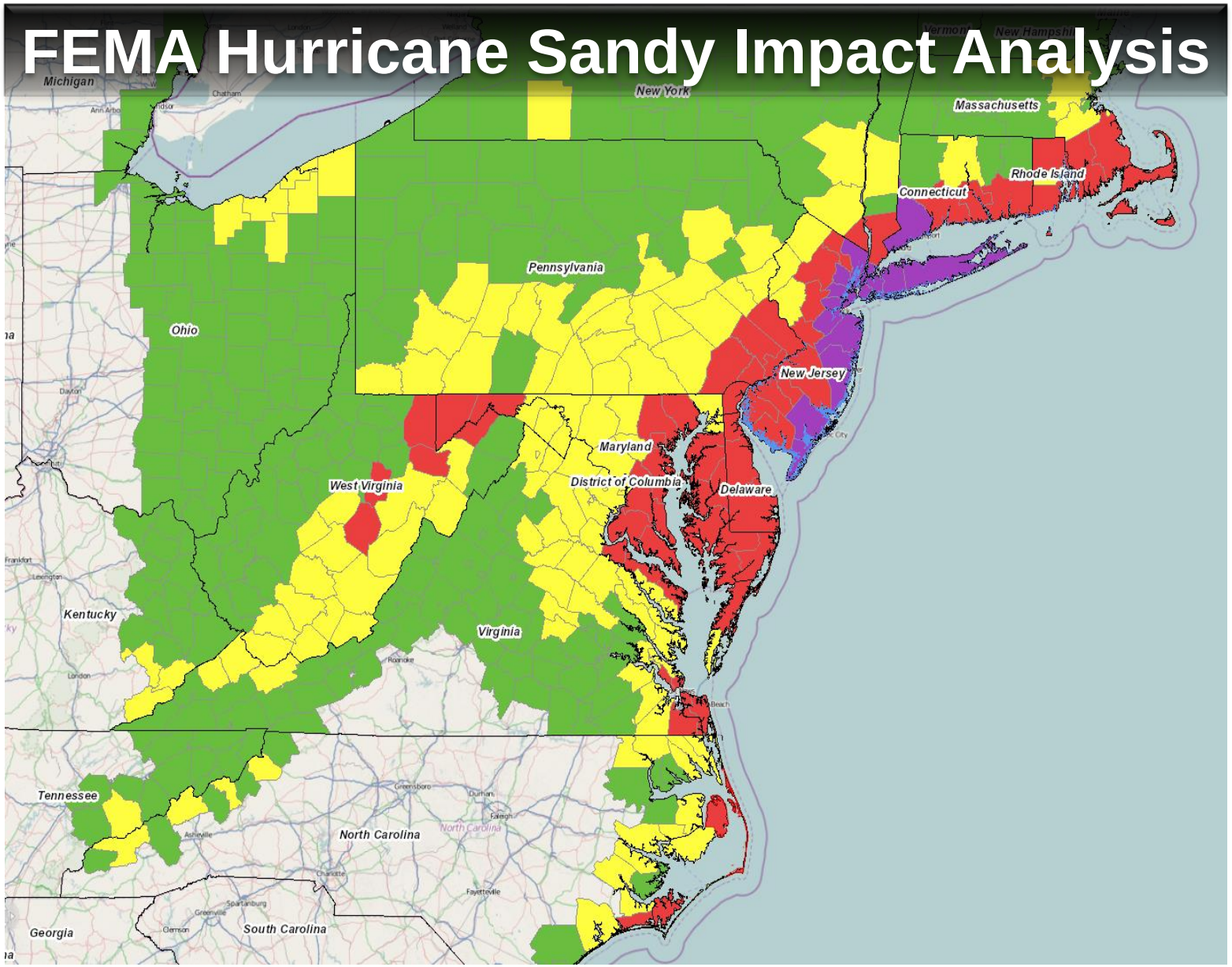

South St
ALL COMMERCIAL VEHICLES
Battery Park Underpass, Manhattan, NY (AP Photo/ Louis Lanzano)


MINERVA
Lindenhurst, NY (AP Photo/Jason DeCrow)

HURRICANE/POST-TROPICAL CYCLONE SANDY OVERVIEW



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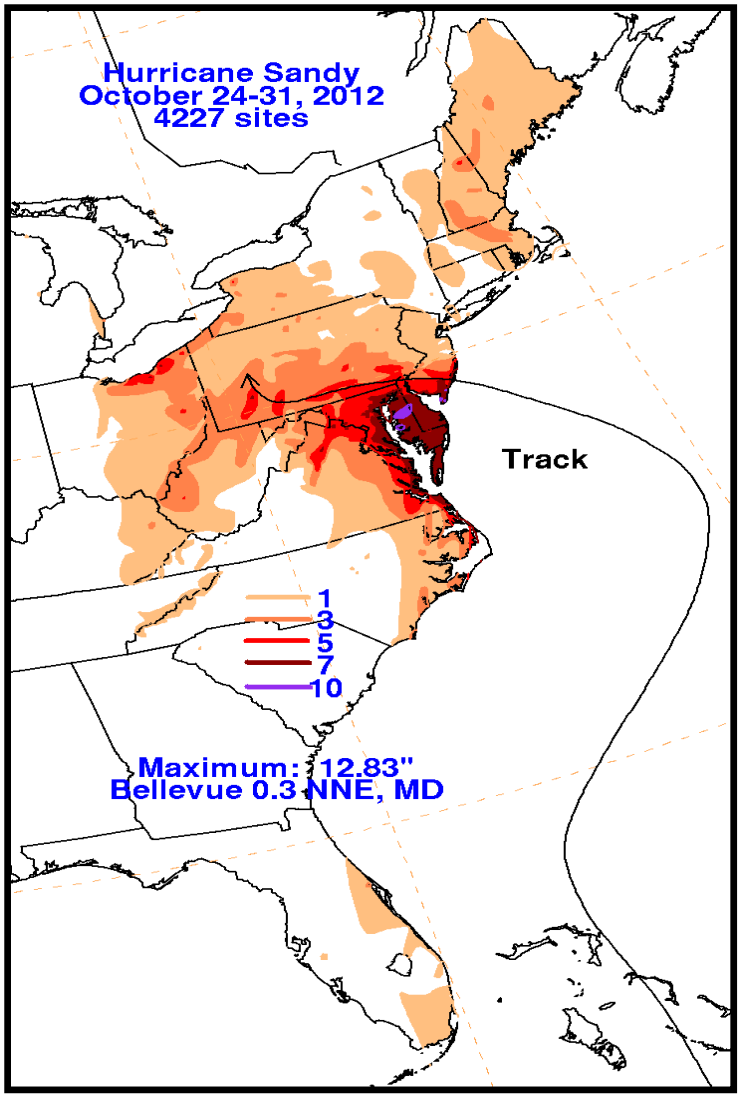
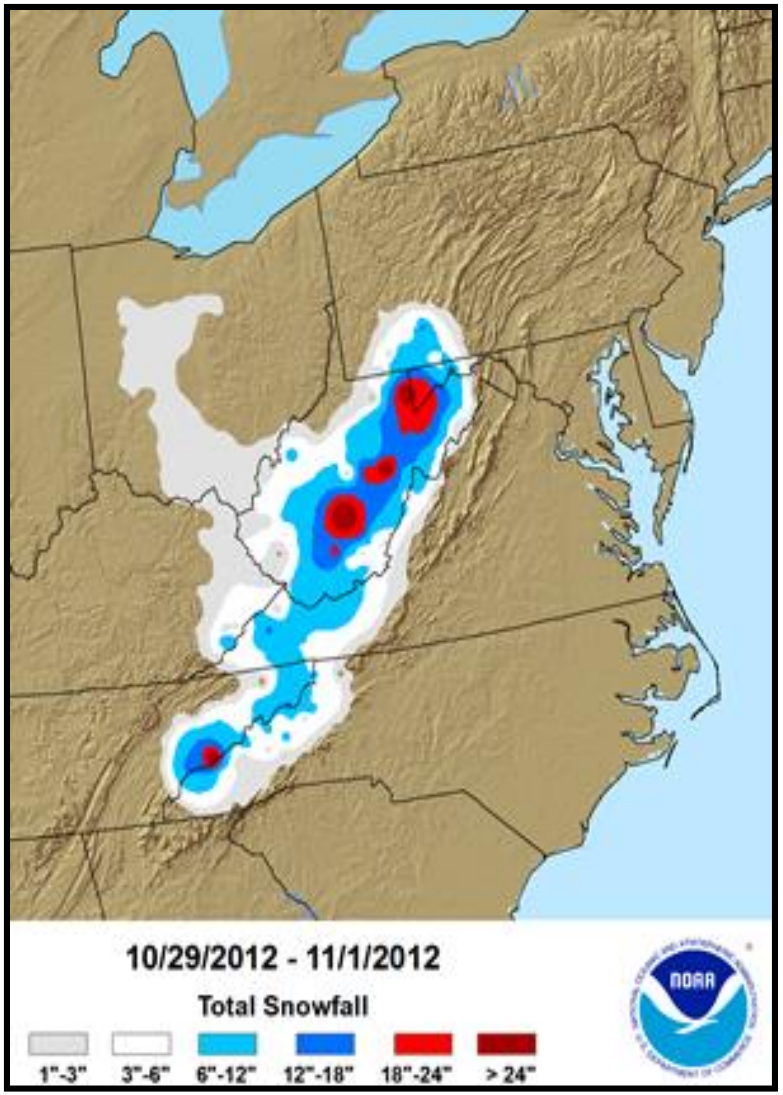
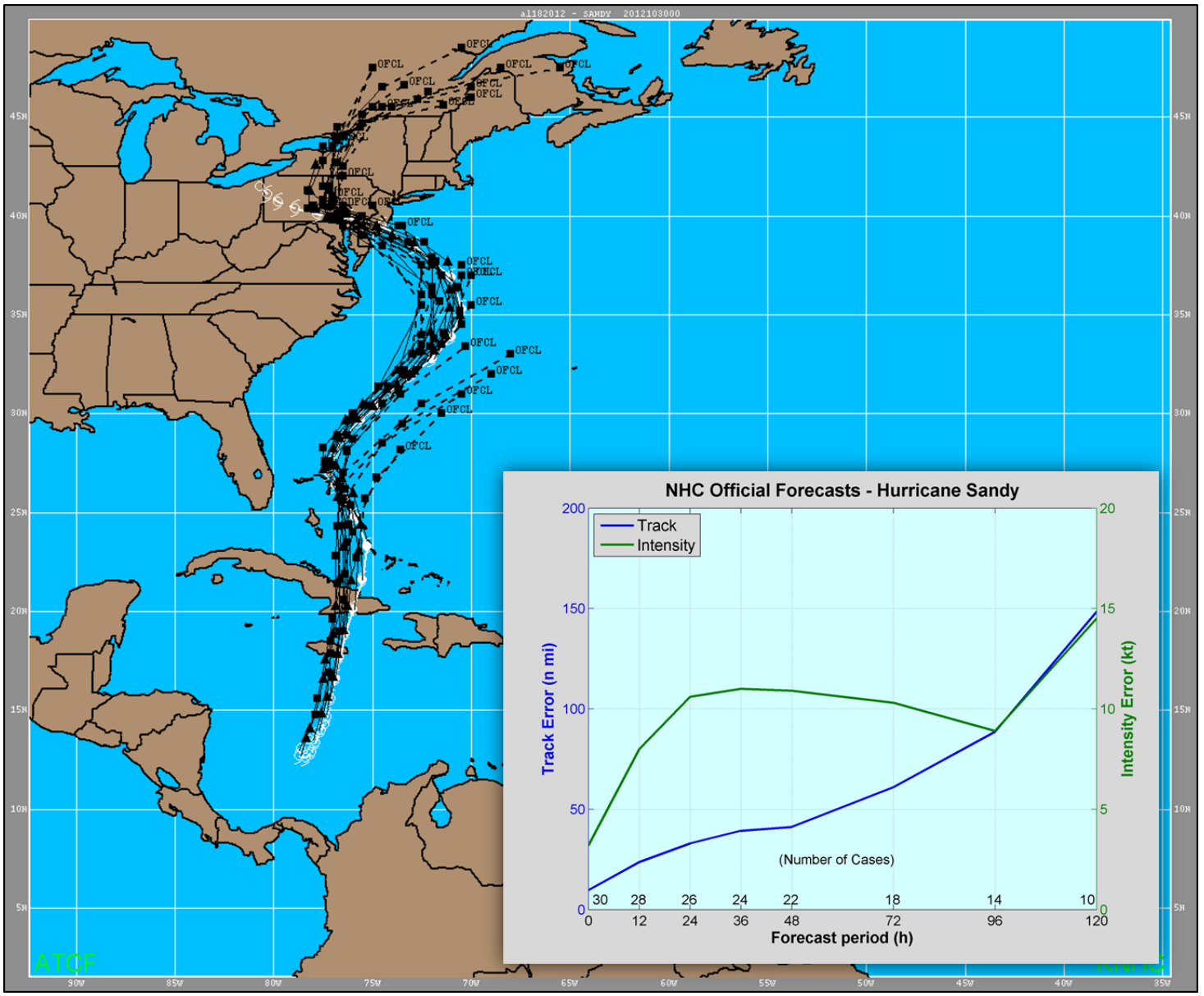


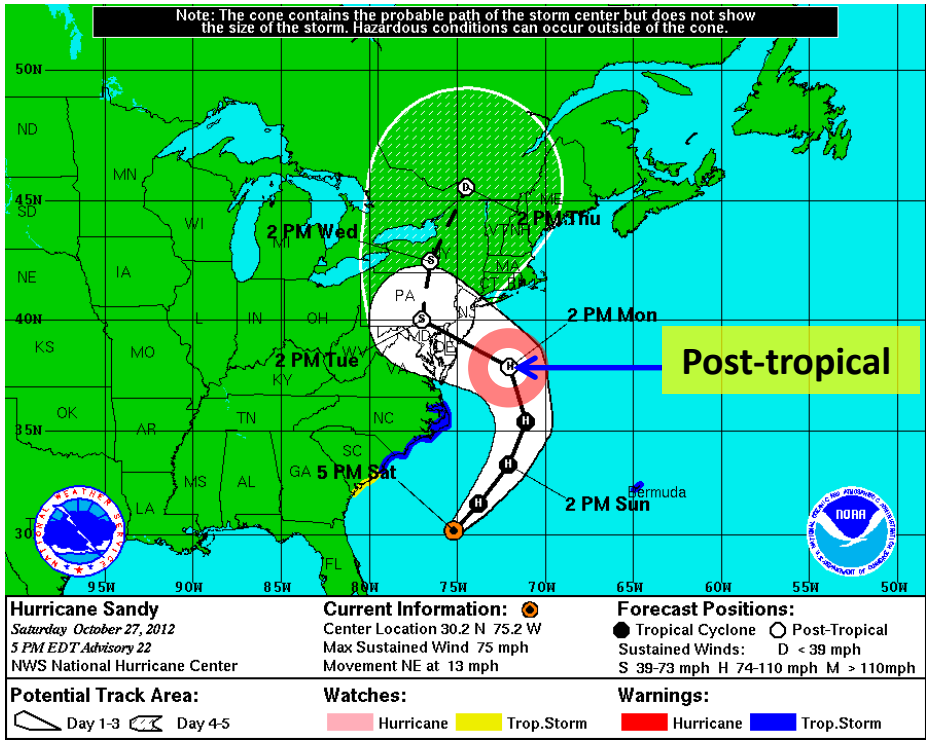


HURRICANE/POST-TROPICAL CYCLONE SANDY OVERVIEW



SANDY SERVICE ASSESSMENT HIGHLIGHTS

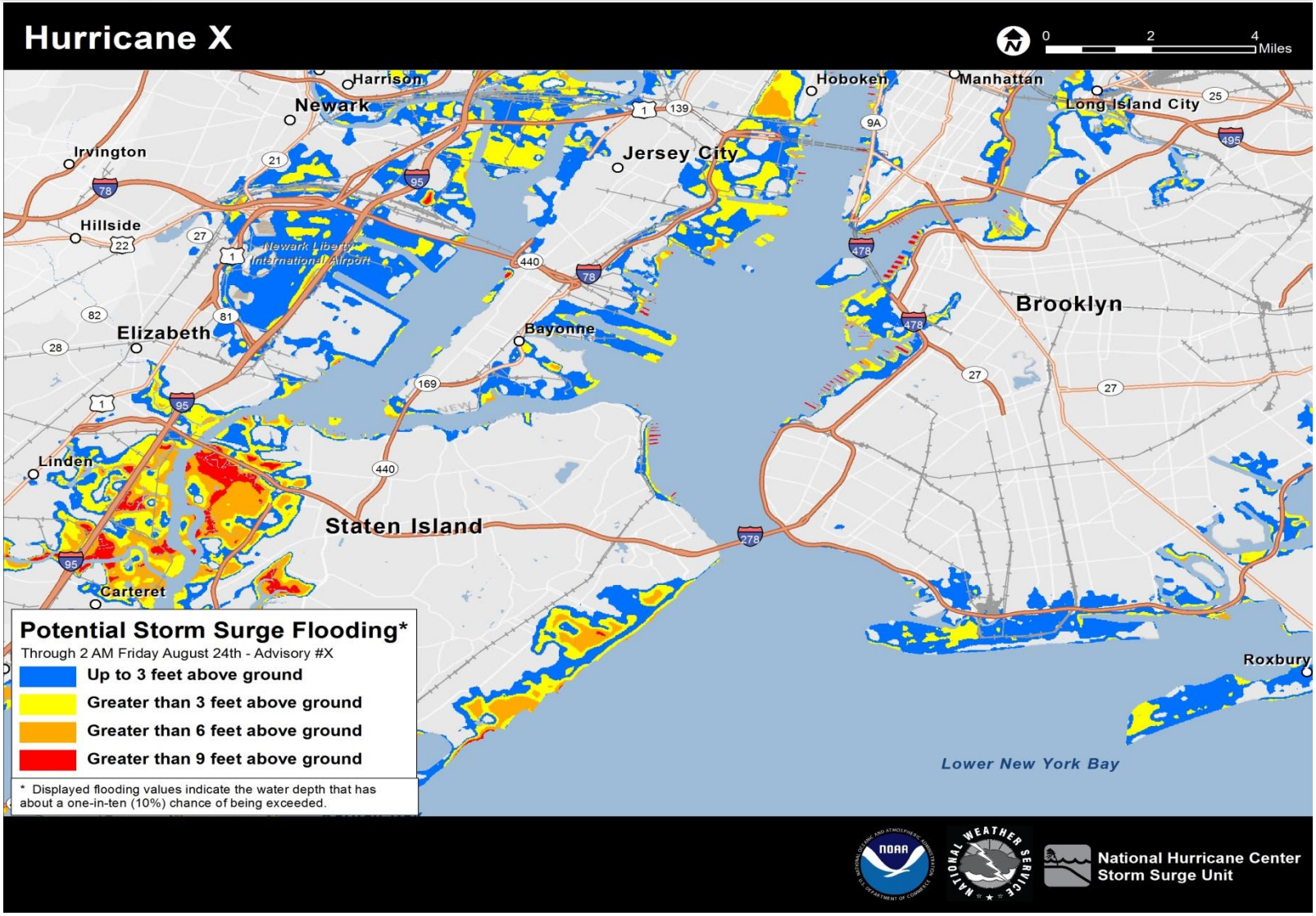
- Since Sandy was forecast to be a "post-tropical" cyclone, non-tropical warnings were issued by local Weather Forecast Offices for areas in the mid-Atlantic and northeast U.S.
- Some Emergency Management and media partners said that non-tropical warnings led to some confusion
- Based on the assessment, the NWS has broadened tropical storm and hurricane watch/ warning definitions to allow them to be used for post-tropical cyclones that pose a significant risk to life and property



A Post-Tropical Cyclone is a former tropical cyclone that no longer possesses sufficient tropical characteristics to be considered a tropical cyclone. Post-tropical cyclones can continue carrying heavy rains and high winds. Note that former tropical cyclones that have become fully extratropical...as well as remnant lows...are two classes of post-tropical cyclones.

SANDY SERVICE ASSESSMENT HIGHLIGHTS

Potential Future Storm Surge Graphic



NWS WEATHER-READY NATION

Building Towards the Future

- Decision Support Services
- Social Science for more effective message
- Develop Storm Surge and Inundation Graphics
- Communicate probabilistic & forecast uncertainty

Questions?

I. Ross Dickman
Meteorologist-In-Charge
National Weather Service
New York, NY
i.ross.dickman@noaa.gov

National Weather Service
New York, NY

National Flood Insurance Program (NFIP)

Ramoncito J. deBorja, Deputy Associate Chief Counsel

FEMA

What is the National Flood Insurance Program?

- The NFIP helps to reduce flood losses by providing affordable flood insurance to property owners
- A Federal program enabling property owners in participating communities to purchase flood insurance protection
- An alternative to disaster assistance
- Based on an agreement between the community and the Federal Government

FEMA

The NFIP's Three-Legged Stool

- Insurance
- Risk Identification – Mapping
- Risk Reduction – Mitigation

FEMA

Mission of the NFIP

- To educate property owners about the risk of flood
- To provide flood insurance
- To accelerate recovery from flood
- To mitigate future flood losses
- To reduce the personal and national costs of disaster

FEMA

Benefits of the NFIP

- Protects property owners from risk
- Lowers the cost to taxpayers
- Helps businesses re-open and communities back on their feet

FEMA

The Write Your Own Program (WYO)

- Established 1983
- Greater Spread of Risk
- Customer Service
- Company Name

  Fiscal Agents of Federal Government

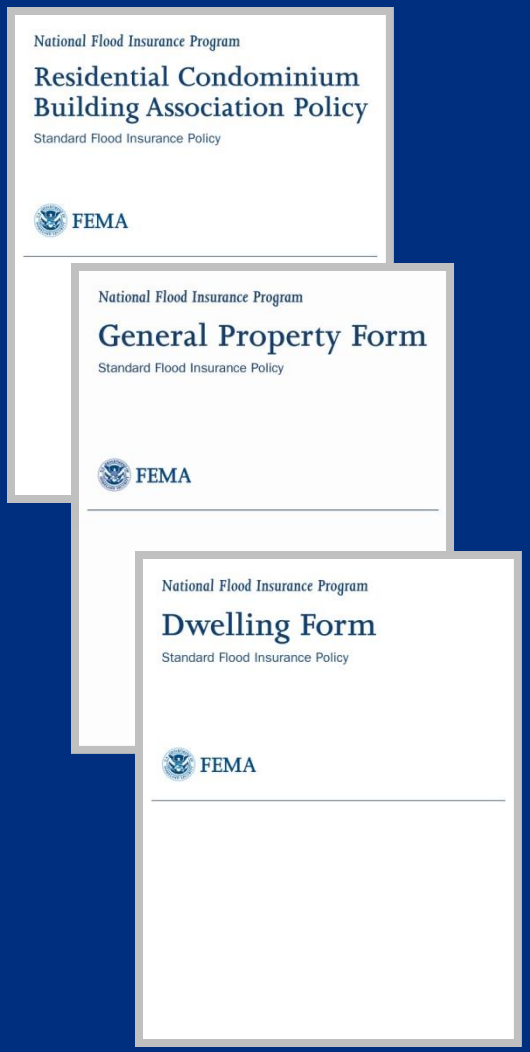
- Expense Allowance
  - Policy and Claims

FEMA

The Standard Flood Insurance Policy ("SFIP")

- Three forms
  - –Dwelling Form
  - –General Property Form
  - –Residential Condominium Building Association Policy (RCBAP)
    - Codified at 44 C.F.R. Pt. 61 Apps A(1-3)

http://www.fema.gov/national-flood-insurance-program/standard-flood-insurance-policy-forms



FEMA

Regular Program Limits

- Residential building - $250,000
  - Contents - $100, 000
- Non-Residential building - $500,000
  - Contents - $500,000
- Residential Condo Bldg. Assoc. - $250,000 X number of units
  - Contents $100,000

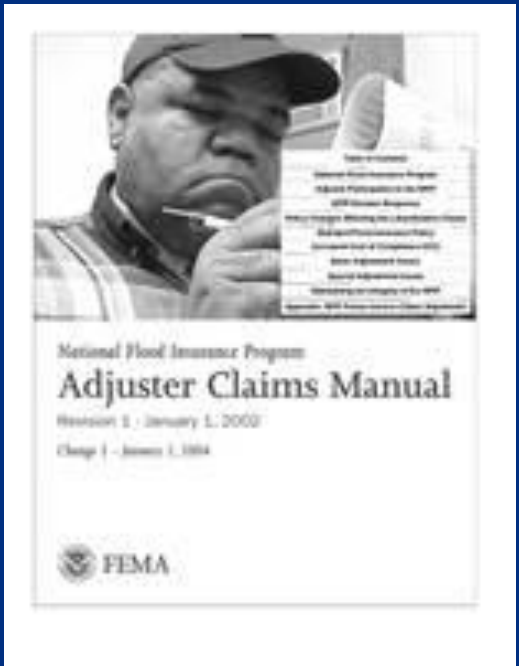
FEMA

NFIP Adjusters

- Specialized Knowledge
- Certification
- Paid by according to fee schedule
- Areas of Authorization
  - Residential
  - Commercial (Large and Small)
  - Manufactured (Mobile) Hoe
  - Residential Condominium Building Association Policy (RCBAP)

FEMA

NFIP Adjuster Claims Manual



http://www.fema.gov/media-library/assets/documents/2675

FEMA

Important NFIP Concepts

- The SFIP pays only for direct physical loss by or from flood
- We rely on information provided by the insured or their insurance agent.
- We have the right to review the information provided at any time and to revise the policy based on our review.
- SFIP, Article I

FEMA

Important NFIP Concepts (cont.)

- Exclusions, Article V.
  - Earth movement
  - Water, moisture, mildew, or mold damage

FEMA

Important NFIP Concepts (cont.) - Basements

All three forms of the SFIP at Article II, (b)(5) define a basement as:

"[a]ny area of the building, including any sunken room or sunken portion of a room, having its floor below ground level on all sides."

FEMA

Below Lowest Elevated Floor (Post-FIRM) and Basements

1. Central air conditioners
2. Cisterns and the water in them
3. Drywall for walls and ceilings in a basement and the cost of labor to nail it, unfinished and unfloated and not taped, to the framing;
4. Electrical junction and circuit breaker boxes;
5. Electrical outlets and switches;
6. Elevators, dumbwaiters, and related equipment, except for related equipment installed below the base flood elevation after September 30/1987
7. Fuel tanks and the fuel in them;
8. Furnaces and hot water heaters
9. Heat pumps;
10. Nonflammable insulation in a basement;
11. Pumps and tanks used in solar energy systems;
12. Stairways and staircases attached to the building, not separated from it by elevated walkways;
13. Sump pumps;
14. Water softeners and the chemicals in them, water filters, and faucets installed as an integral part of the plumber;
15. Well water tanks and pumps;
16. Required utility connections for any item in this list; and
17. Footings, foundations, posts, pilings, piers, or other foundation walls and anchorage systems required to support a building.

b) Clean-up

FEMA

Important NFIP Concepts (cont.) - Loss Settlement Clause

The SFIP pays to repair or replace the damaged dwelling after application of the deductible and without deduction for depreciation, but not more than the least of the following amounts:
(1) The building limit of liability shown on your Declarations Page;
(2) The replacement cost of that part of the dwelling damaged, with materials of like kind and quality and for like use; or
(3) The necessary amount actually spent to repair or replace the damaged part of the dwelling for like use.

Article, VII, V.

FEMA

Other Important Concepts

- **Improper Payments Information Act** of 2002 (IPIA) (31 U.S.C. 3321)
- **Improper Payments Elimination and Recovery Improvement Act of 2012** (IPERIA) (31 U.S.C. 3321)
- **Audits and Reviews**

FEMA

FEMA

The following link grants access to the 5 videos described below:
https://www.dropbox.com/sh/4goulw1juqjy2yc/AADANgmjsMMXHX4BEnDOmdlMa

1. Tracey Rannals Bryan*, Presentation of Particulars of Damages Related to Drywall Caused by Flood (Video)*

2. Tracey Rannals Bryan*, Presentation of Particulars of Damages Related to Electric Wiring and Wicking Caused by Flood (Video)*

3. Tracey Rannals Bryan*, Presentation of Particulars of Damages Related to Exterior Sheathing Caused by Flood (Video)*

4. Tracey Rannals Bryan, *Presentation Addressing Direct Physical Loss By and From Flood (Video)*

5. Tracey Rannals Bryan*, Presentation Addressing Concerns Related to Claiming the Same Item Under Two Different Insurance Policies: Is Making Concurrent Claims for the Same Item Against Two Different Carriers Fraud? (Video)*

R.1 - Basement Issue

Defined per policy as an area below grade on all sides.

> *5. Basement. Any area of the building, including any sunken room or sunken portion of a room, having its floor below ground level (subgrade) on all sides.*

Once qualified as a true basement coverage is limited to the following per policy:

Dwelling/Building

> *6. Items of property in a building enclosure below the lowest elevated floor of an elevated post-FIRM building located in Zones A1-A30, AE, AH, AR, AR/A, AR/AE, AR/AH, AR/A1-A30, V1-V30, or VE, or in a basement, regardless of the zone. Coverage is limited to the following:*

a. Any of the following items, if installed in their functioning locations and, if necessary for operation, connected to a power source:

(1) Central air conditioners;

(2) Cisterns and the water in them;

(3) Drywall for walls and ceilings in a basement and the cost of labor to nail it, unfinished and unfloated and not taped, to the framing;

(4) Electrical junction and circuit breaker boxes;

(5) Electrical outlets and switches;

(6) Elevators, dumbwaiters, and related equip- ment, except for related equipment installed below the base flood elevation after September 30, 1987;

(7) Fuel tanks and the fuel in them;

(8) Furnaces and hot water heaters;

(9) Heat pumps;

(10) Nonflammable insulation in a basement;

(11) Pumps and tanks used in solar energy systems;

(12) Stairways and staircases attached to the building, not separated from it by elevated walkways;

(13) Sump pumps;

(14) Water softeners and the chemicals in them, water filters, and faucets installed as an integral part of the plumbing system;

(15) Well water tanks and pumps;

(16) Required utility connections for any item in this list; and

(17)Footings, foundations, posts, pilings, piers,

or other foundation walls and anchorage systems required to support a building.

b. Clean-up.

Contents

3. Coverage for items of property in a building enclosure below the lowest elevated floor of an elevated post-FIRM building located in Zones A1- A30, AE, AH, AR, AR/A, AR/AE, AR/AH, AR/A1-A30, V1-V30, or VE, or in a basement, regardless of the zone, is limited to the following items, if installed in their functioning locations and, if necessary for operation, connected to a power source:

a. *Air conditioning units, portable or window type;*
b. *Clothes washers and dryers; and*
c. *Food freezers, other than walk-in, and food in any freezer.*

R.2 – Types of Differences

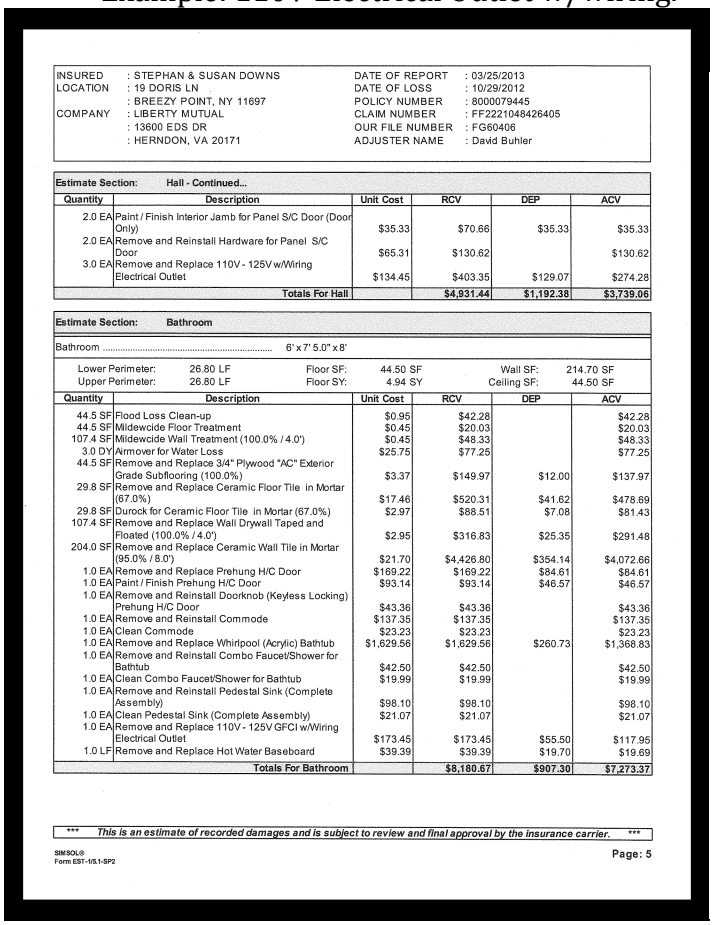
A. Missing Scope: Entire rooms may be missed in some estimates. A more common error is not including all the necessary line items in xactimate or simsol to make the repair properly.

Example: Subfloor (click to view videos)
Electric
Drywall

All videos can be viewed at canopyclaims.com/writeitright

B. Pricing (unit costs): Price lists used to generate values in the estimating programs are updated monthly and are supposed to take into account rising and falling prices of materials and labor based on zip code. If the improper price list is used, or not updated the unit cost will be insufficient to make repairs. In times of catastrophe, demand of both labor and materials drives up the price of repairs as a whole dramatically. A factor needs to be applied to the standard pricing in order to provide adequate funding.
Additionally, two of the major estimating programs used by Public Adjusters, Contractors, and NFIP Adjusters differ dramatically in pricing on certain items.

Example: 110V Electrical Outlet w/wiring.



INSURED	: STEPHAN & SUSAN DOWNS	DATE OF REPORT	: 03/25/2013
LOCATION	: 19 DORIS LN	DATE OF LOSS	: 10/29/2012
	: BREEZY POINT, NY 11697	POLICY NUMBER	: 8000079445
COMPANY	: LIBERTY MUTUAL	CLAIM NUMBER	: FF2221048426405
	: 13600 EDS DR	OUR FILE NUMBER	: FG60406
	: HERNDON, VA 20171	ADJUSTER NAME	: David Buhler

Estimate Section: Hall - Continued...

Quantity	Description	Unit Cost	RCV	DEP	ACV
2.0 EA	Paint / Finish Interior Jamb for Panel S/C Door (Door Only)	$35.33	$70.66	$35.33	$35.33
2.0 EA	Remove and Reinstall Hardware for Panel S/C Door	$65.31	$130.62		$130.62
3.0 EA	Remove and Replace 110V - 125V w/Wiring Electrical Outlet	$134.45	$403.35	$129.07	$274.28
	Totals For Hall		**$4,931.44**	**$1,192.38**	**$3,739.06**

Estimate Section: Bathroom

Bathroom ..... 6' x 7' 5.0" x 8'

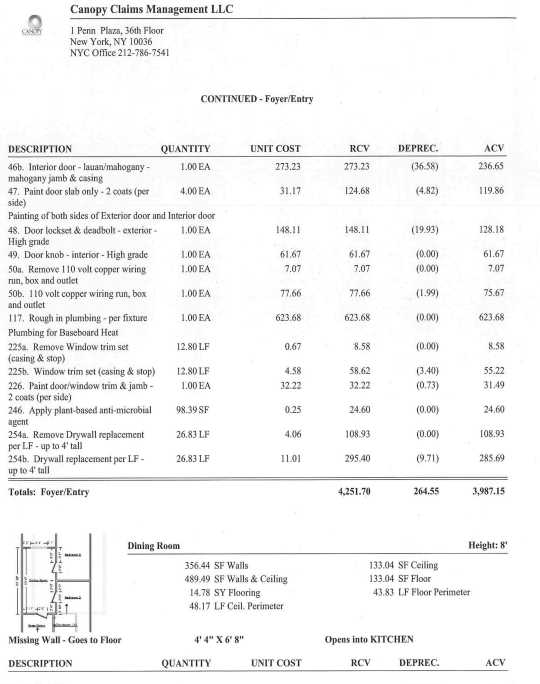
Lower Perimeter: 26.80 LF Floor SF: 44.50 SF Wall SF: 214.70 SF
Upper Perimeter: 26.80 LF Floor SY: 4.94 SY Ceiling SF: 44.50 SF

Quantity	Description	Unit Cost	RCV	DEP	ACV
44.5 SF	Flood Loss Clean-up	$0.95	$42.28		$42.28
44.5 SF	Mildewcide Floor Treatment	$0.45	$20.03		$20.03
107.4 SF	Mildewcide Wall Treatment (100.0% / 4.0')	$0.45	$48.33		$48.33
3.0 DY	Airmover for Water Loss	$25.75	$77.25		$77.25
44.5 SF	Remove and Replace 3/4" Plywood "AC" Exterior Grade Subflooring (100.0%)	$3.37	$149.97	$12.00	$137.97
29.8 SF	Remove and Replace Ceramic Floor Tile in Mortar (67.0%)	$17.46	$520.31	$41.62	$478.69
29.8 SF	Durock for Ceramic Floor Tile in Mortar (67.0%)	$2.97	$88.51	$7.08	$81.43
107.4 SF	Remove and Replace Wall Drywall Taped and Floated (100.0% / 4.0')	$2.95	$316.83	$25.35	$291.48
204.0 SF	Remove and Replace Ceramic Wall Tile in Mortar (95.0% / 8.0')	$21.70	$4,426.80	$354.14	$4,072.66
1.0 EA	Remove and Replace Prehung H/C Door	$169.22	$169.22	$84.61	$84.61
1.0 EA	Paint / Finish Prehung H/C Door	$93.14	$93.14	$46.57	$46.57
1.0 EA	Remove and Reinstall Doorknob (Keyless Locking) Prehung H/C Door	$43.36	$43.36		$43.36
1.0 EA	Remove and Reinstall Commode	$137.35	$137.35		$137.35
1.0 EA	Clean Commode	$23.23	$23.23		$23.23
1.0 EA	Remove and Replace Whirlpool (Acrylic) Bathtub	$1,629.56	$1,629.56	$260.73	$1,368.83
1.0 EA	Remove and Reinstall Combo Faucet/Shower for Bathtub	$42.50	$42.50		$42.50
1.0 EA	Clean Combo Faucet/Shower for Bathtub	$19.99	$19.99		$19.99
1.0 EA	Remove and Reinstall Pedestal Sink (Complete Assembly)	$98.10	$98.10		$98.10
1.0 EA	Clean Pedestal Sink (Complete Assembly)	$21.07	$21.07		$21.07
1.0 EA	Remove and Replace 110V - 125V GFCI w/Wiring Electrical Outlet	$173.45	$173.45	$55.50	$117.95
1.0 LF	Remove and Replace Hot Water Baseboard	$39.39	$39.39	$19.70	$19.69
	Totals For Bathroom		**$8,180.67**	**$907.30**	**$7,273.37**

*** *This is an estimate of recorded damages and is subject to review and final approval by the insurance carrier.* ***

SIMSOL®
Form EST-1/5.1-SP2

Page: 5



Canopy Claims Management LLC

1 Penn Plaza, 36th Floor
New York, NY 10036
NYC Office 212-786-7541

CONTINUED - Foyer/Entry

DESCRIPTION	QUANTITY	UNIT COST	RCV	DEPREC.	ACV
46b. Interior door - lauan/mahogany - mahogany jamb & casing	1.00 EA	273.23	273.23	(36.58)	236.65
47. Paint door slab only - 2 coats (per side)	4.00 EA	31.17	124.68	(4.82)	119.86
Painting of both sides of Exterior door and Interior door					
48. Door lockset & deadbolt - exterior - High grade	1.00 EA	148.11	148.11	(19.93)	128.18
49. Door knob - interior - High grade	1.00 EA	61.67	61.67	(0.00)	61.67
50a. Remove 110 volt copper wiring run, box and outlet	1.00 EA	7.07	7.07	(0.00)	7.07
50b. 110 volt copper wiring run, box and outlet	1.00 EA	77.66	77.66	(1.99)	75.67
117. Rough in plumbing - per fixture	1.00 EA	623.68	623.68	(0.00)	623.68
Plumbing for Baseboard Heat					
225a. Remove Window trim set (casing & stop)	12.80 LF	0.67	8.58	(0.00)	8.58
225b. Window trim set (casing & stop)	12.80 LF	4.58	58.62	(3.40)	55.22
226. Paint door/window trim & jamb - 2 coats (per side)	1.00 EA	32.22	32.22	(0.73)	31.49
246. Apply plant-based anti-microbial agent	98.39 SF	0.25	24.60	(0.00)	24.60
254a. Remove Drywall replacement per LF - up to 4' tall	26.83 LF	4.06	108.93	(0.00)	108.93
254b. Drywall replacement per LF - up to 4' tall	26.83 LF	11.01	295.40	(9.71)	285.69
Totals: Foyer/Entry			**4,251.70**	**264.55**	**3,987.15**

Dining Room **Height: 8'**

356.44 SF Walls
489.49 SF Walls & Ceiling
14.78 SY Flooring
48.17 LF Ceil. Perimeter

133.04 SF Ceiling
133.04 SF Floor
43.83 LF Floor Perimeter

Missing Wall - Goes to Floor **4' 4" X 6' 8"** **Opens into KITCHEN**

DESCRIPTION	QUANTITY	UNIT COST	RCV	DEPREC.	ACV

2013-03-13-1639 3/29/2013 Page: 3

C. Alternate Scope: This difference results from 2 sources. The first is the carrier estimate using more other materials in their estimate v. what was original there (see example). Secondly, results from the insured using less expensive materials to accommodate the initial underpayment. In either situation the insured is at a minimum entitled to the Actual Cash Value (ACV) of what they had prior to the damage. Replacement receipts and contractor estimates only matter if they are replacing or repairing what was similar.

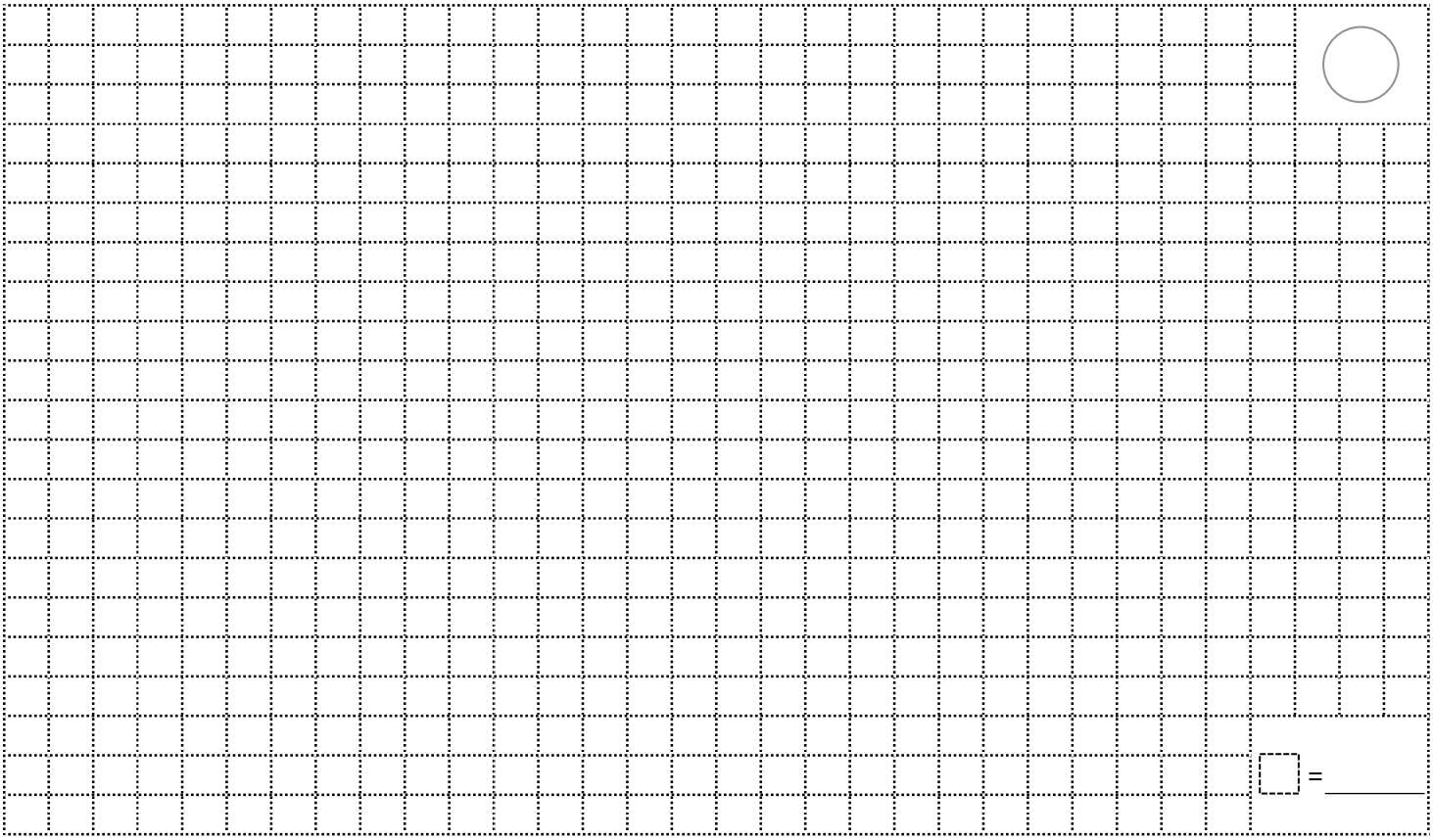
Example 1: Plaster v Drywall. There are multiple variations and combinations of line items that complete the proper repair/replacement process however the following is a clear example of a major cost difference affected by scope.

Replace drywall, taped, floated, ready to paint = $2.14 per SF
Replace drywall, hung only = $1.24 per SF
Replace Plaster (2 coat over Gypsum board) = $7.04 per SF

NAME

DATE

ADDRESS



Loc. #	Int. ' "	Ext. ' "				

NOTES

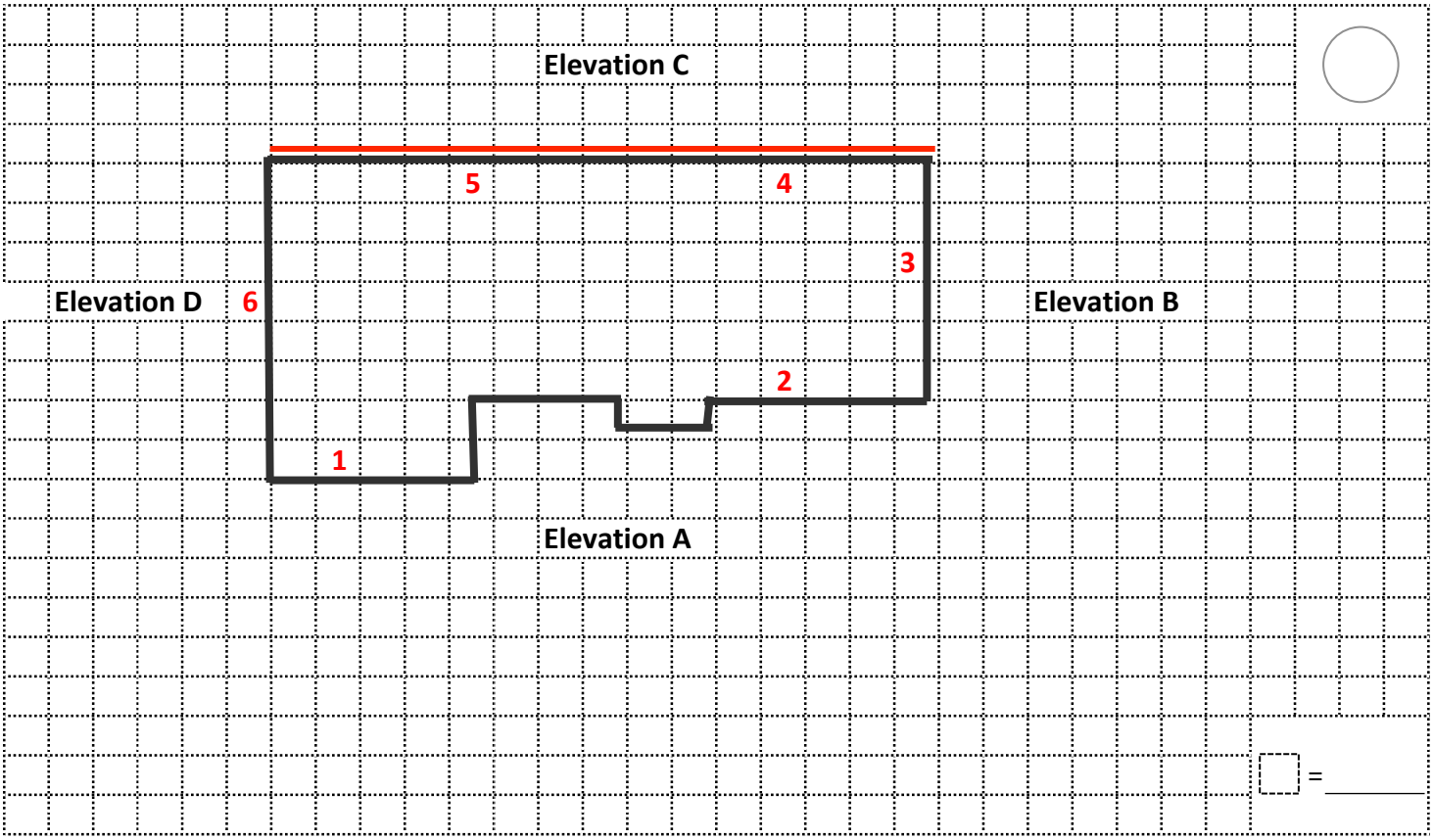
Smith, Mary

123 Main Street

Anytown, USA 12345

1/1/14

DATE



Loc. #	Int. ' "	Ext. ' "	5' out	10' out		
1	2"	2"			Elevation at garage is level	
2	34"	27"	36"	42"	Flower bed raises elevation against house	
3	19"	25"			Exterior is lower than interior	
4	32"	28"			Interior is lower than outside	
5	32	26"			Interior is lower than outside	
6	19"	19"			Elevation is even	

The back of the house is below grade, a section of the front of the house is below grade, however that is due to a flower bed up against the house making it appear higher. the grade of the property is below the interior 5 and 10 feet away sloping away from the house.

This house does not meet the NFIP guidelines for a basement.

M E M O R A N D U M

TO: EDNY Mediators

FROM: William Treas
Nielsen, Carter & Treas, LLC

DATE: May 16, 2014

RE: **MAY 22, 2014 CLE TRAINING OF MEDIATORS**

The following submission is a brief introduction to the key issues involved in mediating National Flood Insurance Program (NFIP) claims disputes. As a first and foundational point, these claims are not governed in any sense by New York State insurance law. They are not governed by the doctrine of reasonable expectations, or by the rules of notice prejudice, or the rules of substantial compliance. None of those principles have any materiality to NFIP litigation. Nor do any claims of reasonable detrimental reliance, or estoppel. See *Federal Crop Ins. Co. v. Merrill,* 332 U.S. 380 (1947), and *Heckler v. Community Health Services,* 467 U.S. 51 (1984). These cases are purely objective exercises governed by federal law, along with standard (meaning nationally uniform) principles of insurance law.

The maxim penned by Justice Oliver Wendell Holmes that, "Men must turn square corners when they deal with their government," is the foundation upon which these cases are handled. See *Rock Island A.&L.R. Co. v. United States,* 254 U.S. 141 (1920). Critically, much of what might pass for appropriate behavior (in some person's eyes) in private insurance, constitutes a violation of the U.S. False Claims Act, as well as various U.S. Supreme Court precedents, in a context of federal insurance programs. These are important points, because unfortunately, it does appear that there are significant issues of misrepresentation involved in a very large percentage of the NFIP cases currently pending in the EDNY.

In this submission, and while the issues of misrepresentation will be raised, that will not be this paper's focus. This paper's focus will be a brief recitation of the key issues that must be addressed along the path of getting an NFIP lawsuit resolved. Within the strictures of this important and 40+ year old federal program, such is indeed the defendant WYO Program carriers' objective.

ISSUES FOR THE PREPARATION OF MEDIATORS AS TO THE NATURE OF RISK FOR A WYO CARRIER

An effective mediator looks for what makes a party feel at risk. Once understood, the effective mediator uses this information to persuade the parties to lessen that risk by settling the dispute. The EDNY is no doubt serious about wanting its mediators to be well prepared, and certainly, to be effective. For this to happen in the NFIP cases, those mediators need to know how an NFIP-WYO carrier gains risk, or lessens risk.

A WYO carrier lessens its risk by settling NFIP cases within FEMA's views of FEMA's regulations.[1] Plaintiffs and their counsel in the NFIP cases may make all the arguments *they* wish concerning how *they* construe or interpret FEMA's rules. They can pull out a lone FEMA Manual provision and grab a snippet here, or a partial phrase there, or claim that some WYO carrier in some other case somewhere, did settle with them as to this or that point. They can even cite some district court case from somewhere that disagrees with FEMA's views. They can tell long stories about how wind cases are settled. That is all fine. However, these types of arguments rarely lead to settlements against experienced NFIP defense counsel, and they

[1] An agency's interpretation of its own regulations is entitled to "controlling weight unless it is plainly erroneous or inconsistent with the regulation it interprets." *Stinson v. United States*, 508 US 36, 45 (1993).

certainly don't lead to settlements at volume. They lead to trials, which then often lead to appeals. Most often, on an NFIP appeal, the insured loses out.[2]

If the Court's mediators push settlements that are not in accord with FEMA's rules, few settlements will happen. This is because WYO carriers entering into such settlements risk a FEMA audit wherein FEMA rejects the carrier's decisions, and requires the carrier to reimburse FEMA for the entirety of any improper payments made.[3] It is safer for a WYO carrier to simply let the Court rule at a trial upon the merits, and then to pursue an appeal if warranted, than to agree to a settlement not in accord with FEMA's views of FEMA's rules.

The substantive laws predicating all of this should be examined thoroughly by the mediators. Two different sets of laws are in play:

First, the mediator must examine the regulations that govern the NFIP-WYO Program. These make clear that a WYO carrier is the Government's "fiduciary," and that its duty is to "assure that any taxpayer funds are accounted for and appropriately expended." 44 C.F.R. Pt. 62.23(f). *See also* 44 C.F.R. Pt. 62.23(i)(2), which states in part, "It is important that the company's Claims Department verifies the correctness of the coverage interpretations and reasonableness of the payments recommended by the adjusters." Please consider also that within the Arrangement between FEMA and all WYO carriers, which is itself a federal law, the Arrangement provides at 44 C.F.R. Pt. 62, App. A, Art. II(G), that, "The company shall comply with written standards, procedures, and guidance issued by FEMA or FIA relating to the NFIP and applicable to the company." These are non-discretionary legal duties governing disbursements of federal funds. At bottom, WYO carriers facing NFIP litigation cannot settle

[2] This is precisely what happened to the insured in *Decosta v. Allstate Ins. Co.*, 730 F.3d 76 (1st Cir. 2013), wherein the district judge refused to allow the WYO carrier to conduct discovery, and refused to abide any of FEMA's rules governing that case. It is the hope of this submission to be candid, so as to avoid such occurrences wherever possible.

[3] These points were discussed in the "Explanation" undersigned counsel filed on January 31, 2014. (Doc. 201-2).

those cases without first "verifying" all damages being claimed. A WYO carrier cannot just take a public adjuster's word for it.

Second, the mediator must give due consideration to the Improper Payments Information Act of 2002, and the Improper Payments Elimination and Recovery Act of 2010. ("IPIA" and "IPERA"). These federal laws contain nondiscretionary Congressional mandates that apply to FEMA, which require it to require WYO carriers to reimburse to FEMA, any payments made that are not properly documented in accordance with agency rules and regulations. For example, if a WYO carrier were to engage in traditional "split the baby" type settlements as might occur routinely in private insurance litigation, this would constitute a direct violation of both the IPIA and the IPERA.

An effective NFIP mediator will also have to understand this: Pursuant to FEMA's rules, and without litigation, 99% of the NFIP claims arising from Hurricane Sandy have already been successfully resolved. This Court is only reviewing the claims of 1% of the total claims that arose within the counties that comprise the EDNY. Wholly apart from whether the individuals within that 1% are right or wrong, it would be inappropriate, wrong and obviously contrary to the underlying substantive laws, to afford to the 1% a different or better deal under this Program beyond what was received by the 99%. The SFIP is just that – a standard federal insurance policy that is the same exact policy for everyone.

The mediator should also understand that WYO carriers view the word "settlement" in this context as a misnomer. An NFIP insured's lawsuit is more properly described as a continuation of the NFIP claims process. If all conditions to the lawsuit were met, and if more is actually owed under the Program's rules, then it should be paid. But, "splitting the baby" just to make cases go away is not a part of this federal program. Candidly, it's illegal.

In the same vein, nothing in this submission should be construed as conveying a belief that "it's FEMA's way or the highway." Congress adopted 42 U.S.C. §4072, which gives the courts exclusive jurisdiction over disputes of this type. Wherever an NFIP insured/plaintiff disagrees with FEMA's view, the courts are authorized by Congress to resolve that dispute. The sole point being made here, is that a WYO carrier is not a court. It is not empowered by ANYTHING in either the statutory or regulatory scheme to take a position contrary to FEMA's, or to disburse federal funds in a manner not approved by FEMA.

SPECIFIC COMMON LEGAL ISSUES AND DEFENSES

Presented in no particular order, the following are commonly occurring legal issues and defenses in NFIP cases. To avoid repetition, issues that are a fixture of standard principles of insurance law (such as that no one may profit from an insurance claim) are addressed in the separate submission of the wind carriers.

1. Is the suit time barred? FEMA did extend its regulatory deadline for the filing of a proof of loss from 60 days to 18 months for Hurricane Sandy claims. 44 C.F.R. Pt. 61, App. A(1), Art. VII(J)(4). However, this extension of a regulatory rule has no impact upon, or relation to, the statutory deadline for filing NFIP lawsuits established by Congress at 42 U.S.C. §4072, and incorporated into both FEMA's regulations and each plaintiffs' SFIP. *See* 44 C.F.R. Pt. 61, App. A(1) Art. VII(R), and 62.22(a). FEMA Bulletin W-13069 explaining this exact topic is attached hereto as Exhibit A.
2. Were all damages from prior flood events, for which an NFIP claim was paid, completely repaired? A currently unknown number of the Sandy litigants also had NFIP claims from Hurricanes Irene or Lee. NFIP rules concerning paying for the

same damage twice require the WYO carrier to determine whether prior repairs were in fact completed in these situations.

3. Did the plaintiff comply with all conditions precedent to the filing of the lawsuit, before filing that lawsuit? *See* 44 C.F.R. Pt. 61, App. A(1), Art. VII(R). The most notable of these requirements is FEMA's proof of loss rule. Id., at SFIP Article VII(J)(4). An explanation of the strictness with which this rule is enforced by the appellate courts is to be found in the following recent cases: *DeCosta v. Allstate Ins. Co.*, 730 F.3d 76, 81-86 (1st Cir. 2013); *Jacobsen v. Metropolitan Prop. & Cas. Ins. Co.*, 672 F.3d 171, 175 (2nd Cir. 2012); *Suopys v. Omaha Prop. & Cas.*, 404 F.3d 805 (3rd Cir. 2005); *Dickson v. American Bankers Ins. Co. of Florida*, 739 F.3d 397 (8th Cir. 2014).

4. Coupled with the proof of loss requirement is FEMA's supporting documentation requirement found at 44 C.F.R. Pt. 61, App. A(1), Art. VII(J)(3) and IV(F) and (I). As numerous courts have held, the pre-suit documentation submitted with the proof of loss as its support, must be sufficiently detailed that it genuinely allows the WYO carrier to perform its job as the Government's fiduciary, to determine the underlying basis of the claim, before a lawsuit is filed. *See e.g., Sun Ray Village Owners Association v. Old Dominion Ins. Co.*, 546 F.Supp. 2d 1283 (N.D.Fla. 2008); *Trosclair v. State Farm*, 2008 WL 5157715, *3 (E.D.La., Dec. 9, 2008); *Treme Cottages, Inc. v. Fidelity*, 2008 WL 4974660, *1 (E.D.La., Nov. 19, 2008); and *Wells v. Fidelity*, 2008 WL 2781539, *3-4 (E.D. La., July 14, 2008). One obvious purpose of this rule is to avoid the cost of unnecessary lawsuits. It does not work to submit the proof of loss and supporting documentation post-lawsuit.

5. Limited Scope of Coverage. The NFIP/SFIP is a "single risk" insurance policy. *Wagner v. Dir., FEMA*, 847 F.2d 515, 521 (9th Cir. 1988). It only covers "direct physical loss by or from flood." 44 C.F.R. Pt. 61, App. A(1), Art. II(B)(12).[4] This provision further states that, "there must be evidence of physical changes to the property." And, because of numerous restrictions, conditions and exclusions contained throughout the SFIP, many of which are designed to facilitate and bolster FEMA's mitigation and flood plain management initiatives, there are many instances where damages that can indeed be traceable to a "but for" causal relationship to the flood, are nevertheless not covered by this federal program. *See e.g.*, the earth movement exclusion of the SFIP. *West v. Harris*, 573 F.2d 873 (5th Cir. 1978), *cert. denied*, 440 U.S. 946, 99 S.Ct. 1424 (1979). Simply put, just because the flood did cause it, does not necessarily mean it is covered.

6. The Loss Settlement Clause. 44 C.F.R. Pt. 61, App. A(1), Art. VII(V). Recognizing the standard insurance law doctrine that no one should "profit" from insurance, FEMA's loss settlement clause provides that a claimant may only receive the lesser of (1) policy limits, (2) the actual cost of repairs, or (3) the estimated cost of repairs. *See e.g., Mathews v. State Farm Fire and Cas. Co.*, 2007 WL 2127581, *2 (E.D.La., July 24, 2007). In many instances, given the amount of time that has passed since Hurricane Sandy, repairs will have already been completed. In those situations, the cost of repairs is a far more relevant indicator of the proper value of the claim than are professional estimators' estimates. *LaCroix v. State Farm Fire and Cas. Co.,*

[4] Liaison counsel for the plaintiffs in the NFIP cases has already agreed in their submission to the EDNY that in named peril policy cases, it is the plaintiff, and not the defendant, who bears the burden of proof.

2010 WL 226557, *4 (E.D.La., June 2, 2010).[5] In similar fashion, wherever a claim was also made for wind damage, no insured may recover from both their wind and flood policies, an amount that exceeds the value of their structure. *Bradley v. Allstate Ins. Co.*, 620 F.3d 509, 523 (5th Cir. 2010).

7. Mass produced estimates. Early settlements will not happen in NFIP cases predicated on mass produced estimates and proofs of loss where policy limits are claimed in every single claim, and inflated costs are included for repair items on every single claim, regardless of need, and without any individual consideration of whether or not that repair would actually occur in that particular home. These efforts are dubious at best, and do not reflect the individualized judgment required by the SFIP at 44 C.F.R. Pt. 61, App. A(1), Art. VII(J)(5). In some cases, these mass produced repair estimates are almost double the <u>entire value</u> of the building. Given the Court's interest in moving cases, and in early resolution, undersigned counsel believes it necessary to point out at this early juncture, that there will be a fairly large number of cases that will bog down because of these types of issues. None of these cases will resolve without formal discovery. Examples of this type of problem resulting in the dismissal of the insured's lawsuit, include *Donovan v. Fidelity Nat'l Property & Casualty Co.*, 2014 WL 50811 (S.D.Tex, Jan. 7, 2014.); *Charnock v. Fidelity*, Docket #3:10-mc-07015 (S.D.Tex., Jan. 7, 2014); and *Pye v. Fidelity*, 2014 WL 496520 (S.D. Tex., Feb. 6, 2014).[6]

8. Appraisal. 44 C.F.R. Pt. 61, App. A(1), Art. VII(P). Via the appraisal clause, FEMA has adopted by regulation its own form of Alternative Dispute Resolution ("ADR").

[5] Indeed, once the work is done, estimates are irrelevant.

[6] The *de minimus* judgment in *Pye* for $2,500.00 for car parts has been appealed to the Fifth Circuit. Car parts are not covered under the NFIP.

Id. The process works exceedingly well, when its standards are respected. *See* however, *Decosta, supra*. Prior to appraisal, the parties must achieve agreement on all issues of claims presentment, coverage and scope. *De La Cruz v. Bankers*, 237 F.Supp.2d 1370, 1374 (S.D.Fla. 2002). Only pricing disputes may be presented on appraisal. Further, the parties must actually submit "qualified" and "disinterested" appraisers. Where the process is used appropriately, it is very effective at moving files. FEMA Bulletin W-13029, which explains the process in detail, is attached as Exhibit B.

9. FEMA Waivers. The defendant WYO Program carriers have no more power to waive or not enforce a rule of this Program than do the courts.[7] The sole power of waiver of the regulations rests with FEMA. 44 C.F.R. Pt. 61, App. A(1), Art. VII(D). FEMA is known to grant additional individual waivers of the timeframe for compliance with its proof of loss requirement in certain circumstances, provided all parties have at all times acted in good faith, provided that the parties achieve a complete agreement as to all matters in litigation such that after the waiver is granted, the lawsuit is promptly dismissed, and provided, the waiver request comes early, before FEMA is put to the expense of having to pay both a large litigation bill, and the claim itself. In the past, FEMA officials have expressed their disdain for being asked to pay for both a large litigation bill, and then the claim. Understandably, they would rather just pay one or the other.

10. Exclusion for Post-FIRM elevated buildings. Given that coastal areas were impacted, FEMA's exclusion in the SFIP for damage to the lower area of post-FIRM elevated

[7] *Office of Personnel Management v. Richmond*, 496 U.S. 414 (1990) (limitations on judicial power to issue judgments payable in federal funds).

buildings (44 C.F.R. Pt. 61, App. A(1), Art. II(23) and Art. III(a)(8) and (b)(3) will be an issue. There are various ways that a building might be elevated; thus, no single across the board ruling is possible. For an example of a court applying FEMA's rules to a particular structure, s*ee Ayers Realty Co., LLC v. Selective Ins. Co. of Southeast*, 2014 WL 807509 (M.D.Pa., Feb. 28, 2014).

11. Basements. Examples of cases applying FEMA's rules concerning basements are as follows: *McGair v. American Bankers Ins. Co.*, 693 F.3d 94 (1st Cir. 2012); *Benbenek v. Fidelity Nat. Prop. and Cas. Ins. Co.*, 2013 WL 5366395 (S.D. Ind., Sept. 24, 2013); and *Oaks v. Allstate Ins. Co.*, 2006 WL 3328179 (E.D.Ky., Nov. 14, 2006). In the SFIP, a basement is defined as, "Any area of the building, including any sunken room or portion of a room, having its floor below ground level (subgrade) on all sides." 44 C.F.R., Pt. 61, App. (A)(1), Art. II(B)(5). As a simplistic rule of thumb, if it holds water, it's a basement.

12. Earth Movement. There are times when a flood is indeed the "but for" cause of differential settlement which leads to significant and expensive damage to an insured structure. Many times, however, damages of this type are actually pre-existing. In either situation, the damage is not covered under this Program, even where the flood is indeed the "but for" cause of substantial structural damage. For cases applying this exclusion, *see West v. Harris, supra; Sodowski v. NFIP*, 834 F.2d 653 (7th Cir. 1987) and *Wagner v. Director, FEMA*, 847 F.2d 515 (9th Cir. 1988).

13. Misrepresentation. As per SFIP Article VII(B), misrepresentation voids the policy. If there is a misrepresentation by the insured, or by anyone acting for the insured as his or her "agent," then the policy is void. Even if the misrepresentation occurs on

just the building claim or the contents claim, no aspect of a claim upon the SFIP may be paid once this article has been triggered. Currently, FEMA's Office of Central Counsel and the U.S. Attorney's Office for the Eastern District of New York are examining how the Government will respond to the questions of misrepresentation that are arising in a large number of currently pending cases. Right now, private defense counsel cannot opine upon how the Government will react to these developments.

THREE POSSIBLE TRACKS TO RESOLUTION

The Court has asked all counsel repeatedly to try to determine if there would any "buckets" into which these cases might be categorized. The only possibility that defense counsel for the WYO cases has discerned, might be the following three:

Track 1 - - Already Repaired Homes

A significant number of the NFIP Plaintiffs have already repaired their homes. It is unknown whether this is 10% or 50% or more of the total. This is unknown because none of the plaintiffs in the EDNY NFIP cases has divulged this information, despite being ordered to do so in CMO No. 1. Regardless, the already repaired homes "bucket" is irrefutably a significant piece of the overall total of NFIP cases pending in the EDNY. The WYO carrier Defendants are interested in trying to attempt mediation without utilizing the processes of formal discovery in NFIP cases meeting these parameters:[8]

- All conditions precedent to presentment of the NFIP claim were actually satisfied pre-suit.
- The current CMO as to document exchanges has been fully complied with.

[8] Even without the formal designation by the Court of a "track," plaintiffs' counsel believing their NFIP case fits these parameters are encouraged to reach out to the carrier's counsel in cases fitting these parameters.

- Repairs to the house are substantially or fully complete.
- The cost of repairs is known, well documented, and all documentation concerning these repairs has been fully exchanged pursuant to the current CMO.
- The exchanged documentation from the contractor meets the "detail" requirements of the SFIP, and is sufficient to allow the carrier to segregate out the cost of any improvements or betterments, additions or other items that aren't within the scope of NFIP coverage.
- The insured actually did spend more to repair their covered flood damage than was previously paid by the WYO carrier, and would like to attempt to resolve their dispute for the difference between the actual cost of covered repairs, and the carrier's prior payments.
- No issues of misrepresentation are involved.

It is likely that in many of these situations, some additional documentation or information might be needed, and that this might come to light only during the first mediation session. If the Court allows for this track, it is asked to allow the following:

- Initial mediation sessions upon this track should be conducted via telephone, with second sessions to be done in person.
- The Court's subpoena power should be available to collect whatever additional documents either side may deem needed.
- Site inspections should be available if deemed needed.
- Depositions should be permissible if, in the opinion of the parties and the mediator, such would likely move the dispute forward to resolution.

- The parties should be allowed to stay upon this track to meet with the mediator successive times, if they and the mediator believe that progress is being made.
- The parties should be afforded a maximum time upon this track; with four months being one possible time limit.

Track 2 - - Homes Not Yet Repaired

A large number of the NFIP cases pending in this Court are predicated upon mass produced estimates, where one public adjuster prepared estimates for large numbers of different properties in factory fashion, including many of the same high priced repairs in every single estimate, regardless of need. Examples of that practice are on full display in the *Charnock, Donovan* and *Pye* rulings mentioned earlier. This second track is <u>not</u> for persons whose claims were presented via such estimates. It is for those who properly presented their claims pre-lawsuit, and who wish to consider the following question:

Are there NFIP Plaintiffs for whom an individualized set of detailed documentation was actually prepared, and which was submitted to the carrier pre-suit as required by the policy, who either are 1) willing now to agree to the independent adjuster's estimate as to coverage and scope, but not as to pricing, or 2) want to see if the carrier might agree that it missed a few items, and try to achieve an agreement on coverage and scope? In other words, is there a group of NFIP Plaintiffs who desire to confine their claim voluntarily right now, and to invoke the Appraisal Clause of the SFIP? 44 C.F.R. Pt. 61, App. A(1), Art. VII(P). If so, the WYO carrier Defendants are inclined to attempt appraisals, without utilizing the processes of formal discovery, in NFIP cases meeting these perimeters:

- All conditions precedent to the presentment of the claim were actually satisfied pre-suit.

- The current CMO as to document exchanges has been fully complied with.
- It can be established and verified that repair work upon the home is neither complete nor underway, and no contractor bids for the actual work have been obtained.
- The parties are in complete agreement, in writing, on all issues of claims presentment, coverage and scope, such that the parties have agreed to one specific detailed line item list of covered items to be repaired, with the only remaining dispute being the pricing of those agreed upon items.

If the Court adopts this track, it is asked to develop its own list of umpires to the appraisal process. All too often, disagreements over picking an umpire lead to the process breaking down. Also, these umpires must be instructed that they have no authority to exceed the parties' prior agreements as to scope and coverage. Their role regards only pricing of agreed upon items of covered damage. See Exhibit B, which is FEMA's view of how its appraisal process works.

Track 3 - - Normal Litigation.

Given the large number of mass produced estimates,[9] undersigned counsel speculates that at least half of the total NFIP case load will have to proceed normally, at least through written discovery and depositions. These are the cases where the parties disagree as to the validity of the pre-suit documentation, the application of either coverage or exclusions, the scope of the covered damages, the pricing, and the method of calculation of the loss settlement value. Simply put, if literally everything is in dispute in the mass marketed NFIP cases, mediating these prior to full discovery is unlikely to be successful. These NFIP cases should be allowed to just get to it, because they will <u>not</u> settle just based upon current document exchanges. With respect, given

[9] This is something new for the Program. Little was seen of this after Katrina. A bit more was seen after Hurricane Ike. Now it seems a cottage industry. Indeed, one law firm from Metairie, Louisiana has filed hundreds of such and plans to file as many as 2,000 cases. Virtually all of these use estimates from just one public adjusting firm.

the large number of these cases and the relatively small number of plaintiffs' counsel, a discovery period of eight months is not unreasonable.

CONCLUSION

Two different dynamics are involved stemming from the two different branches of the Federal Government that are involved here, depending upon whether the NFIP cases end in mediation, or in trial and eventual appeal. In all things relating to the mediations, it is FEMA's view which is absolutely controlling. The Court's opinion, and certainly that of any mediator, must defer to FEMA's view of FEMA's regulations if a case is to be voluntarily resolved at mediation. Conversely, if these cases are to proceed to trial, then it is the Court's opinion that will control, subject to any ensuing appeal.

The defense counsel for the WYO carriers, in the context of mediation, have literally no choice but to advocate and abide FEMA's view of FEMA's rules, and to decline all overtures for settlements that are not accord with FEMA's rules.

In closing, defense counsel would respectfully remind all involved in the NFIP cases that the judiciary is not empowered to grant a monetary remedy against the Federal Treasury that the Congress has not itself sanctioned. *Office of Personnel Management v. Richmond*, 496 U.S. 414 (1990). Congress, at 42 U.S.C. §4013, delegated exclusive rulemaking authority to FEMA to decide the scope of coverage. At 42 U.S.C. §4019, Congress delegated to FEMA exclusive authority to decide all rules governing the presentment of claims. Based upon these two statutes, it is only FEMA's rules that provide the necessary predicate for a judicial award of United States Treasury funds. Either the rules have been followed and an award may be made, or the rules have not been followed, and an award may not be made.

Respectfully submitted,

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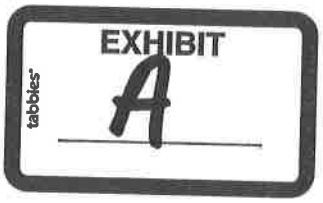
W-13069



November 21, 2013

MEMORANDUM FOR: Write Your Own (WYO) Principal Coordinators and the National Flood Insurance Program (NFIP) Direct Servicing Agent

FROM: James A. Sadler, CPCU, AIC
Director of Claims
National Flood Insurance Program

SUBJECT: **Interplay Between the Extension of the Proof of Loss Deadline for NFIP-Insureds Damaged By Meteorological Event Sandy and the 1-Year Statute of Limitations in 42 U.S.C. § 4072 (VII,R, Suit Against Us)**

Questions have been presented to FEMA concerning how the granting of the extension of the Proof of Loss deadline for National Flood Insurance Program (NFIP) policyholders damaged by Meteorological Event Sandy (ME Sandy) established by FEMA by regulation in the Standard Flood Insurance Policy (SFIP) interplays with the 1-year statute of limitations for an insured to bring a lawsuit established by Congress in 42 U.S.C. § 4072. FEMA is providing this Bulletin as an explanation to insurers of how the extended Proof of Loss deadline interacts with the 1-year statute of limitations established by statute. A brief review of the factual background is provided to put FEMA's guidance in context.

The SFIP is itself a Federal regulation promulgated by FEMA, which has three forms. The Dwelling form is found at 44 C.F.R. § 61, Appendix A(1); the General Property form is found in Appendix A(2); and the Residential Condominium Building Association Policy (RCBAP) form is found in Appendix A(3). In these regulations, FEMA established the 60-day Proof of Loss deadline. See Section VII(J) of the Dwelling and General Property forms and Section VIII(J) of the RCBAP form. The Associate Administrator of the Federal Insurance and Mitigation Administration (FIMA, a division of FEMA) has the authority to grant waivers of and extend the Proof of Loss deadline pursuant to 44 C.F.R. § 61.13(d). See also 44 C.F.R. § 61, Appendices A(1) and A(2), Section VII(D), and Appendix A(3), Section VIII(D).

Congress, in enacting the National Flood Insurance Act of 1968, as amended, (42 U.S.C. § 4001, *et seq.*) enacted a 1-year statute of limitations for an NFIP policyholder to bring a lawsuit after denial/disallowance or the partial denial/disallowance of the policyholder's claim. See 42 U.S.C. §

4072. This 1-year statute of limitations was incorporated into the SFIP by FEMA. See 44 C.F.R. § 61, Appendices A(1) and A(2), Section VII(R), and Appendix A(3), Section VIII(R).
On November 12, 2012, FEMA issued Bulletin w-12092. Bulletin w-12092 did several things, but two items are primarily relevant for this Bulletin.

First, Bulletin w-12092 granted a limited waiver of the Proof of Loss requirement to allow payment of an undisputed amount based solely on an adjuster's report and insurer's approval without the SFIP-required Proof of Loss. In the event the insured disagreed with the payment received, the policyholder was (and is) required to send a Proof of Loss meeting the requirements of the SFIP with documentation supporting the additional amounts sought.

Second, Bulletin w-12092 waived the 60-day deadline to submit the SFIP-required Proof of Loss and granted a 1-year extension from the date of loss to send the Proof of Loss for the additional dollar amount(s) sought to the insurer. The insurer then evaluates the Proof of Loss and documentation and may pay the entire amount, partially pay and partially disallow/deny the amount, or entirely disallow/deny the amount sought for the items submitted in the Proof of Loss. The denial or disallowance, in whole or in part, must be in writing from the insurer. The insurer's letter should clearly state it is denial or disallowance and alert the insured of the remedies available, including litigation within 1 year from the date of the letter.

More recently, in FEMA Bulletin w-13060a, FEMA issued an additional extension of the Proof of Loss deadline, allowing an additional 6 months for an insured to submit the SFIP-required Proof of Loss with supporting documentation for any additional amounts sought. In total, FEMA extended the Proof of Loss deadline from 60 days to 1 ½ years for ME Sandy. This is an unprecedented action by FEMA that reflects FEMA's commitment to facilitating the ability of individuals insured by the NFIP to seek payment.

Unlike the SFIP Proof of Loss deadline, which is a regulation created by FEMA, FEMA cannot extend the time limit for NFIP-insureds to bring a lawsuit. The applicable time limit to file a lawsuit was set by statute, not FEMA. Although FEMA has the administrative authority to extend the Proof of Loss deadline it established by regulation, FEMA lacks the authority to extend the time limit to file a lawsuit established by statute. This statute of limitations has never been extended.

It is important to understand that the Proof of Loss is not the claim. The claim is the assertion by the insured that they are entitled to be paid for a covered loss under their SFIP (i.e., the demand for money). An NFIP policyholder whose insured property is damaged by an event such as ME Sandy only has one claim arising from that event, regardless of the number of Proofs of Loss that the insured may submit in support of that claim.

Even in the instance of an Increased Cost of Compliance (ICC) claim under Coverage D of the SFIP (which is not an indemnity claim because the coverage is not triggered by the physical loss from the flood but by a determination by the NFIP community that the building has been substantially damaged and must be brought up to the community's current floodplain management guidelines),

there is only one claim that arises from that substantial damage determination regardless of the number of Proofs of Loss submitted by the insured.

The SFIP sets forth the process that the insured has to follow in supporting his or her claim in the General Conditions section of each form of the SFIP (which is Section VII for the Dwelling and General Property SFIP forms and Section VIII for the Residential Condominium Building Association Policy or "RCBAP" SFIP form). For example, Section VII(J)(1) of the SFIP requires prompt written notice of the loss. Also, Section VII(J)(4) and its subparts set forth what information must be included for the Proof of Loss (which is the policyholder's statement of the amount of money demanded and submitted in support of their claim) and indicate that it must be sent within 60 days after the loss.

NFIP court rulings hold that if the insured does not comply with "all" of the terms and conditions of the SFIP prior to filing a lawsuit (including the Proof of Loss requirements), then the necessary conditions for the insured to be able to bring a lawsuit have not been met. What this means is that, in those instances in which a denial letter has been issued such that the statutory 1 year to bring the lawsuit will run before the Proof of Loss extended deadline runs, the insured has to both file the lawsuit and have the required Proof of Loss requirements completed within 1 year of the date of the denial or partial denial of the claim. This situation will typically arise when the insurer has determined that the insured has not suffered a "direct physical loss by or from flood" and there is no coverage under the SFIP. For example, if the insurer has determined that flood waters did not reach the insured building, a denial letter will be sent because there is no insured loss and no coverage under the SFIP.

In any event, FEMA requires NFIP insurers to continue to work with their insureds. The Program can pay additional amounts if properly supported, even if the formal Proof of Loss deadline has passed. FEMA does this through the granting of the insured's request of an individual waiver of the Proof of Loss deadline through the insurance company. The NFIP makes every possible effort to insure that a proper claims payment and resolution of the claim are achieved in every instance.

The limited waiver and extension of the Proof of Loss deadline recognizes the difficulties insureds damaged by ME Sandy experienced evaluating damage and supporting their flood insurance claim. The typical dispute arises after an insured has received payment based on an adjuster's report and the insurer's approval and later believes there is additional uncompensated damage. The 1 year to sue typically will not be triggered until the required Proof of Loss for the additional amount sought is submitted and there is a complete or partial disallowance/denial of the amount sought. However, as discussed above, there are instances when the claim may be denied for reasons that do not require an adjuster's report or Proof of Loss from the insured. Even in those claims where a denial letter was issued within the first 6 months after ME Sandy, the insured still had a full year from the date of that denial letter to collect all required documentation, file the proof of loss, and then file a lawsuit if such is believed necessary.

The extended time to file the Proof of Loss is an effective mechanism that allows insureds to fully present their claims. For the majority of claims, disputes will not arise until after the submission of the Proof of Loss and formal denial of the amount sought. While FEMA does the most it can to assist NFIP insureds, it cannot and does not waive or extend the applicable statute of limitations.

Conclusion:

We ask for your full support. Any questions or comments should be directed to Russell Tinsley, Claims Examiner for the National Flood Insurance Program. Mr. Tinsley may be reached by email at Russell.Tinsley@fema.dhs.gov.

cc: Vendors, IBHS, and Government Technical Representative

U.S. Department of Homeland Security
500 C Street, SW
Washington, DC 20472

FEMA

W-13029

May 15, 2013

MEMORANDUM FOR: Write Your Own (WYO) Principal Coordinators and the National Flood Insurance Program (NFIP) Direct Servicing Agent

FROM: James A. Sadler, CPCU, AIC
Director of Claims
National Flood Insurance Program

SUBJECT: **Proper Invocation and Usage of the Appraisal Clause Provisions in the Standard Flood Insurance Policy**

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) and promulgates all forms of the Standard Flood Insurance Policy (SFIP). There are three forms of the SFIP—the Dwelling Form, the General Property Form, and the Residential Condominium Building Association Policy (RCBAP)—which are promulgated and found at 44 C.F.R. § 61, Appendixes A(1), A(2), and A(3), respectively.

Each form of the SFIP contains an Appraisal clause in its General Conditions (Section VII (P) (in the Dwelling and General Property Forms), and Section VIII (P) in the RCBAP). FEMA is issuing this bulletin to provide guidance regarding when the Appraisal clause may be used, and what the necessary conditions are for invoking it.

The text of the Appraisal provision states the following:

P. Appraisal

> If you and we fail to agree on the actual cash value or, if applicable, replacement cost of your damaged property to settle upon the amount of loss, then either may demand an Appraisal of loss. In this event, you and we will each choose a competent and impartial appraiser within 20 days after receiving a written request from the other. The two appraisers will choose an umpire. If they cannot agree upon an umpire within 15 days, you or we may request that the choice be made by a judge of a court of record in the State where the covered property is located. The appraisers will separately state the actual cash value, the replacement cost, and the amount of loss to each item. If the appraisers submit a written report of an agreement to us, the amount agreed upon will

> be the amount of loss. If they fail to agree, they will submit their differences to the umpire. A decision agreed to by any two will set the amount of actual cash value and loss.
>
> Each party will:
>
> 1. Pay its own appraiser; and
>
> 2. Bear the other expenses of the Appraisal and umpire equally.

The SFIP Appraisal process is a mechanism for resolving only disputes regarding the dollar amounts to be paid for flood damages covered by the SFIP. The Appraisal process **cannot** be used as a method to determine scope of damage, coverage under the SFIP, or causation of damages. FEMA has had this rule in place in the Adjuster Claims Manual for many years. (*See* pp. V-33 (Dwelling Form commentary), V-71 (General Property Form commentary), and V-107 (RCBAP commentary) in the Adjuster Claims Manual.)

Further, FEMA believes that the Appraisal clause is one of the last resorts available for attempting to resolve a claim (initiating a lawsuit being the last resort) and it should not be used instead of the claims adjusting process. FEMA encourages the insured and the insurer to exhaust all other avenues available to determine the fair price for an agreed-to scope of loss. This includes the insured obtaining and providing all estimates (or if repairs or replacement has already occurred, actual receipts or invoices), photos, and any other relevant documentation or written narrative explanation that may support what the insured is claiming as a fair price of the agreed-to scope of loss.

For the Appraisal clause to be properly invoked, the following conditions must be met prior to the parties using the Appraisal process:

1. The named insured and the issuer of the SFIP must agree to the scope of loss and damages. This means that there must be a list of damaged items (the scope) that both parties agree were damaged by the flood event and covered by the SFIP. If the insured and insurer cannot agree on the scope of loss, then the Appraisal provision cannot be invoked. This means that a claim cannot be partially resolved by the Appraisal process and partially resolved by other means (such as an appeal to FEMA or through litigation). Appraisal can only be used when it will result in complete resolution of the entire claim.

2. The insured must have submitted a timely and complete Proof of Loss with supporting documentation for the items which the insured is seeking Appraisal. If an insured submitted a Proof of Loss for a dollar amount of damages and the insurer paid that amount in full, the Appraisal clause cannot be invoked because there is no dispute between the insured and insurer as to the scope of loss or pricing.

3. Appraisal is available only when the dispute between the parties involves the price to be paid for an SFIP-covered flood-damaged item. No other dispute of any type (*e.g.*, coverage, scope, or causation) can be submitted to Appraisal. If any issue other than pricing is attempted to be resolved through use of the Appraisal process, then the Appraisal provision has not properly been invoked and the Appraisal process is not valid.

4. The Appraisers and umpire selected for the Appraisal process must be competent and impartial. This means that the individuals nominated to serve as Appraisers by the parties, and the umpire to be selected by the Appraisers, cannot be in a position to profit from a higher claim(s) payment made to the insured. For example, if the insured has hired a public adjuster or attorney whose fee is based upon the insured securing a higher claims payment, no one employed, affiliated with, or related to the public adjuster or attorney could serve as the Appraiser or the umpire. The same rule applies to the insurer; no one employed, affiliated with or related to the adjuster or owner of the adjusting company who could receive a higher fee based upon the insured receiving a greater payment could serve as the Appraiser or umpire. The Appraisal process would not be valid if the Appraiser and/or umpire were not competent and impartial.

If possible, the Appraisal provision should be invoked prior to the insured filing a lawsuit. Appraisal is a means to avoid a lawsuit, and FEMA encourages the use of Appraisal as a viable alternative to litigation. However, nothing prohibits the Appraisal provision from being invoked after a lawsuit has been filed as a means of fully resolving the litigation. Appraisal cannot be used as a means to resolve some issues and not others because of the necessity of having an agreed-to scope of loss before invoking the clause. This means that Appraisal would only be available after a lawsuit is filed if it would result in a resolution of all claims of the insured and a dismissal of the lawsuit. If the insurer does not have the policyholder's complete Proof of Loss to support the amount of the Appraisal award, the insurer, upon the policyholder's request must seek a waiver from the Federal Insurance Administrator of the time period to submit a Proof of Loss in order for the Appraisal award to be valid.

Amounts payable as a result of a successful Appraisal should be paid within the 60 days allowed by Section VII (M) of the SFIP; however, nothing prevents the parties from agreeing to a longer period of payment. If a matter is in litigation and the parties consent to the Appraisal process or Appraisal award, the insurer would arrange for payment in accordance with the normal process of paying such disputed amounts (which is typically upon conclusion of all litigation or appeals).

Insurers should pay close attention to the time deadlines in the Appraisal provision with regard to appointing either an Appraiser and/or umpire. If the insured makes an inappropriate demand for an Appraisal (as described above), then a denial letter should be sent as soon as practicable

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U.S. District Court for Eastern District of New York
***In re Hurricane Sandy Cases*, 14 MC 41**
Mediation Training on May 22, 2014
Javier Delgado, Esq.
Plaintiffs' Liaison Counsel

Table of Contents: Handout on Wind Issues

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

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IN RE HURRICANE SANDY CASES

REPORT OF PLAINTIFFS' LIAISON COUNSEL IN RESPONSE TO DEFENDANTS' REPORT AND LIST OF COMMONLY OCCURRING LEGAL ISSUES

----------X

14 MC 41

THIS DOCUMENT APPLIES TO:

ALL RELATED CASES

----------X

The undersigned Plaintiffs' Liaison Counsel, Tracey Rannals Bryan of Gauthier, Houghtaling & Williams and Javier Delgado of Merlin Law Group, P.A. hereby submit Report of Plaintiffs' Liaison Counsel in Response to the Report of Defense Liaison Counsel for the NFIP Cases (Doc. 269) and Defendants' List of Commonly Occurring Legal Issues (Doc. 273). Plaintiffs' Liaison Counsel has conferred with counsel representing Plaintiffs in Superstorm Sandy cases pending before this Court. The following law firms assisted in the legal research and analysis contained in this response:

1. Gauthier, Houghtaling & Williams
2. Merlin Law Group, P.A.
3. Leav & Steinberg, LLP;
4. French & Casey, LLP;
5. Wilkofsky, Friedman, Karel & Cummings;
6. Wolff & Samson, PC;
7. The Rain Law Firm;
8. Nesenoff & Miltenberg LLP;
9. Lerner, Arnold & Winston, LLP;
10. Ellis Ged & Bodden, P.A.;
11. Fensterstock & Partners LLP; and
12. Touro Law Center
13. Law Office of Mitchell Winn

INTRODUCTION

A windstorm/hurricane such as Superstorm Sandy by its very nature results in a wide range of damage caused by different covered and potentially excluded perils at different times during the storm. These perils include wind, flood, storm surge, fire, power outage, sewage back-up, etc. The difficulty for the Court, as experienced by prior courts[1], is determining how to decide whether an insurance policy that covers wind damage but excludes flood damage, or vice versa will provide insurance coverage when the property is damaged by a covered peril and damage also occurs from an excluded peril.

In the analysis of the circumstance presented above, a clause that is now standard in almost every insurance policy known as the anti-concurrent causation (ACC) clause will emerge as one of the most hotly debated clauses between the insured and the insurance carrier in Superstorm Sandy cases. It is important to consider that the ACC clause is a fairly new provision that was not tested in the context of a hurricane loss until Katrina, resulting in an Erie-guess by the Fifth Circuit that was later criticized by the Mississippi Supreme Court.[2] The burden of proof required under a flood policy versus a wind policy will be equally important. A wind policy is often written as an "all risk" insurance policy, and flood policy is written as a named peril policy. Special attention should also be given to the interpretation of insurance policies and the reasonable expectations doctrine in New York, as this doctrine will guide the analysis of legal issues involving policy interpretation, policy exclusions, and cases involving errors and omissions between consumers and insurance agents/brokers.

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[1] *Leonard v. Nationwide Mutual Insurance Company*, 499 F.3d 491 (5th Cir. 2007) (making an "Erie" guess on Mississippi law) criticized by *Corban v. United Services Automobile Association*, 20 So.3d 601 (Miss. 2009) (applying the proper analysis under Mississippi Law in determining how to evaluate insurance coverage in Hurricane Katrina cases where the damages stem from both the covered peril of wind and the excluded peril of flood, and assessing whether or not the ACC clause applied in a Hurricane case).

[2] *Id.*

For ease of reference, Plaintiffs' counsel are submitting their legal authority with the same format and phraseology used by Defendants.

RESPONSE TO DEFENDANTS' LIST OF COMMONLY OCCURRING LEGAL ISSUES

A. Fortuity

The burden of proving causation differs in first-party property insurance cases depending on whether the policy is a specified peril policy or an "all risk" policy. Under a specified peril policy, the insured has the burden of proving that the loss was caused by a specifically enumerated peril.[3] Alternatively, under an "all risk" policy, by contrast, "the insurer has the burden of proving that the cause of the loss is an excepted cause."[4]

Under an all risk policy, the insured has the burden to establish a *prima facie* case for recovery. The insured need only prove the existence of the all risk policy, and the loss of the covered property.[5] The very purpose of an all risk policy is to protect the insured in cases where it is difficult to explain the damage to the property; thus, the insured need not establish the cause of the loss as part of its case.[6]

Where an insured has met its burden of showing that a valid insurance policy was in full force and effect and that the insured incurred a presumptively covered loss, the burden of proof shifts to the insurer to demonstrate that an exclusion contained in the policy defeats the claim.[7] To negate coverage by virtue of an exclusion, an insurer must establish that the exclusion is stated in clear and unmistakable language, that it is subject to no other reasonable interpretation and applies

[3] *Strubble v. United Services Auto. Assn.*, 35 Cal. App. 3d 498, 504, 110 Cal. Rptr. 828, 831 (Cal Ct App 1973).
[4] *Mission Nat'l Ins. Co. v. Coachella Val. Water Dist.*, 210 Cal App. 3d 484, 492, 258 Cal Rptr 639, 643 (Cal Ct App 1989). *Accord, Garvey v. State Farm Fire & Casualty Co.*, 48 Cal. 3d 395, 406, 257 Cal. Rptr. 292, 298, 770 P.2d 704, 710 (1989).
[5] *Pan American World Airways, Inc. v. Aetna Casualty and Surety Co.*, 505 F.2d 989, 999 (2d Cir.1974).
[6] *Atl. Lines Ltd. v. Am. Motorists Ins. Co.*, 547 F.2d 11, 13 (2d Cir.1976); *Holiday Inns Inc. v. Aetna Ins. Co.*, 571 F.Supp. 1460, 1463 (S.D.N.Y.1983).
[7] *Throgs Neck Bagels, Inc. v. GA Ins. Co. of New York*, 241 A.D.2d 66, 671 N.Y.S.2d 66 (1st Dep't 1998).

in the particular case, and that its interpretation of the exclusion is the only construction that could fairly be placed thereon.[8]

Under an all-risk policy, the insurance carrier has a difficult burden to meet once the policyholder demonstrates a loss was sustained during the policy period. An essential purpose of all-risk insurance policies is to provide coverage when the exact cause of the loss cannot be established. "All risk insurance arose for the very purpose of protecting the insured in those cases where difficulties of logical explanation or some mystery surround the loss or damage to property."[9]

One New York Court noted that under an all-risk policy, losses caused by *any* fortuitous peril not specifically excluded under the policy will be covered. According to the Court:

> An insured making a claim under an all-risk policy has the initial burden to establish a *prima facie* case for recovery. An insured meets this burden by showing: "(1) the existence of an all-risk policy, (2) an insurable interest in the subject of the insurance contract, and (3) the fortuitous loss of the covered property. ***This burden has been characterized as "relatively light."***[10]

Thus, an insured under an all-risk policy needs only to show fortuitous loss and once that burden is met, the burden shifts to the insurer to establish that an exclusion applies.[11] The insurer's burden is a "heavy one" to negate coverage by virtue of exclusions in an all-risk policy.

B. Insurable Interest

To insure property against a risk of loss, the insured must have an insurable interest in that property; without an insurable interest, the insured could suffer no loss. However, once an insurable

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[8] *Throgs Neck Bagels, Inc. v. GA Ins. Co. of New York*, 241 A.D.2d 66, 671 N.Y.S.2d 66 (1st Dep't 1998); *Salimbene v. Merchants Mut. Ins. Co.*, 217 A.D.2d 991, 629 N.Y.S.2d 913 (4th Dep't 1995); *General Acc. Ins. Co. of America v. Idbar Realty Corp.*, 163 Misc. 2d 809, 622 N.Y.S.2d 417 (Sup 1994), order aff'd as modified on other grounds, 229 A.D.2d 515, 646 N.Y.S.2d 138 (2d Dep't 1996).

[9] *Formosa Plastics v. Sturge*, 684 F. Supp. 359, 366 (S.D. N.Y. 1987)

[10] *Channel Fabrics, Inc. v. Hartford Fire Ins. Co.*, 2012 WL 3283484 (S.D. N.Y. August 13, 2012).

[11] *Id.*

interest has been established at the inception of the policy, it is not invalidated by a later transfer of the policy by assignment to a person who lacks a direct insurable interest in the property. [12]

In Tiemann v Citizens' Ins. Co., the plaintiffs were the owners of the insured property. The defendant had agreed to insure the plaintiffs "against all direct loss or damage by fire to the amount of six thousand dollars to the following described property." When the fire occurred the property was damaged in the amount of $1,050. The fact that the plaintiffs had offered to sell the property before the fire at the price they subsequently obtained, notwithstanding the impairment of its value by the fire, did not release the defendant from liability.[13]

C. Rules of Construction For Interpreting Insurance Policies

As stated above, a policyholder bears the initial burden of showing that the insurance contract covers the loss and that a loss of property occurred.[14]

Under New York law, the ordinary rules of contract interpretation apply to insurance policies.[15] Contract interpretation is a legal question for the court to decide.[16]

An insurance policy, like most contracts, is to be read in light of common speech and the reasonable expectations of a businessperson.[17] A written contract is to be interpreted so as to give effect to the intention of the parties as expressed in the clear language of the contract.[18]

Courts generally adhere to the rule that when an insurance policy is clear and unambiguous, the language of the policy controls – and courts are bound to enforce the express terms as they are

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[12] 31 N.Y. Prac., New York Insurance Law § 14:3 (2013-2014 ed.) (citing *Taylor v. Allstate Ins. Co.*, 214 A.D.2d 610 (2d Dep't 1995).
[13] 76 AD 5, 9-10 [1st Dept 1902]
[14] *Servidone Constr. Corp. v. Security Ins. Co. of Hartford*, 64 N.Y.2d 419, 423-425 (1985); *Roundabout Theatre Co. v. Continental Cas. Co.*, 302 A.D. 2d 1, 751 N.Y.S.2d 4, 7 (1st Dep't. 2002)(emphasizing that the policyholder bears the affirmative burden of proving coverage; burden remains the same under an "all risk" policy); *Int'l Paper Co. v. Cont'l Cas. Co.*, 35 N.Y.2d 322, 361 N.Y.S.2d 873 (1974).
[15] *Accessories Biz, Inc. v. Linda & Jay Keane, Inc.*, 533 F.Supp.2d 381, 386 (S.D.N.Y. 2008).
[16] *Int'l Multifoods Corp. v. Commercial Union Ins. Co.*, 309 F.3d 76, 83 (2d Cir.2002).
[17] *Gen. Motors Acceptance Corp. v. Nationwide Ins. Co.*, 4 N.Y.3d 451, 796 N.Y.S.2d 2 (2005); *Belt Painting Corp. v. TIG Ins. Co.*, 100 N.Y.2d 377, 383, 763 N.Y.S.2d 790 (2003).
[18] *Cruden v. Bank of N.Y.*, 957 F.2d 961, 976 (2d Cir.1992).

written.[19] Contract language is ambiguous if it is capable of more than one meaning when viewed objectively by a reasonably intelligent person who has examined the context of the entire integrated agreement and who is cognizant of the customs, practices, usages and terminology as generally understood in the particular trade or business.[20]

Where the policy language is ambiguous, "the court must interpret the language in context with regard to its purpose and effect in the policy and the apparent intent of the parties."[21] Only if the ambiguity remains unresolved, then it will be construed in favor of the insured.[22]

While the insured has the burden of proving that a valid policy was in existence on the relevant date and that a loss of property occurred, the insurer has the burden of showing that a claim falls within a policy exclusion.[23] In addition, "[t]he ambiguities in an insurance policy are construed against the insurer, particularly when found in an exclusionary clause."[24] To negate coverage by virtue of an exclusion, an insurer must establish that the exclusion is stated in clear and unmistakable language, is subject to no other reasonable interpretation, and applies in the particular case."[25]

Policy exclusions cannot be extended by interpretation or implication, but must be given a strict and narrow construction.[26] Whether an ambiguity exists in an insurance policy is a question of law for the Court.[27]

D. An Insured Person Is Presumed to Understand the Terms of Their Policy

Some New York courts have held that once an insured has received his or her policy, the insured is presumed to have read and understood it and cannot rely on the broker's representations[28]

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[19] *Accessories Biz*, 533 F.Supp.2d at 386.
[20] *Am. Home Assur. Co. v. Hapag Lloyd Container Linie, GMBH*, 446 F.3d 313, 316 (2d Cir.2006).
[21] *Rainbow*, 72 N.Y.2d at 106.
[22] *Id.*
[23] *Int'l Paper Co. v. Cont'l Cas. Co.*, 35 N.Y.2d 322, 361 N.Y.S.2d 873 (1974).
[24] *Ace Wire & Cable Co. v. Aetna Cas. & Sur. Co.*, 60 N.Y.2d 390, 469 N.Y.S.2d 655, 457 N.E.2d 761 (N.Y. 1983).
[25] *Cont'l Cas. Co. v. Rapid–Am. Corp.*, 80 N.Y.2d 640, 593 N.Y.S.2d 966 (N.Y. 1993).
[26] *Inc. Vill. of Cedarhurst v. Hanover Ins. Co.*, 89 N.Y.2d 293, 298, 653 N.Y.S.2d 68 (1996).
[27] *U.S. Underwriters Ins. Co. v. Tauber*, 604 F.Supp.2d 521, 527 (E.D.N.Y. 2009).

that the policy covers what is requested.[29] Other courts, including the New York Court of Appeals, have not strictly followed this rule and do not find it a bar to recovery. These courts have held that an insured can maintain an action for breach of contract and negligence to procure adequate insurance coverage.[30]

In *American Building Supply*, a recent Court of Appeals decision, the insured sued the broker for failure to procure general liability coverage for the insured's employees in case of injury, which was a requirement of the insured's commercial lease agreement.[31] Although the insured informed the broker of its coverage requirements the policy was issued with a cross-liability exclusion that barred coverage for injury.[32] The insured did not read the policy upon receipt, nor did the broker.[33]

The court held that receipt and presumed reading of the policy does not automatically bar an action for negligence against the broker where the insured requested specific coverage, and that an insured may look to the expertise of its broker for insurance matters.[34] The court observed the split of authority on this issue, but considered the facts of the case similar to those in which the appellate courts did not enforce the presumption if specific coverage was requested.[35]

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[28] Insurance agents have a common-law duty to obtain requested coverage for their clients within a reasonable time or inform the client of the inability to do so; however, they have no continuing duty to advise, guide or direct a client to obtain additional coverage. *See Murphy v. Kuhn*, 90 N.Y.2d 266, 270, 660 N.Y.S.2d 371 (1997). To set forth a case for negligence or breach of contract against an insurance broker, a plaintiff must establish that a specific request was made to the broker for the coverage that was not provided in the policy. *See Hoffend & Sons, Inc. v. Rose & Kiernan, Inc.*, 7 N.Y.3d 152, 155 (2006). A general request for coverage will not satisfy the requirement of a specific request for a certain type of coverage. *Id.* at 158.

[29] *Busker on Roof Ltd. Partnership Co. v. Warrington*, 283 A.D.2d 376, 377, 725 N.Y.S.2d 45 (1st Dept. 2001).

[30] *American Bldg. Supply Corp. v. Petrocelli Group, Inc.*, 19 N.Y.3d 730, 736, 955 N.Y.S.2d 854 (2012); *Kyes v. Northbrook Prop. & Cas. Ins. Co.*, 278 A.D.2d 736, 737-738, 717 N.Y.S.2d 757 (3d Dept. 2000)(finding existence of viable question of fact pertaining to whether insured had right to rely upon broker's presumed obedience to insured's instructions in procuring proper coverage); *Reilly v. Progressive Ins. Co.*, 288 A.D.2d 365, 366, 733 N.Y.S.2d 220 (2d Dept. 2001)(observing that insured made specific request for coverage, thus failure to read policy does not preclude broker's potential liability).

[31] *Id.*

[32] *Id.*

[33] *Id.*

[34] *Id.*

[35] *Id.*

E. An Insured Has Constructive Knowledge of the Terms of the Policy

The insured's receipt of the insurance policy at issue may, in some cases, provide a complete defense to the insured's action against an agent or broker for failing to procure coverage. This argument does not provide a defense in all cases. As noted in the authorities above, where the evidence establishes that the insured made specific requests for coverage, this rule may not apply as an absolute bar to coverage.[36] Moreover, where the evidence demonstrates that the insured made specific requests for the missing coverage after receipt of the policy, the broker has a renewed duty to obtain the requested coverage or to inform the client of its inability to do so.[37]

F. Exclusions

a. Applicable Burden of Proof between Insured and Insurer

As stated above, the burden of proving an affirmative defense on an insurance policy is upon the insurer; conversely, the burden to establish coverage and a duty to indemnify lies with the insured.[38]

b. Anti-Concurrent Causation (ACC) Clause

The analysis should first begin with the question: Is the ACC clause applicable to a Superstorm Sandy case where the property was damaged by covered and excluded perils? This analysis has been applied in Hurricane Katrina cases, as further explained below. It is also important to understand the ACC clause and its origins.

This Court's ruling on the ACC clause will impact every insured that suffered damage from wind and water to the insured property. As explained by William F. "Chip" Merlin, Jr., *in Corban v. USAA: A Case for Providing Far too Little Because It was Rendered Far too Late*, the United States Fifth Circuit Court of Appeals' "Erie guess" on Mississippi law resulted in over two years of

[36] *American Bldg. Supply Corp. v. Petrocelli Group, Inc.*, 19 N.Y.3d 730, 736, 955 N.Y.S.2d 854 (2012).
[37] *Page One Auto Sales v. Brown & Brown of New York, Inc.*, 921 N.Y.S.2d 749, 750, 83 A.D.3d 1482, 1483 (4th Dept. 2011).
[38] *Acerra v. Gutmann*, 294 A.D. 2d 384 (2d Dep't 2002).

underpaid insurance claims and forced settlements that would otherwise not have been accepted by policyholders who had spent thousands on insurance premiums.[39]

In response to the concurrent causation doctrine[40] relied upon by the courts as the default rule in insurance coverage litigation[41], insurance companies began inserting the ACC clause into property policies in the 1980s and 1990s to prevent court decisions requiring the insurance carrier to provide insurance coverage where the damage to the property was caused by both a covered and an excluded peril.[42]

There are typically two forms of ACC clauses.[43] In response to these new forms, courts initially found the ACC Clause valid and enforceable.[44]

Throughout the years, different theories interpreting the ACC clause have evolved. The more conservative approach is to find that there is no coverage for any portion of the loss so long as the damage was caused by both a covered and non-covered event. The liberal approach states that

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[39] 79 Miss. L.J. Supra 129 (2009).

[40] *37 A.L.R. 6th 657*, citing Lertner, Simpson, Bjrokman Law and Practice of Insurance Coverage Litigation §52.9, construction and application of Anti Concurrent Causation (ACC) clauses and insurance policies (2014). Before the advent of the ACC clause the courts routinely relied on the concurrent cause doctrine to find that the insurance company was responsible for paying the damages resulting from the entire event whenever two of more perils appreciably contributed to the loss and at least one of the perils was covered under subject insurance company.

[41] In 1973, the California Supreme Court decided in *State Farm Mut. Auto Ins. Co. vs. Partridge*, 514 P.2d 123, 131 (Cal. 1973), finding that a loss was covered by an insurance policy, even if other excluded causes combined to produce the loss. *Eric S. Knutsen*, *Confusion about Causation in Insurance: Solutions for Catastrophic Losses*, 61 Ala. L Rev. 957, footnote 67, the California Supreme Court later restricted the liberal concurring causation approach to cases involving only liability insurance in *Garvey vs. State Farm Fire and Casualty Company*, 48 Cal 3d 395, 770 P.2d 704, 714 (Cal. 1989), and instead adopted the dominant or proximate cause approach for property insurance cases involving concurrent causation. *Id.* at footnote 67.

[42] David Rossmiller, *"ACC Clauses at the Heart of Wind vs. Wave Debates"* Claims Journal, March 14, 2013.

[43] The first ACC clause is the short form that states: "we do not cover loss to any property resulting directly or indirectly from any of the following. Such loss or damages excluded regardless of any other cause or event that contributes concurrently or in any sequence to the loss."[43] 37 A.L.R 6th 657 (2014).
The second ACC clause is referred to as the long form which states: "we do not insure under any coverage for any loss which would not have occurred in the absence of one or more of the following excluded events. We do not insure proofs of loss regardless of: (a) the cause of the excluded event; or (b) other causes of loss; or (c) whether other causes acted concurrently or any sequence with the excluded event to produce the loss; or (d) whether the event occurs suddenly or gradually, involved isolated or widespread damage, arises from natural or external forces, or occurs as a result of any combination of these."[43] *Id.* at 37 A.L.R. 6th 657, §3 Standard ACC Clauses

[44] One of the first cases that held the ACC Clause in the insurance policy valid was the District Court of Nevada in 1991 applying Nevada law. *See Shroader vs. State Farm Fire and Cas.*, 770 F.Supp. 558 (D. Nev. 1991). See also, 37 A.L,R. 6th 657 II Validity of ACC Clause §4 ACC Clause held valid (2014).

if property is damaged by both a covered and non-covered peril, then coverage exists for the entire amount of the loss. Finally, the majority approach to concurrent causation is to determine the efficient or dominant proximate cause. This approach validates the insurers' contractual rights and obligations as well as the insured's reasonable expectation of coverage, requiring courts to determine the covered dominant or efficient proximate cause.[45] This approach is in line with the reasonable expectations of the consumer, and does not provide either side with a windfall.[46]

The issue of whether the ACC clause applied in a hurricane case (Hurricane Katrina) was hotly debated by the parties and ultimately decided by the Mississippi Supreme Court in *Corban v. United Services Auto. Assn.*[47]

The Corban home sat several hundred feet from the Mississippi Gulf Coast and was significantly damaged, along with personal property inside after Hurricane Katrina.[48] After receiving the maximum flood coverage afforded by the NFIP, the Corbans were left with over $1 million in uncompensated losses.[49] The lower court concluded that pursuant to the earlier decision of the United States Fifth Circuit Court or Appeals in *Leonard*[50] and *Tuepker*[51], the Corbans could not recover for the wind damage under their homeowner's policy.[52]

After an interlocutory appeal, the Mississippi Supreme Court framed the issues:

(1) Whether the court erred in finding that "storm surge" is included in the "water damage" exclusion.
(2) Whether the court erred in finding that the ACC clause applicable.

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[45] See *Peter Nash Swisher, Why Won't My Homeowners Insurance Cover My Loss?*: Reassessing Property Insurance Concurrent Causation Coverage Disputes, 88 Tul. L. Rev. 515 (page 533-534 Feb 2014).
[46] Peter Swisher argues that the dominant or efficient concurrent causation approach is justified not only because it honors the reasonably expectation of the policyholder's coverage, is supported by the well established insurance rationale of liberally resolving any ambiguity in insurance coverage disputes in favor of the insured (the non-drafting party), and strictly construing such ambiguities against the insurer (the drafting party). *Id.* at 534-535; citing to Robert E. Keeton and Alan Widiss, Insurance Law 553-59 (1988); William Mark Lashner, note, a common law alternative to the doctrine to reasonable expectation in the construction of insurance contracts 57 NYU L Rev. 1175 (1982).
[47] 20 So.3d 601 (Miss. 2009).
[48] *Id.* at 605-06.
[49] *Id*. at 606-07.
[50] *Leonard v. Nationwide Mut. Ins. Co*., 499 F.3d 419 (5th Cir. 2007).
[51] *Tuepker v. State Farm Fire & Cas. Co*., 507 F.3d 346 (5th Cir. 2007).
[52] *Id*. at 607-08.

(3) Which party bears the burden of proof? (a discussion on the court's ruling on this topic can be found under the burden of proof section).

In answering the first issue, the Court concluded that "storm surge" was contained unambiguously within the "water damage" exclusion of the policy.[53]

In deciding whether the lower court erred in finding that ACC clause applicable, the Mississippi Supreme Court reasoned that a hurricane includes a number of weather conditions, elements, and/or forces, at times acting dependently, at other times independently.[54] The Court reasoned in accord with the U.S. District Court for the Southern District of Mississippi, in *Dickinson v. Nationwide Mut. Fire Ins. Co.*,[55]

> It is clear to me that storm surge flooding cannot be a cause (directly or indirectly) of damage that occurs before the storm surge flooding reaches the insured property, i.e. before the excluded peril of flooding occurs….
> Wind damage that precedes the arrival of the storm surge and damage that happens after the storm surge arrives are separate losses from separate causes, and not concurrent causes or sequential causes of the same loss[.]…
> Wind damage that precedes the flood damage happens in a sequence of events, but the wind damage is not caused, directly or indirectly, by storm surge flooding, and the damage done by the wind is therefore not a part of "'the loss"' the ACC refers to. Since the ACC does not apply to this separate wind damage, the wind damage is a covered loss. The insurance benefits that apply to this covered loss vest in the insured at the time the loss occurs.[56]

The *Corban* court did not agree and could not find support for the Fifth Circuit's "Erie-guess" in *Tuepke*r and *Leonard* and stated: "only when facts in a given case establish a truly "'concurrent"' cause, i.e., wind and flood simultaneously converging and operating in conjunction

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[53] *Id*. at 608.
[54] *Id.* at 614 -16. The court examined the term "concurrently" in the ACC clause, defined as 1. occurring at the same time. 2. Operating in Conjunction. 3. Meeting or tending to meet at the same point: Convergent. An insurer cannot avoid its obligation to indemnify the insured based upon an event which occurs after a covered loss but cautioning that the same principle applies in reverse, in the case of an excluded loss caused by an excluded peril.
The Court also examined the term "in any sequence" in the ACC clause, to mean "sequentially" defined as, 1. Forming or marked by a sequence, as of notes of or units." Webster's II New College Dictionary at 1008. See also Garner, A Dictionary of Modern Legal Usage at 795 ("'sequential' means 'forming a sequence or consequence.'") and found that the term conflicts with other provisions of the USAA policy thereby creating an ambiguity allowing the provision most favorable to the insured to stand.
[55] 2008 WL 1913957, at 2-4 (S.D. Miss.2008).
[56] *Id*. at 617, citing *Dickinson v. Nationwide Mut. Fire Ins. Co*., 2008 WL 1913957, at 2-4 (S.D. Mass. 2008); see also; *Pitts v. Am. Sec. Life Ins. Co*., 931 F.2d 351, 358 (5th Cir. 1991); *Bland v. Bland*, 629 So.2d 582, 589 (Miss. 1993).

to damage the property, would we find, under Mississippi law, that there is an "'indivisible"' loss which would trigger application of the ACC clause.[57] These are issues of fact for jury determination.[58]

Other states, in addition to Mississippi, have dealt with the same or similar issues resulting from a hurricane loss and the ACC clause in the standard insurance policy.[59] In addition, more recent decisions applying Mississippi law have applied the analysis and conclusion of *Corban*.[60] Other states have interpreted the ACC clause to require an analysis of efficient proximate cause to determine coverage.[61]

In New York, the efficient proximate cause doctrine has been applied for over 100 years, even in situations involving hurricane or high wind[62]. In *The G.R. Booth*, the United States

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[57] *Id*. at 618.
[58] *Id.*
[59] In Florida, a recent opinion from the Second District Court of Appeal held that the efficient proximate cause theory should be applied to a hurricane loss where the insurance policy has an ACC clause, disagreeing with the concurrent causation standard set in place by Florida's Third District Court of Appeals. *American Home Assur., Inc. vs. Sebo*, 2013 WL 5225271 (Fla. 2d DCA 2013). In *Sebo*, in October 2005 Hurricane Wilma struck Naples and caused damage to the Sebo residence. In April 2006, the insurer denied coverage for most of the claimed losses, relying on the ACC clause, and claiming that damage to the home were due to more than one cause of loss including several excluded causes such as defective construction, rain, and wind. Thus the carrier claimed no coverage existed. The *Sebo* court did not accept the insurer's position, and found that causation of the loss should be examined under an efficient proximate cause analysis.
[60] *Hoover vs. United Services Automobile Association*, 125 S.3d 636 (2013), (finding that the *Hoovers* satisfied the burden required by *Corbin and* were entitled to payment unless the insurer could prove that the causes of the losses are excluded by the policies in this case of flood damage. The ultimate allocation of wind and water damage is a question of fact. *Penthouse Owners Association, Inc. vs. Certain Underwriters at Lloyds London*, 612 F. 3d 389-390 (U.S. Ca. 5th 2010).
[61] In North Carolina, Courts have applied the dominant or efficient proximate cause doctrine in cases involving loss from hurricane. *Harrison vs. Insurance Co*., 11 N.C. App. 367, 181 S.E. 2d 253 (1971); *Wood vs. Insurance Company*, 245 N.C. 383, 96 S.E. 2d 28 (1957); and *Miller vs. Insurance Association*, 198 N.C. 572, 152 S.E. 684 (1930). See also *Erie Insurance Exchange vs. Bledsoe*, 141 N.C. App. 331 (N.C. C.A. 2000), (although not a hurricane loss, the court reasoned the homeowner's policy provide coverage for property loss so long as a non-excluded cause is either the sole or the concurrent cause of the injury giving rise to liability; the excluded cause must be the sole cause in order to exclude coverage).
In Georgia, the standard in the presence of an ACC clause is the Efficient Proximate Cause Doctrine. *Burgess v.. Allstate Ins. Co.*, 334 F.Supp. 2d 1351(N.D.Ga. 2003)(in evaluating whether there is coverage for a water leak, the efficient proximate cause doctrine applies when two or more identifiable causes contribute to a single property loss.
[62] *Protzman v. Eagle Fire Co. of New York*, 272 A.D. 319 (1st Dep't 1947); *The G.R. Booth*, 171 U.S. 450 (1898).

Supreme Court examined several early first party insurance cases where the doctrines of proximate cause and efficient proximate cause were relied upon to evaluate coverage.[63]

The Court noted that generally, in determining the cause of loss, the proximate cause to which the loss is attributed is or may be the dominant or efficient cause.[64] More recent cases in New York have also applied the efficient proximate cause doctrine.[65]

While New York courts have upheld certain ACC clauses if the nature of the damage is truly "*concurrent*" within the definition of the clause,[66] it is undisputed that the ACC clause in the context of a hurricane loss has not been analyzed by a Court in New York.

Any discussion of the ACC clause in New York must begin with the public policy that the ACC clause can result in harsh results to policyholders. Assemblyman Phil Goldfeder has introduced a bill in the New York State Assembly, A07455, which provides that "when a flood event not covered under a policy or specifically excluded is a contributing factor in or occurs simultaneously as a covered event or peril, the insurer shall not deny or exclude coverage for the loss or damage caused by the covered event or peril."[67]

In sum, a strong case exists for New York courts to adopt an efficient proximate cause analysis in reviewing Superstorm Sandy cases.

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[63] 171 U.S. 450 (1898) citing *Waters vs. Insurance Company*, 11 PET. 312; *Insurance Company vs. Tweed*, 7 WALL. 44; *Insurance Company vs. Transportation Co.*, 12 WALL. 194; and *Insurance Co. vs. Boon*, 96 US 117.

[64] 31 New York Practice, New York Insurance Law Section 15:4 (213-214 Ed.) citing *Toncin vs. California Insurance Company of San Francisco*, 294 N.Y. 326, 62 N.E.2d 215, 160 A.L.R. 944 (1945).

[65] In *Kosich v. Metro. Prop. & Cas. Ins. Co.*, 214 A.D.2d 992, 626 N.Y.S.2d 618 (1995), the Court concluded that plaintiffs' losses were caused by asbestos contamination, coverage for which was specifically excluded under the policy issued. Here, the contractor's cutting into vinyl flooring with a chain saw set in motion a chain of events that ultimately resulted in plaintiffs' losses. Plaintiffs' losses, however, were proximately caused by asbestos contamination and losses caused by "contamination" are specifically excluded from coverage. *Gravino v. Allstate Ins. Co.*, 73 A.D.3d 1447, 1449, 902 N.Y.S.2d 725, 726 (2010); *Ocean Partners, LLC v. N. River Ins. Co.*, 546 F. Supp. 2d 101, 115 (S.D.N.Y. 2008).

[66] See Doc. Number 273;14-mc:0041-CLP-GBR-RER, *Jahier v. Liberty Mut. Group*, 64 A.D.3d 683, 883 N.Y.S.2d 283 (2d Dept. 2009).

[67] This bill passed the assembly but died in the Senate and was returned to the Assembly's insurance committee on January 22, 2014.

c. Weather Conditions Exclusion

Defendants assert that some insurers' policies contain a "weather conditions" exclusion which may apply to bar coverage for loss caused by water damage. Defendants rely on *Hamm v. Allstate Prop. & Cas. Ins. Co.*,[68] to support their contention that weather conditions that contribute in any way with a cause of event excluded by the policy should additionally be excluded. While this case supports Defendants' argument, other federal courts have not agreed with such blanket exclusion.

Two decisions by judges presiding over Hurricane Katrina cases are instructive regarding the "weather conditions" exclusion and the application of such an exclusion to the cases before this Court will be an issue of fact for the Court.

First, in *Leonard v. Nationwide Mut. Ins. Co.*,[69] an exclusion in a homeowners' insurance policy for loss resulting directly or indirectly from "weather conditions," if another excluded peril contributed to loss, was held to be ambiguous. The policy as a whole provided explicitly for windstorm coverage, and then purported to exclude same coverage if windstorm was viewed as a weather condition, and an excluded peril, such as a flood, occurred at approximately the same time. Therefore, the Court found that coverage would have been illusory for insureds who faced a risk of flood damage.

Second, in *Buente v. Allstate Ins. Co.*,[70] policyholders alleged that damage to their property was caused by "hurricane, wind, rain, and/or storm surge" from Hurricane Katrina. The insurer relied upon a weather condition exclusion. The policy also contained a hurricane deductible endorsement which would require a higher deductible payment by the policyholders in the event of hurricane damage and provided that it would "cover damages sustained in a hurricane because of

[68] 908 F. Supp. 2d 656, 659 (W.D. Pa. 2012).
[69] 438 F. Supp. 2d 684 (S.D. Miss. 2006). *aff'd but criticized*, 499 F.3d 419 (5th Cir. 2007).
[70] 422 F. Supp. 2d 690 (S.D. Miss. 2006).

the effects of rain, hurricane winds, and objects that might be carried by those winds."[71] The Court found "the policy is ambiguous and its weather exclusion therefore unenforceable in the context of losses attributable to wind and rain that occur during a hurricane." [72]

d. Wear & Tear & Faulty Workmanship Exclusions

Plaintiffs' Liaison Counsel refers the Court to the prior discussion on insurance policy interpretation.

G. Damages and Valuation

RCV or ACV:

Most policies of insurance state the insured must set forth an *intention* to rebuild within 180 days as a condition precedent to receiving the replacement value of the insured's property. Under such a policy, a letter sent to the carrier within six months of the loss expressing the insured's intention to seek this recovery should suffice. Policies requiring that the insured *complete* the repair or rebuild within 180 days of receiving the actual cash value payment have been upheld by New York courts.[73] However, New York courts have also taken into consideration that insureds may be financially unable to repair or replace their property without first receiving replacement costs.[74]

The *Zaitchick* court awarded the insureds the full replacement cost of their house and reasoned that "plaintiffs were refused any monies under the insurance contract. Not surprisingly, they were unable to replace their home. This conduct by defendant made it impossible for plaintiffs

[71] *Id*. at 696.
[72] *Id*. at 696.
[73] In *Woodhams v. Allstate Fire and Casualty Company*, 453 Fed.Appx. 108 (2d Cir. 2010), the insureds brought a class action arising out of the insurers' practice of requiring insureds who suffer real property losses due to fire to replace or complete their repairs within a 180-day window to receive reimbursement for the cost of the replacement or repair. The Court held that the policy did not violate New York state law and that the insurer did not breach the terms of the policy. (*See also, Sher v. Allstate Insurance Co.*, 947 F.Supp.2d 370 (S.D.N.Y. 2013).
[74] In *Zaitchick v. American Motorists Ins. Co.*, 554 F.Supp.209 (S.D.N.Y. 1982), *aff'd without opinion*, 742 F.2d 1441 (2d Cir. 1983), *cert. denied*, 464 U.S. 851, 104 S.Ct. 162, 78 L.Ed.2d 148 (1984), there was a dispute over damages arising from a fire that destroyed a house. The insurance policy, allowed for either payment of actual cash value or replacement cost. The policy required the insured to actually replace the house before receiving an award of replacement costs. The court found that the defendant insurance company wrongfully refused to pay the insured the actual cash value of the house, and because of this wrongful denial, the insureds did not have the funds to finance the replacement of their home.

to fulfill the condition precedent, and therefore, excuses plaintiffs from performance of the replacement condition." *Id*. at 217.

Furthermore, New York courts have held that while actual replacement of the property is a condition precedent to collecting replacement proceeds, it is not a condition precedent to valuing a hypothetical replacement cost.[75]

Accordingly, although New York courts have upheld provisions requiring the completion of repairs within 180 days of the loss, they will also look to the insured's specific situation in determining whether it is wrongful for an insurer to refuse to pay the insured more than the actual cash value basis prior to the completion of the repairs.[76]

Off-Set/Credit Under Homeowners Policy for Amount Paid Under Flood

Plaintiffs acknowledge Defendants' briefing on this issue, however each case should be reviewed separately based on the applicable facts and circumstances.

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[75] In *Woodworth v. Erie Ins. Co.*, 743 F.Supp.2d 201 (W.D.N.Y. 2010), the insured brought an action against the insurer for breach of contract after the insureds' home was completely destroyed by an explosion and fire. Specifically, the insureds' breach of contract claim was based on the insurer's failure to engage in an appraisal process with respect to replacement cost. The policy at issue stated "in the event of a loss, [the insurer] will pay [the insureds] either the actual cash value of the property or, if [the insureds] replace or rebuild the property, the cost of replacing or rebuilding." *Id*. The court expressly stated that its previous analysis in stating "the amount of loss, if any, attributable to repairing or replacing the home cannot be determined until the repair or replacement is completed" was incorrect. Instead, the Court followed the analysis set forth by Judge Mukasey in *SR Intern. Business Ins. Co. Ltd. v. World Trade Center Properties, LLC*, 445 F.Supp.2d 320, 333 (S.D.N.Y. 2006). This more accurate interpretation of New York law was as follows:

> Although actual replacement is a condition precedent to *collecting* replacement proceeds, it is not a condition precedent to *valuing* hypothetical replacement cost…To the contrary, the facts underlying several cases demonstrate that hypothetical replacement cost is routinely calculated prior to the determination of whether a policyholder is entitled to recover replacement cost. *See, e.g., D.R. Watson Holdings, LLC v. Caliber One Indem. Co.*, 15 A.D.3d 969, 969, 789 N.Y.S.2d 787, 787 (4th Dept. 2005); *Harrington v. Amica Mut. Ins. Co.*, 223 A.D, 222, 224, 645 N.Y.S.2d 221, 222 (4th Dept. 1996); *Kumar v. Travelers Ins. Co.*, 211 A.D.2d 128, 130, 627 N.Y.S.2d 185 at 186 (4th Dep't 1995)… This timing makes sense because the early calculation of hypothetical replacement cost informs the insured of the upper limit on the funds available for rebuilding and can thus influence the insured's decision as to whether and how to rebuild.

The court also noted that "[w]hile rebuilding the house may be a condition precedent to payment, it is not a condition precedent to valuation of the loss." *Woodworth* at 212.

[76] Id. refer to footnotes 36-37.

H. Policy Conditions

Duty to Cooperate

An insured's claim cannot be invalidated or diminished for failure to submit a proof of loss unless the insurer after the loss or damage provides the insured with written notice that it desires a proof of loss to be furnished and provides a suitable blank form or forms. The insured is deemed to have complied with the insurer's proof of loss request if the proof of loss form is provided to the insurer within 60 days after the receipt of the notice and forms, or within any longer period of time specified in the notice by the insurer.[77]

An insurer may, by waiver or estoppel, lose its right to defeat a recovery because of the insured's failure to comply with policy provisions as to notice or proofs of loss.[78]

Whether or not the insured complied with a condition in the insurance policy is determined on a case by cases basis and usually presents a genuine issue of material fact for a jury. [79] [80]

I. Extra Contractual Claims

The CMO ordered Plaintiffs "to voluntarily withdraw [extra-contractual and consequential damages] claims, or if not, submit a letter to the assigned judge, explaining the legal basis for continuing to pursue such claims in any particular action." As such, the CMO anticipates that Plaintiffs in many cases will have extra-contractual or consequential damages claims.

The decisions upon which the CMO's "voluntary withdrawal" direction was based,[81] both anticipate that some Plaintiffs will have extra-contractual or consequential damages claims. Indeed, these decisions dismissed fraudulent misrepresentation and inducement, breach of the implied

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[77] N.Y. Ins. Law § 3407 (McKinney)
[78] *Co. v. New York Susquehanna and Western Ry.* Corp., 275 A.D.2d 977, 713 N.Y.S.2d 624 (4th Dep't 2000); S*anta v. Capitol Specialty Ins., Lt*d., 96 A.D.3d 638, 949 N.Y.S.2d 15 (1st Dep't 2012).
[79] *Gulf Ins. Co. v. Stradford*, 873 N.Y.S.2d 713 (2d Dep't 2009) (genuine issues of material fact as to whether an insured violated a policy's cooperation clause precluded summary judgment for an insurer.)
[80] 29 N.Y.Prac., Sum. Jdgmt. & Rel. Term. Motions § 1:16
[81] *Funk v. Allstate Ins. Co.*, No. 13 CV 5933 (JS) (GRB) (E.D.N.Y. Dec. 13, 2013) and *Dufficy v. Nationwide Mut. Fire Ins. Co.*, No. 13 CV 6010 (SJF) (AKT) (E.D.N.Y. Dec. 2, 2013).

covenant of good faith and fair dealing, bad faith denial of coverage, and New York General Business Law claims *only because* the specific allegations in those complaints did not allege duties or misconduct outside of the breaches of the express terms of the insurance contract. For these reasons, any conclusion about the potential viability of extra-contractual or consequential damages claims is fact-intensive and specific to each case.

The Equal Access to Justice Act ("EAJA") provides for the award of attorney fees and other expenses to eligible individuals and small entities that are parties to litigation against the government.[82] Certain District Courts have awarded attorney's fees to successful plaintiffs in NFIP cases under EAJA.[83]

In 2009, a Fifth Circuit decision reversed a District Court decision, holding that attorney fees are not recoverable under the EAJA from WYO carriers.[84] Interestingly, the Court confirmed that attorney fees are recoverable from FEMA in regard to direct issue policies.[85] Prior to this ruling, a majority of the Federal District Courts which considered the issue construed the regulation's definition of "federal agency" broadly to include any entity or instrumentality of the Executive Branch, holding that the WYO carrier fell within the regulation's parameters and was subject to EAJA attorney's fee awards.[86] The Second Circuit has not ruled on the issue.

In order to obtain an award of EAJA attorney's fees, the Court must find that the position of the United States is not substantially justified or that there are no special circumstances that would

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[82] 28 U.S.C. § 2412.
[83] *Dwyer v Fidelity National Property and Casualty Insurance Company*, Civ. 06-4793, 2007 WL 2265036 (E.D. La. August 3, 2007); *Berger v USAA General Indemnity Company*, Civ. 06-11151, 2008 WL 1730533 (E.D. La. April 10, 2008); *St. Claude Bywater Properties, L.L.C. v Fid. Nat. Prop. and Casualty Ins. Co.*, 2008 WL 294549 (E.D. La. February 1, 2008); *Grisaffi v Audubon Ins. Co.*, Civ. 06-11179, 2008 WL 695375 (E.D.La. March 13, 2008); *Wolfe v Fidelity National Property and Casualty Insurance Company*, 2008 WL 89643 (E.D.La. January 7, 2008); *American Restaurant, Inc. v Fid. Nat. Prop. and Cas. Ins. Co.*, 2008 WL 2906523 (E.D.La. July 24, 2008); *Zucconi v Lib. Mut. Fire Ins.* Co., 2008 WL 3975604 (E.D. La. August 22, 2008).
[84] *Dwyer v Fid. Nat. Prop. and Cas. Ins. Co.*, 565 F.3d 284, 289 (5th Cir. 2009).
[85] *Id*. at 290.
[86] *Zucconi v Liberty Mutual Fire Insurance Company, supra*.

make an award unjust.[87] In *Pierce v Underwood*,[88] the Supreme Court construed "substantially justified" to mean "justified to a degree that could satisfy a reasonable person". Furthermore, the burden of proving substantial justification falls to the government.[89]

J. Lender Placed Policies

Contrary to the implication in Greisman's Report, plaintiff homeowners who are not the "named insureds" under a lender-placed insurance policy have standing to sue. While New York courts have not been confronted with this precise question, the courts that have looked at this issue often conclude that homeowners are third-party beneficiaries to the lender-placed insurance policies, and as such have standing to sue for its breach.[90] This is especially so where the lender-placed policy names the homeowner as the "borrower" or "mortgagor," or the lender-placed policy covers losses in excess of the mortgagee's loss.[91] The New York-based authority in Greisman's Report does not address this issue.

RESPONSE TO REPORT OF DEFENSE LIAISON COUNSEL FOR NFIP CASES

Issues for Preparation of Mediators as to the Nature of Risk for a WYO Carrier

On pages five through ten of this response (Doc. 269), Defendants have set forth twelve specific common legal issues and defenses in NFIP cases. Plaintiffs will address these legal issues and defenses as follows:

1. Is the suit time barred?

Federal Emergency Management Agency ("FEMA") has extended the proof of loss deadline to eighteen months from the date of Sandy, which is still a month and a half away. Policyholders have more than a month to present a final, comprehensive proof of loss, which should mean that no

[87] 24 U.S.C. § 2412.
[88] 487 U.S. 552, 565 (1988),
[89] *Davidson v Veneman*, 317 F.3d 503, 506 (5th Cir. 2003); *Herron v Bowen*, 788 F.2d 1127,1130 (5th Cir. 1986).
[90] *Fawkes v. Balboa Ins. Co.*, 2012 WL 527168 (M.D.Fla. Feb. 17, 2012) (*reconsideration* denied); *Conyers v. Balboa Ins. Co.*, 935 F. Supp. 2d 1312 (M.D.Fla. 2013); *Lee v. Safeco Ins. Co. of America*, 2008 WL 2622997 (E.D. La. July 2, 2008) (collecting cases after Hurricane Katrina); *Lumpkins v. Balboa Ins. Co.*, 812 F. Supp. 2d 1280 (N.D.Ok. 2011).
[91] *See id.*

suits are yet time-barred. FEMA and the Write-Your Own Program ("WYO") Carriers continue to frame the analysis as a function of FEMA not having the authority to "extend" the statute of limitations. Ultimately, the issue is when the one-year lawsuit deadline begins to run. The deadline to file a lawsuit has already been decided by the Eastern District of Louisiana, squarely rejecting FEMA's position, beginning with the Hurricane Katrina case, *Qader v. FEMA*,[92] which states there can be no "denial" if there is no "claim," and proof of loss is required to present a claim – a fact which FEMA appears to have acknowledged when it granted policyholders eighteen months to "present their claims" by sending one or more proofs of loss during the extended eighteen-month process.[93] The one-year lawsuit deadline is codified in the National Flood Insurance Act ("NFIA") as one year starting from the mailing of notice of "disallowance or partial disallowance" of the "*claim*."[94] Proof of loss in this context serves as a key policyholder protection for presenting a claim. The policy describes proof of loss as "your statement of the amount you are *claiming* under the policy signed and sworn to by you."[95] The proof of loss form asks for the "full cost of repair or replacement" and the "net amount *claimed*."[96] FEMA cannot make up the rules as it goes along and erase the policyholder protections with which it disagrees.

Effectively, FEMA's and the WYO carriers' position is that the deadline to file a lawsuit may expire before its own extended, eighteen-month proof of loss deadline to present a claim.[97] This position is inconsistent with FEMA's proof of loss extension and has caused significant public confusion. It is challenging to explain to anyone in "plain English."[98] Moreover, it has led to many

[92] 543 F. Supp. 2d 558 (E.D. La. 2008).
[93] *Id.*; FEMA Bulletin W-13060a.
[94] 42 U.S.C. § 4072 (emphasis added).
[95] SFIP art. VII(J)(4) (emphasis added).
[96] Proof of Loss, FEMA Form 086-0-9.
[97] (For instance, FEMA states that a homeowner with a "denial" on some aspect of his or her claim dated December 10, 2012 must have both sent proof of loss and filed a lawsuit by one year of that date – nearly five months before the proof of loss deadline for presenting the claim.)
[98] One example is the way that Touro Law Center's Disaster Relief Clinic has attempted to explain these deadlines. Touro Law provides public information, and in some cases representation, for Long Island households. A typical

cases being filed in this Court in order to avoid the added time and expense of being argued as time-barred. Federal Courts in the Eastern District of Louisiana and the Southern District of Texas have already rejected FEMA's and the WYO carriers' position on this very issue. FEMA has made the deliberate decision to resurrect its same argument with this Court and the District Court of New Jersey.

In *Qader*, Judge Feldman of the Eastern District of Louisiana, facing this exact topic in Hurricane Katrina, rejected the same position that FEMA is repeating in this Court.[99] This process is identical for Superstorm Sandy flood insurance claims.

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conversation is along these lines: If you have what FEMA or the insurer would consider to be a "denial" for purposes of starting your lawsuit deadline, and it is dated April 28 or 29, 2013 or earlier, FEMA requires you to submit proof of loss to your flood insurer, and then file a lawsuit in Federal Court, within one year of the date of the denial. What constitutes a "denial" requires reviewing your file. Be sure to fax a request to your insurer to ask for your file including any "denials." Because receiving this paperwork may take a number of weeks, also be sure to review any paperwork that you have and to call or email the claims representative at the insurer in the interim to ask if you have been sent a "denial." Please do not fail to submit proof of loss by the April 28 or 29, 2014 deadline just because you may be doing so more than one year from the date of what the insurer may argue constitutes a "denial." If you do not have a "denial" dated April 28 or 29, 2013 or earlier, your proof of loss must be received by the insurer by April 28 or 29, 2014, depending on your date of loss. You would then have one year from the date of "denial" to file a lawsuit in Federal Court. This "denial" may be based on your proof of loss, or FEMA states that it may be based on its own adjuster's report. For instance, you may have a "denial" letter dated sometime in May 2013. Depending on what the letter says, according to FEMA you would have until April 28 or 29, 2014 for the insurer to receive your proof of loss, but you would also need to file a lawsuit to preserve your rights promptly after sending your proof of loss. (This usually requires more clarification. Discussing what may be required for proof of loss and how to complete the paperwork, and the potential need to file a lawsuit, requires a longer conversation.)

[99] FEMA's submissions overlook the significant modification FEMA made to the NFIP in the aftermath of Hurricane Katrina. Before that storm, policyholders were required to submit a sworn proof of loss to their NFIP insurer within sixty days of a loss to initiate a claim. [SFIP art.] VII(J)(4). On August 31, 2005, however, the Federal Insurance Administration (a component of FEMA), partially waived the proof of loss requirement to expedite the processing and payment of Katrina flood claims. The modification authorized NFIP insurers to inspect, adjust, and make payments on flood claims even before they received a sworn proof of loss. Under this change, if a policyholder agrees with the insurer's determination of benefits, the claim is settled and no proof of loss is required. If a policyholder disagrees with the determination of benefits, then:

> [The] policyholder may submit to the insurer a proof of loss within one year from the date of the loss.... The insurer will then process the policyholder's proof of loss in its normal fashion. If the insurer rejects the proof of loss in whole or in part, the policyholder may file a lawsuit against the insurer within one year of the date of the written denial of all or part of the claim.

In short, under the modification, NFIP insurers can now disallow or partially disallow flood claims even before receiving proof of loss. But in such cases, the mailing of notice of disallowance does not trigger the one-year filing period in [42 U.S.C.] § 4072 or Article VII(R) of the SFIP. The statute permits a claimant to sue within one year "upon the disallowance by the Director of any *such* claim." 42 U.S.C. § 4072 (emphasis added). "Such claim" refers back to "any claims for proved and approved losses." *Id.* The one-year filing period begins to run when FEMA denies a claim that is accompanied by a proof of loss, unless proof of loss is waived. The FEMA modification contemplates and creates a two-step model. The one year time-bar does not begin, as the government claims, one year from the date FEMA denies a claim based on an adjuster's report. Indeed, the government's interpretation of § 4072 would render the

Qader owned two properties that sustained flood damage as a result of Hurricane Katrina, and the cases were assigned to different judges. Summary judgment motions were filed in each case. On February 26, 2008, three days before Judge Feldman's decision, Judge Beer granted FEMA's motion in his case in a brief unpublished opinion.[100] Judge Feldman was aware of Judge Beer's decision when he rendered his decision.[101] Shortly thereafter, when Judge Barbier, who sits in the same district, was presented with the same issue in *Willis v. State Farm Fire and Casualty Company*, Judge Barbier agreed with Judge Feldman's decision.[102]

> ("[B]ecause the August 9, 2006 [denial] letter was not generated as a result of a claim accompanied by a signed Proof of Loss, it failed to serve as the statutory notice of denial described in section 4702 and as a result, failed to trigger the one year time limitation.").

By contrast, the brief line of reasoning in the unpublished *Qader* case disposes of this issue in no more than a few sentences and has been rejected by the same court in an extended published opinion, and it has not yet been followed by any court.

Two cases in addition to *Willis* and outside the Eastern District of Louisiana have also cited the published *Qader* opinion favorably.[103] Although the "default" proof of loss deadline under the policy is sixty (60) days after the loss, FEMA issued an NFIP bulletin within two weeks of

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August 31, 2005 modification to the NFIP meaningless, in that the modified procedures allow policyholders to submit proof of loss as a means of challenging FEMA's initial notice of disallowance or partial disallowance….; 543 F. Supp. 2d at 561-62.

[100] *Qader v. FEMA*, 2008 WL 544225 (E.D. La. Feb. 26, 2008). The extent of the opinion's discussion on this issue is as follows: "The statute is clear that as a federal agency, FEMA's limited waiver of sovereign immunity allowing suit provides that a plaintiff must sue within 1 year after the date of the written denial of all or part of the claim. *See* 42 U.S.C. § 4072; *see also* 44 C.F.R. § 62.22(a). While the statute and the case law provide that a proof of loss is required, the SFIP requires that compliance with all the terms of the policy is a prerequisite to bringing the lawsuit." 2008 WL 544225, at *1.

[101] *Qader*, 543 F. Supp. 2d at 560 n.2.

[102] 2008 WL 793514 (E.D. La. Mar. 24, 2008); *Id.* at *3.

[103] *Altman v. Napolitano*, Case No. 3:10-MC-3004, at *3 (S.D. Tex. Mar. 1, 2013) (Judge Froeschner holding: "After carefully considering the facts, the language of the applicable regulations and the SFIP, the Parties' numerous submissions and arguments, and the relevant case law, I have concluded that Judge Feldman's Opinion in [*Qader*] is correct. The one-year filing period begins to run when FEMA denies a claim that is based upon the insured's sworn proof of loss, not from the date FEMA denies a claim based upon an adjuster's report. Until the insured submits a sworn proof of loss, FEMA has no 'statement of the amount (the insured) is claiming under the policy.'"); *Wolfe v. Am. Bankers Ins. Co. of Fla.*, Case No. 3:10-CV-0578 (S.D. Tex. Mar. 1, 2013) (identical holding by Judge Froeschner).

Superstorm Sandy extending the proof of loss deadline to one year, in order "[t]o allow enough time for [policyholders] to evaluate their losses and have the opportunity to seek additional … payments."[104] This bulletin authorized insurers to issue initial, undisputed payments based on reports by insurance adjusters working on behalf of FEMA or the WYO's cariers, without proof of loss by policyholders.[105] FEMA expected that policyholders would seek additional insurance proceeds.[106] It encouraged policyholders to accept these initial payments without prejudice to their rights to indemnification for covered losses.[107] On October 1, 2013, FEMA issued a second NFIP bulletin further extending the proof of loss deadline to eighteen (18) months.[108] The NFIP bulletin states that a proof of loss must be received by April 29, 2014 if the date of loss is October 29, 2012, or by April 28, 2014 if the date of loss is October 28, 2012.[109] FEMA granted this extension in order to "enable policyholders to timely *present their claims*."[110]

FEMA issued a third bulletin more than a month and a half later, on November 9, 2012, however, indicating that the one-year lawsuit deadline starts from the insurer's written "denial," regardless of its extended proof of loss deadline or whether the "denial" was based on the policyholder's proof of loss.[111] There is a clear inconsistency if the lawsuit deadline expires before the deadline to present the claim through the policy's proof of loss process. This sequence of deadlines is fundamental to the statutory scheme of indemnification for proved and approved losses through a fair and consistent process for presenting and handling claims.[112] Interpreting the lawsuit deadline as trumping the proof of loss deadline is the opposite of how this process is supposed to

[104] FEMA Bulletin W-12092a
[105] *Id.*
[106] FEMA Bulletin W-13027a.
[107] FEMA Bulletin W-12092a; *see, e.g.*, 42 U.S.C. §§ 4002(a)(6), 4019, 4072.
[108] FEMA Bulletin W-13060a.
[109] *Id.*
[110] *Id.* (emphasis added)
[111] FEMA has stated that "[t]he insurer's letter should clearly state it is [a] denial or disallowance and alert the insured of the remedies available, including litigation within 1 year from the date of the letter." FEMA Bulletin W-13069.
[112] *See, e.g.*, 42 U.S.C. §§ 4002(a)(6), 4019, 4072.

work, and it has contributed to the volume of cases continuing to be filed with this Court and the District of New Jersey.

Notably, there does not appear to be a consistent process for issuing a "denial," and such letters often serve to punish policyholders for trying to find out if certain items are covered. There are a wide variety of letters for various forms of asserted coverage from November 2012 to present, many for *de minimis* amounts relative to the overall claim that would be documented through proof of loss. FEMA cannot insist that policyholders submit a proof of loss as a prerequisite to presenting a claim and filing a lawsuit, but then maintain that a proof of loss has no legal significance for presenting the claim on which the lawsuit is based. Ultimately, FEMA is challenging its own proof of loss requirement. FEMA cannot have it both ways. Its position that any of its 84 different WYO insurers can short-circuit this deadline by issuing an ad hoc "denial" – essentially, *denying itself* before the policyholder even presents the claim through a final, comprehensive, and timely proof of loss – goes against the clear authority on this issue and undermines not only the statute and the policy, but also its own proof of loss extension.

2. Were all damages from a prior flood event, for which an NFIP claim was paid, completely repaired?

Plaintiffs acknowledge Defendants' recognition of this issue, however each case should be reviewed separately based on the applicable facts and circumstances.

3. Did Plaintiff comply with all conditions precedent to the filing of the lawsuit before filing suit?

On November 9, 2012, FEMA published a bulletin W-12092a, to respond to their perceived need to "rapidly process claim payments to SFIP policyholders" in response to Sandy. In this bulletin, FEMA granted a conditional and partial waiver of the requirements of Section VII J (4) and (9) (which did not constitute a "blanket waiver" of the Proof of Loss requirement), that extended the deadline for filing a proof of loss from 60 days to one year from the date of loss and

invoked J (9), "permit[ting] the insurer to adjust and pay a loss based on the evaluation of damage in the adjuster's report instead of the signed Proof of Loss or insured-signed adjuster's report."

Then, in the bulletin of October 1, 2013,[113] FEMA further extended the time requirement for filing a proof of loss under SFIP another 6 months in order to give policyholders more time "to submit a complete, signed and sworn to proof of loss (with all documentation to fully support the claim attached)."

When read together, the November 9, 2012 bulletin extends the deadline one year and allows the adjuster's evaluation to serve as the proof of loss, while the October 1, 2013 bulletin seems to only extend the deadline another 6 months in order for claimants to submit a sworn and signed proof of loss with *all* required documentation.

4. FEMA's supporting documentation requirement

Requirements for an adequate "Proof of Loss" are found in 44 C.F.R. Pt. 61, App. A(1), Art. VII(J) which reads as follows:

> J. Requirements in Case of Loss
> In case of a flood loss to insured property, you must:
> 1. Give prompt written notice to us;
> 2. As soon as reasonably possible, separate the damaged and undamaged property, putting it in the best possible order so that we may examine it;
> 3. Prepare an inventory of damaged property showing the quantity, description, actual cash value, and amount of loss. Attach all bills, receipts, and related documents;
> 4. Within 60 days after the loss, send us a proof of loss, which is your statement of the amount you are claiming under the policy signed and sworn to by you, and which furnishes us with the following information:
> a. The date and time of loss;
> b. A brief explanation of how the loss happened;
> c. Your interest (for example, "owner") and the interest, if any, of others in the damaged property;
> d. Details of any other insurance that may cover the loss;
> e. Changes in title or occupancy of the covered property during the term of the policy;
> f. Specifications of damaged buildings and detailed repair estimates;

[113] FEMA Bulletin W-1306(a)

> g. Names of mortgagees or anyone else having a lien, charge, or claim against the insured property;
> h. Details about who occupied any insured building at the time of loss and for what purpose; and
> i. The inventory of damaged personal property described in J.3. above.
> 5. In completing the proof of loss, you must use your own judgment concerning the amount of loss and justify that amount.
> 6. You must cooperate with the adjuster or representative in the investigation of the claim.
> 7. The insurance adjuster whom we hire to investigate your claim may furnish you with a proof of loss form, and she or he may help you complete it. However, this is a matter of courtesy only, and you must still send us a proof of loss within 60 days after the loss even if the adjuster does not furnish the form or help you complete it.
> 8. We have not authorized the adjuster to approve or disapprove claims or to tell you whether we will approve your claim.
> 9. At our option, we may accept the adjuster's report of the loss instead of your proof of loss. The adjuster's report will include information about your loss and the damages you sustained. You must sign the adjuster's report. At our option, we may require you to swear to the report.
>
> Courts will rigidly apply the proof of loss requirements as set out in the statute, unless

FEMA has waived the proof of loss requirements.

There are several reasons why the carriers' contention that plaintiffs' estimates do not conform to W-13027a is incorrect: 1) The exact language of the bulletin prefaces the list of potential supporting evidence with "such as." Therefore, the list is *not*-all inclusive. Just because a contractor's estimate is listed as acceptable, does not mean that a non-contractor's estimate is *un*acceptable. Thus, the assertion from the carriers that "a valid proof of loss does not include your public adjuster's estimate" is fallacious. 2) The adjusters employed by insurers to evaluate losses are frequently not contractors either, so the carriers' assertion that plaintiffs can only use contractor's estimates is doubly incorrect. 3) A policyholder is not required to rebuild after a loss. So to require a contractor's estimate or receipts for repairs, both of which would only be obtained by a policyholder while rebuilding, is inappropriate. 4) Many of plaintiffs' estimates are generated using Xactimate, the same program, that the insurance companies use to generate their estimates,

using the same pricing/labor tables. If the insurance industry chooses to use Xactimate as a tool to evaluate losses, it should not preclude plaintiffs from using the same tool.

In *Sun Ray Village Owners Assoc. v. Old Dominion Ins. Co.*, [114] the Court discussed what proof must be attached and stated: "The language of the SFIP indicates, however, that at a minimum insureds must identify the components of the insured building which have been damaged ('specifications of damaged buildings') and then estimate the cost of repairing each damaged component ('detailed repair estimates'). These estimates may consist of contractors' estimates or the insured's own valuation of the cost of repair based on its personal knowledge or research. Regardless of the method used to obtain the estimates, however, the insured must also provide some means by which the insurer can verify the amount claimed." (Emphasis added.)[115]

5. Limited Scope of Coverage

In order for FEMA to prevail on its contention that Plaintiffs' damages do not fall within the scope of the SFIP's coverage, it must demonstrate that the undisputed facts reveal one of the following: (1) that Plaintiffs' alleged damages are not a "direct physical loss by or from [a] flood," as defined by the SFIP; or (2) that, even if Plaintiffs' damages are a "direct physical loss by or from [a] flood," such damages are specifically excluded from the coverage of the policy.[116]

In response to Defendants' reference to the earth movement exclusion of the SFIP, Plaintiffs refer the Court to the discussion in paragraph number twelve below.

In *Corban v. United Services Auto. Ass'n* ,[117] the insureds brought an action against their insurer, which had issued a homeowners' insurance policy, asserting contract and tort claims regarding the insurer's failure to pay for majority of property damage that was caused by a hurricane. In this case, the Court addressed the parties' burden of proof. The policy at issue

[114] 2008 WL 846123, at *5 (N.D. Fla. 03/28/08)
[115] *Eichaker v. Fidelity National Prop. and Cas. Ins. Co.*, 2008 WL 2308959 (E.D. La. June 3, 2008).
[116] *Id*. at 504.
[117], 20 So. 3d 601 (Miss. 2009).

provided "all-risk" coverage as to "Coverage A – Dwelling" and "Coverage B – Other Structures," and "named perils" coverage as to "Coverage C – Personal Property." With respect to the "all-risk" coverage of "Coverage A – Dwelling" and "Coverage B – Other Structures," the court held that the insureds had to prove a "direct, physical loss to property described."[118] However, once the insureds have satisfied their burden of proof, the burden then shifts to the insurer to prove, by a preponderance of the evidence, that the causes of the losses (i.e., flood damage) are excluded by the policy. In *Corban*, the court held that "USAA is obliged to indemnify the Corbans for all losses under "Coverage A - Dwelling" and "Coverage B - Other Structures" which USAA cannot establish, by a preponderance of the evidence, to have been *caused or concurrently contributed* to by '[flood] damage.'" [119]

The Eastern District of Louisiana, in *Williams v. State Farm Fire and Cas. Co.*,[120] discussed the law on burden of proof where a homeowner had suffered flood damage:

> With regard to the parties' respective burdens of proof, the Court, in the absence of contrary precedent from the Fifth Circuit regarding Louisiana insurance law, follows the decisions in *Hyatt v. State Farm Ins. Co.*, Civ. Action No. 06-8792, 2008 WL 544182, *2 (E.D.La.2/25/08) (Vance, J.); *Broussard v. State Farm Ins. Co.*, Civ. Action No. 06-8084, 2007 WL 2264535, *3 (E.D.La.8/02/07) (Vance, J.); *Wellmeyer v. Allstate Ins. Co.*, Civ. Action No. 06-1585, 2007 WL 1235042, *3 (E.D.La.4/26/07)(Feldman, J). As stated in *Hyatt*, with insurance provided on a "named peril" basis:
>
> > Plaintiffs' contents coverage is provided on a "named peril" basis, pursuant to which plaintiffs carry the burden of proving that damage to their contents was caused by a named peril. [ ] If plaintiffs are able to prove that a covered peril, such as wind, caused the damage to their personal property, then the burden of showing an exclusion under the policy shifts to the insurers. Should defendants meet their burden of proving the losses were cause by an excluded peril, the burden will shift back to plaintiffs once again to prove the amount of segregable damage caused by the covered peril.[121]

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[118] *Id.*
[119] *Id.*
[120] 2008 WL 4960425 (E.D. La. 2008)
[121] *Williams* at 3, citing *Hyatt*, 2008 WL 544182 at *3 (internal citations omitted).

6. The Loss Settlement Clause

Plaintiffs view Defendants' reference and discussion of FEMA's Loss Settlement Clause as a non-issue in flood insurance cases.

7. Mass produced estimates

Each case should be reviewed separately based on the applicable facts and circumstances. Defendants' generalization of each case for the Plaintiffs' bar is unfair and counterproductive to what this Court has requested from the parties. Plaintiffs' bar respectfully declines the invitation of NFIP's Liaison Counsel to engage in counter-productive finger pointing and baseless generalizations regarding the flood carrier's failure to properly adjust flood claims.

8. Appraisal

Appraisal Under the Standard Flood Insurance Policy[122]

- The appraisal provision is found in the SFIP within Section VII(P) in the Dwelling and General Property Forms and Section VIII (P) in the Residential Condominium Building Association Policy (RCBAP). The text of the appraisal provision states the following:

> If you and we fail to agree on the actual cash value or, if applicable, replacement cost of your damaged property to settle upon the amount of loss, then either may demand an Appraisal of loss. In this event, you and we will each choose a competent and impartial appraiser within 20 days after receiving a written request from the other. The two appraisers will choose an umpire. If they cannot agree upon an umpire within 15 days, you or we may request that the choice be made by a judge of a court of record in the State where the covered property is located. The appraisers will separately state the actual cash value, the replacement cost, and the amount of loss to each item. If the appraisers submit a written report of an agreement to us, the amount agreed upon will be the amount of loss. If they fail to agree, they will submit their differences to the umpire. A decision agreed to by any two will set the amount of actual cash value and loss.
>
> Each party will:
>
> 1. Pay its own appraiser; and
> 2. Bear the other expenses of the Appraisal and umpire equally.

[122] Excerpts from Chapter 12 ("Appraisal Under the Standard Flood Insurance Policy") of *The Law and Procedure of Insurance Appraisal*, by Jonathan J. Wilkofsky (2nd ed. 2003).

- Appraisal is available only when the dispute between the parties involves the price to be paid for an SFIP-covered flood-damaged item.

- Appraisal can be invoked once a timely proof of loss has been filed by the insured and the insurer's response establishes the existence of only appraisable disagreements.

- If any issue has been the subject of a FEMA appeal, that issue is no longer eligible to be appraised.

- Amounts payable under a successful appraisal award should be paid within the 60 days allowed by Section VII (m) of the SFIP.

- The FEMA policy states that once invoked, the appraisers selected "by you and we" must be "competent and impartial".

- One distinguishing element of appraisal under a FEMA flood policy is the fact that it is not binding on the insured, whereas, as a general proposition in other policy contexts other than flood, appraisal is binding.

9. FEMA Waivers

Plaintiffs recognize that FEMA states that they have no more power to waive or not enforce a rule of the WYO Program than do the courts.

10. Exclusion for Post-FIRM elevated buildings

Plaintiffs acknowledge Defendants' briefing on this issue, however each case should be reviewed separately based on the applicable facts and circumstances**.**

11. Basements

Plaintiffs' acknowledge Defendants' briefing on this issue and citation to three cases. However, each case should be reviewed separately based on the applicable facts and circumstances**.**

12. Earth Movement

Section V, Article C, (the Exclusions section), of the NFIP's SFIP Dwelling Form, states:

> We do not insure for loss to property caused directly by earth movement even if the earth movement is caused by flood. Some examples of earth movement that we do not cover are: (1) Earthquake; (2) Landslide; (3) Land Subsidence; (4) Sinkholes; (5) Destabilization or movement of land that results from accumulation

> of water in subsurface land area; or (6) Gradual erosion. ***We do however, pay for losses from mudflow and land subsidence as a result of erosion that are specifically covered under our definition of flood***. (See II.A.1.c. and II.A.2.).[123] (Emphasis Added.)

As indicated above, certain types of flood-related erosion are covered under the SFIP, including, "[c]ollapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood."[124] A plain language reading of the SFIP would allow coverage for flood-related earth movement, including mudflow and land subsidence, so long as the mudflow or land subsidence was caused by flood-related erosion.

As a result of the flooding during Superstorm Sandy, many homeowners are facing damage to their homes including damage to the foundation consisting of cracking in the walls and floors. This coverage is routinely denied by the insurance carriers utilizing the earth movement exclusion in the SFIP.[125]

In *Plywood Property Associates v. National Flood Insurance Program*, following flooding, owners of real property and a warehouse building suffered extensive damage.[126] The property owners submitted Proofs of Loss which were denied by the FEMA.[127] Subsequently, the property owners filed suit and FEMA brought a motion for summary judgment stating Plaintiff's damages were not covered, citing the earth movement exclusion of the SFIP.[128] In reviewing the issues, the Court noted that:

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[123] http://www.fema.gov/media-library-data/20130726-1730-25045-6388/f122dwellingform0809.pdf. (Emphasis added).
[124] *Id.* Flood is defined in Section II.A.1. as: A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties (at least one of which is your property) from: (a) Overflow of inland or tidal waters; (b) Unusual and rapid accumulation or runoff of surface waters from any source; (c) Mudflow.
[125] http://www.newsday.com/long-island/flood-insurance-law-hurting-sandy-victims-1.5739065
[126] 928 F.Supp. 500, 502 (D.N.J. 1996).
[127] *Id.*
[128] *Id.* at 503.

> In order for FEMA to prevail on its contention that Plaintiffs' damages do not fall within the scope of the SFIP's coverage, it must demonstrate that the undisputed facts reveal one of the following: (1) that Plaintiffs' alleged damages are not a "direct physical loss by or from [a] flood," as defined by the SFIP; or (2) that, even if Plaintiffs' damages are a "direct physical loss by or from [a] flood," such damages are specifically excluded from the coverage of the policy.[129]
>
> The Plaintiff's further argued, "any damage to their property was caused by earth movement, which, in turn was caused by the flood," and provided an expert who opined that: "due to the recent flooding, water covered the rear area of the building. Thus the earth under the footings was washed away. Therefore, the footing of the foundation walls settled causing the cracking of structure of the perimeter walls."[130]

While this was a matter of first impression of the U.S. District Court for the District of New Jersey, numerous courts have addressed the very same issue, and some courts including the Ninth Circuit have held, "that damages resulting from earth movement not caused by a mudslide or erosion are not covered by the SFIP, even if the earth movement would not have occurred but for the flood."[131]

In contradiction, the Eleventh Circuit in *Quesada v. Director, Federal Emergency Management Agency* accepted a 'but for' causation approach and "held that the SFIP provided coverage for damages caused by earth compaction that 'would not have occurred but for the flooding and did in fact occur simultaneously herewith[,]' whether or not the earth compaction was caused by flood-related erosion or mudslide."[132] In *Quesada*, the "majority found that damages caused by earth movement which was proximately caused by flooding, regardless of whether the earth movement was caused by other than a mudslide or erosion, were covered under the policy."[133]

In *Plywood*, the District Court for the District of New Jersey held, "the damages to Plaintiffs' property are only covered by the SFIP if such damages were caused by earth movement which is the

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[129] *Id.* at 504.
[130] *Id.*
[131] *Id.* at 505 *citing Wagner v. Director, Federal Emergency Management Agency*, 847 F.2d 515, 522 (9th Cir. 1988).
[132] *Plywood* at 505 *citing Quesada v. Director, Federal Emergency Management Agency*, 753 F.2d 1011, 1014 (11th Cir.1985).
[133] *Id.*

result of flood-related erosion, or "erosion as is covered under the peril of flood," or mudslide."[134] Cited by the court, the SFIP further defines flood-related erosion as follows:

> The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding.[135]

Additional questions were raised in *Plywood* concerning whether flood-related erosion was the cause of Plaintiff's damages including, FEMA's attempt to argue that because the Plaintiff's property was not along a shore of body of water that any earth movement could not be the result of flood-related erosion. Ultimately, the Court denied FEMA's motion for summary judgment on coverage issues, and held: "a reasonable fact-finder could conclude that the alleged damage to Plaintiff's property w[ere] the result of flood-related erosion,"[136] based on the following reasoning:

> "the following genuine issues of material fact exist[ed]: (1) whether the alleged damages to Plaintiffs' property were caused by the storm …; (2) whether, in fact, Plaintiffs' property is on the shore of a brook, or other natural body of water; and (3) whether the earth movement which the Plaintiffs contend caused alleged damage to their property was caused by an unusually high level of water in that body of water."[137]

The question of whether the earth movement which caused damage to a policyholder's home or business was flood-related or caused by erosion or mudslide or subsidence is not an easily answered one. Experts will be needed to explain the causes of the damage, and unless wholly unsupported, these questions should go to the fact-finder.

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[134] *Plywood* at 505-06.
[135] *Plywood* at 506 *citing* 44 C.F.R. § 59.1.
[136] *Plywood* at 507.
[137] *Id.* at 506.

RESPONSE TO DEFENDANTS' COMMONLY OCCURRING LEGAL ISSUES IN CLAIMS AGAINST INSURANCE AGENTS

LIABILITY OF BROKERS AND AGENTS FOR UNCOMPENSATED SANDY DAMAGE

1. Generally

New York law with respect to broker liability appears to be in transition. Two recent Court of Appeals decisions signal a more liberal approach in broker negligence for property owners to make claims which resulted in unpaid Superstorm Sandy damage.

In *American Bldg. Supply Corp. v Petrocelli Group, Inc.*,[138] the Court of Appeals held that the plaintiff/policyholder was not barred from making a claim against his broker for failure to procure requested coverage, even when the policyholder was in possession of the policy, and presumably could have read it.[139] Further, "[w]hile it is certainly better practice for an insured to read its policy, an insured should have the right 'to look to the expertise of its broker with respect to insurance matters.'[140] Thus, possession of a policy, along with the presumptive opportunity to review its contents, will not bar a broker negligence claim.

In a more recent holding, *Voss v. Netherlands Ins. Co.*[141], the Court of Appeals once again broadened the scope of potential broker negligence noting that "[w]here a special relationship develops between the broker and client..the broker may be liable, even in the absence of a specific request, for failing to advise or direct the client to obtain additional coverage." The *Voss* court revisited the requisite elements that may give rise to a special relationship, thereby creating an additional duty:

> (1) the agent receives compensation for consultation apart from payment of the premiums; (2) there was some interaction regarding a question of coverage, with the insured relying on the expertise of the agent; or (3) there is a course of dealing over

[138] 19 N.Y.3d 730, 955 N.Y.S.2d 854 (2012).
[139] *Id.* ("receipt and presumed reading of the policy does not bar an action for negligence against the broker").
[140] *Id.* at 736, quoting *Baseball Off. of Commr. v. Marsh & McLennan*, 295 A.D.2d 73, 82, 742 N.Y.S.2d 40.
[141] 2014 WL 696528 (2014); See also *Hoffend & Sons, Inc. v. Rose & Kiernan, Inc.*, 7 N.Y.3d 152, 158 (2006); *Murphy v. Kuhn*, 90 N.Y.2d 266, 272-273 (1997).

> an extended period of time which would have put objectively reasonable insurance agents on notice that their advice was being sought and specially relied on.[142]

Thus, "where the insured relied on the expertise of the agent, or there was a course of dealing over an extended period of time which would have put objectively reasonable insurance agents on notice that their advice was being sought and specially relied on, the agent could be found to have a duty to advise because of a special relationship with the insured."[143]

Finally, an insurance agent or broker may be held liable for negligently failing to procure insurance, with the liability limited to the insurer's responsibility had the policy been in force.[144] Moreover, an insurance agent or broker may also be held liable on a breach of contract theory for failing to discharge the duties imposed by an agreement to obtain insurance.[145] "The fact that an agent acts for a disclosed principal does not relieve the agent of liability for its own negligent acts."[146]

2. In the Flood Context Specifically

Seeking flood coverage does not involve the interpretation or management of an active NFIP, and therefore involves procurement and not policy handling.[147] Thus, no federal question exists. [148] Thus, in *Landry*, plaintiff insureds' motion to remand from federal court to state court was granted.[149] Claims for handling of an NFIP policy, on the other hand, present federal questions because federal funds are implicated in their disposition.[150]

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[142] *Id.*
[143] *South Bay Cardiovascular Associates, P.C. v. SCS Agency, Inc.*, 105 A.D.3d 939, 963 N.Y.S.2d 688 (2d Dep't 2013).
[144] *Gorgone v.Regency Agency, Inc.*, 238 A.D.2d 265, 656 N.Y.S.2d 622 (First Dept., 1997).
[145] *Bedessee Imports, Inc. v. Cook, Hall & Hyde, Inc.*,45 A.D.3d 792, 847 N.Y.S.2d 151 (2d Dep't, 2007).
[146] *Id.*, quoting *American Ref-Fuel Co. v. Resource Recycling*, 281 A.D.2d 574, 722 N.Y.S.2d 571 (2d Dep't,2001).
[147] *Landry v. State Farm Fire & Cas. Co.*, 428 F.Supp.2d 531, 535 (E.D.La. 2006).
[148] *Id.*
[149] *Id.* at 532.
[150] *Id*. at 535.

In *Campo v. Allstate Ins. Co.*,[151] the court held that an insurance agent breached its legal duty to provide the correct information to the insured. In that case, the insurance agent repeatedly represented to the insured that he was fully covered without raising its later position that his policy had expired.[152] The court found that those representations "certainly had a material bearing on his understanding that he had coverage during the crucial time period."[153] According to the court, "[u]nder the circumstances here, [the insurance agent] held itself out to be...an insurer with a policy in place at the time of the...misrepresentations."[154] The court found that the insurance agent had a duty to provide accurate information and not to provide misinformation to the insured, and it breached that duty.[155]

The Northern District of Ohio has found that an insurance agency owes a general duty to its customer to exercise good faith and reasonable diligence in obtaining insurance that its customer requests.[156] If an agent knows that the client is relying upon his expertise, then the agent owes a further duty to exercise reasonable care in advising the client.[157]

In general, an insurance agent who undertakes to procure insurance for another owes an obligation to use reasonable diligence in attempting to place the insurance requested and to notify the client promptly if he has failed to obtain the requested insurance.[158] The Eastern District of Louisiana has also recognized broader duties than merely procuring insurance on the part of an insurance agent, depending on what service the agent holds himself out as performing and the nature of the specific relationship between agent and client.[159]

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[151] 727 F.Supp.2d 495, 500 (E.D. La. 2010).
[152] *Id.*
[153] *Id.*
[154] *Id.*
[155] *Id.*
[156] *Continental Cas. Co. v. Auto Plus Ins. Agency, LLC*, 676 F.Supp.2d 657, 664 (N.D. Ohio 2009).
[157] *Id.*
[158] *Campo*, 727 F.Supp.2d at 499.
[159] *Id.*

In the *City of New York v. General Star Indem. Co.*,[160] the court held there were genuine issues of material fact as to existence of coverage under the insurance policy and timeliness of insurer's disclaimer of coverage precluded summary judgment for insured as to whether insurer was obligated to defend and indemnify insured in underlying action.)[161]

ADDITIONAL LEGAL ISSUES NOT ADDRESSED BY DEFENDANTS' LIAISON COUNSEL

1. Consequential Damages

The following is a typical affirmative defense filed by Defendants in cases pending in this Court: "[B]ecause the SFIP only pays for damages caused directly by or from flood, no consequential damages are allowed."

The CMO ordered Plaintiffs "to voluntarily withdraw [extra-contractual or consequential damages] claims, or if not, submit a letter to the assigned judge, explaining the legal basis for continuing to pursue such claims in any particular action." As such, the CMO anticipates that Plaintiffs in many cases will have extra-contractual or consequential damages claims.

The decisions upon which the CMO's "voluntary withdrawal" direction was based[162], both anticipate that some Plaintiffs will have extra-contractual or consequential damages claims. Indeed, these decisions dismissed fraudulent misrepresentation and inducement, breach of the implied covenant of good faith and fair dealing, bad faith denial of coverage, and New York General Business Law claims *only because* the specific allegations in those complaints did not allege duties or misconduct outside of the breaches of the express terms of the insurance contract. For these reasons, any conclusion about the potential viability of extra-contractual or consequential damages claims is fact-intensive and specific to each case.

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[160] 45 A.D.3d 430, 846 N.Y.S.2d 125 (1st Dep't 2007)
[161] 29 N.Y.Prac., Sum. Jdgmt. & Rel. Term. Motions § 1:16
[162] *Funk v. Allstate Ins. Co.*, No. 13 CV 5933 (JS) (GRB) (E.D.N.Y. Dec. 13, 2013) and *Dufficy v. Nationwide Mut. Fire Ins. Co.*, No. 13 CV 6010 (SJF) (AKT) (E.D.N.Y. Dec. 2, 2013)

2. Coverage for Interior Damages

The following is a typical affirmative defense filed by Defendants in cases pending in this Court: "[I]nterior damages are not covered because there was no physical damage to exterior roofs or walls."

During a hurricane, it is not unusual to have water damage to the interior of a building without any actual physical damage to the exterior of the building. For example, wind driven rain can seep into a home or business around balconies, doors and windows even though there was no physical damage to the building that caused an opening.

Some insurance policies contain water exclusions or limitations of coverage to the interior of the building, or the property contained in the interior of the building, unless a windstorm damages the exterior roof or walls of the structure through which the water enters. This policy limitation/exclusion is often referred to as the wind-driven rain exclusion.

An example of the typical wind-driven rain policy limitation/exclusion is:

> "We will not pay for loss or damage to the interior of any building or structure, or the property inside the building or structure, caused by rain, snow, sleet, sand or dust whether driven by windstorm or not, unless the direct force of Hurricane, other Wind, or Hail damages the building or structure causing an opening in the roof or wall and the rain, snow, sleet, sand or dust enters through this opening."

Therefore, the important inquiry is not whether the rain damage occurred but whether that damage was the result of physical damage caused by the wind. Undoubtedly, an expert will be needed to establish proximate cause that the interior damage was caused by the wind and that the resultant interior damages are covered despite the absence of a clear opening.

In *Granchelli v. Travelers Ins. Co.*,[163] the Court set forth a rule that "direct loss is equivalent to proximate cause." The Appellate Division interpreted whether a windstorm was the direct cause of damage to the interior of The Palace Theater in Lockport, New York. The policy insured against

[163] 167 A.D.2d 839 (4th Dept. 1990).

direct loss "by windstorm or hail." In February 1985, the theater sustained water damage to the interior of the property causing approximately $116,000 in damages. A windstorm had blown open a door on the roof, and subzero air entered the building, causing a pipe to freeze and burst, resulting in water damage. The insurer denied coverage on the ground that the theater's loss was not a direct loss caused by the windstorm within the meaning of its policy. Burst water pipes were an excluded cause under the policy.

The trial court granted the insurer's motion for summary judgment and found that, while the windstorm was a link in the chain of events leading up to the loss, it was too remote to be the direct cause of the loss. The appellate court disagreed, holding that direct loss is equivalent to proximate cause. The court concluded that the burst water pipe could have been proximately caused by the windstorm. The court overturned the judgment for the insurer and remanded the case to the trial court.

Plaintiffs are aware that some courts have barred recovery for interior damage where there is not an exterior opening.[164] It is evident that in cases where there is interior damage without an

[164] In *Kennel Delites, Inc. v. T.L.S. NYC Real Estate, LLC*, 49 A.D.3d 302 (1st Dept. 2008), the First Department dismissed a portion of the plaintiff's claim for recovery of the policy for interior property damage and business income losses. The policy in effect barred recovery for interior property damage and business income losses caused by rain. Plaintiff contended that the damage was due to debris and mortar that fell from a neighboring building, which then clogged its roof drain, causing the rainwater to accumulate and later enter the building. The Court held that a reasonable person would conclude that the damage occurred from the rainwater that fell from the previous evening's storm and would look no further for alternate causes. The insured was allowed to continue their claim for roof damage.
In *Fernandes v. Allstate Ins. Co.*, 305 A.D.2d 1065 (4th Dept. 2003), the Appellate Division granted an insurer's motion for a directed verdict. The policy provided coverage for property damage caused by windstorm. The provision excluded any loss caused by "frost, cold weather, ice, snow or sleet, whether wind driven or not… as well as any loss inside a dwelling caused by rain, snow, sleet, unless the wind first damages the roof and the wind forces rain, sleet, snow, through the opening."
The homeowner in the case claimed that her roof collapse on January 17, 1999 was proximately caused by a windstorm that occurred on Labor Day weekend in 1998. Plaintiff's expert was precluded from offering his opinion at trial because it was not based on facts in the record or personally known to the witness. The Court was deliberate to note that "there was simply no valid line of reasoning and permissible inferences" which could possibly lead a trier of fact to see the causal connection.
In *A&B Furniture, Inc. v. Pitrock Realty Corp.*, 16 Misc.3d 1131, 847 N.Y.S.2d 900 (Sup. Ct. Kings Cnty. 2007) the trial court dismissed plaintiff's complaint against the insurer's following a storm that caused a roof to collapse and cause further damage to plaintiff's inventory. Investigation revealed that the collapse occurred from accumulating water on the roof and not from windstorm.

exterior opening, or a question of what caused the exterior damage that allowed for the interior damage, proximate cause will need to be established by expert testimony in a manner that allows for a reasonable inference to be drawn by the trier of fact.

3. Mitigation of Damages

> "If any of the Plaintiffs' damages are a result of failure by the Plaintiffs to take reasonable steps to mitigate the loss, those damages are not recoverable."

In *Royal Indemnity Co. v. Grunberg*[165], the insurer brought a declaratory judgment action when the insured sought indemnification for costs to prevent an imminent collapse of the insured dwelling. The policy expressly covered a "collapse" or "partial collapse" due to defective materials or methods of construction and the risk of imminent collapse had been caused by substandard foundation materials and improper site preparation and construction. The Court, in holding that the insured was entitled to recovery, refused to interpret the language of the policy insuring against loss as a result of "collapse" to require that an actual complete collapse must have occurred in order to permit recovery, finding that the mandate to make necessary repairs to protect the property from further damage permitted recovery for the costs of repair where the degree of proven structural impairment was sufficient to constitute a "collapse" in most jurisdictions and created the imminent danger of total collapse. [166]

In *Klein's Moving & Storage, Inc. v. Westport Ins. Corp.,*[167] the insured sustained damages to its warehouse storage facility following a fire and sought the costs of the direct physical damage and the costs of what insured believed to be a "mitigation" of further losses. The policy contained a

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The court held "thus, since it has been demonstrated that the building did not first sustain actual damage to its roof and fall by the direct force of the wind which caused water damage due to water entering the building through openings made by the wind (*see Protzmann v. Eagle Fire Ins. Co. of NY*, 272 App.Div. 319, 320 [1947]) and that wind was not the proximate, efficient, and dominant cause of the water damage (*see Album Realty Corp.*, 80 N.Y.2d at 1010) or the direct cause of the damage to plaintiff's property (compare *Mawardi v. New York Prop. Ins. Underwriting Assn.*, 183 A.D.2d 756, 757 [1992]), plaintiff's claim was not covered under the subject policy issued by Tower (*see Litrenta v. New Hampshire Ins. Co.*, 203 A.D.2d 261, 262 [1994])."

[165] 155 A.D.2d 187, 553 N.Y.S.2d 527 (3d Dep't 1990).

[166] *Royal Indemnity Co.*, 155 A.D.2d at 189-90, 553 N.Y.S.2d at 529.

[167] 196 Misc. 2d 735, 766 N.Y.S.2d 495 (Sup. Ct. Kings Co. 2003).

provision spelling out the insured's duties in the event of a loss, and required the insured to "[t]ake all reasonable steps to protect the Covered Property from further damage and keep a record of your expenses necessary to protect the Covered Property, for consideration in the settlement of this claim".[168] Following the fire, the insured believed it necessary to move and manipulate the remaining contents in the warehouse while the damaged portions of the facility were cleaned, repaired and repainted, which amounted to $30,851.25.[169] The insurance company made payments for the direct physical losses sustained, but refused to pay for any of the costs associated with moving and manipulating the warehouse contents despite the insured's demand.[170] The court determined that the insurance company had no obligation under the policy to compensate the insured for the costs incurred in moving property within its warehouse so as to permit cleaning, painting and restoration of the premises because it did not consider painting and repairs "covered causes of loss", nor did such activities prevent further direct loss to covered property.[171]

4. Depreciation

In a first party property insurance policy, depreciation is the difference between the replacement cost value (RCV) and actual cash value (ACV). The important issue to consider is whether or not depreciation should be applied. If it is determined that depreciation should be applied, then what is the proper rate of depreciation?[172] Depreciation should not apply to intangibles such as labor, depreciation is physical deterioration applied to materials.[173] Several

[168] *Klein's Moving & Storage, Inc.*, 196 Misc. 2d at 736, 766 N.Y.S.2d at 497.
[169] *Id.*
[170] *Id.*
[171] *Klein's Moving & Storage, Inc.*, 196 Misc. 2d at 740, 766 N.Y.S.2d at 500.
[172] Don Wood, P.A. and, John Wood, J.D., "Insurance Recovery After Hurricane Sandy: Correcting the Improper Depreciation of Intangibles Under Property Insurance Policies", NYSBA Tort, Insurance & Compensation Law Section Journal (Winter 2013 Vol.42, No.1. p. 19.
[173] *Id*. at 22.

jurisdictions including New York follow the principle that partial losses requiring repair are never depreciated.[174]

In *Goorland v. New York Property Ins. Underwriting Ass'n*[175] the court examined the depreciation issues cited as follows:

> In *Lazaroff v Northwestern National Insurance Company of Milwaukee, Wis.*, (121 N.Y.S.2d 122 [Sup Ct, New York County], affd 281 App Div 672, 117 N.Y.S.2d 690 [1st Dept 1952]) the court found that the insurer's obligation was to "reimburse the plaintiff for the cost of repairs with materials of the kind and quality damaged without deduction for depreciation." *Id.* at 123, 117 N.Y.S.2d 690; *Eshan Realty Corporation v Stuyvesant Insurance Company* (25 Misc.2d 828, 202 N.Y.S.2d 899, supra)(same); see also *Boskowitz v. Continental Insurance Company*, 175 App Div 18, 161 N.Y.S. 680 (1st Dept 1916)(court called for insurer to pay cost to repair or replace with materials of like kind and quality, and did not require consideration of depreciation).

In other cases, after the Court's reading of the policy, depreciation was properly considered.[176]

5. Overhead and Profit

The following is a typical affirmative defense filed by Defendants in cases pending in this Court:

> "In an abundance of caution, Defendant asserts as an affirmative defense that if the subject property has been sold prior to repairs being made, Plaintiffs are not entitled to overhead and profit. Further, Defendant asserts as an affirmative defense that FEMA Claims Manual regarding overhead and profit and FEMA's Bulletins."

Under New York law, costs to replace damaged buildings or structures include "profit and overhead whenever it is reasonably likely that a general contractor will be needed to repair or replace the damage."[177] In fact, an insurance company must provide coverage for profit and

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[174] *Id.* at 20, citing to *Am. Reliance Ins. Co. v. Perez*, 689 So.2d 290 (Fla. 3d DCA 1997); *Eshan Realty Corp. v. Stuyvesant Insurance Co. of New York*, 202 N.Y.S.2d 899, aff'd, 12 A.D.2d 818, 210 N.Y.S.2d 256 (1961), aff'd, 11 N.Y.2d 707 (1962); *Thomas V. Am. Family Mut. Ins. Co.*, 233 Kan. 775 (1983).
[175] 2011 WL 1456287 (Slip Opinion, Unpublished).
[176] *Id.*; See also *Incardona v Home Indemnity Company, 60* AD2d 749 (4th Dept 1977); *Sebring v. Firemen's Insurance Company of Newark, N.J.*, 227 App Div 103, 237 N.Y.S. 120 (4th Dept 1929).
[177] *Mazzocki v. State Farm Fire &. Corp.*, 766 N.Y.S.2d 719, 722 (App. Div. 2003).

overhead even if the replacement work is never performed, so long as the work is of the type that would require the services of a general contractor.[178] One court, interpreting a policy that covered "the cost to repair or replace property with new materials of like kind and quality," determined that since overhead and profit are "well-recognized types of costs," a policy that does not explicitly exclude such costs will be deemed to cover them.[179] Unless an insurance company can show that it has provided "the only fair construction of the policy" *in question,* the policy will be read in the policyholder's favor to include any reasonable costs that are not explicitly excluded.[180] New York's stance aligns with the vast majority of other jurisdictions that have considered the issue.[181]

The general rule in adjusting insurance claims with respect to overhead and profit is if there are three trades or more required to fix the damaged property, then overhead and profit should be included in the estimate.[182]

In homeowners' insurance policies which provided that until damaged property was actually repaired or replaced, the insurer would pay actual cash value of damage not to exceed replacement cost or policy limits, the policies were reasonably interpreted to include contractor's profit and overhead whenever it was reasonably likely that contractor would be needed to repair or replace damage, regardless of whether repairs or replacement actually occurred.[183]

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[178] *Id.* at 722-23.
[179] *Mills v. Foremost Ins. Co.*, 511 F.3d 1300, 1305 (11th Cir. 2008).
[180] *Mazzocki supra.*.
[181] See, e.g., *Mills*, 511 F.3d at 1305; *Tritschler v. Allstate Ins. Co*., 144 P.3d 519, 529 (Ariz. Ct. App. 2006); *Salesin v. State Farm Fire &. Co*., 581 N.W.2d 781, 786 (Mich. Ct. App. 1998); *Mee v. Safeco Ins. Co. of Am*., 908 A.2d 344, 350 (Pa. Super. Ct. 2006); *Gilderman v. State Farm Ins. Co*., 649 A.2d 941, 945 (Pa. Super. Ct. 1994).
[182] Markham, "Property Loss Adjusting", AIC 35 2nd Ed., American Institute for CPCU, Insurance Institute of America (p.8-9.): "As a general rule, the contractor's markup is justified if restoring the loss requires three or more trades."
[183] *Mazzocki,* supra.

OBSERVATIONS CONCERNING THE CURRENT CMO

Although the Court recognized in the CMO that there is no universal approach and the parties' interests are being fairly balanced, Defense liaison counsel for the flood carriers insist on seeking ways to change the process.[184]

The flood carriers provide generalizations that will derail the current CMO and efforts to move the cases toward resolution. The insureds/consumers are already at a disadvantage since flood carriers have the power to write the benefit checks in these cases. In addition, the insureds may not have statutory provisions providing for attorney fees in cases involving WYO carriers, although there exists an arguable issue as to attorney fees under the Equal Justice Act in cases involving NFIP/FEMA. It is not in the insureds' interests to engage in costly litigation and delay as is suggested by the flood carriers because, in the end, the insureds may be left with nothing after legal fees and expenses.

According to the flood carriers, the current 800 cases represent only 1% of all the flood cases, since 99% have been resolved. For purposes of this report, if we accept this to be true, then 1% of the cases were not properly adjusted by the flood carriers and, for this reason, it is imperative that the flood carriers engage in alternative dispute resolution as required by the current CMO. The flood carriers' implicit argument that they properly adjusted 100% of the flood claims (taking into account 80,000 claims adjusted), and the pending 1% of claimants are just people who are seeking benefits they have not properly documented or that they are not entitled to incomprehensible.[185]

Plaintiffs' Liaison Counsel's concern is that the flood carriers have unilaterally decided to only go through the motions of complying with the procedures set forth by the CMO.

The flood carriers suggest they cannot negotiate settlements in good faith unless the insured has made all repairs and has receipts to prove it, or unless there is a signed contract with a general

[184] Document 243, p.2, para. 2 case 1:14-mc-0041-CLP-GBR-RER filed 3/07/14.
[185] Document 269, p.11, para. 2 case 1:14-mc-0041-CLP-GBR-RER filed 3/07/14

contractor that has already been hired to perform the work. Yet, the purpose of the flood insurance policy is to compensate flood victims for flood damage, and that is why flood adjusters are dispatched immediately after a storm.

The codes require the following:

> A WYO company issuing flood insurance coverage shall arrange for the adjustment, settlement, payment and defense of all claims arising from policies of flood insurance it issues under the Program, based upon the terms and conditions of the standard flood insurance policy.[186]
>
> In carrying out its function under this subpart, a *WYO Company shall use its own customary standards*, staff and independent contractor resources, *as it would in the ordinary and necessary conduct of its own business affairs, subject to the Act and regulations prescribed by the Federal Insurance Administration under the Act*.[187]

The flood carriers have taken the word "verifies" out of context and have attempted to somehow impose a definition that is not contained within the regulations and adjustment practices set forth by the National Flood Insurance Program or the Code of Federal Regulations[188] cited by the flood carriers:

> To facilitate the adjustment of flood insurance claims by WYO Companies, the following procedures will be used by WYO Companies.
> (1) Under the terms of the Arrangement set forth at appendix A of this part, *WYO Companies will adjust claims in accordance with general Company standards, guided by NFIP Claims manuals*."[189]
> (2) The WYO Company may use its staff adjusters, independent adjusters, or both. It is important that the Company's Claims Department *verifies* the correctness of the coverage interpretations and reasonableness of the payments recommended by the adjusters.[190]

In fact, the very same code regulations referring to the general Company standards, and NFIP Claims manual [National Flood Insurance Program Adjuster Claims Manual] specifically require

[186] 44 C.F.R. 63-23(d).
[187] 44 C.F.R. Sec. 62.239(e).
[188] 44 C.F.R. Sec. 62.23(i)(2).
[189] 44 C.F.R. Sec. 62.23(i)(1).
[190] 44 C.F.R. Sec. 62.23(i)(2). (Emphasis added).

the flood adjuster to use "*discretion*" and "*flexibility*" in estimating damages, further explained below.[191]

As required in 44 C.F.R. Sec. 62.23(i)(1) above, general company standards allow the insurance adjuster and insured or public adjuster to sit down at mediation and resolve their differences between the scope and value of the claim. This is in fact the manner in which first party claims are frequently resolved. In addition, the NFIP Claims Manual, pertinent portions of which are attached as Exhibit A, provide for the flood adjuster to prepare an estimate as follows:

> E. Repair Estimating and Pricing Guidelines- *We expect that the repair estimate be based on current local prices and that the pricing guidelines are used with discretion and flexibility*.[192]
>
> Repair estimates and corresponding settlements are always to be adjusted in accordance with special conditions of the Standard Flood Insurance Policy[?](e.g., the requirement for repair or replacement with material of like kind and quality), local pricing, and actual costs as provided by the policyholder and the selected contractor.[193]

The flood adjuster is free to rely on any one of these items and only where the insured has actually hired a contractor or made the repairs is the estimate from the contractor relevant.

> F. Unit Cost and File Documentation- We expect unit costs to include all materials, sales tax, disposable equipment, rented equipment, and any overhead and profit of the contractor…. These are standard practices within the insurance industry. When actual documented costs for items of like kind and quality, such as repair invoices from service contractors, receipts, and replacement quotes differ from this standard practice, reasonable additional costs should be considered."[194]

In fact, the very same code that flood carriers cite as prohibiting them from sitting down at a mediation to allow the flood adjuster and insured or public adjuster to settle their differences is the

[191] National Flood Insurance Program, Adjuster Claims Manual, Exh. 14, Wind vs. Water-Adjusting Process (W-10017), B-41, pages 1-9 revised in June 2010.
[192] Id. (Emphasis added).
[193] Id. at. P. 8-9.
[194] Id. at p. 9.

same one that actually instructs the flood adjusters to *use discretion and be flexible, and apply standard practices in the insurance industry*.[195]

CONCLUSION

Plaintiff Liaison Counsel will encourage all policyholder attorneys to follow the current CMO so as to promote more efficient and expedient resolution of the pending flood and wind claims. Although there are some concerns, based on flood liaison counsel's submission, we look forward to working together to assist all parties in jointly resolving these claims.

Respectfully Submitted,

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[195] Id. at p. 8-9.

EXHIBIT A

U.S. Department of Homeland Security
500 C Street, SW
Washington, DC 20472

FEMA

W-10017

March 4, 2010

MEMORANDUM FOR: Write Your Own (WYO) Company Principal Coordinators, the National Flood Insurance Program (NFIP) Servicing Agent, and Selected Adjusting Firms

FROM: James A. Sadler, CPCU, ARC
Director of Claims
National Flood Insurance Program
DHS/FEMA-MT-RN-CA

SUBJECT: Wind vs. Water – Adjusting Practice

In previous bulletins, FEMA discussed wind and flood investigative tips and a logical approach in addressing claims that involve both perils. Attached for your review are previous bulletins that address adjusting practices: WYO Bulletins W-08008, dated February 25, 2008 "Wind/Water Investigative Tips"; and W-08070, dated September 25, 2008 "Flood Insurance Claims Guidance."

The following will not ask adjusters to do much more than they currently do when approaching any flood or wind damaged building. There is no requirement for the flood adjuster to estimate the wind damage.

When adjusting wind/water losses the, adjuster should use established and proven investigative methods when documenting flood and wind damage to buildings and/or contents occurring during hurricane or storm events. "Wind/Water Investigative Tips" can be helpful.

The adjuster is asked to record the process they always use when approaching a wind/water claim. In addition to looking for signs of flood damage and/or a General Condition of Flood and documenting the exterior water line, the adjusters should note any exterior wind damage, such as missing shingles, turbine or fascia damage. The adjuster should also photograph this damage and mention what was observed in the narrative report.

Remember, **the Standard Flood Insurance Policy (SFIP) Pays Only For Direct Physical Loss by or From Flood to Insured Property.** Once inside the building, the adjuster should always document the flood water line. Damage below this line is typically flood damage (exceptions like wicking should be noted in the narrative report). Damage above the flood water line is typically wind damage, such as water-stained ceilings or water damage at broken windows or exterior doors. This damage should also be photographed and mentioned in the narrative report.

Exhibit 14. Wind Vs Water – Adjusting Process (W-10017), page 1 of 9

Auditors of the NFIP have asked that adjusters explain their rationale or the adjuster's basis for identifying the separation of wind and water damage. Typically, this rationale is as simple as:

- Shingles damaged at the right front of roof;
- Interior water line three feet;
- Damage below the water line is caused by flood;
- Damage above the water line is caused by wind to include water-stained ceiling in the area of roof damage.

As this separation becomes narrower, the basis may be more detailed, but it should be kept concise. When the cause of damage overlaps, the basis must be clearly explained in the narrative report; otherwise, the adjuster may approach the insurer to request an engineer to provide a professional opinion on causation.

As always, any known unusual circumstances should be recorded in the narrative report.

Again, we ask for your full support. Any questions or comments regarding the wind verse water adjusting practices should be directed to James A. Sadler, CPCU, AIC, Director of Claims, National Flood Insurance Program. Mr. Sadler may be reached by email at James.Sadler@dhs.gov.

cc: Vendors, IBHS, FIPNC, Government Technical Representative

Suggested Routing: Claims, Training, Underwriting, Adjusting Firms, Independent Flood Adjusters

Attachments

Exhibit 14. Wind Vs Water – Adjusting Process (W-10017), page 2 of 9

U.S. Department of Homeland Security
500 C Street, SW
Washington, DC 20472

FEMA

W-08008

February 25, 2008

MEMORANDUM TO: Write Your Own (WYO) Company Principal Coordinators
National Flood Insurance Program (NFIP) Servicing Agent

FROM: James A. Sadler, CPCU, AIC
Director of Claims
National Flood Insurance Program

SUBJECT: *Wind/Water Investigative Tips*

Hurricanes and other severe storms may result in damage caused by both wind and flood. When handling these claims, adjusters should use proven investigative methods such as those provided in the attached document, which was adapted from the 1998 NFIP pamphlet, *Wind/Water Investigative Tips*. These tips will be included in the revised *NFIP Claims Adjuster Manual*, when published.

Attachment

cc: Vendors, IBHS, Government Technical Representative

Suggested Distribution: Claims Department, Adjusting Firms, Independent Adjusters, and Staff Adjusters Handling NFIP Claims

www.fema.gov

Exhibit 14. Wind Vs Water – Adjusting Process (W-10017), page 3 of 9

Wind/Water Investigative Tips

Important Things to Do When Investigating a Claim

- Research local newspapers and/or check with the local weather service, the U.S. Weather Bureau, or other agencies to determine the specific data relative to the storm.

- When damage is caused by a hurricane, tropical storm, nor'easter, or other event that may cause both wind and flood damage, determine and record the following (*check and record the timing and duration for each*):

Data Element	Measurement	Timing	Duration
Highest Wind Speed	_____	_____	_____
Barometric Pressure	_____	_____	_____
Amount of Rainfall	_____	_____	_____
Tidal Heights	_____	_____	_____
Storm Surge	_____	_____	_____
Wave Heights	_____	_____	_____

- Record the distance and direction of the insured risk relative to the eye of the storm. Remember that the waves are higher to the right of the storm's path.

- Research and record site conditions:

  - Original ground elevation
  - Distance from body of water
  - After-storm ground elevation or other indications of scour
  - Amount and type of storm debris

- Canvas the neighborhood for eye-witnesses and take their recorded or signed statements. Be certain to identify where each witness was at the time of the storm, the amounts or descriptions of wind and flood each witness saw, and the time of day that each saw it. Record in the claims files only what each witness actually says—not hearsay or your opinion.

- Check for and photograph the debris line. Measure and record how many feet the debris line is from the shoreline and from the insured risk. Be sure to describe the topography in detail.

Exhibit 14. Wind Vs Water – Adjusting Process (W-10017), page 4 of 9

- Check for and photograph houses and objects adjacent to the insured risk. If damage appears to be different from that of the insured risk, determine why and record the reason in the claim files. Usually, the damage is different for one of two reasons:

  - Different cause of damage (e.g., a tornado can cut a relatively narrow path, leaving neighboring buildings relatively undamaged).

  - Different building construction and anchoring. Look for connectors or tie-down straps for elevated buildings and enclosures beneath elevated buildings. Check the pilings for evidence of scouring. Photograph the remaining pilings, showing patterns of the leaning pilings. Determine how deep the pilings were installed and measure the distance between pilings.

- Determine and record in the claim file a complete description of the damaged or demolished building, including the type of construction; whether elevated (if elevated with an enclosure, be sure to indicate the type of enclosure – breakaway walls, open lattice work, vents, etc.); number of floors (including basement); roof covering and pitch; windows, carports, etc.; and the building's relative position to the wind. It is also important to include a description of the foundation type (slab, piles, piers, etc.) and damage.

- Photograph (close-up) the remains of connectors or tie-downs. Be sure to describe the size, type, brand, method of installation, and if possible the brand name.

- Make a notation in the initial report where evidence suggests the insured risk was not built as securely as neighboring buildings. The flood insurer or coastal plan, for example, may want to check the local building codes to determine if a building construction violation has occurred and document the claim files, both with copies of the code and the evidence of a violation. The age of the building and the effective dates of the building codes need to be documented.

- Check for and photograph any wind-caused openings in the building and/or missing roof shingles.

- Check for and photograph all possible wind-related water marks or stains visible on both the exterior and interior walls and ceilings of the building.

- Check for and photograph all possible flood-related water marks or stains visible on both the exterior and interior of the building.

- Check for and photograph any water marks visible on nearby trees or fence posts, or other buildings.

Exhibit 14. Wind Vs Water – Adjusting Process (W-10017), page 5 of 9

- Check for and photograph any uprooted trees or trees snapped off at a high level.

- Check for, photograph, and note in the claim files any evidence of severe erosion such as leaning pilings or houses "nosed down" in the ground. Leaning or bent pilings can occur both as a result of flooding and as a result of a building being pushed over by wind forces or blown off its pilings.

Exhibit 14. Wind Vs Water – Adjusting Process (W-10017), page 6 of 9

U.S. Department of Homeland Security
500 C Street SW
Washington, DC 20472

FEMA

W-08070

September 25, 2008

MEMORANDUM FOR: Write Your Own (WYO) Company Principal Coordinators, Vendors, NFIP Servicing Agent, and Selected Adjusting Firms

FROM: James A. Sadler, CPCU, AIC
Director of Claims
National Flood Insurance Program
DHS/FEMA-MT-RN-CA

SUBJECT: Flood Insurance Claims Guidance

In areas affected by **both** Hurricane Gustav and Hurricane Ike, FEMA has learned of many instances in which a claim caused by Gustav could not be inspected prior to the arrival of Ike. Therefore, the following claims guidance is issued for the benefit of policyholders, claim adjusters, WYO companies, and the NFIP Servicing Agent.

1. **Policyholders:**

   Should report all flood damage from either or both of the hurricanes to their carrier. Whether or not insured against flood, property owners and renters who need assistance in addition to or other than that provided by the NFIP should be referred to the Disaster Support Resources area of the FEMA Website at http://www.fema.gov/business/nfip/disaster_res.shtm.

2. **Claim Adjusters:**

   A. Must address prior losses, particularly from Hurricanes Katrina and Rita.

   B. Where possible, should separate, itemize, and document the damages from each hurricane.

   C. Must recognize and avoid duplication of coverage and payment for overlapping damage from prior losses or Hurricanes Gustav and Ike.

   D. Should use proven investigative methods to document windstorm damage to building or contents. See WYO Bulletin W-08008, dated February 25, 2008, for a discussion of Wind/Water Investigative Tips.

   In approaching a flood claim that may also include wind damage, an adjuster should continue to recognize any excluded damages. If there is wind and flood damage, the adjuster should comment on the rationale of his/her decision regarding the separation of wind and flood

Exhibit 14. Wind Vs Water – Adjusting Process (W-10017), page 7 of 9

damage. Most of the time this is simple – water line and below is flood; above the waterline is wind. However, when a building has been heavily damaged or destroyed by storm forces, an engineer may be needed to determine causation. Adjusters should photograph the wind damage generally. Photos of wind damage do not have to be exhaustive, unless necessary to document that flood damage is minor or absent.

3. WYO Companies and the NFIP Servicing Agent – Ike and Gustav Overlap:

A. If damages resulting from Hurricane Ike exceed the Hurricane Gustav damages, and the combined damages do not exceed the policy limit of liability, the Hurricane Gustav claim should be closed without payment. All covered damage should be considered under the Hurricane Ike claim.

B. If the covered damage from either event exceeds the policy limit of liability, the adjuster should, to the best of his/her ability, separate and document the damage.

C. The policy limits reinstate after each occurrence.

D. Each claim will be subject to the deductible(s) applicable in the policy.

E. This guidance is applicable to both building and personal property losses.

4. Existing Guidance for Adjusters and Carriers:

A. Coverage of Connected Heating Machinery – Heating machinery, in a building, connected to and servicing the insured building, is covered. Reminder: air conditioning compressors in the open, connected to and servicing the building, are covered.

B. Replacement Cost Loss Settlement – When insured property is eligible for replacement cost loss settlement, there is no longer any requirement to hold back the recoverable depreciation.

C. Water, Moisture, Mildew, or Mold Damage – When this damage occurs in connection with a covered direct physical loss by or from flood, it will be covered unless there is clear evidence of the policyholder's failure to inspect and maintain the insured property, where it was feasible to do so. If such damage is the result of wicking, it is covered.

D. Determination of the Lowest Elevated Floor – Full coverage for Post-FIRM elevated buildings begins at the lowest elevated floor. This is the lowest floor raised above ground, even if the pilings extend beyond it.

E. Repair Estimating and Pricing Guidelines – We expect that the repair estimate be based on current local prices and that the pricing guidelines are used with discretion and flexibility. Repair estimates and corresponding settlements are always to be adjusted in accordance with

Exhibit 14. Wind Vs Water – Adjusting Process (W-10017), page 8 of 9

special conditions of the Standard Flood Insurance Policy[?] (e.g., the requirement for repair or replacement with material of like kind and quality), local pricing, and actual costs as provided by the policyholder and the selected contractor.

F. Unit Cost and File Documentation – We expect unit costs to include all materials, sales tax, disposable equipment, rented equipment, and any overhead of the contractor. Additionally, we expect estimated costs of personal property to include any delivery costs, setup fees, and sales tax. These are standard practices within the insurance industry. When actual documented costs for items of like kind and quality, such as repair invoices from service contractors, receipts, and replacement quotes differ from this standard practice, reasonable additional costs should be considered.

cc: IBHS, FIPNC, Government Technical Representative

Suggested Routing: Claims, Underwriting, Data Processing, Marketing

Exhibit 14. Wind Vs Water – Adjusting Process (W-10017), page 9 of 9

Corban v. USAA: A Case Providing Far Too Little Because It Was Rendered Far Too Late

William F. "Chip" Merlin, Jr.[*]

I. INTRODUCTION

To understand the significance of the Mississippi Supreme Court's decision in *Corban v. USAA*, it is necessary to consider the financial devastation and unnecessary insurance coverage litigation caused by the absence of it during the four years from the date Hurricane Katrina hit Mississippi's gulf coast. During that time, insurers used the relatively untested Anticoncurrent Causation Clause (ACC), intervening Fifth Circuit Court of Appeal decisions interpreting it, and a new adjusting method called the wind/water protocol to wrongfully deny or underpay thousands of claims.

The property damage caused to Mississippi's gulf coast during Hurricane Katrina was unprecedented in that the tremendous amount of damage was caused by both storm surge and wind. Shortly after the storm, Mississippi officials estimated that 90% of the structures within half a mile of the coastline were obliterated.[12] Indeed, in the thirteen months following the storm, there were 263,774 insurance claims made in Mississippi's six coastal counties alone.[3] Most structures were insured by all-risk policies. Under traditional insurance adjustment rules, all-risk policyholders bear a minimal burden to establish that a "direct physical loss" was sustained and the dollar amount of their loss. Insurers are then required to prove the amount of the excluded or uncovered loss. Most all-risk policies also contained an exclusion for flood. Faced with the prospect of paying for thousands of slab[4] or tremendously damaged homes, many insurers adopted the position that, where storm surge occurred, the claim would be denied unless there was physical evidence demonstrating wind damage. This was the wind/water protocol. Since there was usually no physical evidence remaining on a slab, many of the most catastrophic losses were denied with little or no investigation.[5] To justify these denials,

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[1] Lloyd de Vries, *Mississippi Coast Areas Wiped Out*, CBS NEWS. Sept. 1, 2005. http://www.cbsnews.com/stories/2005/09/01/katrina/main810916.shtml (last visited Mar. 3, 2010).

[2] The obliterated structures have been termed by those in Mississippi's gulf coast "slabbed," as there was literally nothing but a slab left where homes and businesses once stood. Slabbed is also the name of a blog that has chronicled the reconstruction efforts and struggles with the insurance industry along the way. For more on this topic and stories behind the Katrina litigation, see http://slabbed.wordpress.com.

[3] Miss. Dep't of Ins., http://www.mid.state.ms.us/disasters_storms/katrina_rita_claims.aspx (last visited on Mar. 3, 2010). These numbers include claims made for losses caused by Hurricane Rita, which hit on September 23, 2005. The damage caused in the Mississippi gulf coast by Rita was relatively minor.

[4] *See supra* note 2

[5] Insurers needed an arguable basis to deny claims en masse, with little or no investigation to avoid liability for bad faith and accompanying punitive damages. Under Mississippi law, "a bad faith refusal claim is an 'independent tort' separate in both law and fact from the contract claim asserted by an insured under the terms of the policy." Hartford Underwriters Ins. Co. v. Williams, 936 So. 2d 888, 895 (Miss. 2006). To prove a claim for bad faith punitive damages, a policyholder need only show that (1) the insurer lacked an arguable or legitimate basis for denying the claim, and (2) the insurer committed a willful or malicious

insurers cited the relatively new and untested Anticurrent Causation Clause.[6] Several insurers also adopted a method of claims adjusting where claims for property that suffered flood damage were denied in whole unless the insured could prove a portion of the loss was attributable to wind alone.

II. THE ANTICONCURRENT CAUSATION CLAUSE

While the exact ACC language differs depending upon the insurer's version, the clause is usually introduced in the portion of a policy entitled "Property Exclusions." Most generally state something to the effect:

> We do not cover loss to any property resulting directly or indirectly from any of the following. Such a loss is excluded even if another peril or event contributed concurrently or in any sequence to cause the loss.[7]

Following the ACC, is the typical water exclusion:

> Water or damage caused by water-borne material. Loss resulting from water or water-borne material damage described below is not covered even if other perils contributed, directly or indirectly to cause the loss. Water and water-borne material damage means . . . flood, surface water, waves, tidal waves, overflow of a body of water, spray from these, whether or not driven by wind.[8]

Even though standard insurance policies covered damage caused by windstorm and wind-driven rain,[9] some major insurers[10] took the position that where flood caused damage, the ACC excluded the entire loss unless the insured proved damage attributable solely to wind.

This was the position Nationwide argued to the Fifth Circuit Court of Appeals in *Leonard v. Nationwide Mutual Insurance Company*.[11] In *Leonard*, the insureds brought suit in state court against their homeowners insurer to recover for damage to their

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wrong or acted with gross and reckless disregard of the policyholder's rights. United Am. Ins. Co. v. Merrill, 978 So. 2d 613, 634 (Miss. 2007). However, extra-contractual damages, including attorney's fees, legal fees, economic loss, and payment for emotional distress are available when only the first prong is shown. Essinger v. Liberty Mut. Fire Ins. Co., 534 F.3d 450, 451 (5th Cir. 2008); Allred v. Fairchild, 916 So. 2d 529, 532-33 (Miss. 2005).

[6] *See* Preferred Mut. Ins. Co. v. Meggison, 53 F. Supp. 2d 139, 142 (D. Mass. 1999) (ACC provisions "have appeared in recent years in response to the concurrent causation doctrine, under which some courts have found that insurers are 'obligated to pay for damages resulting from a combination of covered and excluded perils if the efficient proximate cause is a covered peril'") (quoting Stephen P. Pate, *Recent Developments in Property Insurance Law*, 33 TORT & INS. L.J. 659 (1998)).

[7] Leonard v. Nationwide Mut. Ins. Co., 438 F. Supp. 2d 684, 688-89 (S.D. Miss. 2006).

[8] *Id.* at 689.

[9] *Id.* at 688.

[10] Such as Nationwide and State Farm.

[11] Leonard v. Nationwide Mut. Ins. Co., 499 F.3d 419, 435-37 (5th Cir. 2007).

residence caused by wind and storm surge from Hurricane Katrina.[12] Nationwide removed the case to the United States District Court for the Southern District of Mississippi.[13] Reading the policy as a whole, Judge Senter[14] concluded that the ACC clause was ambiguous and, relying on Mississippi law of proximate causation, concluded that the Leonards could recover for loss attributable to wind only, as the water exclusion unambiguously excluded damage caused by flood.[15]

Nationwide did not contest the "meager"[16] sum the district court awarded the Leonards for the damage caused by wind only, but chose to appeal the district court's finding that the ACC clause was ambiguous. The Leonards cross-appealed, but seemed to anticipate that any decision from the Fifth Circuit would be disastrous.[17] Shortly before oral argument, the Leonards moved to dismiss the cross-appeal and argued that because Nationwide did not contest the amount awarded for wind damage, the appeal should be dismissed as moot and for lack of standing. The Court of Appeals refused. "The ACC clause and negligent misrepresentation issues are currently being litigated by Nationwide in hundreds of cases in the trial courts, causing Nationwide to incur considerable litigation expense and potential enormous liability to other policyholders."[18]

The Fifth Circuit Court of Appeals[19] reversed the District Court, holding the ACC clause was not ambiguous:

> The clause unambiguously excludes coverage for water damage "even if another peril"–e.g., wind–"contributed concurrently or in any sequence to cause the loss." The plain language of the policy leaves the district court no interpretive leeway to conclude that recovery can be obtained for wind damage that "occurred concurrently or in sequence with the excluded water damage."[20]

The Fifth Circuit made an "Erie guess"[21] as to whether the Mississippi Supreme Court would hold that Nationwide could use an ACC to avoid the state's common law

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[12] Unlike most policy holders caught in the Katrina litigation, the Leonards' home was not slabbed, and they were able to present evidence of a loss caused only by wind.
[13] *Leonard*, 438 F. Supp. 2d at 687.
[14] Judge Senter handled the majority of the Katrina cases in Southern Mississippi, including the two discussed at length in this comment.
[15] *Leonard*, 438 F. Supp. 2d at 693.
[16] *Leonard*, 499 F.3d at 430.
[17] The Leonards asked the Fifth Circuit to certify the determinative questions of state law to the Mississippi Supreme Court on July 12, 2007. The Fifth Circuit denied the request five days after it was filed, on July 17, 2007. The docket does not show that Nationwide filed a response before the Fifth Circuit denied the Leonards' request. Fifth Circuit Court of Appeals Docket Number: 06-61130.
[18] *Leonard*, 499 F.3d at 428.
[19] The opinion was written by Chief Judge Edith Jones, who was nominated to the Fifth Circuit by President Reagan on February 27, 1985. The other judges on the *Leonard* panel were Reavley and Smith, who were nominated to the Fifth Circuit by Presidents Carter and Reagan, respectively. Federal Judicial Center, Biographical Directory of Federal Judges, http://www.fjc.gov/public/home.nsf/hisj (last visited Mar. 3, 2010).
[20] *Leonard*, 499 F.3d at 430.
[21] *See* Erie R.R. v. Tompkins, 304 U.S. 64 (1938).

doctrine of efficient proximate causation. Not surprisingly, the Fifth Circuit concluded that Nationwide could, and concluded that the ACC precluded the Leonards from recovering anything for their loss.[22] Though not necessary to the resolution of the case, Judge Jones took issue with an analysis written by Judge Senter and, in an attempt to point out the flaws in his reasoning, Jones seemed to interpret the ACC more broadly than any insurance company had argued so far in the Katrina litigation.[23]

> The fatal flaw in the district court's rationale is its failure to recognize the three discrete categories of damage at issue in this litigation: (1) damage caused exclusively by wind; (2) damage caused exclusively by water; and (3) damage caused by wind "concurrently or in any sequence" with water. The classic example of such a concurrent wind-water peril is the storm-surge flooding that follows on the heels of a hurricane's landfall. The only species of damage covered under the policy is damage caused exclusively by wind. But if wind and water synergistically caused the same damage, such damage is excluded. Thus, the Leonards' money judgment was based on their roof damages solely caused by wind. Contrary to the court's damage matrix, however, had they also proved that a portion of their property damage was caused by the concurrent or sequential action of water–or any number of other enumerated water-borne perils–the policy clearly disallows recovery.[24]

In the two years and two months after *Leonard* and before *Corban*, insurers used the Fifth Circuit's opinion to deny or drastically under pay claims and force settlements that otherwise would not have been accepted by policyholders who had spent thousands on insurance premiums.[25] Nationwide, among other insurers, adopted this interpretation,

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[22] *Leonard*, 499 F.3d at 436.

[23] Jones' attempt to correct Judge Senter may be considered "as far off the mark" as Senter's analysis. As David Rossmiller pointed out in *Katrina in the Fifth Dimension: Hurricane Katrina Cases in the Fifth Circuit Court of Appeals*, NEW APPELMAN ON INSURANCE: CURRENT CRITICAL ISSUES IN INSURANCE LAW (Apr. 2008) at 92:

> The opinion, written by Chief Judge Edith Jones, comes up with "three discrete categories of damage at issue in this litigation"–damage caused solely by wind, damage caused solely by water, and damage caused by wind acting "concurrently or in any sequence" with water. Nowhere in the opinion, however, does she specify what damage, or loss, was due to concurrent causes, nor what damage was due to sequential causes. In fact, one gets the sense the court was throwing these terms around almost colloquially.

[24] *Leonard*, 499 F.3d at 430-31.

[25] In *Tuepker v. State Farm Fire & Cas. Co*., 507 F.3d 346, 354 (5th Cir. 2007) (citation omitted), with a different panel of judges presiding, the Fifth Circuit seemed to narrow Jones' broad application of the ACC:

> As the *Leonard* opinion directs, any damage caused *exclusively* by a nonexcluded peril or event such as wind, not concurrently or sequentially with water damage, is covered by the policy, while all damage caused by water or by wind acting concurrently or sequentially with water, is excluded. Thus, the ACC Clause in combination with the Water Damage Exclusion clearly provides that indivisible damage caused by both excluded perils and covered perils or other causes is not covered. However, as State Farm has conceded in its

and took the position that whenever property that was damaged by wind was subsequently damaged by flood, the insured could recover nothing.[26] There is no way to calculate the number of policyholders impacted and the millions of dollars insurers denied or underpaid as a result of *Leonard*.

More than two years later,[27] 1,500 days after Katrina struck the gulf coast, the Mississippi Supreme Court released *Corban v. United Services Automobile Association*.[28] The case came to the Court as an interlocutory appeal from the circuit court, where the Corbans filed suit claiming, among other things, breach of their insurance contract. On motions for summary judgment, the circuit judge wrote that she felt constrained to substitute her opinion that the ACC was ambiguous for that of "the only appeals court precedent available on this issue," and adopted the Fifth Circuit's conclusion that the ACC clause was unambiguous and prevented the Corbans from recovering anything.[29] Interlocutory appeal was granted, and finally, the issue was submitted to the Mississippi Supreme Court.[30]

> briefs here and below, the ACC Clause by its terms applies only to "any loss which would not have occurred in the absence of one or more of the below listed excluded events", and thus, for example, if wind blows off the roof of the house, the loss of the roof is not excluded merely because a *subsequent* storm surge later completely destroys the entire remainder of the structure; such roof loss *did* occur in the absence of any listed excluded peril.

In *Tuepker*, as in *Leonard*, the Fifth Circuit refused to certify the interpretation and application of the ACC to the Mississippi Supreme Court. *Tuepker*, 507 F.3d at 357, n.12.

[26] Dickinson v. Nationwide Mut. Fire Ins. Co., No. 1:06CV198 LTS-RHW, 2008 WL 1913957, at *1 (S.D. Miss. Apr. 25, 2008) ("Nationwide contends that the ACC provision precludes recovery for wind damage to any item of insured property that was later damaged by storm surge flooding. Nationwide contends that because wind damage preceded the damage from storm surge flooding, and therefore occurred in a sequence of events, the 'in any sequence' language in the ACC invalidates the plaintiffs' claim for wind damage. In other words, Nationwide takes the position that the ACC policy provision applies to exclude coverage for any wind damage that preceded damage from the excluded peril of flooding."); Maxus Realty Trust, Inc. v. RSUI Indem. Co., No. 06-0750-CV-W-ODS, 2007 WL 4468697 (W.D. Mo. Dec. 17, 2007) ("Defendant seeks a ruling that any damages to the Waverly caused exclusively, concurrently or in any sequence of the loss, by flood, are excluded from coverage under the RSUI policy. . . . In essence, Defendant argues the ACC precludes recovery for damage that would have inevitably occurred anyway as a result of the ensuing flood, even if the flood damage was preceded by wind damage.").

[27] It took nearly four years for this issue to reach the Mississippi Supreme Court because most insurers removed the Katrina cases to federal court based on diversity jurisdiction. As a member-owned financial services entity, USAA did not have diversity of citizenship, so it could not remove the case.

[28] Corban v. United Services Auto. Ass'n, 20 So. 3d 601 (Miss. 2009)

[29] *Id.* at 612.

[30] Pursuant to Mississippi Rule of Appellate Procedure 20, only the United States Supreme Court or a Circuit Court of Appeals could certify the issue to the Mississippi Supreme Court. As insurers removed most cases to federal court and the Fifth Circuit refused to certify the question, Mississippi policyholders were denied the benefit of a Mississippi appellate court deciding Mississippi law on a matter of extraordinary significance for more than four years.

The *Corban* decision defined and resolved three issues: (1) "Whether the circuit court erred in finding that 'storm surge' is included in the 'water damage' exclusion"; (2) "Whether the circuit court erred in finding that the ACC clause is applicable in the case *sub judice*"; and (3) "Which party bears the burden of proof." *Corban*, 20 So. 3d at 608. Regarding the first issue, the Court held that "storm surge is plainly encompassed within the 'flood' or 'overflow of a body of water' portions of the 'water damage' definition,

The Supreme Court defined the issue as whether the circuit court erred in finding the ACC applicable in the Corban's case. To resolve the issue, the Court parsed the language of the clause: "*We do not insure for loss caused directly or indirectly by any of the following. Such loss is excluded regardless of any other cause or event contributing concurrently or in any sequence to the loss*."[31] First, the Court considered the term "loss." The court noted a "loss" is incurred by an insured and usually follows "damage" to his or her property.[32] "Loss" occurs at that point in time when the insured suffers "deprivation of, physical damage to, or destruction of the property."[33] The Court further noted that once a loss occurs, caused by either a covered peril (wind) or an excluded peril (water), that loss is not changed by any subsequent cause or event. "The insured's right to be indemnified for a covered loss vests at time of loss. Once the duty to indemnify arises, it cannot be extinguished by a successive cause or event."[34]

Next, the Court looked at the term "concurrently." Based on the plain meaning of the term, the Court concluded: "the exclusion applies only in the event that the perils act in conjunction, as an indivisible force, occurring at the same time, to cause direct physical damage resulting in loss."[35] This was the same interpretation of the term guessed by the Fifth Circuit in *Leonard*, and the Mississippi Supreme Court accepted the Fifth Circuit's interpretation of Mississippi law on that point. The Court noted however, that in the present case, the perils acted in sequence, not concurrently, to cause different damage, resulting in separate losses.[36]

The Court then considered the phrase "in any sequence."[37] The term was contained within the exclusionary clause for "water damage" losses, but not defined in

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and no other 'logical interpretation' exists." *Id.,* at 611. As I believe this is a straightforward and correct analysis, this article focuses on the more controversial second and third issues.

[31] *Id.* at 612 (emphasis added).

[32] *Id.* at 613.

[33] *Id*.

[34] *Id*.

[35] *Id.* at 614.

[36] *Id.* at 614-15.

[37] Nationwide filed an amicus brief, arguing, based on Jones' hypothetical in *Leonard*, that the insured could recover nothing for a covered loss if the same property was subsequently flooded. The following occurred during oral argument when Nationwide's lawyer presented its case.

> JUSTICE PIERCE: [I]f 95 percent of the home was destroyed [by wind], and then we have the event of the storm surge, then you would not pay a dime?
>
> MR. LANDAU: Your Honor, if we prove that the storm surge was sufficient to cause – we have that burden, again, and that is absolutely crystal clear. If we can prove that the storm surge was sufficient to cause all of this, it is no answer then to say, "Yeah, but I'm going to show it—I'm going to have somebody come in and say, 'Look, guess what, the window was broken before the storm surge came and then wiped away the whole house.'" But you don't get into those kinds of issues precisely because of the sequencing of the damage.
>
> JUSTICE PIERCE: So you wouldn't pay a dime?

the policy. Given the Court's determination that loss occurs at the point in time when the insured property is damaged, the phrase "in any sequence" conflicted with other provisions of the USAA policy.[38] Several other provisions of the policy, which allowed USAA to determine the value of covered property at the time of a loss or the instant immediately preceding it, irreconcilably conflicted with the "in any sequence" language.[39] Because the phrase had two equally reasonable interpretations, the rules of contract interpretation mandated the interpretation that gave the Corbans greater indemnity. Thus, the Court concluded that the "in any sequence" language in the policy could not be used to divest the Corbans of their right to be indemnified for covered losses.[40]

In sum, the Court explained that the ACC clause applies *only* "if and when covered and excluded perils contemporaneously converge, operating in conjunction, to cause damage resulting in loss to the insured property."[41] If, as in the Corban's case, the insured property is separately damaged by a covered and excluded peril, the ACC clause does not apply.[42] The Court specifically rejected the Fifth Circuit's "Erie guess" and opinion as to what the law in Mississippi should be.

> We neither agree nor find support for an analysis focusing on "damage" rather than "loss," or the premise that "storm surge" flooding which inundates the same area that the wind, acting independently, previously damaged constitutes "indivisible damage" or "the same damage . . . . Only when facts in a given case establish a truly "concurrent" cause, i.e., wind and flood simultaneously converging and operating in conjunction to damage the property, would we find, under Mississippi law, that there is an "indivisible" loss which would trigger application of the ACC clause.[43]

The Supreme Court reached the conclusion that should have been obvious to all at the outset of the Katrina litigation: in most cases, the ACC did not apply. In noting that

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> MR. LANDAU: If–again, we wouldn't pay a dime for things where we can carry our burden, which is right there in the policy, of showing that the loss was caused concurrently.
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> JUSTICE PIERCE: I'm giving you—the example is 95 percent of the home is destroyed, the flood comes in and gets the other five percent, and you know that. Does your interpretation of the word "sequence" mean you pay zero?
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> MR. LANDAU: Yes, your Honor.

Transcript of *Corban* Oral Argument, *available at* http://www.propertyinsurancecoveragelaw.com/2009/07/articles/insurance/slabbed-keeps-pounding-on-policy-coverage-problems-and-the-litigation-discovery-policy-in-southern-mississippi/ (last visited Mar. 3, 2010); *see also Corban*, 20 So. 3d at 617.

[38] *Corban*, 20 So. 3d at 615.

[39] *Id.*

[40] *Id.*

[41] *Id.* at 616.

[42] *Id.* at 616-18.

[43] *Id.* at 618 (citing *Tuepke*r, 507 F.3d at 354; *Leonard*, 499 F.3d at 431).

the case did not involve multiple causes of the same loss, but separate causes and separate losses, the Court cited Judge Senter's orders in the case of *Dickinson v. Nationwide Mutual Fire Insurance Company*.[44] As noted above, it was Senter's finding that the ACC was ambiguous that lead to Jones' overbroad interpretation of the ACC in *Leonard*. In *Dickinson*, like *Corban,* Nationwide argued that the ACC prevented *any recovery* for wind damage when the insured property also sustains substantial flood damage. In rejecting this argument, Senter cited to David Rossmiller's[45] analysis of the ACC.[46] Rather than focusing on the ACC in this round, Senter changed his focus to causation. Like *Leonard*, *Corban*, and the majority of the Katrina cases, the loss in *Dickinson* was caused by separate forces producing separate damage, so the ACC was not applicable.

Though indicated by the courts in *Corban* and *Dickinson*, but not plainly stated, one must remember that the term "concurrent" and phrase "in any sequence" refer to cause, not time. The ACC was written in the 1980s to supplant the efficient proximate cause rule,[47] which is the common law default law of causation in most states. The ACC was written in reaction to court rulings, and it was intended for judges, not the average policyholder. Thus, "concurrent" and "in any sequence" were never intended to be interpreted according to the ordinary and popular meanings of the terms.[48] However, to

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[44] *Id.* at 616 (citing Dickinson v. Nationwide Mut. Fire Ins. Co., No. 1:06CV198 LTS-RHW, 2008 WL 1913957, at *3-4 (S.D. Miss. Apr. 25, 2008); Dickinson v. Nationwide Mut. Fire Ins. Co., No. 1:06CV198 LTS-RHW, 2008 WL 941783, at *6 (S.D. Miss. Apr. 4, 2008)).

[45] David P. Rossmiller is a Portland attorney who writes the Insurance Coverage Law Blog, www.insurancecoverageblog.com, where he extensively analyzed Katrina litigation. Additionally, he has written several relevant articles and chapters which have been published in Appleman on Insurance. Before becoming a lawyer, Rossmiller was an award-winning newspaper reporter. His writings on insurance show that the awards were clearly well-deserved. His articles are insightful, engaging, and understandable—a remarkable feat given the topic of first party property insurance.

[46] Rossmiller has done what the courts deciding the issue did not: provide a clear and understandable explanation of the history, purpose, and meaning of the ACC.

[47] Under this theory, the primary cause of the loss is deemed to be the cause which determines whether coverage exists.

[48] If insurers wanted to make policies unambiguous, they could adopt Rossmiller's explanation of the terms:

> Concurrent forces are those that arise independently but act together to cause the exact same damage, damage that would not have happened in the way it did except for the combination of the forces. Sometimes one cause of the damage would not be covered by insurance and the second cause would be covered by insurance. An example is a garage weakened by uncovered wood rot that is, in its degraded state, blown down by an otherwise covered windstorm. The forces are concurrent in that they worked together to cause the same exact damage, and the loss would be uncovered because of the presence of the uncovered force as a concurrent cause.
>
> Sequential causes are those that are dependent on one another, with one following from another like dominoes toppling. An example is a covered lightning strike that causes an uncovered mudslide. Because the mudslide is a "but for" cause of the exact same damage, the loss is precluded from coverage by the anti-concurrent, anti-sequential language.

David P. Rossmiller, *Anti-Concurrent Cause Language*, 32 APPLEMAN ON INSURANCE § 192.03 (2d ed. 2008).

determine whether the ACC was ambiguous, courts were forced to apply the "ordinary and popular meaning"[49] of the terms. It was likely this reason that, with the exception of the Fifth Circuit, almost every court presented with the task of applying an ACC to the damage caused by Katrina (first wind, then flood) found the clause ambiguous. In the Katrina litigation, this ambiguity worked in the insurers' favor, and it allowed them to avoid the real issue at the center of the Katrina litigation, the burden of proof.

III. THE BURDEN OF PROOF

The third issue the Supreme Court addressed in *Corban* was which party bears the burden of proof.[50] Before Katrina, the issue of paying or not paying for homes destroyed by both a covered cause of loss (wind) and by an excluded clause (flood) had not occurred frequently enough for insurers to adopt an operating procedure for that kind of destruction. Faced with the prospect of paying for hundreds, if not thousands, of slab losses, State Farm's upper management created a procedure known as the "wind/water protocol." In short, the protocol provided that in the absence of physical evidence demonstrating wind damage, the claim should be denied. Since slab structures had no physical evidence remaining, the slab claims were denied, with little or no expansive investigation. In effect, this protocol shifted the burden of proof under an all-risk policy to the policyholder to prove that wind damaged the structure before it was obliterated by flood.[51] This protocol was at odds with the history, purpose, and bargain of the all-risk policy.

The insurance industry created "all-risk"[52] commercial and individual policies in the mid-twentieth century to provide broad coverage. This was an advancement over the previous "named peril" products that the insurance industry previously sold.[53] The

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[49] *Corban*, 20 So. 3d at 609.

[50] *Id.* at 608.

[51] It is undisputed that Katrina's strongest winds were within the first several miles of the Coast. Yet, based on the wind/water protocol, insurers denied any recovery to people on the coast who lost everything unless they could prove the impossible: that wind alone damaged their property. At the same time, insurers were paying tens and sometimes hundreds of thousands per claim for losses that occurred twenty, fifty, and a hundred miles further inland.

[52] All-risk coverage is sometimes called open-peril coverage.

[53] An example of how the two policies work and produce different results can be helpful. Suppose a person insures a structure in a neighborhood, but it cannot be seen by the neighbors because it is set far back on a private road, hidden by trees and vegetation. The person goes on a month-long vacation and comes back to find his house missing. He learns that during his absence, his neighborhood had been ravaged by a fire that destroyed thirty percent of the homes by at least eighty-five percent of the repair value. Then, tornadoes damaged another thirty percent of the homes and ninety percent of those tornado damaged homes were total losses. Finally, a few days before he arrived home, a tsunami wiped out all the remaining homes and those partially destroyed. No eyewitnesses or direct evidence demonstrated which of these three perils doomed his structure or whether and how much damage occurred as a result of the first two. If the person was insured under a "named peril" policy covering fire only, he has a major problem. While there are probabilities that the fire may have caused some amount of damage, there is no specific proof that it did. He cannot meet his burden and will lose at trial because he cannot show that fire caused the damage or the dollar amount of fire damage. The result is the opposite under an "all risk" policy. All he needs to show is physical loss–the structure is gone–and the dollar damage, which is easy since it is a total loss. Now, the insurer has the impossible burden of proving the exclusion. While we may learn from the Almighty in our

obvious benefit to an all-risk policy is that policyholders could obtain the peace of mind that their property would be covered under a policy broadly covering all perils of loss. An article published at the time the all-risk policy was first developed and marketed is significant to a considered analysis of these matters:

> The package contract eliminates the dangerous guess-work by an insurance-buyer, eliminates piecemeal covers and includes automatically under practically all risk conditions all real and personal property values . . . . [T]he buyer obtains full automatic coverage whether or not he is aware that an exposure exists. Only specific exclusions can alter the situation.[54]

It is universally held that when "all-risk insuring language is at issue, the policyholder bears the minimal burden to establish that a 'direct physical loss' was sustained and the dollar amount of the loss."[55] All-risk policies are intended to provide broad protection to policyholders when, as in the Katrina cases, it is difficult or impossible to determine the cause of loss.[56] When a policyholder demonstrates that property was damaged by a catastrophic windstorm event, the requirement of a "direct physical loss" is met. The policyholder then only needs to prove the amount of the loss, subject to policy limits. Under this allocation of the burden of proof, it is fundamental that the insurer then has the burden to establish what portion of the "direct physical loss" was caused by a specifically excluded event or cause.[57]

The "all-risk" policy only works if the burden to prove exclusions is placed upon the insurance company. Otherwise, policyholders are unfairly duped at the time of performance because they are essentially forced to assume the burden that the insurer took in the formation of the insurance policy/contract. Similar to the overbroad arguments made regarding the ACC, insurers used the wind/water protocol to evade the all-risk bargain after the fact.

This was what happened to the Broussards. Their home was obliterated by Katrina, and State Farm denied their claim based upon the insurance adjuster's

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afterlife what really happened, it is simply a guess, speculation, and probability as to what caused the amounts of damage to the structure in this life. The insurer should pay its customer because the exclusion of flood cannot be proven as the cause of loss. This is how the all-risk policy is supposed to work.

[54] ROBY HARRINGTON, MULTIPLE PERIL PACKAGES 107-08 (1957).

[55] *See, e.g.*, 7 COUCH ON INSURANCE § 101:7 (3d ed. 2007) ("The purpose of an 'All-Risk' policy is to insure losses when the cause of the loss is unknown or the specific risk was not explicitly contemplated by either party. This purpose is, in part, accomplished by a mechanism of burden-shifting as to which party bears the risk of an unexplained or uncontemplated loss. In an 'All-Risk' policy, the insured has the initial burden to prove that the loss occurred. The burden then shifts to the insurer to prove that the cause of the loss is excluded by the policy. Under this burden-shifting mechanism, the insured does not need to prove the cause of the loss."); DONNA J. POPOW, PROPERTY LOSS ADJUSTING § 3.30 (3d ed. 2003) ("Coverage is provided for direct physical loss to property unless the loss is caused by a peril specifically excluded by the policy or the policy specifically limits the amount of coverage."); DORIS HOOPES, THE CLAIMS ENVIRONMENT § 2.10 (2d ed. 2000) ("Any loss caused by a peril that is not listed among the exceptions (such as fire) is covered.").

[56] Morrison Grain Co. v. Utica Mut. Ins. Co., 632 F.2d 424 (11th Cir. 1980).

[57] *See, e.g.,* Lunday v. Lititz Mut. Ins. Co., 276 So. 2d 696 (Miss. 1973).

speculative conclusion that "[e]vidence suggests [the] home was more damaged by flood than wind."[58] The Broussards' homeowners policy contained named peril coverage for personal property, which covered losses caused by a list of perils, including windstorms, and all-risk coverage for their home, which covered any "accidental direct loss"[59] unless specifically excluded. The Broussards filed suit, and after the trial stipulations were completed, it was uncontested that the Broussard's proved an "accidental direct physical loss" and that their home was most likely damaged by wind before it was destroyed by flood. Judge Senter explained the issue: "[i]n these circumstances, it is the allocation of the burden of proof that is critical, for one party or the other must bear this total loss in the absence of evidence by which the two types of losses may be reasonably identified and separated."[60] Pursuant to the homeowners policy State Farm sold to the Broussards, State Farm was obligated to pay the policy limits unless it could prove, by a preponderance of the evidence, the amount of loss attributable to flood.[61] In other words, State Farm, not the Broussards, had the burden to segregate the amount of damage caused by wind before the storm surge hit.[62] State Farm presented no evidence regarding the amount of loss that was specifically attributable to flood, so Judge Senter entered judgment as a matter of law in the Broussard's favor.[63] Further, as State Farm's own expert testified that it was more probable than not that the Broussard's dwelling sustained at least some wind damage to its roof, State Farm lacked a legitimate or arguable reason under Mississippi law for failing to pay for any wind damage.[64] Accordingly, the jury was instructed on punitive damages and returned a verdict of $2.5 million for the Brousards.[65]

As one would suspect, State Farm appealed to the Fifth Circuit, where it argued that under the all-risk policy, once it presented evidence of an affirmative defense (flood), the burden shifted back to the Broussards to prove an exception to the defense, or to segregate covered from not-covered damages.[66] The Fifth Circuit rejected this argument, but it also reversed the judgments as a matter of law, and with regard to the personal property claim, stated:

> Likewise, a stipulation that the [policyholders'] personal property was destroyed by Hurricane Katrina is insufficient to establish that it was

[58] Broussard v. State Farm Fire & Cas. Co., 523 F.3d 618, 622-23 (5th Cir. 2008).
[59] *Id.* at 623.
[60] Broussard v. State Farm Fire & Cas. Co., No. 1:06CV6 LTS-RHW, 2007 WL 113942, at *2 (S.D. Miss. Jan. 17, 2007).
[61] *Id.*
[62] *Id.* at *3 ("Accordingly, I find, as a matter of law, that State Farm has not met its burden of proof as to the segregation of this total loss into wind damages, which are covered, and water damages which are excluded from coverage. State Farm has also failed to establish or to offer evidence that would support a finding that the insured property sustained no wind damage.").
[63] *Id.* ("[S]ince the Broussards have established by stipulation that they sustained a total loss of their dwelling and its contents as a result of Hurricane Katrina, a covered windstorm peril, I find that State Farm is liable to the plaintiffs for the limits of coverage under the policy.").
[64] *Id.* at *2-3.
[65] Senter remitted this award to one million.
[66] *Broussard*, 2007 WL 113942 at *3.

> destroyed by a windstorm, since Hurricane Katrina unleashed both wind and water forces.[67]

In *Corban*, USAA did not challenge the traditional burdens of proof. As there was no real argument on that issue, that portion of the Supreme Court's opinion was both succinct and potentially problematic. Regarding the "all risk" policy, the Court explained that the Corbans are required to prove a "direct, physical loss to property described."[68] Thereafter, USAA had the burden to prove, by a preponderance of the evidence, that any loss was caused by flood and excluded by the policy. As for the "named perils" policy, the Court explained that the burden of proof differs. The Corbans had the burden of proving the loss was caused by "wind."[69]

While *Corban* made it clear that the wind/water protocol and the complicated burden-shifting burden of proof State Farm argued in *Broussard* were not the law in Mississippi, the Court made the same mistake as the Fifth Circuit when it addressed the insured's burden of proof under the named peril policy: "the Corbans are required to prove, by a preponderance of the evidence, that the 'direct physical loss' to the property described in Coverage C was caused by *wind*."[70]

The conclusion that the named peril policy covered wind, separate and apart from water, is erroneous. The named peril policy designated "windstorm" as a named peril. A hurricane is, by common definition, a windstorm. Merriam Webster defines "hurricane" as "a tropical cyclone with winds of 74 miles (119 kilometers) per hour or greater that occurs especially in the western Atlantic, that is usually accompanied by rain, thunder, and lightning, and that sometimes moves into temperate latitudes."[71] Merriam Webster defines "cyclone" as "*a storm or system of winds* that rotates about a center of low atmospheric pressure, advances at a speed of 20 to 30 miles (about 30 to 50 kilometers) an hour, and often brings heavy rain."[72] Even in the specialized jargon of insurers, a hurricane is considered a windstorm.[73] The fact that a windstorm may or may not include

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[67] *Broussard*, 523 F.3d at 624-25.
[68] *Corban*, 20 So. 3d at 619.
[69] *Id*.
[70] *Id.* (emphasis added).
[71] Merriam-Webster Dictionary, *available at* http://www.merriam-webster.com/dictionary/hurricane (last visited Mar. 3, 2010).
[72] Merriam-Webster Dictionary, *available at* http://www.merriam-webster.com/dictionary/cyclone (last visited Mar. 3, 2010).
[73] Zurich Insurance Company has posted the following information on its web site under the title "Defining a Storm"

> The insurance industry defines a "storm" as any high wind event that accompanies extreme weather, including severe tropical cyclones, European winter storms and thunderstorms. Storms can occur anywhere around the globe. Severe tropical cyclones include hurricanes and typhoons that have wind speeds in excess of 117 kph (73 mph). European winter storms can be as powerful as tropical storms with wind recorded as high as 216 kph (134 mph). Severe thunderstorms can develop straight-line winds in excess of 93 kph (58 mph). Both tropical storms and severe thunderstorms can spawn tornados. When tornados develop, they can generate the most severe winds with the highest wind speed recorded of 512 kph (318 mph). . . . Around the world, there are certain regions

a flood does not change the nature of the peril. The flood that might accompany a windstorm is simply an excluded portion of the greater windstorm event—if the insurer can meet its burden of proof. By proving Katrina destroyed their property, both the Corbans and the Broussards proved it was destroyed by the named peril of windstorm. At this point, the insurers had the burden to prove the portion of the loss attributable to flood. Judge Senter's decision in *Broussard* was correct, and, to the extent *Corban* and the Fifth Circuit's opinion in *Broussard* insinuate otherwise, they are in error. The practical effect of this error is that under a named peril policy, insurers will continue to argue that the burden should be wrongly placed on the policyholder to prove that wind, separate and apart from water, caused a loss.

IV. CONCLUSION

While the *Corban* decision made it clear that insurers cannot use the ACC and wind/water protocol to evade their burdens under an all-risk policy, State Farm's trial motions show that it is still using both to deny claims. One month after *Corban* was released, State Farm tried to shirk its obligations with a tortured interpretation of the opinion. In a trial brief submitted in *Bossier v. State Farm*, State Farm argued:

> State Farm anticipates that Plaintiff at trial may attempt to satisfy his burden of proof merely by pointing to the totality of damage to his house at the conclusion of Hurricane Katrina. Yet, such an approach by Plaintiff would be insufficient under *Corban* to satisfy his burden of proving accidental direct physical loss under the policy. Under *Corban*, proving "damage" is not the same as proving that a "loss" occurred, and the Mississippi Supreme Court in *Corban* criticized courts and parties that have "conflated the terms 'loss' and 'damage.'" "The policy does not cover or exclude 'damage,' but rather covers or excludes 'loss,' and it is to 'loss' that the deductible is applied." In an event like Hurricane Katrina, there are different forces, "at different times, causing different damage, resulting in separate losses." Thus, the term "loss" "should not" refer to the "totality of the damage." Indeed, the Mississippi Supreme Court in *Corban* rejected the view "that loss is not determined until the hurricane is over." Rather, there may be "'many losses because property can consist of many elements.'" *Therefore, under Corban, Plaintiff cannot discharge his burden of proving an accidental direct physical loss merely by pointing to the totality of the damage to his house at the conclusion of Hurricane Katrina. Similar to the insurance policy at issue in Corban, Plaintiff's homeowners policy insures for "accidental direct physical loss," not damage. Plaintiff's theory in this case is that he sustained a loss (or*

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where tropical cyclones develop. According to the U.S. National Hurricane Center, the regional names for severe tropical cyclones include: Hurricane–North Atlantic Ocean, Northeast Pacific Ocean and South Pacific Ocean.

Zurich Insurance Company, Defining a Storm, http://www.zurichna.com/zna/windstorm/resources/definingastorm.htm (last visited on Mar. 3, 2010).

> *losses) to his house before storm surge flooding arrived. Applying his theory to the Corban framework, Plaintiff must prove by a preponderance of the evidence that this pre-surge loss (or losses) actually occurred.* It is immaterial to Plaintiff's initial burden whether any other loss occurred later because each loss comes into being (if at all) at the moment it happens.[74]

More recently, in *Robohm v. State Farm*, State Farm filed a motion for summary judgment, arguing "Plaintiffs cannot offer expert testimony that their house was rendered uninhabitable by wind, rather than flooding. Where there is a dispute as to whether wind or water damaged a structure, expert testimony is *required* to prove causation."[75] State Farm further argued, "This claim also fails because it is at odds with Mississippi Supreme Court precedent establishing that the water damage exclusion in the applicable policy unambiguously excludes damage from storm surge and that the anti-concurrent causation clause excludes damage caused by wind and flood acting concurrently."[76] It is clear that State Farm policyholders still face an uphill battle.

As explained above, State Farm's argument is completely at odds with the history, purpose, and bargain of the all-risk policy and *Corban* itself. This shows that the true problem at the heart of the Katrina litigation remains. Insurers are using their vast resources to evade their responsibilities under the policies *they* wrote. The individual policyholder who has lost everything in a catastrophe is not a formidable opponent for an insurer. Most often, the policyholder is in a state of financial and emotional crisis. Policyholders have a right to expect that the insurance they purchased, often for tens of thousands of dollars over the years, will provide the benefits they bought. Before *Corban*, the Fifth Circuit held that insurers had an arguable basis to deny claims and shift their burden of proof based on the ACC or wind/water protocol.[77] I believe the Court would be hard-pressed to reach the same conclusion now.

In the end, *Corban* was a victory for policyholders, but a hollow victory because it came far too late for most Katrina victims to benefit from it. During the four years from the time Katrina obliterated the gulf coast to the date *Corban* was released, those who lost everything were further victimized by insurers that manipulated words or phrases in complex and difficult to understand policies to wrongfully deny and underpay millions in claims. Homes and businesses were lost and lives changed; there is no way to calculate

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[74] State Farm Fire & Cas. Co.'s Trial Brief at 12-13, Bossier v. State Farm Fire & Cas. Co., No. 1:08-CV-00408-LTS-RHW (S.D. Miss. Nov. 1, 2009) (emphasis added), *available at* http://slabbed.files.wordpress.com/2009/11/defendants-trial-brefgov-uscourts-mssd-65266-184-0.pdf (last visited Mar. 3, 2010).

Bossier was ultimately settled. *See* Slabbed, Breaking News–Bossier v. State Farm Fully and Finally Settled, http://slabbed.wordpress.com/2010/01/12/breaking-news-bossier-v-state-farm-fully-and-finally-settled/ (last visited Mar. 3, 2010).

[75] State Farm Fire & Cas. Co.'s Motion for Summary Judgment, or in the Alternative Partial Summary Judgment at 1, Robohm v. State Farm Fire & Cas. Co., No. 1:08-cv-00490-LTS-RHW (S.D. Miss. Jan. 19, 2010), *available at* http://slabbed.files.wordpress.com/2010/01/sf-motion-for-partial-summary-judgment-gov-uscourts-mssd-65527-91-0.pdf (last visited on Mar. 3, 2010).

[76] *Id*. at 2.

[77] Broussard v. State Farm Fire & Cas. Co., 523 F.3d 618, 627-29 (5th Cir. 2008).

the true devastation. Unless you have lost everything and have had your insurance denied, it is hard to comprehend how frustrating being embroiled in a sea of insurance lawyers can be—it is a curse at best.

While *Corban* cannot fix the ruin that resulted from insurers' evasions of their obligations, every loss presents opportunities. Policyholders are taking more responsibility for the insurance they purchase and recognize that flood coverage is essential. Policyholders are demanding meaningful oversight and regulation of insurers by the Departments of Insurance. Most importantly, there is a movement to strengthen legislation that protects policyholders and exacts a high price from insurers that wrongfully deny, delay, or underpay claims. *Corban* will provide guidance in these efforts.

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Insurance Recovery After Hurricane Sandy: Correcting the Improper Depreciation of Intangibles Under Property Insurance Policies

By Don Wood and John Wood

Summary

In light of the billions of dollars of insured losses suffered by property owners in the New York area, this is a timely article addressing a significant issue involving the insurance claims process. This article concerns the depreciation of partial losses of insured property. Depreciation is one of the factors that lead to differences between the estimates of a loss prepared by a contractor estimating a job for the policyholder and an adjuster estimating the same job for an insurance company. This subject is of critical importance to all professionals in the insurance industry—from adjusters to contractors, litigators, and policyholders—because the method used to calculate depreciation could lead to drastically different estimates of the value of the loss, and therefore widely divergent settlement expectations. This article lays out and defends a method that is most beneficial to the policyholder, and criticizes the intellectual foundations provided for alternative methods that should otherwise be rejected because they happen to disadvantage the policyholder.

The bottom line is that the cost of intangible items like labor and supervision should never be depreciated. The trend in the insurance industry to apply depreciation to intangible items such as labor for partial repairs defies this general principle of insurance law, as well as common sense. The trend is not a harmless shortcut. Depreciating intangibles and applying blanket depreciation rates inappropriately discounts as much as two-thirds of the items covered under the policy, significantly undermining the value of the settlement and leading to an underpayment of the insured.

There are a variety of methods of applying depreciation, or not allowing it at all in different states. Both state law and the policy must be consulted to settle a loss. Best practices should be adjusted in favor of the policyholder in light of the arguments made in this article.

If the insurance policy is a Replacement Cost Value (RCV) policy, the lowering of the estimate by the depreciated amount on the initial settlement can be a setback even if it can be recovered on completion of the work, since it forces the policyholder to come out of pocket for the amount withheld and then seek reimbursement. There is no question but that many policyholders cannot come up with the difference, which means the RCV policy is effectively settled as an ACV only policy. Excessive depreciation becomes a hindrance to indemnification.

But if the insurance policy is an Actual Cash Value (ACV) only policy, it is even more crucial to apply depreciation properly or the policyholder will never be fully indemnified. If depreciation is applied too severely, the insured may never be able to complete repairs, defeating the purpose of indemnity.

The Meaning of "Depreciation"

Depreciation means the loss in value of real or personal property over time as a result of physical deterioration from age, wear and tear from use, or economic obsolescence. The loss in value due to physical depreciation is deducted from the estimated replacement cost (RCV) of insured property in determining its actual cash value (ACV). This much is clear. What is less clear is the method by which the amount of depreciation is to be calculated. Proper application of depreciation is one of the most confusing parts of calculating a settlement on an insured property loss. Readers should be aware that this form of depreciation is distinct from financial asset remaining life calculations used for tax and accounting, and it is inappropriate to apply the latter form of depreciation in the context of property insurance. Depreciation as we are using it here is distinctly an insurance settlement term.

The Broad Evidence Rule

The manner of applying depreciation to an insured property settlement is the subject of significant potential misunderstanding. It is applied differently by different carriers in different states, and sometimes by different managers and adjusters within the same company and location. A common method of calculating the settlement amount is to subtract Depreciation from Replacement Cost to determine Actual Cash Value of the replaced property. But this is not the only method, and it may not be the best way in every instance. Market Value has also been considered in case of total losses. But now, the Broad Evidence Rule is the most commonly used method for all losses in most states. This rule is a departure from the principle that the traditional actual cash value measurement (replacement cost less depreciation) is the only measure of value at the time of the loss. The Broad Evidence Rule requires consideration of every standard of value that has a bearing on the property—its age, its likely profit, its tax value, etc.—in order to determine the value that will provide complete indemnification and no more.

Contracts of Adhesion are Construed Against the Drafter

The means of calculating depreciation should be the method that is most favorable to the insured. This was the position taken in *The Fire, Casualty & Surety Bulletin* (1992). That is a result of certain legal doctrines. Insurance policies are so-called "contracts of adhesion," which means they are contracts offered intact to the property owner by the insurance carrier under circumstances requiring the owner to accept or reject the contract in total without having an opportunity to negotiate over the wording. As a matter of contract law doctrine, contracts of adhesion are construed strictly against the party that writes them; in this situation, they would be construed strictly against the insurer. Therefore, insurance policies are interpreted in the light most favorable to the policyholder. In general, this should benefit the property owner in situations where the insurance policy is unclear. The uncertainty in the context of determining depreciation under an insurance policy means that depreciation should be calculated according to the method most favorable to the policyholder.

Repairs for Partial Losses Are Never Depreciated

Repairs to property in situations of partial loss are never depreciated. I was taught this principle as part of my extensive training as an insurance adjuster, and it is also case law in multiple jurisdictions, including Florida (*Am. Reliance Ins. Co. v. Perez*, 689 So. 2d 290 (Fla. 3d DCA 1997)); New York (*Eshan Realty Corp. v. Stuyvesant Insurance Co. of New York*, 202 N.Y.S.2d 899, *aff'd*, 12 A.D.2d 818, 210 N.Y.S.2d 256 (1961), *aff'd*, 11 N.Y.2d 707 (1962)); and Kansas (*Thomas v. Am. Family Mut. Ins. Co.*, 233 Kan. 775 (1983)). However, over time, depreciation has evolved into a practice whereby some estimators arbitrarily depreciate structures or assemblies that are totally damaged, as well as apply depreciation if just a portion is being repaired.

Partial Versus Complete Loss

How do you determine what is a "partial" versus "complete" loss of insured property? Is a roof an entire component system, or is it a collection of thousands of individual shingles? If a portion of the roof is replaced, should those shingles have depreciation applied to calculate the insurance settlement? What if the entire roof is damaged? What if the entire house is damaged? What should be depreciated?

Repair Versus Replace

Where do you draw the line? If a portion of an interior room's sheetrock ceiling is replaced and the entire room painted, is the room to be depreciated since it was a repair and not a replacement? If an entire sheet of 4x8 sheetrock is replaced, would it be depreciated since it was in entire sheet, but if a 2x2 portion is replaced, would it be calculated without depreciation, since it is a repair? Would it change if you calculated depreciation on the room instead of an item? The questions prompted by the attempt to depreciate insured items proliferate, almost beyond reason.

Different Component Should Mean Different Depreciation Rates

When depreciation is applied, it is not appropriate to apply the same depreciation rate to different components within the same structure, since they have different lifespans.

The questions from the foregoing sections reveal that the calculation of depreciation is rife with decision-points that will, in aggregate, significantly influence the estimate amount. When these decisions are made in an unprincipled manner by adjusters in the field the results will be arbitrary, inconsistent, and likely to the detriment of the insured. This is true in both the insurance industry and in the courts, where the battle over depreciation is engaged regularly.

Some states require that total losses, especially total fire losses, be paid without any depreciation at all. The point here is that in those cases where depreciation is applied as a policy provision should be done so on an item-by-item basis. Furthermore, the depreciation should apply to materials only. That argument will be made clearly below.

When to Determine Actual Cash Value

Some courts have held that the actual cash value is the value immediately before the loss occurred. This would allow insurance adjusters to apply a depreciation rate for determining actual cash value based on the time of the loss. The time of the loss determines the age of the components. This means the value of the physical property would be determined on the date of the loss. However, especially in the context of catastrophic losses, the value of the repair labor should be calculated based on the price at the time proper repairs would have been made had they been made at a reasonable time after the loss. This would align depreciation rates with the reality of the insurance company's handling of the insurance claim, since the cost of repairs will vary drastically depending on when they are performed. Repairs cannot be made immediately at the time of the loss. They are made shortly thereafter.

Repair Costs Are Time-Sensitive

So the physical components age for depreciation purposes is determined at the time of the loss. Repairs can

only be made after the loss, and therefore the labor portion of repairs should be calculated based on market prices after the time of the loss. In situations of catastrophic loss, the cost of material and labor both escalate dramatically after the loss date due to increased overhead, shortages of material and labor, delays, and difficult work conditions. These elevated costs must be borne by the contractors and the insured when repairing or replacing the property, not the costs of material and labor the day before the loss occurred. The time of loss affects the rate of depreciation that is applied to the settlement. The actual cash value should be calculated based on replacement cost at the time of replacement, which is shortly after the loss, not an arbitrary price set before the trigger for coverage manifested. To do otherwise puts an impossible burden on the insured to replace their property with insufficient funds in a time of labor and material shortages. The reasonable time after the loss in which the repairs could be accomplished should be the time period to determine the costs of these items. Of course, replacement parts and the extent of labor are based on the scope of damages as a result of the loss on the loss date, so that date remains important for the calculation of costs. The loss date sets the age of the structure's materials, but it should not be the tether for values of material and labor. Those are set by market fluctuations immediately after the loss.

To repeat, the value of the property should be calculated based on the price of material and labor at the time proper repairs would have been made had they been made at a reasonable time after the loss. This means estimators must determine several categories of costs, all of which fluctuate by region, time, and conditions. Material cost is one category. Another is labor cost.

Other Costs Must Be Added

The category of "soft costs," such as General Conditions must be considered, which includes Direct Costs attributable to the repairs or rebuilding such as permits, inspections, architect fees, engineering fees, debris removal, access, and safety. Additionally, the other categories of Overhead, Profit, and Taxes must be considered.

General Contractor Overhead and Profit

In America's economy, contractors make a profit to stay in business. The only contractors who do not need to make a profit work for the government. Insurance losses include a calculation for profits. Subcontractor's overhead and profit are built into their bids or their unit costs. That is not true for a General Contractor. Usually an estimated rate of 10% of the entire cost of the job is added for Overhead and 10% for Profit for a General Contractor. The "rule of thumb" for including a General Contractor's additional Overhead and Profit is to add the amount to the entire estimate if there are three trades or more, or if the type of work would normally require the skill and time of a general contractor. This applies whether or not the policyholder does the work himself.

I would add that it would also apply if the insured were unable to supervise and coordinate the work himself. For instance, even if it is just a roof replacement, if the insured is a surgeon working long hours, he cannot leave work to supervise crews, receive deliveries, or verify proper installation. He would have to hire someone to care for the supervision, coordination, and security of his interests. The same would be true of a single mom working a job she could not leave. It would be true of anyone who did not possess the requisite skill to oversee construction. In all those cases, indemnity requires that a line item for Direct Cost of Supervision be added, or the services of a General Contractor be obtained in order to complete the job, even if it involves less than three trades.

Direct Costs and Line Items

Direct Cost is a term understood by builders and contractors, but usually is a mystery to an adjuster who has never served as a superintendent on a job. If an item is a "Direct Cost" attributable to the repair or rebuilding, it should be added into the estimate as a line item, not included in the General Contractor's Overhead. Overhead, on the other hand, cannot be reduced to a line item or assigned to only one project. Onsite supervision is a line item. Portable toilets and dumpsters are each a line item, being assigned to a jobsite. A temporary fence or field office is a line item. Overhead pertains to things that continue when the General Contractor is between jobs, or that are not attributable to the job, such as cell phones, offices, secretary labor, office supplies, vehicles, insurance, etc. Direct Cost items are each a separate line item in the estimate, and not paid for out of Overhead. Neither adjusters nor contractors should misunderstand Direct Costs.

Replacement Costs Include Sales Taxes

The basis of calculations of insurance losses always starts with Replacement Cost Value, which includes state sales tax. Taxes are calculated on Materials, Labor, or both, Materials and Labor, or on the entire Total including Overhead and Profit, depending on the type of loss and how the contractor engages to do the work. States have their own rules that vary greatly. Estimators should become familiar with local rates and emergency bulletins in order to properly estimate a loss.

Cost Evaluation Concepts

In considering a total loss versus a partial loss, there are frequently differences in how depreciation is calculated to arrive at a number for actual cash value. Total loss of a structure is sometimes measured by comparable

costs of total structures in the area at the time of the loss. This is a market value approach. Real estate comparable values or a professional appraisal would be examples of total loss comparisons. So would a calculation based on a dollar per square foot basis. These are conceptual cost evaluations that would have to be modified by property distinctions such as elevated structures, pools and accessories, grade of construction and many other factors. Sometimes the actual cash value of a total loss is higher than the replacement cost of building a comparable structure, due to unique factors of construction or market demand. The Broad Evidence Rule of considering all the factors that affect depreciation and actual cash value is important for adjusters to keep in mind. The indemnification of the policyholder that is in the policyholder's best interest is the important factor.

Market value as a means of determining depreciation is impossible on a partial loss since there is no ready market for debris or for damaged components that are still attached to undamaged components. Some adjusters calculate depreciation as a percentage of the replacement cost room by room, by construction categories, or sometimes applied to the entire structure (as most flood adjusters and some insurance carriers do). On all partial loss settlements, I believe the only appropriate means of applying depreciation is on a line-by-line item basis. This also serves the purpose of separating the damaged and undamaged portions of the property.

Costs Vary According to Region

Since the actual cash value of the loss must be determined at the time of the loss, that means the current material costs and current labor costs must be determined and applied to the scope of damages. Material costs will vary for the geographic location and conditions. Many materials are found in one locale and not in another—especially roofing, which is highly localized by style and type. Material costs escalate due to shortages and delivery problems.

Depreciation Should Not Apply to Intangibles Such as Labor

Labor costs are found for each region as well. After a catastrophe, labor will fluctuate upward due to availability and extra travel, housing, overtime, and food for crews working away from their home area. Large fluctuations in material and labor do not usually occur during normal claims settlement, but do occur in almost every catastrophe. Depreciation is physical deterioration. Insurance companies and courts have erred in including labor in depreciation calculations. Labor is involved in both tear off and replacement of the physical items. Only physical items are subject to wear and tear, obsolescence, or deterioration by exposure to elements. Labor is an intangible, not subject to wear and tear, but may actually increase while the cost of the physical item decreases due to lower manufacturing costs.

Insurance companies and courts have both argued whether labor and material should be depreciated when the policy calls for an Actual Cash Value settlement, as means of arriving at a proper cost. They have further argued whether the labor to remove damaged items should be depreciated. Some courts have ruled yes and some no. To further add to the confusion, some have argued to not apply depreciation to labor when it is to remove an item, but to apply depreciation to labor when it is to install the replacement item.

The arguments that involve depreciating labor in any form just don't make sense. They are arbitrary. Depreciation can be appropriately applied only to tangible items. Labor is intangible. Therefore, depreciation should not be applied to labor in either removal or installation phases.

Depreciation is the physical deterioration of a tangible item. This position is bolstered by the traditional common law in New York (*McAnarney v. Newark Fire Ins. Co.*, 247 N.Y. 176, 159 N.E. 902 (1928); Florida (*Sperling v. Liberty Mutual Ins. Co.*, 281 So.2d 297 (Fla. 1973), *Glens Falls Ins. Co. v. Gulf Breeze Cottages, Inc.*, 38 So.2d 828 (Fla. 1949)) and possibly other jurisdictions.

It is inconsistent to state that labor to remove an item from its position where it was previously installed as a part of a structure should not be depreciated, but labor to install a new item in its place should be depreciated. This was the unfortunate holding of an erroneously reasoned Oklahoma court case.

Example: Debris Removal

It is an error to state that the difference in treatment between repair and removal is due to the fact that the policy includes Debris Removal in its coverage. Picture the craftsman removing sheetrock or framing or roofing materials. He disassembles the components and sets them on the ground. For the roofer, he lays it down and it may slide off the roof to the ground. The Xactimate definition of removal is to take the item off and set it down. This is disassembly, not Debris Removal.

Next, the item previously removed has to be carried to the dumpster or trash truck. That is probably in the category of "Daily Labor," or "Daily Cleanup." But once the rubble is assembled into a pile and swept or carried to the dumpster and placed inside, it is then undeniably, "Debris." The cost of the rental of the dumpster or trash truck and the cost of hauling the dumpster to the approved waste site and paying the dump fees is Debris Removal. It is this latter operation—removing the debris from the Loss Site and conveying it to an approved dump location—that qualifies as Debris Removal. It is a separate

and subsequent operation from the removal of the item from where it was previously installed.

In any case, neither removal nor Debris Removal are depreciable. They are intangible labor operations. Decades ago, as a staff property adjuster for a national carrier, I was trained not to depreciate either labor or Debris Removal. This should remain the rule.

Materials and Labor Prices Are Not Linked

Recall that the ACV is determined as of the Date of Loss (DOL). What was the value of the material item on the DOL? You can find out its age and calculate its lifespan using industry charts from manufacturers. What was the value of the labor on the DOL? Federal labor and wage tables, local bid practices—all can be consulted to find labor and wage rates for the time period of the required repairs. While materials generally go down in value with time, with some exceptions, labor generally goes up due to a variety of pressures. They are not linked. It is inappropriate to use the same rate of depreciation on two components of an item—material and labor—particularly when the value of one is going down and the other is going up.

When and How to Apply Depreciation

I was taught years ago that depreciation, when it was applied, must be done on a line-by-line, item-by-item basis. At the very least, it should be applied to categories of items, based on the lifespan of that category of material, rather than applied like a blanket to the entire loss.

I obtained charts of the average lifespans of materials. A few sample pages from the National Association of Home Builders is attached. Material lifespans shown in the attachment were derived from reports by product manufacturers. Nowhere in any of the lists of materials is any labor item mentioned with its appropriate lifespan! Only physical, tangible items are listed.

Rates of depreciation are different for each of the various types of materials in the estimates I produced. Sheetrock, Paint, Wood Trim, Windows, Carpet—they all have different lifespans, and therefore once I knew their approximate age, I could figure how much of their useful lifespan to deduct.

I have heard some adjusters use the example of depreciating a refrigerator and its loss of value over the years in talking about depreciating a roof. It is a nonsensical comparison. The refrigerator was assembled in a factory under controlled conditions. It only had to be set in place and connected. It would be proper to depreciate a refrigerator's material and labor as one unit, since it came pre-assembled. I have never seen anyone assemble a refrigerator onsite.

The roof components, on the other had, have to be assembled on the job, custom fit into place, individually installed into a whole unit, and properly completed over a period of days. The roof does not come pre-assembled. That would be impossible considering the variety of houses, businesses, and types of roofing, and types of jobsite conditions.

The crew does not come with the roof. The roof installation costs are obtained separately by a bid or referral process and their pricing is individualized by the job type, supply and demand, and job conditions.

There is no comparison between depreciating a refrigerator and depreciating a roof. The same is true of nearly all site-built structure components.

Material may become obsolete. An example would be organic shingles. They are not generally available. Labor does not become obsolete. If it did, it would go up, not down, due to its scarcity. Labor is always priced at current availability.

Material may suffer from wear and tear from use. This is common on floor coverings and paint finishes. Labor, on the other hand, does not suffer from wear and tear. It is intangible and temporary. It does not stick around to be abused. It has to be priced after the Date of Loss.

Material may deteriorate. It is normal for the organic compounds in roofing to evaporate or break down due to heat and sunlight. The labor is not there to be affected by the weather conditions. Once the material was installed, like Elvis, the labor is gone from the building. If it is needed again in the future, it would come with a new current price.

So, depreciation should be applied only to physical items. This is the historic and usual use of depreciation in the insurance industry.

Determining Replacement Costs

Replacement Costs are composed of:

- Material Direct Costs
- Labor Direct Costs
- Soft Costs
- Overhead
- Profit
- Taxes

These are all included in a determination of Replacement Costs. Of all these items, the only portion subject to depreciation is the Material Direct Costs.

Conclusion

If depreciation can only be applied to physical tangible items, then only about 1/3 of a loss estimate is even subject to depreciation.

Xactimate includes an option to select "Depreciate Material Only." It is there because it has been the option for much of insurance claim settlement history. I believe selecting that option is the most appropriate choice in every case where the policy calls for depreciation. Depreciation should not be applied to any other component of a loss, and especially not intangible items.

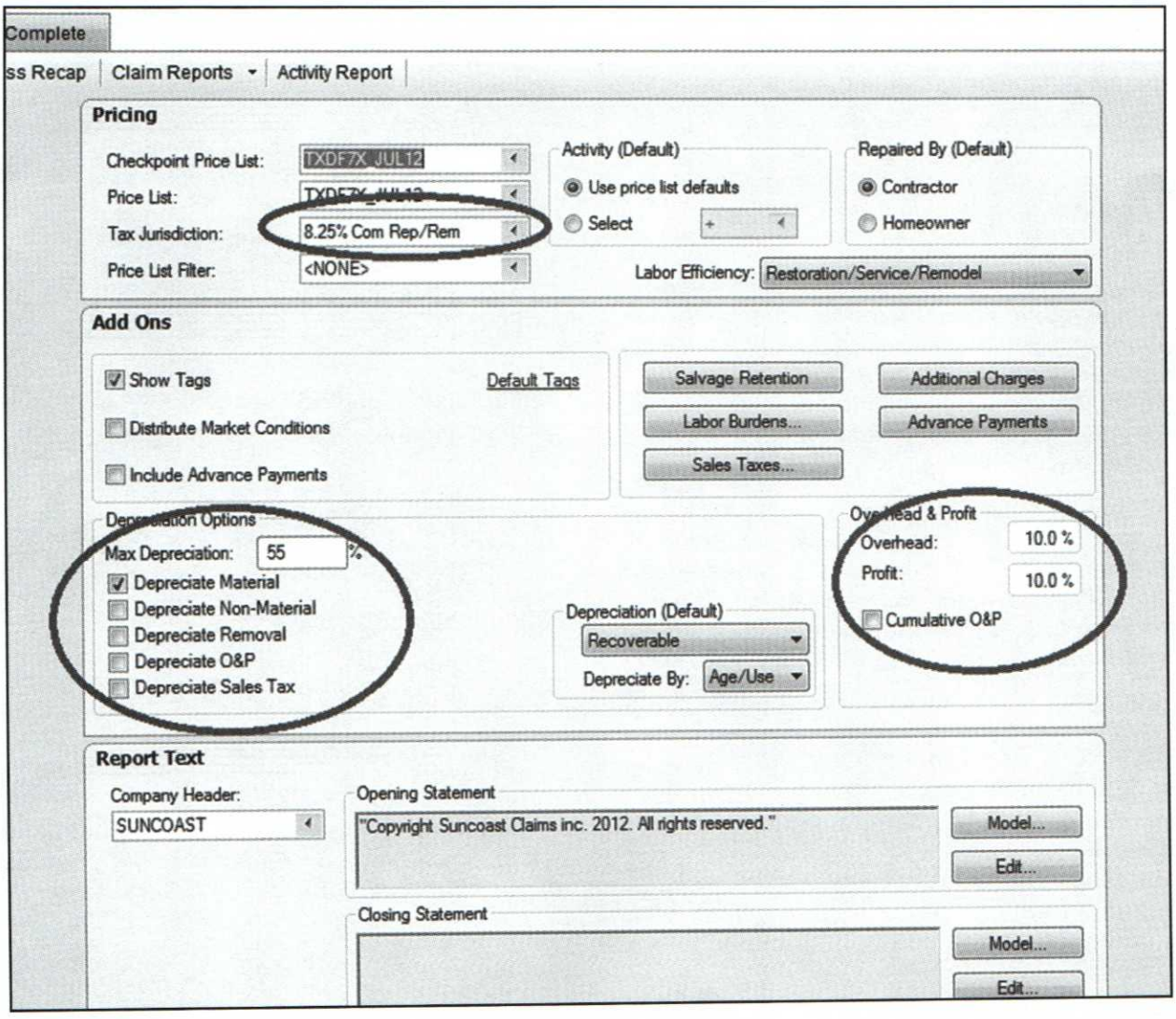
Furthermore, in all partial losses, the only appropriate depreciation is line item depreciation based on the age of the item in question.

If the writers of the policies meant to depreciate an intangible item, they should define it as such. The courts likewise should consistently avoid applying market value depreciation to a combination of tangible and intangible items that are affected differently by obsolescence, wear and tear, and deterioration.

Don Wood is the President of Suncoast Claims Inc., a member of the National Association of Public Insurance Adjusters. He is a licensed Public Adjuster in seven states, a former Registered General Contractor and Certified Professional Estimator with the American Society of Professional Estimators, and a Director of the Texas Association of Public Insurance Adjusters.

John Wood, J.D., is a graduate of New York University School of Law, admitted to the New York State Bar, and has experience with commercial property insurance litigation.

Xactimate Screen Shot



REFERENCE MATERIALS REGARDING BUILDING COMPONENTS AFFECTED BY WINDSTORM, RESULTING WATER INTRUSION, AND TECHNICAL PUBLICATIONS:

GAF Technical Advisory Bulletin: Damage to Shingles Caused by Hurricanes
http://www.gaf.com/warranties_technical_documents/steep_slope_technical_advisory_bulletins/english_bulletins/damage_caused_to_shingles_by_hurricanes_steep_slope_technical_point_tab_r_2011_143.pdf

Journal Publications
http://sts.bwk.tue.nl/urbanphysics/publications.htm

GAF Technical Advisory Bulletin: Replacement of Storm Damaged Shingles
http://www.gaf.com/warranties_technical_documents/steep_slope_technical_advisory_bulletins/english_bulletins/replacement_of_storm_damaged_shingles_steep_slope_technical_point_tab_r_2011_126.pdf

Specifying Windows and Doors Using Performance Standards
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AAMA Product Certification
http://www.aamanet.org/general/1/109/product-certification

***US Glass*, Volume 42, Issue 9 – September 2007**
http://www.usglassmag.com/USGlass/2007/September/companynews.htm

Roofs – Collapse and Performance Failures
https://failures.wikispaces.com/Roofs_Collapse+and+Performance+Failures

Assessing Water Damage to Gypsum Board
http://www.gypsum.org/wp/wp-content/uploads/2011/11/GA-231-06.pdf

POSTED ON JANUARY 20, 2013 BY MICHELLE CLAVEROL

Business Income Losses Caused By Hurricane Sandy Are Recoverable Despite Anti-Concurrent Causation Exclusions

I have reviewed denial letters sent to policyholders in New York and New Jersey. Their business income claims have been denied because the "physical loss or damage" was caused, in whole or in part, by an excluded peril – power failure. Hurricane Sandy was a complex windstorm event that caused many perils – power outages, fire, flood, explosion and wind are among the most prevalent. Some of these perils may or may not be covered by an insurance policy, but if an insured property sustained damages caused by at least one covered peril, business income claims should not be denied.

A question & answer from the *National Underwriter FC&S* publication – a leading insurance industry reference source – reiterates that coverage should be afforded for business income losses even if the physical loss or damage was caused, in part, by an excluded peril.

Concurrent Causation Language Does Not Exclude Windstorm Loss

My client, a tenant with a businessowners policy, suffered a business income loss resulting from Hurricane Ivan. During the storm, the building had off-premises loss of power and wind damage to the roof. We were unable to determine which occurred first.

The adjuster cites the following exclusion as applying to the loss: "We will not pay for loss or damage caused directly or indirectly by any of the following...off-premises power failure." The adjuster cannot be the judge to determine which came first, power failure or roof damage.

I feel that the insured, due to water damage from the roof, incurred loss of business income. His employees could not occupy the building due to water damage and power failure. The adjuster cannot determine when the power would have been turned back on—possibly the power could have been restored after the storm, so I do not believe that she can apply the off-premises power failure exclusion.

The adjuster told me that even if the building had been destroyed by the hurricane, due to off-premises power failure, the exclusion would still stand because of the "concurrently or in any sequence to the loss" language in the policy. Based on her statement, even if power can be restored within a few days, the subsequent business income loss would not be covered.

I am confused by the concurrent language that the insurer is using to justify denying the claim.

Alabama Subscriber

The business income loss resulting from a suspension of operations from windstorm damage to the roof should be paid under the businessowners policy. Any suspension of operations and resulting business income loss that occurs solely because of off-premises power failure is excluded.

It does not matter whether the off-premises power failure or the windstorm came first. The concurrent causation language excludes coverage only for the loss that results from power failure and does not affect other damage that might result from a covered cause of loss. It does not say that damage from windstorm (a covered cause of loss) is not covered if an excluded cause of loss (the off-premises power failure) also occurs.

It may help to insert the words "off-premises power failure" into the concurrent causation introductory language as follows:

> We will not pay for loss or damage caused directly or indirectly by *off premises power failure*. Such loss or damage (from off-premises power failure) is excluded regardless of any other cause or event (such as windstorm) that contributes concurrently or in sequence to the loss (from the power failure).

No matter how complex a loss appears a company or independent adjusters should not have a myopic view when inspecting the property. If there is evidence that a covered cause of loss occurred (wind), business income losses should be paid.

TAGS: Anti-concurrent causation clause, Business Income, Business Interruption, Commercial Insurance Claims, Concurrent Causation, Hurricane Sandy

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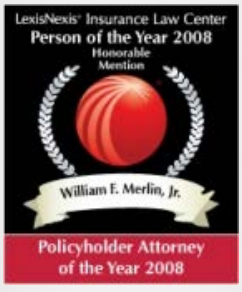

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POSTED ON FEBRUARY 6, 2011 BY MICHELLE CLAVEROL

Avoiding the Anti-concurrent Causation Trap -- Understanding Business Interruption Claims, Part 59

Relying on anti-concurrent causation clauses, several insurers have adopted a method of claims adjusting where business income claims are denied in whole if the property suffered damage attributed in part to an excluded cause of loss. In most states, this type of business practice is wrong and contrary to public policy. For an in depth analysis on the legal framework of anti-concurrent clauses, I encourage you to read Chip's post, Anticoncurrent Causation Clause Explained in Relation to Hurricane Losses.

Simply stated, there is enough authority to discourage this type of claims adjusting practice. Even the authors of the National Underwriter's *FC&S Bulletin*, which is a source of information the insurance industry usually relies on to update their business practices, discourages this type of claims adjusting in business income claims. The following are two examples found in their *Q&A* section which should assist the policyholder professional in dealing with this type of coverage situation.

Concurrent Causation Language Does Not Exclude Windstorm Loss

My client, a tenant with a business owners policy, suffered a business income loss resulting from Hurricane Ivan. During the storm, the building had off-premises loss of power and wind damage to the roof. We were unable to determine which occurred first.

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I feel that the insured, due to water damage from the roof, incurred loss of business income. His employees could not occupy the building due to water damage and power failure. The adjuster cannot determine when the power would have been turned back on—possibly the power could have been restored after the storm, so I do not believe that she can apply the off-premises power failure exclusion.

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Alabama Subscriber

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It does not matter whether the off-premises power failure or the windstorm came first. The concurrent causation language excludes coverage only for the loss that results from power failure and does not affect other damage that might result from a covered cause of loss. It does not say that damage from windstorm (a covered cause of loss) is not covered if an excluded cause of loss (the off-premises power failure) also occurs.

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As founder and president of Merlin Law Group, Chip Merlin has dedicated his practice to the representation and advocacy of insurance policyholders in disputes with insurance companies in Florida, Texas, Colorado, California and nationwide. Since 1983, Chip has served as... MORE...

It may help to insert the words "off-premises power failure" into the concurrent causation introductory language as follows:

We will not pay for loss or damage caused directly or indirectly by off premises power failure. Such loss or damage (from off-premises power failure) is excluded regardless of any other cause or event (such as windstorm) that contributes concurrently or in sequence to the loss (from the power failure).

Hurricane Damage and Business Income Loss

Our insured is a seafood restaurant and wholesaler located in Florida. The owner was ordered to evacuate because of Hurricane Frances . When he returned, he found there was direct wind damage to the condensing unit of the large walk-in cooler. Also, a light pole that was on an easement on the neighboring premises collapsed onto the insured's building's roof, causing damage.

As a result, all the seafood spoiled and the insured sustained a loss of business income. The adjuster told our insured that there was no coverage because of the exclusion for power failure. However, the adjuster also said that he could not establish if the power went out before the actual wind damage to the condensing unit.

Because of the evacuation, the insured was not on the site at the time, so he couldn't provide definite evidence one way or another. But since it is at least possible that the wind was the direct cause of the condenser's failure, we think the insured should get the benefit of the doubt. We should add that the form is not a standard ISO form.

What do you think? Is the insured entitled to business income loss because of the property damage and the spoilage?

Florida Subscriber

A.

There are points in the coverage form you sent that support the insured's view. First, there is an endorsement attached that provides coverage for loss or damage directly caused by wind. So, if the wind directly damaged the condenser unit, perhaps by blowing an object against it, that would certainly be covered property damage. The light pole's collapsing onto the roof, damaging it, is also covered property damage. So, unless some other exclusion eliminates coverage, this covered property damage triggers business income coverage.

The next point to consider is the food spoilage. Here, it appears the adjuster has focused on the exclusion for failure of power or other utility service "however caused and wherever such failure should occur." But it is possible that the power never failed at all—the condenser quit working because it was damaged by the wind.

The policy you sent contains an exclusion for "dampness of atmosphere, dryness of atmosphere, changes in or extremes of temperature... change in flavor or color or texture or finish… All whether loss or damage from such excluded Causes of Loss is direct or indirect, proximate or remote, or be in whole or in part caused by, contributed to, or aggravated by a Cause of Loss covered under this Policy."

This exclusion, however, has been deleted in its entirety by endorsement. Given the insured's business, this is the type of endorsement we would expect to find; other forms add coverage for spoilage by endorsement, but this insurer provides coverage through deleting the exclusion. So, the final point to be made: excluding loss resulting from power failure "however caused" and then giving back coverage for spoilage would render coverage illusory. This is the major reason refrigerated products spoil. The insurer could always invoke the exclusion in any situation, leaving the insured to wonder what he'd been paying for.

But, as we noted, the power might not have failed at all; the condenser might have quit working because of wind damage, leading to the covered spoilage.

TAGS: Anti-concurrent causation clause, Commercial Insurance Claims, Concurrent Causation, FC&S Bulletin

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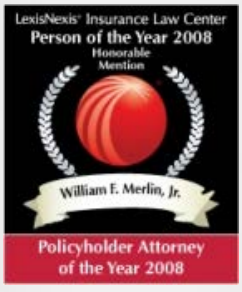

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DEFENDANTS' LIST OF COMMONLY OCCURRING LEGAL ISSUES

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14 MC 41

Pursuant to In Re Hurricane Sandy Cases - Case Management Order No. 1, Defendants' Liaison Counsel Jared T. Greisman hereby submits the following list of commonly occurring legal issues and defenses that defendants anticipate, from experience, may arise in a number of the Sandy cases, along with relevant case law or other authority addressing these issues. Having solicited all CM/ECF registered defense counsel on the Sandy case for input, and received numerous responses and engaged in telephone conversations with other defense counsel, I believe the following is a fair representation of commonly occurring legal issues that defendants' counsel anticipate may arise in many of these cases.

I received input from attorneys representing insurers who issued all risk policies and non NFIP flood insurance policies. In addition, I received input from attorneys representing agents and brokers.

COMMONLY OCCURRING ISSUES IN PROPERTY INSURANCE

A. Fortuity

In order to recover under an all-risk policy, the insured must show a "fortuitous" loss of the covered property. See *Simplexdiam, Inc. v. Brockbank*, 283 A.D.2d 34, 37-38, 727 N.Y.S.2d 64, 67 (1st Dept. 2001). An all risk policy protects against a fortuitous event and does not

obligate the insurer to pay for loss or damage resulting wholly from the nature and inherent qualities of the property insured. See *80 Broad Street Co. v. U.S. Fire Insurance Co.*, 88 Misc.2d 706, 707, 389 N.Y.S.2d 214, 215 (Sup. Ct. N.Y. Co. 1975). The insured bears the initial burden of demonstrating that it has suffered a fortuitous physical loss of or damage to a covered property and, if the insured sustains this burden, the burden then shifts to the insurer to demonstrate that the claimed losses are otherwise excluded from coverage. *Montefiore Medical Center v. American Protection Ins. Co.*, 226 F. Supp. 2d 470 (S.D.N.Y. 2002).

B. Insurable Interest

An insured must have an "insurable interest" in property covered by a first-party property insurance policy. N.Y. Ins. Law §3401. An "insurable interest" is defined as "any lawful and substantial economic interest in the safety or preservation of property from loss, destruction or pecuniary damage" and is to be construed broadly. N.Y. Ins. Law §3401. Lack of "insurable interest" renders a property policy void. *See Etterle v. Excelsior Ins. Co.* 74 A.D.2d 436, 428 N.Y.S.2d 95 (4th Dept. 1980).

C. Rules of Construction For Interpreting Insurance Policies

"The proper interpretation of an unambiguous contract is a question of law for the court." *RSL Commc'ns, PLC v. Bildirici*, 2010 U.S. Dist. LEXIS 22368, at *4, 2010 WL 846551, at *1 (S.D.N.Y. Mar. 5, 2010); *see also Peabody v. Weider Publ'ns, Inc.*, 260 F. Appx. 380, 382 (2d Cir. 2008) ("The meaning of unambiguous contract terms is a question of law for a court, not a jury, to decide"). Similarly, "[w]hether . . . a writing is ambiguous is a question of law to be resolved by the courts." *W.W.W. Assocs. v. Giancontieri*, 77 N.Y.2d 157, 162, 556 N.E.2d 639, 642, 565 N.Y.S.2d 440, 443 (1990); *accord Senaca Ins. Co. v. Ill. Nat'l Ins. Co.*, 2009 U.S. Dist. LEXIS 58765, at *8, 2009 WL 2001565, at *3 (S.D.N.Y. July 9, 2009). A

contract that is "on its face . . . reasonably susceptible to only one meaning" is unambiguous. *White v. Cont'l Cas. Co.*, 9 N.Y.2d 264, 267, 878 N.E.2d 1019, 1021, 848 N.Y.S.2d 603, 605 (2007) (citation omitted).

"It is unquestionably the rule that '[c]ontracts of insurance, like other contracts, are to be construed according to the sense and meaning of the terms which the parties have used, and if they are clear and unambiguous the terms are to be taken and understood in their plain, ordinary and proper sense.'" *In re Estate of Covert*, 97 N.Y.2d 68, 76, 761 N.E.2d 571, 576, 735 N.Y.S.2d 879, 884 (2001) (citation omitted). Accordingly, "when interpreting a contract, the 'intention of the parties should control . . . [, and] the best evidence of intent is the contract itself; if an agreement is complete, clear and unambiguous on its face, it must enforced according to the plain meaning of its terms.'" *Hatalmud v. Spellings*, 505 F.3d 139, 146 (2d Cir. 2007) (citation omitted); *see also Slatery Skanska Inc. v. Amer. Home Assur. Co.*, 67 A.D.3d 1, 13, 885 N.Y.S.2d 264, 273 (1st Dept. 2009) ("[C]ontracts of insurance are 'to be interpreted so as to give effect to the intention of the parties as expressed in the unequivocal language employed'") (citation omitted).

Insurance policy language that is clear and unambiguous should not be given a "strain[ed]," "unnatural," or "unreasonable" construction, *see Maurice Goldman & Sons, Inc. v. Hanover Ins. Co.*, 80 N.Y.2d 986, 987, 607 N.E.2d 792, 793, 592 N.Y.2d 645, 646 (1992), and the "plain meaning" should not be disregarded "to find an ambiguity where none exists." *Bassuk Bros. v. Utica First Ins. Co.*, 1 A.D.3d 470, 471, 768 N.Y.S 2d 479, 481 (2d Dept. 2003). Thus, the mere assertion by a party that the policy language means something to them, when it is otherwise clear, is not enough to render the policy ambiguous. *See Broad St., LLC v. Gulf Ins. Co.*, 37 A.D.3d 126, 131, 832 N.Y.S.2d 1, 4 (1st Dept. 2006) ("[A] court [should not] disregard

the provisions of an insurance contract which are clear and unequivocal . . . or accord a policy a strained construction merely because that interpretation is possible") (citation omitted); *Red Ball Interior Demolition Corp. v. Palmadessa*, 173 F.3d 481, 484 (2d Cir. 1999) (plaintiff "cannot create . . . ambiguity in . . . otherwise plain agreement merely by 'urg[ing] different interpretations in . . . litigation'") (citation omitted).

D. An Insured Person Is Presumed to Understand the Terms of Their Policy

It has long been the law of New York that one who accepts an insurance policy is conclusively presumed to know its contents and to assent to them. *Metzger v. Aetna Ins. Co.*, 227 N.Y. 411, 125 N.E. 814 (1920). *See also Porwick v. Fortis Benefits Ins. Co.*, 2004 U.S. Dist. LEXIS 24432, 2004 WL 2793186 (S.D.N.Y. December 3, 2004). This is the rule whether or not the insured reads the policy. *Metzger*, 227 N.Y. at 416 ("[W]hen a party to a written contract accepts it as a contract he is bound by the stipulations and conditions expressed in it whether he reads them or not.").

Moreover where, as here, a party has accepted an insurance policy, it has no action against his insurance broker for having procured such coverage, even though the coverage is allegedly not in accord with what that party could have obtained. *See Busker on the Roof Ltd. P'ship v. Warrington*, 283 A.D.2d 376, 377; 725 NY.S.2d 45 (1st Dept. 2001). In *Busker on the Roof*, the First Department reiterated the Court of Appeals holding *Chase Sci. Research v. NIA Group*, 96 N.Y.2d 20, 749 N.E.2d 161, 725 N.Y.S.2d 592 (2001) that defendant insurance brokers are not professionals and therefore claims against them do not sound in malpractice. *Id.* at 376. In addition, the lower court's dismissal of the plaintiff's claims for breach of contract and negligence were upheld against the insurance broker where the insured received the policy months before the accident at issue and is conclusively presumed to have known, understood and

assented to its terms, and, accordingly has no action against its insurance broker for having procured such coverage, even though the coverage was not entirely in accord with what plaintiff had requested. *Id.* at 377 (*citing Metzger v. Aetna Ins. Co.*, 227 N.Y. 411).

New York courts have consistently held that an insured that has received its insurance policy is deemed to have known and assented to the terms contained therein, and may not complain for the first time, after a loss, that the coverage contained therein is insufficient. *Maple House, Inc. v. Alfred F. Cypes & Co., Inc.*, 80 A.D.3d 672, 672, 914 N.Y.S.2d 912, (2d Dept. 2011); *Motor Parkway Enterprises, Inc. v. Loyd Keith Friedlander Partners, Ltd.*, 89 A.D.3d 1069, 1070, 933 N.Y.S.2d 586 (2d Dep't 2011); *Portnoy v. Allstate Indem. Co.*, 82 A.D.3d 1196, 1198 (2d Dept. 2011); *Stilianudakis v. Tower Ins. Co. of New York*, 68 A.D.3d 973, 974, 889 N.Y.S.2d 854 (2d Dept. 2009); *Catskill Mountain Mech., LLC v. Marshall & Sterling Upstate, Inc.*, 51 A.D.3d 1182, 1184-85, 857 N.Y.S.2d 353 (3d Dept. 2008); *Gui's Lumber & Home Ctr., Inc. v. Pennsylvania Lumbermens Mut. Ins. Co.*, 55 A.D.3d 1389, 1390, 864 N.Y.S.2d 818 (4th Dept. 2008); *Stone v. Rullo Agency, Inc.*, 40 A.D.3d 1185, 1186, 834 N.Y.S.2d 588 (3d Dept. 2007); *McGarr v. Guardian Life Ins. Co. of Am.*, 19 A.D.3d 254, 256, 799 N.Y.S.2d 19 (1st Dept. 2005); *Loevner v. Sullivan & Strauss Agency, Inc.*, 35 A.D.3d 392, 394, 825 N.Y.S.2d 145 (2d Dept 2006); *Hoffend & Sons, Inc. v. Rose & Kiernan, Inc.*, 19 A.D.3d 1056, 1057-58, 796 N.Y.S.2d 790 (4th Dept. 2005) *affd. on other grounds* 7 N.Y.3d 152, 851 N.E.2d 1149, 818 N.Y.S.2d 798 (2006); *Laconte v. Bashwinger Ins. Agency*, 305 A.D.2d 845, 846, 758 N.Y.S.2d 562 (3d Dept. 2003).

This principle has been applied even where there was a specific request for coverage. For example, in *Laconte v. Bashwinger, supra,* plaintiffs had specifically asked that their broker schedule certain jewelry onto their homeowner's insurance policy. Plaintiffs admitted receiving a

copy of their homeowner's policy. The policy contained a schedule of personal property, which did not include the additional jewelry. When the jewelry was discovered to be missing, plaintiffs filed a claim under the homeowner's policy and were informed that the jewelry was not covered. Plaintiffs, therefore, commenced an action against their insurance broker, alleging that the broker should be liable for a failure to procure the requested coverage. The Appellate Division dismissed the claims asserted against the broker.

E. An Insured Has Constructive Knowledge of the Terms of The Policy

It has long been the rule in New York as discussed above that an insured, upon receipt of its insurance policy, is bound by the terms, conditions and limits of coverage reflected in the policy. *Hoffend & Sons. Inc. v. Rose & Kiernan, Inc.*, 19 A.D. 3d 1056, 1057, 796 N.Y.S.2d 790 (4th Dept. 2005); *M&EMfg. Co. v. Frank H. Reis, Inc.*, 258 A.D.2d 9, 12, 692 N.Y.S.2d 191 (1999); *Metzger v. Aetna Ins. Co.*, 227 N.Y. 411, 125 N.E.814 (1920).

F. Exclusions

a. Applicable Burden of Proof between Insured and lnsurer:

Given that many claims may consist of damage caused by wind, a covered peril, and flood, an excluded peril, the applicable burdens of proof for the insured and insurer will be disputed. New York courts have recognized that in a claim under a property policy, the insured bears the burden of establishing that the damage for which coverage is sought is a covered loss under his insurance policy and the burden is on the insurer to prove an applicable exclusion barring coverage. *Czech v. Kelly*, 36 Misc. 3d 152(A), 2012 N.Y. Misc. LEXIS 4247, 2012 WL 3887211 (App. Term 2d Dept. 2012) (involving dispute over coverage under homeowners policy for damage to roof from snow storm); *Fernandes v. Allstate Ins. Co.*, 305 A.D.2d 1065, 758 N.Y.S.2d 729 (4th Dept. 2003) (involving claim for collapse of roof and noting that plaintiff was

required to establish damage was caused by a covered loss); *U.S Dredging Corp. v. Lexington Ins. Co.*, 99 A.D.3d 695, 952 N.Y.S.2d 60 (2d Dept. 2012) (finding that despite "all-risk" coverage, insured seeking to recovery for loss under insurance policy as burden of proving loss occurred and also that the loss was a covered event within the terms of the policy). Under these authorities, the insureds would bear the burden of proving a loss due to a covered event, i.e., windstorm, and the insurers would bear the burden of proof to prove the applicability of any exclusion, i.e., flood, for that loss.

The insured bears the burden of proof of establishing not only that a covered loss occurred, but also the value of that loss. See *CTI International, Inc. v. Lloyds Underwriters*, 735 F.2d 679 (2nd Cir. 1984). Insurance contracts against loss are contracts of indemnity, which are meant to place insureds in the same position they were in before the damage was sustained. *Berkshire Mut. Ins. Co. v. Moffett*, 378 F.2d 1007, 1011 (5th Cir. 1967). An insured should not financially gain as the result of his insurance recovery. *Ragas v. State Farm First Casualty*, 2008 U.S. Dist. LEXIS 10285, 2008 WL 425536, at *6 (E.D. La. Feb. 11, 2008); Couch on Insurance § 175:5 (3d ed. 1998). The indemnity character of insurance limiting recovery to actual loss is imposed as a matter of public policy. Couch on Insurance § 1:37 (3d ed. 2010).

In view of these principles, an insured is generally limited to recovery in the amount of the actual loss sustained, even if he or she might have recovered additional policy benefits under some alternative scenario. Repair records are the best evidence of repair costs and, thus, of the actual loss sustained. *See e.g., Volkswagen of America, Inc. v. Robertson*, 713 F.2d. 1151, 1169 (5th Cir.1983) ("Where invoices, statements, or records of accounts expended in the repair of damages are in the possession of plaintiff or are available or attainable, such records constitute

the best evidence and should be offered in proof of plaintiff's claim. In the event such evidence is not available or attainable, proof of loss should be made by offering the testimony of the person furnishing the material, labor, or supplies when such testimony may be produced. Upon proper showing that the testimony of such persons is not available, the court may allow a claim for damages, upon the production of such available testimony as fairly and reasonably establishes plaintiff's claim under the circumstances."). Further, after an insured has made repairs, repair estimates are irrelevant. *See e.g., LaCroix v. State Farm Fire and Casualty Company*, 2010 U.S. Dist. LEXIS 60675, 2010 WL 2265577, at *4 (E.D. La., June 2, 2010) (because "the actual governs over the theoretical," damages may be predicated on the basis of estimates only when the loss has not been repaired).

Where a covered and a non-covered peril contribute to a claimant's loss, "[i]t is an insured's burden to produce evidence that would afford a reasonable basis for estimating the amount of damage or the proportionate part of damage caused by the covered peril and that by the excluded peril." 12 Couch on Insurance § 175:9 (3d Ed. 2006), cited with approval in *Broussard v. State Farm*, 2007 U.S. Dist. LEXIS 56767, 2007 WL 2264535 at 2-3 (E.D. La. Aug. 2, 2007). Accordingly, "insureds whose losses are only partially reimbursable by the insurer" have the burden of "segregating damages to the insured building from a covered peril from those caused by a noncovered peril." 17A Couch on Insurance § 254:75.

b. Anti-Concurrent Causation Policy Provisions:

Water/Flood Related exclusions and anti-concurrent cause clauses are enforceable under NY law. See *Cashew Holdings LLC v. Canopius U. S. Insurance, Inc.*, 2013 U.S. Dist. LEXIS 125471, 2013 WL 4735645 (E.D.N.Y. September 3, 2013), *ABU Asser Corp. v. Twin City Fire Ins. Co.*, 1997 U.S. Dist. LEXIS 18265, at *4-5, 1997 WL 724568 (S.D.N.Y. Nov. 18, 1997),

Papadopoulos v. Cambridge Mut. Fire Ins. Co., 104 A.D.3d 659, 960 N.Y.S.2d 474 (2d Dept. 2013); *Kannatt v. Valley Forge Ins. Co.*, 228 A.D.2d 564, 644 N.Y.S.2d 530 (2d Dept. 1996). Many homeowners policies contain anti-concurrent causation provisions, which would bar coverage for an excluded loss even if a covered loss also contributed to the damage. For instance, some homeowners policies contain an anti-concurrent cause provision, which bars coverage for loss caused directly or indirectly by water damage, "regardless of any other cause or event contributing concurrently or in any sequence to the loss."[1] Accordingly, under the provision, the policy would exclude coverage for loss caused directly or indirectly by flooding, even if wind contributed to the loss. New York courts have enforced similar anti-concurrent cause provisions to bar coverage for water damage regardless of whether a potentially covered loss may have contributed to the loss. *Jahier v. Liberty Mut Group*, 64 A.D.3d 683, 883 N.Y.S.2d 283 (2d Dept. 2009) (reversing denial of summary judgment to insurer that denied coverage for damage sustained to pool area caused by excluded water damage under homeowners policy containing anti-concurrent cause provision, holding that evidence demonstrated that the insured's loss was attributable to the subsurface water pressure that was exerted upon the empty swimming pool, even though it was precipitated by the drainage of the pool and heavy rainfall).

c. Weather Conditions Exclusions:

Some insurers' policies include a weather conditions exclusion, which would also apply to bar coverage for loss caused by water damage, even if weather conditions, such as wind, contributed to the loss. Some insurers' policies provide that it does not insure for loss to

[1] For example, the Policy may provide as follows:

We do not insure for loss caused directly or indirectly by any of the following. Such loss is excluded regardless of any other cause or event contributing concurrently or in any sequence to the loss. . . . c. Water Damage, meaning: (I) flood...."

property described in Coverages A and B caused by weather conditions "if weather conditions contribute in any way with a cause of event excluded in paragraph I above to produce a loss." Water damage, including flood, is an excluded cause under paragraph I of the Policy. Although no New York court appears to have interpreted a similar weather conditions exclusion, at least one federal court applying Pennsylvania law has interpreted the same weather conditions exclusion and found that if wind contributed in any way with a plainly excluded cause (deterioration in this case) to produce a loss, then such loss is excluded from policy coverage. See *Hamm v. Allstate Prop. & Cas. Ins. Co.*, 908 F.Supp.2d 656 (W.D. Pa. 2012).

d. Wear and Tear & Faulty Workmanship Exclusions:

Many policies also contain exclusions for loss caused by (1) wear and tear, marring, deterioration and (2) inherent vice, latent defect, mechanical breakdown. In addition, some insurers policies contain an exclusion barring coverage for loss caused by faulty, inadequate, or defective design, specifications, workmanship, repair, construction of part or all of any property, whether on or off the residence premises. Courts applying New York law have not hesitated to enforce these exclusions where the evidence supports the loss being caused by one of these excluded perils. See *Rapid Park Indus. BEW v. Great Northern Ins. Co.*, 502 Fed. Appx. 40 (2d Cir. 2012) (finding the wear and tear exclusion to be clear and unambiguous); *Wider v. Heritage Maint., Inc.*, 14 Misc. 3d 963, 827 N.Y.S.2d 837 (Sup. Ct. N.Y. Co. 2007) (finding faulty workmanship exclusion was unambiguous and applied to bar coverage for water damage caused by contractor's failure to follow industry standard and own process in cleaning building facade).

G. Damages and Valuation

RCV or ACV

Where an insured seeks to recover under a policy on a replacement cost value basis (RCV), rather than a depreciated actual cash value (ACV) basis, the "actual repair of the property is a condition precedent to recovering on a replacement cost basis." *Executive Plaza, LLC v. Peerless Ins. Co.*, 717 F.3d 114, 117 (2d Cir. 2013).

Off-Set/Credit Under Homeowners Policy For Amount Paid Under Flood

For those claims where insureds have already recovered for damage to their property caused by flood under a flood insurance policy, that insured's homeowner's insurer should be entitled to a credit or off-set for the flood payments to the extent the insured seeks to recover the same damages under the homeowners policy. See *Bradley v. Allstate Ins. Co.*, 620 F.3d 509 (5th Cir. 2010) (recognizing the rule against double recovery and finding that in order to determine an10unt potentially recoverable by insured under homeowners policy for uncompensated losses, insurance payments already received from flood insurer should be deducted from total actual loss). New York courts have also recognized the rule that prohibits double recovery for the same damages under two different insurance policies. See *Rosenblatt v. Washington County Coop. Ins. Co.*, 191 A.D.2d 883, 594 N.Y.S.2d 456 (3d Dept. 1993) (finding that payment by one insurer on same loss would constitute a set-off to plaintiffs subsequent claim against second insurer for same loss); see also *J&R Electronics, Inc. v. One Beacon Ins. Co.*, 35 A.D.3d 169, 825 N.Y.S.2d 462 (1st Dept. 2006) (holding insurer entitled to deduct payment it previously made to insured for damaged merchandise so as to avoid double recovery).

H. Policy Conditions

Duty to Cooperate

An insurer may establish the insured's lack of cooperation and decline coverage on that basis if it shows that: "(1) it acted diligently in seeking to bring about the insured's cooperation,

(2) the efforts employed by the carrier were reasonably calculated to obtain the insured's cooperation, and (3) the attitude of the insured, after cooperation was sought, was one of willful and avowed obstruction" *Lancaster v. Incorporated Village of Freeport*, 92 A.D.3d 885, 886, 939 N.Y.S.2d 122, 124 (2d Dept. 2012). NY law strictly enforces "compliance by an insured with an insurer's request for proofs of loss." *Harris v. Allstate Ins. Co.*, 83 F.Supp.2d 423, 429 (S.D.N.Y. 2000) (citing N.Y. Insurance Law § 3407(a) and *Igbara Realty Corp. v. New York Prop. Ins. Underwriting Ass'n*, 63 N.Y.2d 201, 209, 470 N.E.2d 858, 481 N.Y.S.2d 60, 61- 62 (1984)). "The duty of an insurer to pay under a policy of insurance arises only after proofs of loss have been received by such insurer." *Do-Re Knit, Inc. v. National Union Fire Ins. Co. of Pittsburgh*, 491 F.Supp. 1334, 1338 (E.D.N.Y. 1980).

I. Extra Contractual Claims

The CMO directed that plaintiffs were to withdraw extra contractual claims by today, or submit letters explaining the basis for such claims. As of today, I have not received any letters explaining the basis for extra contractual claims and I would request the opportunity to provide a supplemental list on this topic should I receive these explanations.

J. Lender Placed Policies

Some insurers' policies provide for lender-placed insurance that is issued to the lender by the insurer for the insured's property. Where the lender is not a party to the litigation, the homeowner lacks of standing to sue the insurer and, in addition, there is an issue regarding the failure to include an indispensable party.

Lender placed policies insure the lender for their interest in the property. The contract is not with the borrower. A plaintiff may not maintain a cause of action for breach of contract against a defendant where it has no contractual relationship with the defendant. *See M. Paladino*,

Inc. v. J. Lucchese & Son Contracting Corp., 247 A.D.2d 515, 515, 669 N.Y.S.2d 318 (2d Dept. 1998).

Insurance coverage extends only to named entities and/or individuals defined as insured parties under the relevant terms of the policy. *Catholic Health Serv. of Long Is., Inc. v. National Union Fire Ins. Co of Pittsburgh, P.A.*, 46 A.D.3d 590, 592, 847 N.Y.S.2d 638 (2d Dept. 2007) (*citing Sanabria v. American Home Assur. Co.*, 68 N.Y.2d 866, 868, 501 N.E.2d 24, 508 N.Y.S.2d 416 (1986)); *Seavey v. James Kendrick Trucking*, 4 A.D.3d 119, 770 N.Y.S.2d 865 (1st Dept. 2004); *Mitchell v. County of Jefferson*, 217 A.D.2d 917, 629 N.Y.S.2d 605 (4th Dept. 1995); *National Gen. Ins. Co. v. Hartford Acc. & Indem. Co.*, 196 A.D.2d 414, 601 N.Y.S.2d 4 (1st Dept. 1993).

Where the insurance contract does not name, describe, or otherwise refer to the entity or individual seeking the benefit thereof as an insured, there is no obligation to defend or indemnify. *State of New York v. American Mfrs. Mut. Ins. Co.*, 188 A.D.2d 152, 155, 593 N.Y.S.2d 885 (3d Dept. 1993).

A standard mortgagee clause in an insurance policy gives rise to a separate insurance of the mortgagee's interest, independent of the mortgagor's right of recovery. *Reed v Federal Ins. Co*., 71 N.Y.2d 581, 589, 523 N.E.2d 480, 528 N.Y.S.2d 355 (1988). This clause requires an insurer to first make payment to the mortgagee to the extent of its interest, and then pay the balance of the loss, if any, to the mortgagor. *Grady v Utica Mut. Ins. Co*., 69 A.D.2d 668, 419 N.Y.S.2d 565 (2d Dept. 1979).

The insurance is for the mortgagee's benefit to the extent of the debt, and the mortgagee may recover from an insurer up to his secured interest. *Fields v. Western Millers Mut. Fire Ins. Co*., 48 N.E.2d 489, 490-91, 290 N.Y. 209, 212-13 (1943).

COMMONLY OCCURRING ISSUES IN CLAIMS AGAINST INSURANCE AGENTS

Plaintiffs cannot recover based on any alleged negligence or misrepresentation on the part of Defendant in not informing Plaintiffs of the alleged availability of preferred risk policies. The United States Court of Appeals for the Fifth Circuit recognized that federal common law bars any recovery by Plaintiffs against an insurance agency based on state law theories of negligence or detrimental reliance (i.e., misrepresentation). *Wright v. Allstate Ins. Co.,* 415 F.3d 384, 390 (5th Cir. 2005) (citing *C.E.R 1988, Inc. v. The Aetna Cas. & Sur. Co.,*386 F.3d 263, 270-71 (3d Cir. 2004) and *Gibson v. Am. Bankers,* 289 F.3d 943, 948-50 (6th Cir.2002)); *see also Lawrence v. Fid. Nat'l Ins. Co*., 2007 U.S. Dist. LEXIS 42556, 2007 WL 1741785 at *5 (E.D. La. June 8, 2007). Any application of state tort law to claims raised under the National Flood Insurance Act ("NFIA") would impede Congress's objective of reducing fiscal pressure on federal flood relief efforts. *Wright v. Allstate Ins. Co*., 415 F.3d 384, 390 (5th Cir. 2005) (citing *C.E.R.*, 386 F.3d at 270).

In *Metzger,* the plaintiff/insured admitted receiving his insurance policy and not reading it, claiming that it was only at the time of the loss that he learned the policy did not provide coverage that he subjectively believed was included. The court held:

> A mere reading of the policy would have made him know the agreement the plaintiff was accepting and entering into. To hold that a contracting party, through no deceit or overbearing inducement of the other party, fails to read the contract, may establish and enforce the contract supposed by him would introduce into the law a dangerous doctrine. Of course, the doctrine does not exist. It has often been held that when a party to a written contract accepts it as the contract, he is bound by the stipulations and conditions expressed in that whether or not he reads them. 227 N.Y. at 415-16.

This doctrine has been uniformly applied by the courts to preclude a plaintiff from using its 20/20 hindsight to complain for the first time after a loss that coverage procured through its insurance broker was insufficient. *L.C.E.L,, supra; Worcester Ins. Co. v. Aaron Grover Agency,*

220 A.D.2d 659, 633 N.Y.S.2d 66 (2d Dept. 1995); *Rotanelli v. Madden*, 172 A.D.2d 815, 569 N.Y.S.2d 187 (2d Dept. 1991); *American Motorist Ins. Co. v. Salvatore*, 102 A.D.2d 342, 476 N.Y.S.2d 897 (1st Dept. 1984); *M & E. Manufacturing Co., Inc. v. Frank H. Reis*, 258 A.D.2d 9, 692 N.Y.S.2d 191 (3d Dept. 1999); *Leiberthal v. Agency Brokers*, 216 A.D.2d 816, 628 N.Y.S.2d 885 (3d Dept. 1995); *Nicholas J. Masterpol, Inc. v. Travelers Ins. Cos.*, 273 A.D.2d 817, 711 N.Y.S.2d 88 (4th Dept. 2000).

It is well-established that an insurance company and its agents have "no continuing duty to advise, guide, or direct a client to obtain additional coverage." *Murphy v. Kuhn*, 90 N.Y.2d 266, 270, 682 N.E.2d 972, 660 N.Y.S.2d 371 (1997). See also *Chaim v. Benedict*, 216 A.D.2d 347, 347, 628 N.Y.S.2d 356 (2d Dept. 1995) ("there is no common-law duty of an insurance company or its agency to advise a client to procure additional coverage.") The existence of a duty owed by defendant to plaintiff is an "essential element" of a negligence claim, the absence of which mandates dismissal. *See Martian Entm't, LLC. v. Harris*, 12 Misc.3d 1190(A), 824 N.Y.S.2d 769 (Sup. Ct. N.Y. Co. July 5, 2006) (citing 5*32 Madison Ave. Gourmet Foods, Inc. v. Finlandia Ctr., Inc.*, 96 N.Y.2d 280, 750 N.E.2d 1097, 727 N.Y.S.2d 49 (2001)); *see also Eurycleia Partners, LP v. Seward & Kissel, LLP*, 46 A.D.3d 400, 402, 849 N.Y.S.2d 510, 512 (1st Dept. 2007).

Furthermore, New York Courts have held that an applicant's signature on an insurance application bars any claim of negligence or fraud. *See Curanovic v. N.Y. Cent. Mut. Fire Ins. Co.*, 307 A.D.2d 435, 762 N.Y.S.2d 148 (3d Dept. 2003), *aff'd on appeal*, 22 A.D.3d 975, 803 N.Y.S.2d 234 (3d Dept. 2005) (insurance agent could not be held negligent where applicant signed the application even though applicant could not read or write English).

Dated: New York, New York
March 7, 2014

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SUPERSTORM SANDY MEDIATION CONFERENCE U.S. DISTRICT COURT FOR THE EASTERN DISTRICT OF NEW YORK

VIEW FROM THE DEFENSE BAR

_____, May____, 2014

This presentation is intended to provide a general overview of the types of coverage typically included in a property insurance policy. The descriptions contained herein do not necessarily reflect the views of any particular insurer. Nor are the descriptions contained herein necessarily applicable to any particular property insurance claim; each claim must be evaluated based on the specific facts of the claim, the terms and conditions of the applicable insurance policy, and the applicable case law.

OVERVIEW OF INSURERS' GOALS FOR MEDIATION

- **Types of Disputes**
  - Application of Exclusions and other Coverage Defenses
  - Pure Loss Measurement
  - Combined Dispute involving Coverage and Loss Measurement issues

*Please note that this is intended to provide a general overview of property insurance issues that may be relevant to lawsuits arising out of Sandy. It does not necessarily

OVERVIEW OF INSURERS' GOALS FOR MEDIATION

- **Application of Exclusions and other Coverage Defenses**
  - Generally ill-suited to mediation
  - All-or-Nothing Result
  - Comprehensive briefing and legal analysis

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OVERVIEW OF INSURERS' GOALS FOR MEDIATION

- **Pure Loss Measurement**
  - Better-suited to mediation
  - ***Exchange and availability of sources of proof***
  - Scope and Price versus Scope
  - Repairs are not completed
    - ACV versus RCV
  - Unknown Cause of Loss
    - Burden of Proof and Coverage Dispute

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OVERVIEW OF INSURERS' GOALS FOR MEDIATION

- **Combined Dispute involving Coverage and Loss Measurement issues**
  - Scope differences based on Cause of Loss ***is*** a coverage dispute
  - Burden of Proof is a legal dispute
  - Sources of Proof shortcomings

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OVERVIEW OF INSURERS' GOALS FOR MEDIATION

- **NFIP and Wind Claims**
  - Mediate at once
  - Overlapping or coextensive claimed damage
  - Exhaustion of NFIP limits

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OVERVIEW OF PERSONAL INSURANCE FORMS

- **Homeowners** - This is the most common PI policy. It applies to owner-occupied dwellings and covers the dwelling, other structures, personal property and additional living expenses.

- **Condo/Co-Op Unit Owners** - Contains building coverage for an individual unit as well as coverage for contents and additional living expenses.

- **Renters** - Provides contents and additional living expense coverage.

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COVERED PROPERTY

- **Coverage A – Dwelling**
  - Primarily single family dwellings; however, PI policies can also cover two, three and four family dwellings provided the named insured resides in one of the units.
  - Land is not covered, including land on which the dwelling is located.
  - Includes items permanently affixed to the dwelling (*e.g.*, a carport, attached garage, attached deck, etc.)
- **Coverage B – Other Structures**
  - Covers other structures on the residence premises set apart from the dwelling by clear space. Common examples would include a detached garage or shed.
- **Coverage C – Personal Property (Contents)**
  - Covers the insureds' contents anywhere in the world; however, coverage may be limited for property away from the residence premises.
  - Coverage includes property of others at the residence premises.

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PERSONAL INSURANCE – LOSS OF USE (HOMEOWNERS)

- **Loss of Use**
  - If a loss covered under the property policy makes the residence premises uninhabitable, the policy will cover any necessary increase in living expenses incurred so that the household can maintain its normal standard of living.
  - Coverage is subject to a monetary limit and lasts for the shortest time required to repair or rebuild the damage or, if the insured permanently relocates, the shortest time for the household to settle elsewhere.
  - Coverage includes Fair Rental Value for the part of the residence premises held for rental.
  - Coverage also includes limited civil authority coverage. This applies when the residence premises has not been damaged; however, a civil authority prohibits the insured(s) from use of the residence premises as a result of direct physical loss or damage to a neighboring premises caused by Peril Insured Against.
  - This is a frequent coverage issue during widespread catastrophe as a hurricane. In a hurricane, insureds are often evacuated due to damage to neighboring property caused by excluded perils such as flooding, and therefore civil authority coverage is not triggered if the evacuation was due to damage caused by flooding and not due to damage caused by wind.

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PERSONAL INSURANCE – PERILS INSURED AGAINST (COVERAGE A&B)

- Coverage A & B (dwelling and other structures) is most often written on an "all risks" or "open perils" basis. This means that the policy insures against all risks of direct physical loss unless the cause of loss is specifically limited or excluded.

- Under open peril coverage, the Insured's burden is to show that there was loss or damage to Covered Property during the policy period. The burden then shifts to the insurer to show that one of the exclusions or limitations applies. Where there is some damage caused by a covered cause of loss (wind) and other damage caused by an excluded cause of loss (flood), some courts have placed the burden on the insured to demonstrate an appropriate segregation of the damage between covered and excluded causes.

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PERSONAL INSURANCE – PERILS INSURED AGAINST (COVERAGE C)

- Many or most homeowners policies insure personal property on a named peril basis. This coverage places the burden on the insured to show that one of the specifically enumerated perils caused the loss.

- These perils usually include the following:
  - Fire or lightning
  - Windstorm or hail (note that this does not include interior water damage unless there is a storm created opening through which the water enters)
  - Explosion
  - Riot or civil commotion
  - Aircraft
  - Vehicles
  - Smoke
  - Vandalism and Malicious Mischief

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PERSONAL INSURANCE – PERILS INSURED AGAINST (COVERAGE C, CONT.)

- Theft
- Falling Objects
- Weight of Ice, Snow or Sleet
- Accidental Discharge or Overflow of Water or Steam
- Sudden and Accidental Tearing apart, Cracking, Burning or Bulging of a Steam or Hot Water Heating System, an Air Conditioning System, or an Appliance for Heating Water
- Freezing (subject to requirement that the insureds use reasonable care to maintain heat)
- Sudden and Accidental Damage from Artificially Generated Electrical Current
- Volcanic Eruption

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WATER EXCLUSION

- Virtually all Personal Insurance Policies contain a water exclusion. In most cases the water exclusion will exclude the following perils:
  - Flood
  - Surface Water
  - Waves
  - Tidal water
  - Overflow of a body or water or spray from any of these
  - Water or Waterborne material which backs up through sewers or drains or which overflows or is discharged from a sump.
  - Water or water-borne material below the surface of the ground which exerts pressure on or seeps or leaks through a building.

Because these perils are almost always excluded under a homeowners policy, coverage for these perils is typically available through the NFIP flood program.

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ANTI-CONCURRENT CAUSATION PREFACE

The water damage exclusion is typically subject to the "anti-concurrent causation" (ACC) preface. This language provides that the insurer will not pay for loss or damage caused directly or indirectly by certain excluded perils (including flood). There is no coverage for such loss or damage regardless of any other cause or event that contributes concurrently or in any sequence to the loss.

One effect of the ACC preface is to make clear that there is no coverage for damage caused by flood even where wind or windstorm contributes to the flooding.

_____, May____, 2014

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ANTI-CONCURRENT CAUSATION PREFACE (CONT.)

Here are two examples of the effect of the ACC preface in losses involving flooding:

First, if flood waters carry a car into the front of a building, causing the car to damage the building, both the flood damage to the building and the damage to the building from the impact of the car would be excluded. The vehicle may be an immediate cause of the impact damage; however, because flooding caused the vehicle impact (the winds were not strong enough to push the car into the building; it was the water), under the ACC clause, there is no coverage for the impact damage.

Second, if during a hurricane, a home sustains damage to the roof from wind (a covered cause of loss) and then the first floor of the home is inundated by floodwaters (an excluded cause of loss), the wind damage to the roof is covered but the flood damage to the first floor is not. The effect of the ACC clause is to preclude coverage for the first floor flood damage on the theory that wind or windstorm caused the flooding.

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OTHER EXCLUSIONS – POWER FAILURE

- Most policies contain an exclusion for loss caused by or resulting from power failure. This typically applies to power failures that arise from damage away from the residence premises, such as damage to power lines, transformers or other equipment owned by a utility company.

- This exclusion does not apply to the loss of power caused by covered damage at the residence premises.

- Because power failure is excluded, most policies will not provide loss of use coverage purely due to an off-premises power failure. This was a common claim arising out of Sandy. By endorsement some business insurance policies provide limited business interruption insurance for power outages caused by certain perils; however, power outages – without damage to Covered Property – will generally not trigger loss of use coverage under homeowners policies.

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SEWER BACKUP AND SUMP OVERFLOW

- Many insurers sell endorsements that provide limited coverage for sewer backup and sump overflow losses. The terms of these endorsements and amounts of coverage vary.

- As discussed, the anti-concurrent cause (ACC) preface to the water exclusion provides that the loss caused by an excluded cause of loss is excluded regardless of whether any other cause or event contributes to cause that loss. Therefore, when flooding causes a backup of sump or sewer water, that loss is excluded. The endorsements provide coverage when the backup is not caused by flooding but instead by, for example, a blockage in the sewer line.

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LOSS PAYMENT

- Most policies provide replacement cost coverage for buildings (under Coverage A or B). With respect to property valued at replacement cost, most policies provide that, if the replacement cost exceeds a certain threshold (e.g., $2,500), the insured is not entitled to more than the actual cash value until the property is actually repaired or replaced. In most jurisdictions, actual cash value is the replacement cost less depreciation.

- Replacement cost generally excludes increased costs of construction due to the enforcement of ordinance or laws regulating the repair or rebuilding of the property (code upgrades). Policies typically provide limited amounts of coverage for these increased costs, and these benefits are generally only available if they are incurred.

- Other types of property and some building items are valued on an actual cash value basis (however, most policies include endorsements that cover these items at RCV as well):
  - Personal property
  - Awnings, carpeting, household appliances, outdoor antennas and outdoor equipment, whether or not attached to the buildings
  - Structures that are not buildings (e.g., sidewalks, play sets)

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Tropical Cyclone Report
Hurricane Sandy
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Sandy was a classic late-season hurricane in the southwestern Caribbean Sea. The cyclone made landfall as a category 1 hurricane (on the Saffir-Simpson Hurricane Wind Scale) in Jamaica, and as a 100-kt category 3 hurricane in eastern Cuba before quickly weakening to a category 1 hurricane while moving through the central and northwestern Bahamas. Sandy underwent a complex evolution and grew considerably in size while over the Bahamas, and continued to grow despite weakening into a tropical storm north of those islands. The system re-strengthened into a hurricane while it moved northeastward, parallel to the coast of the southeastern United States, and reached a secondary peak intensity of 85 kt while it turned northwestward toward the mid-Atlantic states. Sandy weakened somewhat and then made landfall as a post-tropical cyclone near Brigantine, New Jersey with 70-kt maximum sustained winds. Because of its tremendous size, however, Sandy drove a catastrophic storm surge into the New Jersey and New York coastlines. Preliminary U.S. damage estimates are near $50 billion, making Sandy the second-costliest cyclone to hit the United States since 1900[1]. There were at least 147 direct deaths[2] recorded across the Atlantic basin due to Sandy, with 72 of these fatalities occurring in the mid-Atlantic and northeastern United States. This is the greatest number of U.S. direct fatalities related to a tropical cyclone outside of the southern states since Hurricane Agnes in 1972.

a. Synoptic History

Sandy's origin is primarily associated with a tropical wave that left the west coast of Africa on 11 October. The wave encountered a large upper-level trough over the eastern Atlantic on 12-13 October and produced an extensive area of showers and thunderstorms, but the shear was too strong for development. Little convection occurred near the wave axis for the next several days, likely due to upper-level convergence over the tropical Atlantic to the east of Hurricane Rafael. During that time, the wave passed near a weak pre-existing disturbance in the Intertropical Convergence Zone, and the two systems became difficult to distinguish by 17 October. The wave entered the eastern Caribbean Sea early on 18 October, with only a weak wind shift and some showers noted in the Windward Islands. Disorganized convection then

[1] When not adjusted for inflation, population and wealth normalization. Sandy ranks sixth when accounting for those factors (records of costliest cyclones began in 1900).

[2] Deaths occurring as a direct result of the forces of the cyclone are referred to as "direct" deaths. These would include those persons who drowned in storm surge, rough seas, rip currents, and freshwater floods. Direct deaths also include casualties resulting from lightning and wind-related events (e.g., collapsing structures). Deaths occurring from such factors as heart attacks, house fires, electrocutions from downed power lines, vehicle accidents on wet roads, etc., are considered "indirect" deaths.

increased on 19 October over the east-central Caribbean Sea, within an environment of moderate westerly shear associated with a mid- to upper-level trough over the Greater Antilles.

Overall, however, the environment was becoming more conducive for development, and pressures were falling over much of the central Caribbean Sea, likely due to a well-defined rising branch of the Madden-Julian Oscillation passing through the area (Fig. 1). Primitive banding features formed early on 20 October, and the extent of deep convection greatly increased. The convection probably contributed to the formation of a broad low-pressure area located a few hundred miles south of Haiti late that day. The low moved slowly toward the west and southwest on 21 October while high pressure strengthened over the Gulf of Mexico and the southwestern Atlantic Ocean. Although some westerly shear was still affecting the system, the motion toward the southwest brought the low into a reduced shear environment associated with an upper-level anticyclone building over the southwestern Caribbean Sea. Surface and satellite data suggest that the circulation of the low became well defined about 200 n mi south of Jamaica by late on 21 October. Although convection briefly waned, a strong band of deep convection formed near and south of the center early on 22 October. This convective band was organized enough by 1200 UTC that day to mark the formation of a tropical depression in the southwestern Caribbean Sea, about 305 n mi south-southwest of Kingston, Jamaica. The "best track" chart of the cyclone's path is given in Fig. 2, with the wind and pressure histories shown in Figs. 3 and 4, respectively. The best track positions and intensities are listed in Table 1[3].

Thunderstorms increased near and north of the center, and data from an Air Force Reserve Hurricane Hunter aircraft indicated that the depression became a tropical storm 6 h after genesis. Further development of Sandy was initially rather slow while the storm completed a small cyclonic loop, with the cyclone's peak winds only increasing by 10 kt in the first 24 h. Strengthening occurred at a faster rate by late on 23 October, with the band becoming more prominent east and south of the center (Fig. 5b). A middle- to upper-level trough digging over the northwestern Caribbean Sea and Gulf of Mexico caused Sandy to accelerate north-northeastward. Aircraft data indicate that Sandy became a hurricane at 1200 UTC 24 October while centered about 80 n mi south of Kingston with an eye becoming apparent on visible and microwave satellite images (Fig. 5d). The hurricane then intensified at a faster pace with its center reaching the southeastern coast of Jamaica near the community of Bull Bay, about midway between Kingston and South Haven, at about 1900 UTC; at the time of landfall Sandy's intensity was 75 kt. The brief passage over Jamaica did not seem to affect Sandy much, and the cyclone rapidly intensified after it moved over the deep warm waters of the Cayman Trench to the south of Cuba (Fig. 5e). Data from an Air Force Reserve aircraft suggest that the cyclone became a major hurricane, with maximum sustained winds estimated at 100 kt, shortly before making landfall in Cuba (Fig. 6) at 0525 UTC 25 October about 10 n mi west of the city of Santiago de Cuba.

The center of Sandy spent about 5 h crossing eastern Cuba before emerging into the Atlantic Ocean south of Ragged Island in the Bahamas. The hurricane weakened slightly during its brief time over Cuba, but then weakened more quickly by late in the day as a result of strong

[3] A digital record of the complete best track, including wind radii, can be found on line at ftp://ftp.nhc.noaa.gov/atcf. Data for the current year's storms are located in the *btk* directory, while previous years' data are located in the *archive* directory.

southwesterly shear. Shortwave ridging over the western Atlantic and a negatively tilted upper-level trough caused Sandy to slow and gradually turn toward the northwest. This pattern steered the cyclone through the Bahamas, with the center passing between Long Island and Great Exuma on 25 October, between Cat Island and Eleuthera early the next day, and skirting the east coast of Great Abaco late on 26 October. Although Sandy weakened below hurricane strength by 0000 UTC 27 October when it moved northward away from Great Abaco, the size of the storm had greatly increased, with the average radii of tropical-storm-force winds roughly doubling since the time of landfall in Cuba. This change in structure resulted from the interaction of Sandy with the aforementioned upper-level trough, including warm advection aloft and a considerable increase in upper-level divergence, in addition to the cyclone's movement into a modified continental air mass near and north of the Bahamas.

After passing the Bahamas, Sandy gradually turned toward the northeast and its forward speed increased in advance of a mid-tropospheric trough over the central United States. Sandy regained hurricane strength by 1200 UTC 27 October when the center was about 125 n mi north-northeast of Great Abaco (Fig. 7b). Although Sandy had become a hurricane again, the structure of the cyclone was quite unusual. Reconnaissance data indicated that the radius of maximum winds was very large, over 100 n mi, and the strongest winds were located in the western (left) semicircle of the cyclone. In addition, satellite, surface and dropsonde data showed that a warm front was forming a few hundred miles from the center in the northeast quadrant, with another weak stationary boundary to the northwest of the center (Fig. 8) serving to enhance the convection and strong winds there. However, the stationary front never reached the center of circulation, and the front weakened the following day as the hurricane moved northeastward away from the upper trough.

Sandy passed a few hundred miles southeast of North Carolina on 28 October, and the cyclone took on a more tropical appearance near its center with hints of an eye in microwave imagery (Fig. 7d). By early on 29 October, the hurricane's track bent toward the north when Sandy encountered an anomalous blocking pattern over the North Atlantic (Fig. 9), preventing the cyclone from moving out to sea. While the large mid-tropospheric high built into northeastern North America, the central United States trough deepened. A piece of this trough moved into the southeastern United States and provided baroclinic forcing for Sandy, along with a significant decrease in vertical wind shear. These factors, in addition to the cyclone's moving over the warm Gulf Stream waters (Fig. 10), caused Sandy to re-intensify early on 29 October, and the hurricane reached a secondary peak intensity of 85 kt near 1200 UTC (Fig. 11) about 220 n mi southeast of Atlantic City, New Jersey.

The trough over the southeastern United States helped to accelerate Sandy toward the northwest later on 29 October, and the cyclone moved at an average forward speed of 20 kt from the time of the secondary intensity peak until landfall. However, the hurricane moved over much cooler waters and into a cold air mass located over the eastern United States and northwestern Atlantic Ocean. These factors contributed to the system's weakening and hastened its loss of tropical characteristics. Surface, reconnaissance, and satellite data, discussed further in section b below, suggest that Sandy became extratropical[4] by 2100 UTC 29 October while the center of

[4] The primary distinction between tropical and extratropical cyclones is their energy source. Tropical cyclones derive their energy predominantly from the release of latent heat of condensation relatively close to the center, while

circulation was about 45 n mi southeast of Atlantic City. The center of Post-tropical Cyclone Sandy[5] then made landfall at about 2330 UTC near Brigantine, New Jersey, just to the northeast of Atlantic City, with an estimated intensity of 70 kt and a minimum pressure of 945 mb[6].

After landfall, the cyclone turned toward the west-northwest and slowed, gradually weakening while its center moved through southern New Jersey, northern Delaware and southern Pennsylvania. The center of the cyclone became ill defined over northeastern Ohio after 1200 UTC 31 October, and the remnants of Sandy moved northward to northeastward over Ontario, Canada for the next day or two before merging with a low pressure area over eastern Canada.

b. Meteorological Statistics

Observations in Sandy (Figs. 3 and 4) include satellite-based Dvorak technique intensity estimates from the Tropical Analysis and Forecast Branch (TAFB) and the Satellite Analysis Branch (SAB), as well as the Advanced Dvorak Technique from the University of Wisconsin-Madison/Cooperative Institute for Meteorological Satellite Studies (UW-CIMSS). Data and imagery from NOAA polar-orbiting satellites including the Advanced Microwave Sounding Unit (AMSU), the NASA Tropical Rainfall Measuring Mission (TRMM), Defense Meteorological Satellite Program (DMSP) satellites and the European Advanced Scatterometer (ASCAT) satellite, among others, were also useful in constructing the best track of Sandy.

Twenty-four reconnaissance missions were flown in and around Sandy. These missions included flights of the C-130 aircraft from the Air Force Reserve 53rd Weather Reconnaissance Squadron, the NOAA WP-3D aircraft, and the NOAA G-IV jet. These aircraft provided data that were crucial in determining the intensity and structure of Sandy. National Weather Service (NWS) WSR 88-D radar data from Mt. Holly, NJ and radar data from the Institute of Meteorology of Cuba were used to make center fixes.

Selected ship reports of winds of tropical storm force associated with Sandy are given in Table 2, and selected surface observations from land stations and buoys are given in Table 3.

Winds / Pressure

Sandy made its first landfall in Jamaica as a category 1 hurricane on 24 October, and it was the first hurricane landfall there since Gilbert in 1988 (although Ivan in 2004 brought sustained hurricane-force winds to the island). Although there were no official reports of hurricane-force winds, these conditions likely occurred over a narrow swath over the far eastern part of Jamaica during the afternoon hours on 24 October, with widespread tropical-storm-force

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extratropical cyclones rely mainly on baroclinic processes (large-scale temperature contrasts between warm and cold air masses).

[5] The term "post-tropical" is used in NWS advisory products to refer to any closed low-pressure system that no longer qualifies as a tropical cyclone. However, such systems can continue carrying heavy rains and damaging winds. Post-tropical cyclones can be either frontal (extratropical) or non-frontal lows.

[6] Landfall is defined as the intersection of the surface center of a cyclone with a coastline. It is important to note that although Sandy made landfall as an extratropical low, its strong winds, heavy rains and storm surge had been felt onshore for many hours while Sandy was still a hurricane.

winds occurring elsewhere. The lowest pressure reported on land was 972.1 mb at the Kingston Airport during the eye passage.

Operationally, the peak intensity of Sandy was assessed to be 95 kt. The 100-kt analyzed peak intensity in post-analysis is based on a blend of a 700-mb flight-level wind of 117 kt (which normally corresponds to an intensity of about 105 kt) at 0409 UTC 25 October and peak stepped-frequency microwave radiometer (SFMR) values of 95 kt at 0502 UTC. The flight-level and SFMR winds were rapidly increasing in the few hours before landfall in Cuba at 0525 UTC, consistent with the marked increase in organization on satellite (Fig. 6) and radar (Fig. 12) images. Given that the 95-kt surface wind was measured in the south quadrant (not the east, where the maximum winds are typically located for a northward-moving cyclone) and the fact that a peak flight-level wind of 126 kt was observed about 6 h after landfall, it is estimated in post-analysis that Sandy had maximum sustained winds of about 100 kt at landfall in Cuba, making it a category 3 hurricane on the Saffir-Simpson Hurricane Wind Scale.

Winds of hurricane force likely occurred over a narrow stretch of eastern Cuba in Santiago de Cuba and Holguín provinces. A peak 1-min wind of 81 kt was observed in Cabo Lucrecia along the northeastern coast of Cuba, where wind gusts of over 100 kt were measured. Maximum 1-min winds of 78 kt with a gust to 99 kt were also recorded in the city of Santiago de Cuba before the anemometer failed. A wind gust of 143 kt from Gran Piedra indicates that extreme wind gusts occurred over elevated terrain near and east of the center. Figure 13 shows selected wind gusts for surface stations and buoys in the Caribbean Sea, western Atlantic Ocean and the southeastern coast of the United States.

The analyzed secondary peak intensity of 85 kt about 12 h before landfall in New Jersey (Fig. 11) is based on peak 700-mb winds of 94 kt at 1014 UTC 29 October and peak SFMR values of 84 kt at 1210 UTC that day.

Figure 14 shows selected sustained winds observed over the northeastern and Mid-Atlantic coasts and Fig. 15 shows peak wind gusts in those areas. There was one sustained hurricane-force wind reported: Great Gull Island, New York, between Long Island and Fishers Island, measured a 1-min mean wind of 65 kt at an elevation of 18 m at 2035 UTC 29 October. This observation suggests that sustained hurricane-force winds likely occurred onshore over a limited area while Sandy was still a hurricane. In addition, a Texas Tech University (TTU) measurement tower near Long Beach, New Jersey, reported a 1-min mean wind of 53 kt at a height of 2.25 m at 0000 UTC 30 October. This observation implies 10-m winds of about 68 kt using standard adjustment factors, as analyzed by TTU, and supports the estimated intensity of 70 kt at landfall. Sustained hurricane-force winds therefore almost certainly occurred in New Jersey, although these are believed to have occurred exclusively after Sandy's extratropical transition. The strongest observed peak wind gust (83 kt) from a reliable station was measured at Eaton's Neck by a WeatherFlow site at 24 m elevation along the northern shore of Long Island, at 2210 UTC 29 October. Several sites at 10-m elevation reported peak wind gusts of 75-78 kt in northern New Jersey and southern Long Island, and it is notable that gusts of hurricane force were reported in seven different states. Strong wind gusts primarily associated with the Sandy's post-tropical stage penetrated well inland, as far westward as Wisconsin and northward into Canada (Fig. 16).

The overall minimum central pressure of Sandy is estimated to be 940 mb, which occurred near 1800 UTC 29 October, a few hours before landfall. This value is based on a dropsonde that measured 941 mb with 15 kt of surface wind at 1917 UTC 29 October. The minimum central pressure at landfall in Cuba is estimated at 954 mb. This pressure is derived from an extrapolated central pressure of 955 mb from an Air Force Reserve reconnaissance report about 20 minutes before landfall. The minimum central pressure at landfall in New Jersey is estimated at 945 mb, based on National Ocean Service (NOS) station ACYN4 at Atlantic City that recorded 945.5 mb at 2224 UTC 29 October, along with one other station that reported 945.6 mb. The Atlantic City report has been noted by several agencies as the lowest sea-level pressure ever recorded north of North Carolina in the United States. The 1938 Great New England hurricane, however, is analyzed to have made landfall with a slightly lower central pressure (941 mb), although no pressure below 946 mb was recorded. Several sites across the mid-Atlantic region also recorded their all-time minimum pressures during the passage of Sandy (see Table 4). Among the lowest were Atlantic City with 948.5 mb and Philadelphia, PA, with 952.2 mb.

Structure

Sandy was an extraordinarily large hurricane, its size growing considerably from the time it reached the Bahamas until its final landfall as an extratropical cyclone along the mid-Atlantic coast. Data from a variety of observational platforms indicated that the extent (diameter) of tropical-storm-force (or gale-force) winds grew to about 870 n mi prior to landfall (e.g., Fig. 17), with most of the increase in size occurring on 25 and 26 October over the Bahamas. Sandy was the largest tropical cyclone in the extended best track record[7], which began in 1988. The extreme size of the cyclone was caused by several factors, discussed below.

The inner core of the storm was disrupted by both its passage over Cuba and its proximity to an upper-level trough over the northwestern Caribbean Sea and the eastern Gulf of Mexico (Fig. 18a). While baroclinic forcing associated with the trough was occurring, Sandy moved into modified continental air over the western Atlantic Ocean. This change in environment led to the initiation of extratropical transition when a warm front formed a few hundred miles northeast of the center and a weak stationary front formed on the northwest side of the circulation by early on 27 October (e.g. Fig. 8). While these factors contributed to Sandy's weakening into a tropical storm, they also caused its wind and pressure fields to grow considerably. In addition, while the storm moved through the Bahamas, nearly all of the inner-core deep convection briefly dissipated, with most of the remaining deep convection focused near the warm front.

The extratropical transition was incomplete, however, when Sandy moved north of the Bahamas and away from the upper trough and drier air on 27 October. The low-level environment became more moist and unstable, and the system redeveloped relatively deep convection near the center, allowing Sandy to maintain its status as a tropical cyclone. In addition, the upper-level trough became negatively tilted (Fig. 18c), which caused a decrease in wind shear near Sandy while it moved just south of the Gulf Stream, and Sandy became a hurricane again on that day. Although the cyclone regained hurricane strength, frontal structures

[7] Demuth, J., M. DeMaria, and J.A. Knaff, 2006: Improvement of advanced microwave sounder unit tropical cyclone intensity and size estimation algorithms. J. Appl. Meteor., 45, 1573-1581.

remained in the outer circulation, well away from the core. Sandy never lost its large wind field and large radius of maximum wind, and it retained those hybrid characteristics through landfall. It's worth noting that in all tropical cyclones, the storm environment contributes to the distribution and extent of the wind field. In our best-track analysis of Sandy's intensity and size, no attempt has been made to distinguish the relative contributions of Sandy's tropical core from its frontal environment.

From late on 28 October through the early afternoon on 29 October, Sandy intensified while it approached and passed over the warmer waters of the Gulf Stream (Fig. 10). A second and larger mid-latitude trough dove southeastward from the Great Lakes and took on a negative tilt (Figs. 19a-c). This configuration contributed to Sandy's strengthening due to decreased vertical wind shear and increased upper-level divergence. Interestingly, Sandy's satellite presentation and low-level temperature field somewhat resembled the warm seclusion that is sometimes observed in particularly intense extratropical cyclones.

While Sandy approached the coast of New Jersey, some fundamental changes occurred in the structure of the cyclone, resulting in its completion of post-tropical transition near 2100 UTC 29 October. Dropsondes during that day indicated that low-level temperatures within a few miles of the center of Sandy decreased significantly (Fig. 20), with surface temperatures dropping from 25°C at 1400 UTC to 17°C at 2100 UTC. This suggests that much cooler low-level air was penetrating the center of the cyclone, although it was still warmer than the air mass surrounding the cyclone. While an eye-like structure was still apparent on radar before 1800 UTC (Fig. 21a), aircraft data show that the center became embedded within the lower-tropospheric temperature gradient before 2200 UTC (Fig. 21b), with the warmest air well to the northeast of the center. In addition, southeasterly shear increased markedly before landfall, and the organized deep convection near the center ceased around 2100 UTC, leaving an exposed center with any remaining convection near a warm front (Fig. 21b). This cessation of central convection coincided with the passage of the cyclone over much colder shelf waters just offshore of the mid-Atlantic coast.

The NHC surface analyses for 1500 UTC and 2100 UTC 29 October, based on the available imagery and data, are presented in Figs. 22 and 23. No fronts are analyzed close to the center of Sandy at 1500 UTC, with an occlusion forming to the north, and a stationary front on the western side of the circulation. A central dense overcast was still present at 1500 UTC, however this feature had dissipated 6 h later (Fig. 23). The 2100 UTC analysis shows an occluded front wrapping into the core of the cyclone, with the temperature gradient increasing along the now-moving warm front to the west. By that time, Sandy no longer met the definition of a tropical cyclone[8] since it both lacked organized deep convection and had become a frontal cyclone. Consequently, the NHC best track denotes extratropical transition at 2100 UTC 29 October.

[8] NWS Directive 10-604 defines a tropical cyclone as a warm-core non-frontal synoptic-scale cyclone, originating over tropical or subtropical waters, with organized deep convection and a closed surface wind circulation about a well-defined center.

Storm Surge[9]

Sandy caused water levels to rise along the entire east coast of the United States from Florida northward to Maine. The highest storm surges and greatest inundation on land occurred in the states of New Jersey, New York, and Connecticut, especially in and around the New York City metropolitan area. In many of these locations, especially along the coast of central and northern New Jersey, Staten Island, and southward-facing shores of Long Island, the surge was accompanied by powerful damaging waves. A list of the storm surge, storm tide and inundation calculations and observations is provided in Table 5. Maps of the inundation along the east coast of the United States (Fig. 24), and along the New Jersey, New York and Connecticut coasts (Fig. 25) are also provided.

New York

The highest storm surge measured by an NOS tide gauge in New York was 12.65 ft above normal tide levels at Kings Point on the western end of Long Island Sound. A storm surge of 9.56 ft above normal tide levels was reported on the northern side of Staten Island at Bergen Point West Reach, and 9.40 ft was reported at the Battery on the southern tip of Manhattan.

Record storm tides (the combination of the storm surge and astronomical tide) were measured by the NOS tide gauges in the New York City area. At the Battery (where water level records go back to 1920), the storm tide reached 14.06 ft above Mean Lower Low Water (MLLW), which was 4.36 ft higher than the previous record set in December 1992. This storm tide was also 4.55 ft higher than what occurred when Tropical Storm Irene affected the region in 2011. The storm tides of 14.58 ft above MLLW at Bergen Point West Reach and 14.31 ft above MLLW at Kings Point were 4.37 ft and 2.00 ft higher, respectively, than their previous highest levels set in Irene.

The following inundations, expressed *above ground level*, were prevalent along the coast due to the storm tide:

Staten Island and Manhattan	4 – 9 ft
Brooklyn and Queens	3 – 6 ft
The Bronx and Westchester County	2 – 4 ft
Long Island (Nassau and Suffolk Counties)	3 – 6 ft
Hudson River Valley	3 – 5 ft

[9] Several terms are used to describe water levels due to a storm. **Storm surge** is defined as the abnormal rise of water generated by a storm, over and above the predicted astronomical tide, and is expressed in terms of height above normal tide levels. Since storm surge represents the deviation from normal water levels, it is not referenced to a vertical datum. **Storm tide** is defined as the water level due to the combination of storm surge and the astronomical tide, and is expressed in terms of height above a vertical datum, e.g. the North American Vertical Datum of 1988 (NAVD88) or Mean Lower Low Water (MLLW). **Inundation** is the total water level that occurs on normally dry ground as a result of the storm tide, and is expressed in terms of height above ground level. At the coast, normally dry land is roughly defined as areas higher than the normal high tide line, or Mean Higher High Water (MHHW).

Surveyed high-water marks from the United States Geological Survey (USGS) indicate that the highest water levels in New York occurred on Staten Island. The highest direct measurement of inundation was 7.9 ft above ground level, obtained from a seed line found on a door frame of a house in the Oakwood neighborhood of Staten Island. A direct measurement of 4.7 ft above ground level was made at One World Trade Center in the Financial District in Lower Manhattan. Higher inundation values likely occurred in other parts of Manhattan that are at lower elevations. For example, several high-water marks around 11 ft above the North American Vertical Datum of 1988 (NAVD88) were made in the vicinity of the South Street Seaport near the Brooklyn Bridge, where ground elevations are as low as 3 ft above NAVD88. These data imply that as much as 8 ft of inundation could have occurred in that area. In Battery Park, the lowest portions of the promenade adjacent to New York Harbor sit at about 6 ft above NAVD88. Several high-water marks between 11 and 11.5 ft above NAVD88 were measured in the area, suggesting that the water could have been as deep as 5.5 to 6 ft immediately adjacent to the harbor on the promenade. However, water levels were not that deep in most areas of the park.

The NOS tide gauges at the Battery (in Manhattan) and at Bergen Point West Reach (on Staten Island) recorded storm tide values of 9.0 ft and 9.53 ft above Mean Higher High Water (MHHW), respectively. If a rise of the water level beyond the MHHW line is considered a proxy for inundation of normally dry land, then some areas bordering New York Harbor that are not protected by sea walls could have been inundated with as much as 9 ft of water.

In Queens, one measurement of 6.0 ft above ground level in Maspeth and two measurements of 5.4 ft were made in the Rockaways. The water inundated portions of the runways and tarmacs at both La Guardia and John F. Kennedy International Airports. The maximum inundation measurement in Brooklyn was 4.5 ft, and the highest in the Bronx was 3.4 ft in the Throgs Neck area.

In Nassau County on Long Island, a high-water mark of 4.6 ft above ground level was observed in Freeport in the Town of Hempstead. A high-water mark of 4.3 ft was observed in Inwood (near John F. Kennedy International Airport), and marks of 3 to 4 ft were measured in Long Beach, Jones Beach, and across the bay in Massapequa. In Suffolk County, the storm surge reached 5.89 ft above normal tide levels at a gauge in Montauk on the eastern tip of Long Island. A high-water mark of 5.6 ft above ground level was measured on Fire Island, and a mark of 5.5 ft was measured in Oak Beach-Captree. On the north shore adjacent to Long Island Sound, a high-water mark of 4.5 ft was obtained in Wading River in the Town of Riverhead.

Significant flooding due to storm surge (with some contribution from rainfall) occurred in parts of the Hudson River Valley as far north as Albany. Inundation as high as 4 to 5 ft above ground level occurred in many places along the banks of the river in Rockland, Orange, Ulster, Dutchess, Columbia, and Greene Counties, topped by a 5.1 ft high-water mark in Poughkeepsie and 4.9 ft in Kingston. Inundation levels of 2 to 4 ft occurred as far north as Columbia and Greene Counties, over 100 n mi upriver from New York Harbor.

New Jersey

The highest storm surge measured by an NOS tide gauge in New Jersey was 8.57 ft above normal tide levels at the northern end of Sandy Hook in the Gateway National Recreation Area. Since the station failed and stopped reporting during the storm, it is likely that the actual storm surge was higher. Farther south, the NOS tide gauges in Atlantic City and Cape May measured storm surges of 5.82 ft. and 5.16 ft, respectively.

The following inundations, expressed above ground level, were prevalent along the coast due to the storm tide:

Monmouth and Middlesex Counties	4 – 9 ft
Union and Hudson Counties	3 – 7 ft
Essex and Bergen Counties	2 – 4 ft
Ocean County	3 – 5 ft
Atlantic, Burlington, and Cape May Counties	2 – 4 ft

The deepest water occurred in areas that border Lower New York Bay, Raritan Bay, and the Raritan River. The highest high-water mark measured by the USGS was 8.9 ft above ground level at the U.S. Coast Guard Station on Sandy Hook. This high-water mark agrees well with data from the nearby NOS tide gauge, which reported 8.01 ft above MHHW before it failed. Elsewhere, a high-water mark of 7.9 ft above ground level was measured in Keyport on the southern side of Raritan Bay and a mark of 7.7 ft was measured in Sayreville near the Raritan River.

As storm surge from Sandy was pushed into New York and Raritan Bays, sea water piled up within the Hudson River and the coastal waterways and wetlands of northeastern New Jersey, including Newark Bay, the Passaic and Hackensack Rivers, Kill Van Kull, and Arthur Kill. Significant inundations occurred along the Hudson River in Weehawken, Hoboken, and Jersey City, where many high-water marks indicated that inundations were between 4 and 6.5 ft above ground level. Inundations of 4 to 6 ft were also measured across Newark Bay in Elizabeth and the area around Newark Liberty International Airport.

Water levels were highest along the northern portion of the Jersey Shore in Monmouth and Ocean Counties, north of where Sandy made landfall. Barrier islands were almost completely inundated in some areas, and breached in some cases, due to storm surge and large waves from the Atlantic Ocean meeting up with rising waters from back bays such as Barnegat Bay and Little Egg Harbor. The USGS surveyed high-water marks as high as 4 to 5 ft above ground level in locations such as Sea Bright in Monmouth County and Tuckerton, Seaside Park, and Long Beach Island in Ocean County. Farther south, measured inundations were as high as 2 to 4 ft in areas near Atlantic City and Cape May.

Connecticut

In Connecticut, an NOS gauge measured a storm surge of 9.83 ft above normal tide levels at Bridgeport while a gauge in New Haven measured a surge of 9.14 ft, which caused record water levels at those stations.

The following inundations, expressed above ground level, were prevalent along the coast due to the storm tide:

Fairfield and New Haven Counties	4 – 6 ft
Middlesex and New London Counties	3 – 5 ft

The highest storm tide and greatest inundation occurred along western sections of the Connecticut coast. The maximum high-water mark measurement was 5.5 ft above ground level at Milford in New Haven County. Other inundation measurements of at least 5 ft were made in other areas near the city of New Haven, and the maximum measurement in Fairfield County was 4.5 ft in Norwalk. The NOS tide gauges in Bridgeport and New Haven reported water levels of 5.82 ft and 5.54 ft above MHHW, respectively, suggesting that inundation values could have been as high as 6 ft above ground level in parts of Fairfield and New Haven Counties.

Farther east, the highest marks measured by the USGS in Middlesex and New London Counties were 3.8 ft and 3.2 ft above ground level in Clinton and Old Lyme, respectively. In addition, the NOS gauge in New London reported a water level of 4.95 ft above MHHW. The maximum inundation values along the eastern parts of the Connecticut coast are estimated to be 3 to 5 ft above ground level.

Rhode Island, Massachusetts, New Hampshire and Maine

Significant storm surge occurred up the New England coast into Rhode Island and Massachusetts, especially south of Cape Cod. The highest storm surges recorded by NOS tide gauges in each state were 6.20 ft above normal tide levels at Providence, Rhode Island, and 5.50 ft at Fall River, Massachusetts. Even north of Cape Cod, a storm surge of 4.57 ft was recorded at Boston.

The following inundations, expressed above ground level, were prevalent along the coast due to the storm tide:

Rhode Island	3 – 5 ft
Massachusetts	2 – 4 ft
New Hampshire and Maine	1 – 2 ft

The highest measured USGS high-water marks in Rhode Island by county were 4.4 ft above ground level in Jamestown in Newport County and 3.9 ft in Narragansett in Washington County. The maximum storm tides measured by NOS gauges were 4.52 ft above MHHW at

Providence and 4.48 ft at Conimicut Light. These data suggest that inundations were as high as 5 ft above ground level along some parts of the Rhode Island coast.

Farther to the northeast, the highest measured inundation was 2.0 ft above ground level in Swansea, which borders the part of Narragansett Bay that juts into Massachusetts. NOS gauges in Fall River and Woods Hole measured storm tides of 4.18 ft and 3.60 ft above MHHW, suggesting that inundation was at least 4 ft above ground level along parts of the southern coast of Massachusetts. Farther north, the NOS gauge in Boston Harbor recorded a storm tide of 2.64 ft above MHHW, suggesting that parts of the Massachusetts coast west and north of Cape Cod had inundation of at least 3 ft above ground level.

The highest storm surges recorded by NOS tide gauges in New Hampshire and Maine were 3.32 ft above normal tide levels at Fort Point, New Hampshire, and 3.53 ft at Wells, Maine. The NOS gauges at Fort Point and Portland, Maine, both measured storm tides at or near 2.0 ft above MHHW.

Delaware, Maryland, and Virginia

The highest storm surges recorded by NOS gauges in Delaware were 5.99 ft above normal tide levels at Delaware City and 5.80 ft at Reedy Point. In Lewes, the gauge recorded a surge of 5.34 ft. On the ocean side of the Maryland coast, the NOS gauge at Ocean City Inlet measured a storm surge of 4.33 ft. On the Chesapeake Bay side of Maryland, the NOS gauge in Chesapeake City recorded a storm surge of 4.88 ft. The maximum storm surge measured in Virginia was 4.95 ft at Wachapreague on the Eastern Shore, although a surge of 4.79 ft was also recorded at Money Point in the Norfolk area.

The following inundations, expressed above ground level, were prevalent along the coast due to the storm tide:

Delaware	3 – 5 ft
Maryland	2 – 4 ft
Virginia	2 – 4 ft

The NOS gauge in Lewes recorded a storm tide of 4.05 ft above MHHW, and data from a USGS pressure sensor also in Lewes suggested inundation of 4 to 5 ft above ground level. On the ocean side of Maryland, a storm tide of 3.59 ft above MHHW was recorded at Ocean City. On the eastern shore of Chesapeake Bay, the highest measured storm tide was 3.06 ft at Tolchester Beach.

Several measurements of storm tide along the Virginia coast indicated an inundation of as much as 4 ft above ground level. Two USGS pressure sensors, on Plum Tree Island and at Cape Charles, measured storm tides that would imply inundation of about 4 ft. In addition, the NOS gauges at Sewell Point and Money Point in the Hampton Roads area recorded storm tides of just under 4.1 ft above MHHW. On the Eastern Shore, storm tides of 3.88 and 3.89 ft above MHHW were measured by the NOS gauges at Wachapreague and Kiptopeke, respectively.

The Carolinas, Georgia, and Florida

Although Sandy did not make landfall along the southeastern coast of the United States, it did cause water levels to rise from Florida to the Carolinas. The highest storm surges recorded by NOS tide gauges in each state were 4.16 ft above normal tide levels at Duck, North Carolina (before the sensor failed); 3.55 ft at Clarendon Plantation, South Carolina; 2.89 ft at Fort Pulaski, Georgia; and 2.95 ft at Fernandina Beach, Florida.

The following inundations, expressed above ground level, were prevalent along the coast due to the storm tide:

North Carolina	3 – 5 ft
South Carolina and Georgia	1 – 2 ft
Florida	1 – 3 ft

The NOS gauge at the U.S. Coast Guard Station in Hatteras, North Carolina, measured a storm tide of 4.15 ft above MHHW due to water from Pamlico Sound being blown onto the western side of the Outer Banks. Storm tides were significantly lower in South Carolina and Georgia, where 1.57 ft was reported at Charleston and 1.53 ft was reported at Fort Pulaski. In Florida, a storm tide of 2.72 ft was recorded at Trident Pier on Cape Canaveral, and 2.29 ft was reported at Lake Worth Pier.

Rainfall

Sandy produced torrential rains across parts of Jamaica, eastern Cuba, and Hispaniola. A maximum storm total rainfall of 28.09 inches (713 mm) was reported at Mill Bank, Jamaica, with a few other reports of over 10 inches (~250 mm) of rain on the upslope side of the eastern part of that island. Widespread 4-8 inch (about 100-200 mm) rain accumulations were recorded over eastern Cuba, with a maximum storm total at Gran Piedra of 11.12 inches (282 mm). No rainfall reports are available from Hispaniola or the Bahamas.

In the United States, most of the rain from Sandy fell south and west of the track of the center (Fig. 26), and selected totals are listed in Table 6. The heaviest rainfall was reported in extreme eastern Maryland and Virginia, southern Delaware and extreme southern New Jersey, with a widespread area of 5-7 inches of rain, and a peak amount of 12.83 inches in Bellevue, Maryland. Although this rain caused rivers in the mid-Atlantic region to rise, only minor damage was reported due to this flooding. Rainfall did contribute, along with storm surge, to the flooding in New York and New Jersey adjacent to the Hudson River. Minor rainfall accumulations occurred in southeastern Florida as Sandy passed, with most stations reporting less than 3 inches.

Snowfall

Widespread heavy snow, exceptionally rare in association with a tropical cyclone or one having just lost tropical characteristics, was reported in the Appalachian Mountains from western North Carolina northeastward through southwestern Pennsylvania (Fig. 27 and Table 7), and it mostly fell after Sandy became extratropical. West Virginia was hardest hit by the blizzard, with a large area of over a foot of snow reported and a peak storm total of 36 inches near Richwood. North Carolina also had one report of 36 inches of snow on Wolf Laurel Mountain, but the overall geographic extent of heavy snow was much smaller than in West Virginia.

Tornadoes

Only one tornado was reported in association with Sandy, an F-0 (winds between 73-112 mph) that struck Somerset, Bermuda on 28 October (early media reports of F-1 were erroneous).

c. Casualty and Damage Statistics

The number of direct deaths caused by Sandy is estimated at 147; Table 8 records the deaths by country. In the United States, 72 direct deaths were noted, making Sandy the deadliest U.S. cyclone outside of the southern states since Agnes (1972). While NHC's direct death counts do not typically include fatalities that occur after extratropical transition, the non-tropical status of Sandy for 2.5 h prior to landfall had no effect on the surge experienced along the coast. In addition, it is nearly impossible to know exactly when these deaths occurred relative to the transition. Consequently, all deaths along the coast from the surge have been included in the final total. Table 9 lists the number of deaths by state, with New York having the most (48) of any state. The storm surge was responsible for most of the U.S. deaths, with 41 of the 72 fatalities (57%) attributable specifically to that hazard. Falling trees during the storm killed twenty people, a rather high number that again highlights that hazard in the northeastern and mid-Atlantic states[10], even in locations experiencing winds of less than hurricane force. The rest of the U.S. fatalities were due to other wind-related causes (5), inland freshwater flooding (2), unknown causes (2), near-shore waves (1) or drowning within coastal waters (1). One death was reported in a U.S. territory: a man perished in a rain-swollen river near Juana Diaz, Puerto Rico. Two offshore deaths occurred about 90 n mi southeast of Cape Hatteras, North Carolina, when the *H.M.S. Bounty* sank—14 other people were rescued by the Coast Guard.

At least 87 deaths, an even greater number than for direct deaths, were indirectly associated with Sandy or its remnants in the United States. About 50 of these deaths were the result of extended power outages during cold weather, which led to deaths from hypothermia, falls in the dark by senior citizens, or carbon monoxide poisoning from improperly placed generators or cooking devices. The remaining deaths were mostly from storm cleanup efforts, including removing falling trees, and car accidents.

Sandy's impacts in the United States were widespread. At least 650,000 houses were either damaged or destroyed as a result of the cyclone, with the vast majority of the damage caused by storm surge and/or waves. About 8.5 million customers lost power as a result of

[10] Rappaport, Edward N., 2000: Loss of Life in the United States Associated with Recent Atlantic Tropical Cyclones. *Bull. Amer. Meteor. Soc.*, **81**, 2065–2073.

Sandy or its remnants, with power out for weeks or even months in some areas. Preliminary estimates compiled from a variety of sources suggest that Sandy was responsible for at least 50 billion dollars in damage in the United States. This figure is highly uncertain and it will probably take several more months before a more accurate total is obtained. Sandy is expected to rank as the second-costliest cyclone on record, after Hurricane Katrina of 2005, and will probably be the sixth-costliest cyclone when adjusting for inflation, population and wealth normalization factors[11]. It is notable, however, that these preliminary estimates likely include damage from the non-tropical portion of Sandy's lifecycle, and this complicates the comparison of Sandy to previous tropical cyclones.

Caribbean, Bahamas and Bermuda

The first country to be significantly affected was Jamaica. The hurricane caused one death on that island; an elderly man was killed when a boulder crushed his house. The government of Jamaica estimates that Sandy caused about $100 million (USD) of damage there. The most severe impacts were in eastern Jamaica near the landfall location, with thousands of homes damaged.

Damage was especially severe in eastern Cuba (Fig. 28). Eleven people were killed (nine in Santiago de Cuba province and two in Guantánamo), and at least 1.3 million people were directly affected by storm damage or restrictions to food or water. More than 226,600 homes were damaged and at least 17,000 were destroyed by the high winds. The majority of the destroyed homes were located in Santiago de Cuba, close to the landfall point. Total losses are estimated at $2 billion (USD), making Sandy one of the costliest hurricanes in Cuba's history.

Heavy rains caused severe flooding and significant damage in Haiti, with reports of at least 54 deaths and 21 people missing. The Haitian government reported that agricultural losses are estimated to be greater than $100 million (USD), with 40% of the corn, beans, rice, banana and coffee crops lost, and at least 64,000 heads of cattle killed. Over 27,000 homes were flooded, damaged or destroyed in that country due to river flooding, with road damage also noted. Cholera outbreaks were significant after the storm, with over 12,000 cases reported, and at least 44 deaths from this disease have been indirectly linked to Sandy. Overall damage is estimated by the Haitian government to be over $750 million (USD).

In the Dominican Republic, three people were killed, and about 24,500 homes were damaged, displacing more than 30,000 people. Agricultural damage from rainfall-induced flooding was significant, estimated at more than $30 million (USD).

Across the Bahamas, two people were killed. One man died after falling off his roof while attempting to fix damage during the storm on New Providence, and another man drowned due to storm surge in the Queen's Cove area on Grand Bahama Island. Damage was generally

[11] NHC uses the methodology detailed in the following reference to normalize tropical cyclone damage: Pielke, Jr., R., J. Gratz, C. Landsea, D. Collins, M. Saunders, and R. Musulin, 2008: Normalized Hurricane Damages in the U.S.: 1900-2005. *Natural Hazards Review*, 9, 29-42.

not as severe as it was in Hurricane Irene of the previous year, with most of the effects confined to power outages, although five homes were damaged on Exuma Island.

In Bermuda, the only significant effects were caused by a tornado that struck Somerset early on 28 October and was estimated to be an F-0 by the Bermuda Weather Service. The tornado damaged the roofs of a few houses, smashed car windows, and capsized several boats in Mangrove Bay during its lifetime of about 15 minutes. There were no injuries reported.

Southeastern United States

The effects of Sandy across the United States were enhanced by the fall full moon period, in which some of the highest astronomical tides of the year occurred. Persistent northerly winds and the slow movement of Sandy caused very large swells along the east-central and southeastern coasts of Florida. These swells caused moderate to major beach erosion from central Florida southward to Miami-Dade County, along with flooded coastal roadways. Wave heights of up to 20 ft likely occurred over the Gulf Stream and near shore waters. Wave action caused damage to a stretch of Highway A1A in a portion of the Fort Lauderdale Beach area, and one lane is still closed at the time of this writing. In addition, piers, boat ramps and several coastal homes were damaged from a combination of waves and the high water levels. In southeastern Florida along the immediate coast, gusty winds caused fallen trees and led to about 160,000 customers losing power. Minor coastal flooding was reported in the Florida Keys, northeastern Florida and Georgia. The combined costs of beach erosion and damage to some structures in Florida are estimated to be between $50 and $75 million.

In the Carolinas, damage was mostly similar to what occurred in southeastern Florida. Moderate to major beach erosion occurred along a large part of the South Carolina coast. Severe erosion was reported at the Isle of Palms, with a total loss of the sand dunes and several piers destroyed. The effects were also severe in the North Carolina Outer Banks, with Dare County reporting damage to some infrastructure but sparing any residential or commercial structures. Highway 12 north of Rodanthe was closed due to the road buckling from a 3-5 ft storm surge, and major beach erosion occurred as a result of the large breaking waves.

Virginia, Maryland, Delaware and Pennsylvania

Across the region, high winds downed trees and power lines, and heavy rains caused several streams and creeks to rise and either approach or reach flood stage for a brief time, causing some flooding in localized areas. In Maryland, severe beach erosion occurred and a large portion of Ocean City's 100-ft fishing pier was destroyed. The storm surge in that city was considered the worst seen along the coast since Gloria in 1985, with up to 4 ft of inundation occurring. Heavy rains produced by the storm exacerbated storm surge flooding along Chesapeake Bay, and the Delaware River swelled to record levels. Hundreds of roads were either closed or impassable by fallen debris or flooding during the height of the storm, with many remaining closed for at least a couple of days. Widespread power outages affected many, with up to 1.2 million customers without power in Pennsylvania. Preliminary estimates suggest residential damage of less than $5 million in Maryland, due to several homes having been

flooded. Overall damage estimates are about $5.5 million in Delaware and $20 million in Pennsylvania.

New Jersey and New York

Sandy's storm surge, in addition to large and battering waves, devastated large portions of the coasts of New Jersey and New York. In fact, the extent of catastrophic damage along the New Jersey coast was unprecedented in the state's history, with the brunt of it occurring in Monmouth and Ocean Counties. Whole communities were inundated by water and sand, houses were washed from their foundations, boardwalks were dismantled or destroyed, cars were tossed about, and boats were pushed well inland from the coast. About 5 million residences lost electrical power across this region, with power outages commonly lasting for several weeks. The New Jersey Governor's office estimates that 346,000 housing units were damaged or destroyed in that state, with 22,000 of those units uninhabitable. Severe damage to small businesses occurred in New Jersey, with nearly 19,000 businesses sustaining damage of $250,000 or more, and total business losses estimated at $8.3 billion. The New Jersey Public Service Electric and Gas Company estimated that 48,000 trees had to be removed or trimmed in order to restore power. Breaks in natural gas lines, occurring as a result of the storm, caused fires in some locations, resulting in the destruction of many residences. Power and gas line repairs are expected to cost roughly $1 billion and repairs to the waste, water and sewer services are estimated to cost about $3 billion.

Sandy spared few parts of the central and northern New Jersey coast. The damage in the community of Mantoloking highlights the severity of the storm surge and waves across this region. A majority of structures there were flooded, badly damaged, or destroyed. The surge even carved a path through the barrier island, creating two new inlets (Fig. 29a). In Seaside Heights, the iconic Casino Pier and Funtown Pier were destroyed; the loss of the latter of caused the destruction of the local amusement park (Fig. 30a). Long Beach Island, a barrier island offshore of the central New Jersey coast, suffered catastrophic damage with nearly every house on the seaside shore extensively damaged. The communities of Union Beach and Sea Bright witnessed similar devastation. The storm surge also pushed water into New York Bay and up the Hudson River, causing massive flooding in Jersey City. The surge into Raritan Bay forced water up the Raritan River that resulted in flooding in nearby Sayreville. Rescue efforts by the National Guard were required to save residents stranded in the town. About half of the city of Hoboken was reportedly flooded, and at least 20,000 of its residents were surrounded by water at the peak of the surge. The community center in Hoboken, its public works garage, three or four fire houses, and more than 1,700 homes were flooded, with damage in the town estimated to be well over $100 million. In Salem County, the nuclear power plant automatically shut down when four of its six pumps failed. The rail operations center of the New Jersey Transit Authority in Kearny was flooded by up to 7 ft of water, damaging as many as 74 locomotives and 294 rail cars, and several weeks passed before rail services resumed. Overall damage estimates to the New Jersey Transit System are around $400 million, with estimates of total damage to the entire transit, road and bridge system in the state reaching $2.9 billion.

In New York, the governor's office estimates that 305,000 homes were destroyed in the state, mostly caused by storm surge. The New York City Office of Management and Budget estimated the total damage to the city to be $19 billion, inclusive of all private, public and indirect costs. About one quarter of that, $4.5 billion, was damage sustained to city agencies such as the New York City Housing Administration and the Health and Hospitals Corporation. The New York City Metropolitan Transit Authority (MTA) suffered extensive damage estimated at $5 billion due to storm surge flooding that inundated eight tunnels. The South Ferry-Whitehall Street station at the southern end of Manhattan was essentially destroyed and subway service between Manhattan and Brooklyn was unavailable for several weeks after the storm. The MTA declared that the overall damage caused by the storm created the worst disaster in the 108-year history of the subway system (e.g. Fig. 30b, 30d). The remainder of New York's transportation infrastructure suffered an estimated $2.5 billion of additional damage. The New York Stock Exchange experienced an historic two-day closure as a result of the storm, the longest closure since the Blizzard of 1888. Parts of the Manhattan waterfront (including the Battery), Red Hook in Brooklyn, and Long Island City in Queens were under several feet of water. Flood waters reached the corner of Canal and Hudson streets and portions of the East Village, partly because of overflow along the East River (Fig. 30c), and hundreds of buildings were flooded in Manhattan. In addition, a fire within the Breezy Point neighborhood, located at the tip of the Rockaways peninsula in Queens, destroyed at least 100 homes, with that peninsula also seeing a destructive storm surge (Fig. 29b).

The devastation was widespread in Staten Island, especially along its southern shore where residences, businesses, cars and other property were heavily damaged. Whole blocks of houses were swept away by the surge in the communities of Midland, New Dorp, and Oakland Beach. Significant damage also occurred to the borough's electrical grid, rail, and ferry operations. The damage was so severe that media reports referred to it as Ground Zero for damage in New York City, and at least 21 people died in Staten Island from the storm surge.

On Long Island, damage in the 13 towns and two cities is estimated to be above half a billion dollars. Around 100,000 homes on Long Island were severely damaged or destroyed, primarily by storm surge and waves, with more than 2,000 homes deemed uninhabitable. The loss of Long Beach's boardwalk is estimated to cost $25 million to replace, and Ocean Beach's ferry terminal and boathouse were demolished. The Bay Park Sewage Treatment Plant in Nassau County was overwhelmed by the storm surge and sustained considerable damage.

Sandy's extensive storm surge inundated New York's 32-mile long Fire Island with water and sand, destroyed or washed away 200 homes, and obliterated protective sand dunes. Atlantic Ocean water breached the island in three places, but about 4,000 homes survived because of the protection offered by the dunes.

The fishing industry in the New Jersey and New York areas also suffered heavy losses, with millions of dollars of damage to the local docks, marinas, restaurants, and fish processing plants. BoatUS estimated that Sandy destroyed more than 65,000 boats and caused marine-related damage of about $650 million to New York, New Jersey and Connecticut.

New England

Sandy's high winds and storm surge also affected New England, with coastal sections from Connecticut through Massachusetts experiencing the worst of the conditions there. While the overall damage there was less than along the New York and New Jersey coasts, significant impacts occurred. Storm surge flooding severely affected coastal Connecticut, with approximately 3,000 homes damaged; preliminary estimates of damage in that state are about $360 million. Major coastal flooding in Rhode Island rivaled the impact from Hurricane Bob in 1991. The strong winds and rough seas sank a 50-ft barge in Bar Harbor, Maine, with another three vessels either sinking or being set adrift by the storm along coastal Maine. The most significant inland effects across the region were widespread power outages and downed trees.

Elsewhere in the United States

Blizzard conditions and heavy wet snow made roads impassable during the storm in West Virginia and western North Carolina, with the weight of the snow causing a number of structures to collapse. Strong winds caused many downed trees, and about 271,000 people lost electricity at some point in those areas. Damage related to the storm extended well inland as far west as the Ohio Valley and portions of the Midwest, with the main impact being power outages. Strong winds directly associated with the post-tropical cyclone occurred as far west as Wisconsin (e.g. Fig. 16), and generated rather large waves on Lake Michigan and some coastal flooding on its southern shore.

Canada

Sandy's far-reaching effects extended into Canada where a woman in Toronto died after a piece of a sign struck her in the head. One indirect death was also recorded due to an electrocution in Sarnia, Ontario. About 200,000 customers lost power at the height of the storm in Canada. Property Claim Services Canada estimates that insured property damage to be about $100 million (Canadian).

d. Forecast and Warning Critique

The genesis forecasts for Sandy were excellent. The precursor wave was introduced in the Tropical Weather Outlook (TWO) with a low chance (10%) of genesis 66 h prior to tropical cyclone formation and the probability was increased to a high chance (60%) 42 h prior to genesis. In addition to providing above-average lead times on genesis, the TWOs issued within 36 h of tropical cyclone formation indicated the threat of heavy rains that could produce life-threatening flash floods and mudslides across Jamaica, eastern Cuba and Hispaniola.

A verification of NHC official track forecasts for Sandy is given in Table 10a. Official forecast (OFCL) track errors were well below the mean official errors for the previous 5-yr period at all time periods, and about 50% better than the long-term mean from 48 to 96 h. The OCD5 (CLIPER) errors for this system were larger than the mean, suggesting these forecasts were more difficult than normal, likely because of Sandy's sinuous track, and as a consequence the OFCL forecasts displayed a substantial amount of skill. A homogeneous comparison of the

official track errors with selected guidance models is given in Table 10b. The GFS ensemble mean (AEMI), the Florida State Superensemble (FSSE) and the Atlantic Dynamical Model Consensus (TVCA) all performed a bit better than the official forecast through 48 h. Although the performance of the European Center for Medium-range Weather Forecasts (ECWMF) model (EMXI) was unremarkable through 72 h, its days four and five forecasts were superior by far, with extremely low errors. Most of the GFS-based guidance (including the HWFI and GHMI) was less skillful, although the GHMI did outperform the official forecast at day 5. The ECMWF model was one of the first to show the northwestward turn of Sandy at six and seven days (e.g. Fig. 31b), even while most of the rest of the guidance showed the cyclone staying offshore of the East Coast. Five days before landfall, the European ensemble guidance (Fig. 32) had a significant number of members correctly showing the track of Sandy bending back toward the United States, while the GFS ensemble members were mostly out to sea.

A verification of NHC official intensity forecasts for Sandy is given in Table 11a. Official forecast intensity errors were near the mean official errors for the previous 5-yr period at 12 and 24 h, and much below the long-term mean from 36 to 120 h. The OCD5 (Decay-SHIFOR) errors for this system were larger than the mean for Sandy except at 48 and 72 h. The OFCL forecasts were quite skillful, although the forecasts had a bit of a low bias. The higher OFCL errors in the 12-24 h time frame appear to be mostly due to a significant under-forecast of the intensity of Sandy at landfall in Cuba. Only a few model forecasts even showed Sandy reaching category 2 strength, with OFCL forecasts generally calling for a category 1 hurricane at Cuban landfall. A homogeneous comparison of the official intensity errors with selected guidance models is given in Table 11b. Overall, the official intensity forecasts were superior to much of the model guidance throughout the period, with the greatest exception being at 120 h. The HWRF was generally as good as or better than the official intensity forecasts, which is perhaps fortuitous since it struggled with the track forecast. It is of note that the EMXI and GFSI models beat the statistical-dynamical guidance (DSHP, LGEM) at 72-120 h, perhaps being able to better forecast the wind field of Sandy due to its large size being relatively well resolved and the importance of baroclinic influences with this cyclone.

The initial NHC storm surge inundation forecast of 4 to 8 ft above ground level for the New Jersey, New York, and Connecticut coastlines was issued in the 1500 UTC 27 October NHC public advisory, well over two days prior to landfall of the center of the cyclone. Later, the forecast values were gradually increased for Long Island Sound, Raritan Bay, and New York Harbor, to 5 to 10 ft at 0600 UTC 28 October (nearly 42 h before landfall) and to 6 to 11 ft at 1500 UTC 28 October (more than 32 h before landfall). These forecasts were quite good, given USGS high-water marks and NOS tide gauge data that suggest the highest inundation in areas bordering New York Harbor and Raritan Bay was about 9 ft. Maximum inundation was about 5 to 6 ft on the Jersey Shore and the Connecticut coastline, which also fell within the forecast range of 4 to 8 ft.

The NHC storm surge forecasts also verified well for the rest of the U.S. East Coast. For the New England coast, storm surge inundation forecasts were generally 3 to 6 ft above ground level for Rhode Island and southern Massachusetts, and the maximum inundation that occurred was 3 to 5 ft. The surge inundation forecast called for 2 to 4 ft for eastern Massachusetts and New Hampshire and 1 to 3 ft for Maine, both of which verified well.

To the south, the NHC storm surge inundation forecast was 2 to 4 ft above ground level for southeastern Virginia and parts of the Delmarva Peninsula and 4 to 8 ft north of Ocean City, Maryland. Actual inundation values were 3 to 5 ft for Delaware and 2 to 4 ft for Maryland and Virginia. These ranges verified reasonably well since they straddled the forecast ranges. In North Carolina, the storm surge inundation forecast was 3 to 5 ft, which verified well based on limited data in the region. The forecasts also verified well in Florida, where an inundation of 1 to 3 ft matched the NHC forecast.

Tropical cyclone watches and warnings associated with Sandy are listed in Table 12. A tropical storm watch was issued along the southeastern Florida coast at 1200 UTC 24 October and was extended northward to cover the remainder of the east coast of Florida and Lake Okeechobee by 2100 UTC that day. The tropical storm watch was modified to a warning for Sebastian Inlet southward at 2100 UTC 24 October and was extended northward through Flagler Beach at 0900 UTC 25 October. Tropical storm conditions, mainly confined to the immediate coast, arrived over extreme southeastern Florida as early as 0000 UTC 26 October and spread northward that morning, giving most areas a shorter-than-desired lead time of at least 36 h after the watch was issued and about 30 h after the warning. Tropical-storm-force winds reached the east-central Florida coast around 1800 UTC 26 October and spread northward along the northeastern coast of the state through about 0600 UTC 27 October, with the watch and warning providing about 48 h and 36 h of lead times, respectively.

A tropical storm watch was issued along a portion of the southeastern United States coast from the Savannah River through Oregon Inlet, North Carolina, including the Pamlico Sound, at 0900 UTC 26 October. The tropical storm watch was changed to a tropical storm warning from South Santee River, South Carolina, to Duck, North Carolina, including the Pamlico and Albemarle Sounds, at 2100 UTC that day. Tropical storm conditions began to affect portions of the south-central and central North Carolina coast about 36 h after the watch was issued and 24 h after the warning across these areas. The lead time was somewhat longer farther north along the Outer Banks, where tropical storm conditions did not begin until the early morning hours of 28 October.

In the mid-Atlantic and northeastern United States, Sandy posed unprecedented forecast and warning challenges. Not only was it a massive hurricane expected to affect a large portion of those states with a wide variety of hazards, it was also forecast to lose its tropical characteristics and evolve into a post-tropical cyclone at some point prior to making landfall. The implications for National Weather Service (NWS) products and warnings, the continuity of information, and potential options for dealing with the transition were discussed within the NWS, and between the NWS and emergency managers, beginning five days before landfall. After considering many approaches, three days before Sandy reached the U.S. coast the NWS decided to communicate Sandy's specific impacts in the landfall area with NHC advisories, and with high wind watches and warnings issued by local NWS Weather Forecast Offices (WFOs). These high wind watches and warnings for Sandy were issued over 60 h before the center made landfall. An overarching consideration was the NWS understanding of the preference of the emergency management (EM) community that the warning type not change once watches and

warnings were initiated, because that would cause an unacceptable level of confusion and disruption during critical periods of preparation that included evacuations.

At the time hurricane watches would have been issued, about two to three days before landfall, the timing of the expected offshore transition to a post-tropical cyclone was uncertain. Based on current NWS policy and procedures, had hurricane watches and warnings initially been used, and had Sandy become post-tropical well offshore, the NWS would have had to choose from one of three unacceptable options:

One option would have been to follow existing protocol and transfer forecast responsibility to other NWS offices, cancel the hurricane warning, and switch to local WFO warnings. NHC advisories would have ceased. This would have caused widespread confusion, potentially impeded preparations and evacuations, and directly contradicted the desires and efforts of the EMs.

Another option would have been to continue to call Sandy a hurricane when it really was not one (potentially for a full day or two) in order to maintain NHC advisories and the hurricane warning. Intentionally misrepresenting Sandy as a hurricane would have severely damaged the credibility of the NWS and undermined its ability to serve the public for years to come.

A third option would have been to properly call Sandy post-tropical but continue to issue NHC advisories and leave up the hurricane warning. However, a procedure for disseminating post-tropical advisories with tropical warnings had never been developed, tested, or publicized, and the NWS feared that hurriedly crafting and implementing untested procedures could easily break automated vendor software and disrupt the flow of information to users at a critical moment.

To avoid these possible outcomes and comply with EM preferences, the NWS decided to issue non-tropical warnings, communicating clearly this warning strategy to NWS partners, while placing special emphasis on Sandy's hazards, including via numerous interactions with federal, state, and local EMs and national and local media.

At the conclusion of each hurricane season NOAA conducts a review of operations and considers options to enhance its products and services. Following the annual post-season NOAA Hurricane Meeting that took place in November 2012, the NWS is exploring two proposals that, if adopted, would result in some changes to NWS products and warnings. The first proposal originates from the unique situation posed by Hurricane Sandy; it would give the NHC the option to continue issuing formal advisories on post-tropical cyclones as long as those systems pose a significant threat to life and property, and it would give the NWS the option to keep hurricane and tropical storm watches and warnings in place for those systems.

With this proposed change, the NWS would eliminate the product and warning dilemmas faced during Sandy, and have more options to handle any tropical or post-tropical cyclone in a more seamless fashion. The hurricane warning definition would be broadened to apply to systems after their tropical cyclone stage has ended, thus allowing hurricane or tropical storm watches and warnings to remain in effect for post-tropical cyclones. In addition, the NWS would

ensure the continuity of service in any situation by allowing the NHC to issue advisories through the post-tropical cyclone stage as long as the system poses a significant threat to life and property.

The second proposal would set a target date of 2015 for NOAA to implement explicit storm surge watches and warnings, a goal NOAA has been working toward for several years. Tropical cyclones have killed more than 25,000 people in the continental United States, with a majority of those deaths attributable to storm surge. Except for the 1940s, storm surge has claimed hundreds or even thousands of lives in at least one storm in each decade from at least as far back as the 1870s through the 1960s. More than a thousand lives again were lost in the decade just concluded, with most of these attributable to Katrina's storm surge. It was the storm surge hazard that caused numerous fatalities and most of the damage with Sandy, as well as the extensive evacuations necessary to prevent an even larger loss of life. Despite this history, multiple studies have shown significant confusion on the part of the public regarding their storm surge risk, and highlighted the need for improved communication of this hazard. With the implementation of a storm surge warning, the NWS will warn explicitly for the phenomenon that presents the greatest weather-related threat for a massive loss of life in a single day.

e. Acknowledgements

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Table 1. Best track for Hurricane Sandy, 22 – 29 October 2012.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
21 / 1800	14.3	77.4	1006	25	low
22 / 0000	13.9	77.8	1005	25	"
22 / 0600	13.5	78.2	1003	25	"
22 / 1200	13.1	78.6	1002	30	tropical depression
22 / 1800	12.7	78.7	1000	35	tropical storm
23 / 0000	12.6	78.4	998	40	"
23 / 0600	12.9	78.1	998	40	"
23 / 1200	13.4	77.9	995	40	"
23 / 1800	14.0	77.6	993	45	"
24 / 0000	14.7	77.3	990	55	"
24 / 0600	15.6	77.1	987	60	"
24 / 1200	16.6	76.9	981	65	hurricane
24 / 1800	17.7	76.7	972	75	"
24 / 1900	17.9	76.6	971	75	"
25 / 0000	18.9	76.4	964	85	"
25 / 0525	20.0	76.0	954	100	"
25 / 0600	20.1	76.0	954	100	"
25 / 0900	20.9	75.7	960	95	"
25 / 1200	21.7	75.5	966	95	"
25 / 1800	23.3	75.3	963	90	"
26 / 0000	24.8	75.9	965	75	"
26 / 0600	25.7	76.4	968	70	"
26 / 1200	26.4	76.9	970	65	"
26 / 1800	27.0	77.2	971	65	"
27 / 0000	27.5	77.1	969	60	tropical storm
27 / 0600	28.1	76.9	968	60	"
27 / 1200	28.8	76.5	956	70	hurricane
27 / 1800	29.7	75.6	960	70	"
28 / 0000	30.5	74.7	960	65	"
28 / 0600	31.3	73.9	959	65	"
28 / 1200	32.0	73.0	954	65	"
28 / 1800	32.8	72.0	952	65	"
29 / 0000	33.9	71.0	950	70	"
29 / 0600	35.3	70.5	947	80	"
29 / 1200	36.9	71.0	945	85	"
29 / 1800	38.3	73.2	940	80	"
29 / 2100	38.8	74.0	943	75	extratropical
29 / 2330	39.4	74.4	945	70	"
30 / 0000	39.5	74.5	946	70	"

30 / 0600	39.9	76.2	960	55	"
30 / 1200	40.1	77.8	978	50	"
30 / 1800	40.4	78.9	986	40	"
31 / 0000	40.7	79.8	992	35	"
31 / 0600	41.1	80.3	993	35	"
31 / 1200	41.5	80.7	995	30	"
31 / 1800					dissipated
25 / 0525	20.0	76.0	954	100	maximum winds
29 / 1800	38.3	73.2	940	80	minimum pressure
24 / 1900	17.9	76.6	971	75	landfall near Bull Bay, Jamaica
25 / 0525	20.0	76.0	954	100	landfall about 10 n mi west of Santiago de Cuba, Santiago de Cuba.
29 / 2330	39.4	74.4	945	70	landfall near Brigantine, NJ (extratropical)

Table 2. Selected ship reports for Hurricane Sandy, 22-29 October 2012. Note that this table includes some reports from when Sandy was extratropical.

Date/Time (UTC)	Ship call sign	Latitude (°N)	Longitude (°W)	Wind dir/speed (kt)	Pressure (mb)
24 / 0000	MHNN5	11.5	74.3	360 / 42	1004.3
24 / 0600	A8SF9	11.5	75.4	210 / 36	1004.0
25 / 0600	H3VU	23.4	74.7	080 / 35	1004.0
25 / 1000	H3GR	24.6	80.7	070 / 40	1013.0
25 / 1200	9VMG5	26.1	74.2	100 / 37	1004.0
25 / 2100	H3VC	24.7	80.0	050 / 37	1002.0
26 / 0100	C6FZ9	28.0	80.1	060 / 45	1008.0
26 / 0200	C6PZ8	24.9	79.6	040 / 60	1007.0
26 / 0300	3ETA7	20.8	73.9	190 / 51	998.0
26 / 0300	D5BI3	24.8	79.4	020 / 45	1001.5
26 / 0300	H3GS	29.2	80.3	080 / 41	1007.0
26 / 0300	H3VC	24.1	81.0	030 / 37	1004.0
26 / 0400	C6PZ8	25.2	79.5	040 / 62	1004.0
26 / 0600	C6PZ8	25.5	79.5	030 / 60	1004.0
26 / 0600	D5BI3	24.3	80.3	010 / 36	1000.9
26 / 0600	J8NW	24.5	73.3	340 / 64	993.5
26 / 0700	C6PZ8	25.7	79.5	030 / 60	1002.0
26 / 1000	C6PZ8	25.9	79.6	020 / 43	1000.0
26 / 1100	C6PZ8	25.8	79.8	350 / 47	1000.0
26 / 1200	9VMG5	25.5	79.5	040 / 37	996.0
26 / 1800	C6ZL6	24.6	79.4	270 / 45	989.0
26 / 1800	DGDD	32.6	78.3	040 / 45	1008.5
26 / 1800	H3VU	32.5	79.0	030 / 40	1010.0
26 / 2200	C6FM9	30.1	80.1	030 / 52	1003.0
27 / 0000	WKAW	28.7	79.6	010 / 60	998.5
27 / 0300	C6FM8	24.3	81.4	360 / 43	1002.0
27 / 0600	C6VG7	25.0	80.1	290 / 51	1002.4
27 / 0600	WJBJ	28.9	80.2	010 / 47	996.1
27 / 0900	WJBJ	27.9	80.0	330 / 38	994.1
27 / 0900	WKAW	31.0	79.2	010 / 56	994.0
27 / 1100	C6VG7	25.7	80.1	270 / 35	1001.0
27 / 1100	WDC673	31.6	80.4	020 / 44	999.0

Date/Time (UTC)	Ship call sign	Latitude (°N)	Longitude (°W)	Wind dir/speed (kt)	Pressure (mb)
27 / 1200	WRAH	32.0	79.8	020 / 37	1000.1
27 / 1400	C6PZ8	25.2	79.5	280 / 55	1004.0
27 / 1500	C6PZ8	25.3	79.5	280 / 55	1004.0
27 / 1500	WKAW	31.8	78.2	020 / 60	991.4
27 / 1600	C6PZ8	25.5	79.6	280 / 54	1004.0
27 / 1800	3EBL5	22.4	77.8	320 / 37	1003.0
27 / 1800	DGZN	24.4	80.1	320 / 40	1005.0
27 / 1800	PHCQ	32.5	79.3	360 / 55	999.1
27 / 1800	WKAW	32.1	77.8	020 / 72	988.0
27 / 2100	WKAW	32.4	77.5	020 / 63	987.0
28 / 0000	A8SG4	29.7	80.3	350 / 45	998.0
28 / 0000	C6UZ7	26.3	78.5	290 / 44	999.0
28 / 0000	WKAW	32.5	77.2	010 / 60	987.0
28 / 0300	H3GS	32.3	79.6	360 / 40	998.0
28 / 0300	WKAW	32.7	76.9	010 / 64	988.5
28 / 0300	H3GS	32.3	79.6	360 / 40	998.0
28 / 0400	C6FZ9	28.0	80.2	300 / 35	1003.0
28 / 0600	WKAW	35.6	75.1	320 / 55	986.0
28 / 0600	KIRH	33.3	66.2	100 / 42	997.1
28 / 0600	WDD612	28.0	80.0	320 / 40	1003.0
28 / 0800	C6FM9	29.0	80.3	330 / 40	1002.0
28 / 0900	WDD612	28.7	80.1	310 / 40	1003.0
28 / 0900	WKAW	33.2	76.6	020 / 63	987.0
28 / 1100	3FPS9	36.6	75.5	010 / 55	998.0
28 / 1500	WKAW	33.6	75.9	010 / 60	988.0
28 / 1800	DGSE	40.3	71.2	060 / 50	1004.0
28 / 1800	WKPN	38.2	71.0	080 / 37	993.8
28 / 1800	WRYD	38.4	69.1	100 / 44	996.5
29 / 0000	DHBN	40.4	66.2	050 / 37	1004.0
29 / 0000	WKAW	34.7	75.3	300 / 60	988.0
29 / 0300	WKAW	35.1	75.0	360 / 60	986.8
29 / 0600	WKAU	37.9	74.3	360 / 44	989.0
29 / 0600	WKPN	39.3	66.8	100 / 42	995.0
29 / 0800	ZCEF6	40.4	68.8	060 / 44	992.2
29 / 1000	H3VS	37.2	75.1	340 / 44	989.0

Date/Time (UTC)	Ship call sign	Latitude (°N)	Longitude (°W)	Wind dir/speed (kt)	Pressure (mb)
29 / 1200	3FPS9	34.0	76.3	320 / 50	994.0
29 / 1200	LAOW5	40.4	69.4	050 / 52	986.0
29 / 1200	WKAU	35.7	74.9	320 / 37	985.0
29 / 1200	WKPY	40.4	69.0	090 / 37	987.5
29 / 1800	WKPY	40.8	67.3	130 / 47	992.0
29 / 2100	WKAW	36.4	75.1	270 / 52	983.5
29 / 2200	WDB683	42.6	81.3	350 / 51	1004.1
29 / 2300	WDB683	42.6	81.3	350 / 40	1003.4
30 / 0200	VGJD	42.0	82.6	340 / 48	
30 / 0200	VGMV	41.9	82.6	350 / 45	
30 / 0300	WXU343	41.9	82.7	240 / 50	1006.4
30 / 0500	WCZ970	42.0	82.0	330 / 42	998.3
30 / 0800	WZD246	41.9	82.8	340 / 41	998.3
30 / 0900	VDFP	45.0	83.3	360 / 35	1005.5
30 / 1100	WZD246	41.9	82.8	340 / 42	
30 / 1200	VDWC	45.8	83.2	010 / 38	
30 / 1200	WDD612	35.9	75.2	250 / 40	996.5
30 / 1200	WE3806	45.8	83.1	010 / 40	1005.7
30 / 1800	WCV762	45.7	84.8	360 / 35	1005.7

Table 3. Selected surface observations for Hurricane Sandy, 22-29 October 2012. Note that this table includes reports from when Sandy was extratropical.

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
International						
Buoy/CMAN						
Buoy 42058 14.92N 74.92W Height: 5.0 m	24/0559	996.7	24/0559	49[j]	64	
Settlement Point C-MAN (SPGF1) 26.70N 78.99W Height: 9.8 m	26/2100	992.0	26/2350	48[f]	64	
Cuba						
Cabo Lucrecia (78365)	25/1000	966.7	25/0910	81*	103*	3.47
Contramaestre (78363)	25/0700	978.4	25/0554	43	69	5.01
Gran Piedra (78366) Elevation: 1130 m			25/0555	86	143	11.12
Guantánamo (78368)	25/0700	990.4	25/0730	46	76	4.54
Guaro (78370)	25/0810	960.2	25/0640	65	86	3.56
Holguín (78372)	25/0800	986.1	25/0835	47	78	3.32
Jamal (78356) Elevation: 165 m	25/0710	992.8	25/0235	36	59	3.82
La Jíquima (78362)	25/0800	988.3	25/0830	40	54	4.22
Palenque de Yateras (78334) Elevation: 406 m	25/0900	991.2	25/0955	36	59	5.67
Pinares de Mayarí (78371) Elevation: 646 m			25/0925	73	119	7.06
Punta de Maisí (78369)	25/0810	993.8	25/0301	43	55	1.26
Santiago de Cuba (78364)			25/0517		99*	
Valle de Caujerí (78319) Elevation: 184.8 m	25/0608	988.8	25/0610	43	73	4.56
Velasco (78378)	25/0900	986.2	25/0740	39	53	3.30
El Cobre, Santiago de Cuba						9.39
La Majagua, Santiago de Cuba						9.84
Cruce de los Baños						9.74
Estación Hidrométrica La Virgen						7.55
Hatibonico						7.39
Jiguaní						6.74

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Banes						6.50
Potrerillo						6.42
San Antonio del Sur						6.42
Jamaica						
Barton Isles	24/2030	993.3				
Belvedere Estates			24/1830	32	59	16.01
Bunkers Hill	24/2100	994.9				4.06
Happy Grove	24/2000	977.6	24/1500	27	46	9.65
Fair Prospect			24/2000	38	81	11.57
Kingston (78397)	24/1926	972.1	24/2020	46	59	8.04
Mill Bank						28.09
Mitchell Town	24/1900	986.3	24/1500	16	32	5.99
Montego Bay (78388)						1.94
Morant Point (78399)						8.28
Negril (78387)			24/2302		35	1.20
Orange River			24/2100	22	51	
Passley Gardens			24/2000	27	65	12.17
Penlyne Castle			24/2200	22	51	21.42
Tulloch			24/1900	24	40	5.49
St. Mary Banana Estate			24/2000	32	54	12.72
Siri Mandeville			24/2000	22	49	3.11
Worthy Park			24/2000	22	57	4.06
Woodford	24/1900	975.0	24/1900	22	59	10.50
Bahamas/Turks & Caicos						
Nassau (MYNN)	26/1000	988.1	26/1000	40	43	
Providenciales (MBPV)	25/1900	1000.0			45	
Sans Souci, New Providence			25/2047		45	
Bermuda						
Bermuda Airport (TXKF)	29/0320	994.8	28/0200	32	50	
Commissioner's Point Elevation: 30 m			29/0050	35	51	
Marine Operations Center Elevation: 78 m			29/0200		52	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Marine Observations						
Esso Pier NOS (BEPB6) 32.37N 64.70W Height: 3.1 m	29/0324	993.9	29/1354	28	38	
Buoy 41047 27.47N 71.49W Height: 10.0 m	27/2036	993.2	28/0453	51[j]	56	
Buoy 41048 31.95N 69.50W Height: 5.0 m	28/2039	975.8	28/2311	50[j]	60	
United States						
Florida						
ICAO Sites						
Boca Chica NAS (KNQX)	26/1953	1002.9	25/1935	25	39	
Cape Canaveral AF Strip (KXMR)	27/0855	996.6	27/0323	24	35	1.51
Daytona Beach (KDAB)	27/0934	998.9	26/2351	33	43	1.56
Ft. Lauderdale Intl. (KFLL)	26/1753	999.0	26/0547	26	42	0.99
Fort Pierce/St. Lucie (KFPR)	27/0901	996.8	26/0416	23	35	1.33
Homestead Air Reserve (KHST)	26/1755	1000.8	25/2044	35	45	1.92
Jacksonville Naval Air Station (KNIP)	27/0953	1001.7	26/1653	25	34	
Kendall-Tamiami Executive Airport (KTMB)			25/2325		42	1.65
Leesburg Intl. (KLEE)	27/1011	1001.6	26/1744	26	36	0.04
Marathon Airport (KMTH)	26/1953	1001.6	25/1839	32	41	0.92
Mayport Naval Station (KNRB)	27/0952	1001.4	26/2052	23	35	
Melbourne Intl. (KMLB)	27/0905	996.8	26/1310	36	49	1.66
Miami Intl. (KMIA)			25/2206		35	1.61
Opa-Locka Executive Airport (KOPF)			25/2200		43	2.49
Orlando Executive (KORL)	27/0842	1000.2	26/1954	27	38	0.48
Orlando Intl. (KMCO)	27/0934	999.6	26/2011	32	40	0.30
Orlando/Sanford (KSFB)	27/0937	999.6	26/1646	29	37	0.98
Palm Beach Intl. (KPBI)			26/1838		45	1.87
Patrick AFB/Cocoa (KCOF)	27/0717	997.6	26/1814	33	48	1.35
Pompano Beach Air Park (KPMP)	26/1753	998.8	25/2142	29	45	1.24
Shuttle Landing Facility (KTTS)	26/2155	1001.4	26/1809	31	42	1.02

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
St. Augustine Airport (KSGJ)	27/0958	1000.8	26/2358	26	42	
Titusville Space Coast Regional (KTIX)			27/1747	25	41	
Vero Beach (KVRB)	27/0946	996.8	26/2040	30	46	1.03
Marine Observations						
Fowey Rocks C-MAN (FWYF1) 25.59N 80.10W Height: 43.9 m	26/1800	998.4	25/2250	46[f]	58	
Lake Worth NOS (LKWF1) 26.61N 80.03W Height: 6.0 m	27/0800	997.2	26/1400	39	49	
Long Key C-MAN (LONF1) 24.84N 80.86W Height: 7.0 m	26/2000	1001.4	26/0000	32[f]	42	
Mayport NOS (MYPF1) 30.40N 81.43W	27/1000	1003.2	26/1624	27[i]	34[i]	
Molasses Reef C-MAN (MLRF1) 25.01N 80.38W Height: 15.8 m	26/2000	999.7	25/1930	42[f]	59	
NW Florida Bay COMPS (NFBF1) 25.08N 81.92W Height: 5.5 m	26/2006	1001.3	26/1654	25*	34*	
Port Everglades ICON (PVGF1) 26.09N 80.11W Height: 3.5 m	26/1800	998.6	25/2148	36	46	
Saint Augustine C-MAN (SAUF1) 29.86N 81.26W Height: 16.5 m	27/1000	1000.7	26/2340	38[f]	46	
Sombrero Key C-MAN (SMKF1) 28.42N 81.11W Height: 48.5 m	26/0900	1002.1	25/1850	40[f]	48	
Trident Pier NOS (TRDF1) 28.42N 80.59W Height: 6.4 m	27/1948	1000.2	27/1424	25*	35*	
Vaca Key NOS (VCAF1) 24.71N 81.11W Height: 6.4 m	6/1954	1002.0	25/1842	33	41	
Virginia Key HANDAR (VIK) 25.73N 80.16W Height: 22.0 m	26/1747	999	25/1917	33	49	
Virginia Key NOS (VAKF1) 25.73 80.16W Height: 10.3 m	26/1930	997.4	25/1706	27	43	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Buoy 41009 28.52 N 80.18W Height: 5.0 m	27/0850	993.3	27/0020	41	51	
Buoy 41010 28.91N 78.47W Height: 5.0 m	27/0920	981.4	27/1250	54	68	
Buoy 41012 29.99N 80.60W Height: 5.0 m	27/1510	996.1	27/1450	38	47	
South Florida Water Management						
4 S Intersection U.S. 27 (S30) 25.95N 80.43W						2.88
Krome Detention Center (S335) 25.74N 80.49W						2.29
Krome Detention Center 5 S (S338) 25.67N 80.48W						2.18
Lake Okeechobee Center (LZ40) 26.09N 80.79W Height: 8 m			26/2100	31*	49*	
Lake Okeechobee North (L001) 27.14N 80.79W Height: 8 m			26/2000	29*	44*	
Lake Okeechobee South (L006) 26.82N 80.78W Height: 15 m			26/2115	35*	48*	
WeatherBug						
Boca Raton 26.41N 80.08W					41*[i]	
Coconut Grove 25.73N 80.24W					34*[i]	
Davie 26.08N 80.31W					48*[i]	
Delray Beach 26.46N 80.08W					41*[i]	
Deerfield Beach 26.31N 80.11W					35*[i]	
Hialeah 25.87N 80.33W					39*[i]	
Jupiter 26.94N 80.08W					44*[i]	
Kendale Lakes 25.72N 80.45W					40*[i]	
Miami Beach 25.81N 80.13W					41*[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Miami Beach 25.86N 80.13W					42*[i]	
Miramar 25.98N 80.35W					49*[i]	
Port Everglades 26.09N 80.12W					37*[i]	
Sunny Isles 25.94N 80.12W					36*[i]	
West Palm Beach 26.68N 80.06W					44*[i]	
WeatherFlow						
Biscayne (XBIS) 25.69N 80.17W Height: 22.0 m			25/1920	31*	44*	
Biscayne Bay Light 20 (XKBS) 25.66N 80.19W Height: 6 m	26/1730	998.4	25/2205	36	46	
Boca Raton (XBOC) 26.37N 80.09W Height: 21 m			25/2220	29*	48*	
Boynton Beach (XBOY) 26.55N 80.05W Height: 10 m	26/2040	996.3	26/0935	32	49	
Cocoa Beach Pier (XCCO) 28.37N 80.60W			26/1325	34*[i]	45*[i]	
Crandon (XCRN) 25.72N 80.15W Height: 8 m	26/1745	999.5	25/2250	39	49	
Cutler (XCUT) 25.63N 80.30W Height: 10 m	26/1720	999.4	25/1925	22	37	
Dinner Key (XDIN) 25.71N 80.21W Height: 5 m	26/1735	999.4	25/2235	35	44	
Egmont Channel Height: 14 m			27/0230	32	37	
Hobe Sound (XHOB) 27.05N 80.16W			26/2040	25*[i]	43*[i]	
Hollywood (XNHD) 26.02N 80.13W Height: 14 m	26/1740	996.3	25/2245	23	40	
Jacksonville Beach Pier 30.29N 81.38W Height: 10 m			27/0436	35	40	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Jensen Beach (XJEN) 27.22N 80.20W Height: 10 m			26/2030	34*	45*	
Jupiter (XJUP) 26.89N 80.06W Height: 6 m			26/2035	41*	58*	
Key Biscayne (XKBI) 25.69N 80.17W Height: 22 m			25/2305	30*	49*	
Key West USCG Sector (WF35504) 24.57N 81.80W			27/1950	27[i]	34[i]	
Marathon Key (WF504) 24.74N 80.98W			25/2340	24[i]	38[i]	
Mangonia Park (XMGN) 26.76N 80.07W Height: 21 m	27/0000	994.4	26/1500	25	40	
New Smyrna Beach (XNSB) 29.05N 80.90W Height: 10 m			27/0330	37*	48*	
North Miami (XNMI) 25.91N 80.16W Height: 17 m	26/1710	995.4	25/2310	30	47	
Pompano Beach (XPOM) 26.24N 80.09W Height: 9 m	26/1755	997.3	26/0135	42	51	
Port Everglades (XPEG) 26.09N 80.12W Height: 41 m			25/2215	44*	55*	
Rocky Point Height: 7 m			27/0045	33	41	
St. Lucie Plant (XSTL) 27.34N 80.24W			26/0415	39*[i]	51*[i]	
Smith Shoal Light (WF76402) 24.72N 81.92W			25/2210	35[i]	43[i]	
South Key Largo (WF102) 25.10N 80.43W Height: 18 m			25/2250	22	38	
Summer House Height: 6 m			27/0025	31	39	
Turkey Point (XTKY) 25.43N 80.35W Height: 20 m	26/0805	998.6	25/2310	37	52	
Upper Matecumbe Key (WF999) 24.92N 80.64W Height: 18 m			26/2210	28	42	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
West Palm Beach (XWPM) 26.65N 80.06W Height: 13 m			25/2125	21*	37*	
CWOP						
Curry Hammock State Park (DW507) 24.74N 80.98W	26/1943	1000.7	25/2323	22[i]	36[i]	
Cudjoe Key (CW0925) 24.65N 81.48W			25/1401	35[i]	50[i]	
Islamorada Fire Rescue Station 20 (DW1872) 24.92N 80.64W	26/1943	999.0	26/2203	24[i]	35[i]	
Long Key FKAA Pump Station (CW0922) 24.84N 80.79W Height: 15 m	26/1931	1000.1	25/1401	35	50	
Ramrod Key FKAA Pump Station (CW0924) 24.66N 81.41W	26/1951	1001.4	25/1911	20[i]	37[i]	
Ramrod Key 0.7 SE (DW8495) 24.65N 81.41W Height: 8 m			27/1852	24	36	
Georgia						
Marine Observations						
Fort Pulaski (FPKG1) 32.03N 80.90W Elevation: 6.7 m	27/1924	1000.8	30/0206	29	35	
South Carolina						
ICAO Sites						
North Myrtle Beach (KCRE)	30/0753	997.6	28/0453	21	39	0.45
Marine Observations						
Fort Johnson NERRS (FJXS1) 32.75N 79.90W	27/2030	1001.5	28/0915	28[i]	34[i]	
Lake Thurmond (CHDS1) 33.66N 82.20W Height: 2.1 m			29/2200		37	
Buoy 41004 32.50N 79.10W Height: 5.0 m	27/2000	995.2	27/1400	41	51	
Buoy 41008 31.40N 80.87W Height: 5.0 m	27/2050	1000.4	27/1250	31	39	
North Carolina						

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
ICAO Sites						
Beaufort Airport (KMRH)	28/1856	993.0	28/1256	33	47	3.02
Bogue Air Field (KNJM)	29/2157	994.5	28/1309	20	38	2.20
Boone Watauga County Airport (KTNB) Elevation: 911 m			29/2335		52	
First Flight Airport (KFFA)	29/1935	986.1	29/2035	24	42	
Greensboro (KGSO)					40	
Hatteras Frisco Airport (KHSE)	29/2151	990.0	29/2251	24*	47*	8.09
Jacksonville Airport (KOAJ)	28/2035	997.3	28/0435	22	35	
Jefferson Ashe County Airport (KGEV) Elevation: 969 m			30/0615		61	
Manteo/Dare County Airport (KMQI)	29/1855	986.8	28/0935	33	49	
New Bern (KEWN)	29/2054	993.2	28/0849	22	38	2.35
New River Air Station (KNCA)	29/2156	995.0	28/1123	25	36	3.09
WFO Newport/Morehead City (KMHX)			28/1028	23	37	2.81
Piney Island Bombing Range (KNBT)	28/2056	992.0	29/0156	33	44	2.81
Wilmington (KILM)	29/2053	995.9	28/1153	24	33	2.08
Marine Observations						
Beaufort Tide Gauge NOS (BFTN7) 34.72N 76.67W Height: 7.0 m	28/1912	991.4	28/1048	33	46	
Cape Lookout C-MAN (CLKN7) 34.60N 76.52W Height: 9.8 m	28/1900	992.8	28/1100	39	48	
Cedar Island (CITN7) 35.10N 76.30W Height: 10.0 m	30/2100	993.0	29/1240	47	58	
Duck Field Research Facility - USACE 36.20N 75.80W Height: 19.4m			29/0450	49	60	
Duck Tide Gauge NOS (DUKN7) 36.18N 75.75W Height: 14.4 m	29/1842	985.1	28/2148	44	53	
Hatteras Tide Gauge NOS (HCGN7) 35.21N 75.70W Height: 9.0 m	29/0230	987.7	29/0224	45	56	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Ocean Crest Pier CORMP (OCPN7) 33.90N 78.10W Height: 12.2 m	28/0732	994.7	27/1817	25	40	
Oregon Inlet NOS (ORIN7) 35.77N 75.53W Height: 6.0 m	29/1830	986.6	28/1324	37	51	
Swanquarter (SWQN7) 35.39N 76.33W Height: 10.0 m	30/2100	990.0	29/0030	33	43	
Wrightsville Beach Johnny Mercer Pier NOS (JMPN7) 34.21N 77.79W Height: 7.0 m	29/2100	994.6	27/2254	32	43	
Buoy 41001 34.56N 72.63W Height: 5.0 m	28/2350	969.6*	29/0610	55*	74*	
Buoy 41002 31.86N 74.84W Height: 5.0 m	28/0822	969.2	28/1743	53[j]	60	
Buoy 41013 33.44N 77.74W Height: 5.0 m	28/0950	991.6	27/2030	44[f]	55	
Buoy 41036 34.21N 76.94W Height: 5.0 m	28/0920	991.9	27/2250	42[f]	56	
Buoy 41038 CORMP 34.10N 77.70W Height: 3.0 m	28/1100	994.2	27/2200	35	45	
RAWS						
Dare Bomb Range			28/1837		45	
Fort Bragg (FBRN7)					36	
Duke Forest (DKFN7)					34	
Hoffman (MKLN7)					34	
Laurel Springs (LRLN7) Elevation: 914 m			30/0710		49	
Lexington (LXFN7)					38	
Low Gap 4 S (RAVN7) Elevation: 396 m			30/1017		45	
New Bern (NBRN7)			28/1117		36	
WeatherBug						
Kill Devils Hills Dare County Water					55	8.16

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
South Nags Head Oregon Inlet Fishing Center					54	
WeatherFlow						
Alligator Bridge 35.00N 76.01W Height: 13 m	29/1900	987.7	28/1700	42	52	
Avon Sound 35.37N 76.33W Height: 7 m	29/0230	987.7	28/2145	44	53	
Avon Pier 35.35N 75.50W Height: 16 m	29/0215	986.7	28/0950	42	56	
Buxton 35.26N 75.52W Height: 10 m	29/0255	984.9	28/1920	31	51	
Fort Macon 34.69N 76.70W Height: 10 m	28/1905	989.4	28/1255	40	52	
Frisco Woods – Frisco 35.24N 75.63W Height: 6 m	29/0820	988.2	28/1345	41	50	
Hatteras High – Frisco 35.26N 75.55W Height: 20 m	29/0745	984.6	28/2240	43	57	
Jennette's Pier - Nags Head 35.91N 75.59W Height: 18 m	29/1900	985.8	28/1845	51	63	
Kitty Hawk Kites Resort – Salvo 35.78N 75.47W Height: 18 m	29/1735	986.7	28/2230	47	56	
Nag's Head Jockey's Ridge 35.95N 75.63W Height: 6 m	29/1810	986.7	29/1650	33	45	
Ocracoke 35.13N 76.00W Height: 7.0 m	29/0800	988.3	28/1805	40	49	
Oregon Inlet 35.79N 75.54W Height: 10 m	29/0855	982.7	29/0435	39	53	
Oregon Inlet Jetty USCG 35.77N 75.53W Height: 10.0 m	29/1720	985.8	28/1900	46	59	
Pamlico Sound 35.42N 75.83W Height: 14.0 m	29/0230	986.4	28/2140	45	55	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Waves 35.57N 75.47W Height: 11 m	29/1800	987.7	28/2230	43	53	
Waves - Real Slick 35.56N 75.49W Height: 6 m	29/0310	986.3	28/2220	42	53	
Public/Other						
Barrett (APRS) Elevation: 911 m					40	
Baldwin 2 ENE (APRS) Elevation: 1005 m					40	
Fosco 3 SSE (APRS) Elevation: 1097 m					41	
Laurel Springs 1 SSW			29/2010		43[i]	
Virginia						
ICAO Sites						
Blacksburg (KBCB)			30/0355		39	
WFO Blacksburg (KRNK)			30/0252		49	
Danville Regional (KDAN)			30/0337		37	0.34
Dublin (KPSK)			30/0035		41	
Fort Belvoir (KDAA)			30/0134	33	55	9.99
Fort Eustis (KFAF)	29/2255	982.2	29/1840	27	40	6.93
Galax-Hillsville (KHLX)			30/1015		47	
Helfa/Accomack Airport (KMFV)			29/1916	39	53	
Hot Springs Airport (KHSP)					44	
Ingalls Field (KHSP) Elevation: 1156 m			30/0015		47	
James City/Williamsburg Airport (KJGG)			29/2215	24	40	
Langley AFB (KLFI)	29/2226	982.2	29/2355	25	44	7.30
Marion/Wytheville (KRJK)			30/0055		45	
Newport News/Patrick Henry (KPHF)	29/2254	982.0	28/1754	28	41	7.47
Norfolk Intl. (KORF)	29/2151	982.6	29/0125	34	44	6.10
Norfolk NAS (KNGU)	29/2159	983.2	28/2259	35	43	4.97
Roanoke (KROA)			30/0150		52	0.10
Wallops Island (KWAL)	29/2154	969.5	29/2037	37	52	8.48
Wash/Dulles Intl. Airport (KIAD)	30/0305	971.2	30/0154	34	47	5.65

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Wash/Reagan National Airport (KDCA)	30/0243	969.2	30/0209	36	53	6.21
West Point Airport (KFJY)			30/0335	26	34	
Winchester Regional Airport (KOKV)			30/0035	35	52	
Marine Observations						
Cape Henry NOS (CHYV2) 36.91N 75.78W	29/2154	980.1	28/2012	46[i]	56[i]	
Chesapeake Bay Bridge Tunnel NOS (CBBV2) 36.97N 76.11W Height: 13.0 m	29/2136	980.7	29/0100	43	52	
Chesapeake Light C-MAN (CHLV2) 36.91N 75.71W Height: 43.3 m	29/2300	979.0	29/2100	49	59	
Dominion Terminal NOS (DOMV2) 36.96N 76.42W Height: 9.1 m	29/2230	982.0	29/1930	35	44	
Kiptopeke NOS (KPTV2) 37.17N 75.99W			30/0130	42[i]	52[i]	
Lewisetta NOS (LWTV2) 37.995N 76.465W Height: 10.0 m	30/0012	974.4	29/2000	35	46	
Money Point NOS (MNPV2) 36.78N 76.30W Height: 7.6 m	29/2154	983.4	29/2154		40	
Rappahannock Light Tower NOS (RPLV2) 37.54N 76.02W	29/2224	975.0	28/1912	47[i]	57[i]	
South Craney Island NOS (CRYV2) 36.89N 76.34W	29/2154	983.0	29/0224	32[i]	42[i]	
Wachapreague NOS (WAHV2) 37.61N 75.69W	29/2200	974.9	27/2348	27*[i]	38*[i]	
Willoughby Degaussing Station NOS (WDSV2) 36.98N 76.32W	29/2230	979.6	29/2106	42[i]	50[i]	
York River East NOS (YKRV2) 37.25N 76.33W	29/2212	978.4	28/2336	44[i]	53[i]	
Yorktown USCG NOS (YKTV2) 37.23N 76.48W Height: 9.6 m	29/2230	980.0	29/0100	35	42	
Buoy 44041 CBIBS 37.20N 76.78W Height: 3.0 m			29/1910	30	40	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Buoy 44058 CBIBS 37.55N 76.26W Height: 3.0 m	30/0110	978.3	30/0220	33	42	
Virginia DOT Mesonet						
Afton Mountain (VA005) 38.03N 78.86W			30/0419		45	
Danville Airport 1 W Elevation: 165 m			30/0648		35	
Dublin 1 NNE Elevation: 645 m			30/0820		42	
Marion-Wytheville 2 E Elevation: 796 m			30/0744		45	
Millboro 6 SSE Elevation: 583 m			30/0029		39	
near Roanoke Airport Elevation: 354 m			30/0402		36	
West Springfield (VA046) 38.74N 77.19W			30/0200		45	
WeatherBug						
Dale City Nova Woodbridge Campus 38.62N 77.29W			30/0204		50[i]	
Gainesville School for the Arts & Sciences 38.78N 77.60W			30/0150		46[i]	
Manassas Pennington School 38.75N 77.48W			30/0125		43[i]	
Oakton Providence ES 38.86N 77.32W			30/0219		53[i]	
Reston National Wildlife Federation 38.95N 77.35w			30/0025		52[i]	
Rollins Fork King George ES 38.25N 77.16W			29/1944		50[i]	
Round Hill ES 39.13N 77.77W			30/2255		49[i]	
Sterling Nova Loudon Campus 39.02N 77.38W			30/0039		49[i]	8.06
Strasburg Sandy Hook ES 38.98N 78.37W			30/0404		49[i]	
Warrenton Highland School 38.73N 77.80W			29/2215		50[i]	
Warrenton P. B. Smith ES 38.73N 77.74W			30/0030		44[i]	
Sperryville Rappahannock Co. HS 38.68N 78.19W			29/2035		45[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Wintergreen Mountain 37.92N 78.95W Elevation: 1113 m			30/0130		63	
WeatherFlow						
Baber Point Height: 8 m			30/0015	39	52	
Cape Henry Height: 25 m			28/2315	46	55	
Chesapeake Bay Bridge Tunnel 3rd Island 37.03N 76.08W Height: 22 m	29/2120	979.0	29/1655	49	58	
Cuckold Creek Height: 8 m			29/1935	40	45	
Deltaville 37.56N 76.30W Height: 7 m	29/2316	979.0	29/1815	34	41	
Great Wicomico Light 37.80N 76.27W Height: 11 m	30/0100	975.0	29/1925	34	45	
Hampton Flats/Hampton 36.98N 76.35W Height: 7 m	29/2050	983.0	30/0035	36	46	
Lynnhaven Pier/Virginia Beach 36.92N 76.08W Height: 12 m	29/2205	981.0	28/2330	37	49	
Lafayette River/Norfolk 36.89N 76.32W			29/0125	24*[i]	39*[i]	
Mason Neck Height: 11 m			29/1940	32	42	
Messick Point Height: 11 m			28/2315	41	49	
Monroe Creek Height: 8 m			29/2225	34	45	
New Point Comfort 37.33N 76.27W Height: 15 m	29/2350	977.0	28/2045	42	50	
Onancock 37.66N 75.87W Height: 16 m	29/2156	974.0	29/1820	45	55	
Plantation Flats/Cape Charles 37.26N 76.03W Height: 7 m	29/2229	980.0	30/0045	39	48	
Potomac Light 33 Height: 10 m			29/2210	37	49	
Pylons Dah Height: 7 m			29/2105	40	52	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Rudee Inlet Height: 10 m			28/2040	40	48	
Sandbridge 36.70N 75.93W Height: 5 m	29/1830	984.0	29/0005	36	43	
Silver Beach Height: 13 m			30/0150	37	44	
South Norfolk Jordan Bridge Height: 50 m			29/0204	36	42	
Thimble Shoals/Chesapeake Bay 37.05N 76.26W Height: 7 m	30/0110	983.0	28/2245	38	48	
Tower 70 Height: 8 m			29/2330	34	42	
CWOP						
Bent Mountain 3 NNW (APRS)			30/0352		49	
Blacksburg (APRS)			30/0608		43	
Blacksburg 2 N (APRS) Elevation: 637 m			30/0144		36	
Fincastle 6 W (APRS) Elevation: 440 m			30/1110		38	
Lithia 2 E (APRS) Elevation: 414 m			30/0408		36	
Lovettsville (AU044) 39.28N 77.60W			30/0148		52	
Maurertown (C5286) 38.93N 78.52W			30/0046		48	
Merrimac 2 SW (APRS) Elevation: 628 m			30/0325		36	
Mount Solon (D6906) 38.30N 79.13W			30/0655		47	
Walton 2 SSE (APRS) Elevation: 611 m			30/0809		37	
Winchester (C5255) 39.22N 78.25W			29/2328		43	
Public/Other						
Chester Gap 3 NNE					69[i]	
Hacksheck 1 NW					52[i]	
Leesburg					46[i]	
Stewartsville 3 SSW Elevation: 283 m			30/0826		37	
Wallops Island					59[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Wintergreen 4 NNW					63[i]	
West Virginia						
ICAO Sites						
Bluefield Mercer County Airport (KBLF) Elevation: 875 m			30/1032		36	0.48
Martinsburg Airport (KMRB)					52	4.00
RAWS						
Upper Tract (UPTW2) 38.81N 79.28W			30/0917		43[i]	
WeatherBug						
Bunker Hill Musselman Middle School 39.33N 78.05W			30/0229		45[i]	
CWOP						
Alvon 2 NW (APRS) Elevation: 650 m			30/0937		48	
Harpers Ferry (C5204) 39.33N 77.79W			30/0024		46[i]	
Public/Other						
Keyser 2 SSW					56[i]	
Ranson 1 NNW					56[i]	
Delaware						
ICAO Sites						
Georgetown (KGED)	29/2354	962.5	29/2222	25	43	
Wilmington (KILG)	30/0151	954.6	30/0451	39	50	5.01
Marine Observations						
Brandywind Shoal Light NOS (BRND1) 38.99N 75.11W	29/1200	988.5*	29/1012	44*[i]	54*[i]	
Delaware City NOS (DELD1) 39.58N 75.59W	30/0130	954.2	29/2024	31[i]	45[i]	
Lewes NOS (LWSD1) 38.78N 75.12W Height: 12.2m	29/2206	959.0	29/2112	46	58	
Reedy Point NOS (RDYD1) 39.55N 75.57W	30/0130	954.5				
Texas Tech						
Station 106A 38.833 N 75.383 W	29/2358	959.5	30/0337	31	40	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Station 108A 38.781N 75.127 W	29/2153	960.0	29/2038	43	52	
Station 112A 39.115N 75.448W	30/0101	954.8	29/2050	31	40	
WeatherBug						
Lewes University of Delaware					53[i]	6.10
Rehoboth Beach Boardwalk Plaza Hotel					53[i]	
WeatherFlow						
Lewes Elevation: 16 m			29/1320	46	58	
Public/Other						
Reeves Crossing 1 SSE			29/1914		51	
Stones Throw			29/2203		58	
Washington, D.C.						
Marine						
Washington, D.C. NOS (WASD2) 38.870N 77.020W	30/0230	968.8	30/0118	32[i]	53[i]	
Maryland						
ICAO Sites						
Annapolis Lee Airport (KANP) 38.94N 76.57W			30/0055		51[i]	
Baltimore/Washington Intl. Airport (KBWI)	30/0242	964.4	30/0054	30	52	6.63
Easton (KESN)			29/1850	32	42	
Martin State Airport /Middle River (KMTN)			29/2245	33	51	
Ocean City (KOXB)	29/2053	963.4	29/2206	31	50	7.20
Patuxent River NAS (KNHK)			29/2238	30	50	8.20
St. Inigoes (KNUI)			29/2047	32	56	7.59
Salisbury (KSBY)	29/2154	967.2	29/2033	30	47	7.53
Marine Observations						
Baltimore NOS (BLTM2) 39.267N 76.578W	30/0300	962.8	29/1654	25[i]	47[i]	
Bishops Head NOS (BISM2) 38.220N 76.038W	30/0006	970.8	29/2318	48[i]	59[i]	
Cambridge NOS (CAMM2) 38.573N 76.068W Height: 6.1 m	30/0106	967.6	29/1818	33	48	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Chesapeake City NOS (CHCM2) 39.53N 75.81W	30/0200	956.3	29/2148	26[i]	41[i]	
Cove Point LNG Pier NOS (COVM2) 38.404N 76.386W	30/0100	969.5	29/1306	40[i]	47[i]	
Francis Scott Key Bridge NOS (FSKM2) 39.219N 76.528W	30/0242	961.5	29/2336	40[i]	50[i]	
Ocean City NOS (OCIM2) 38.33N 75.09W	29/2106	962.7	30/0300	37[i]	51[i]	
Piney Point NOS (PPTM2) 38.133N 76.533W			29/1954	50[i]	65[i]	
Thomas Point C-MAN (TPLM2) 38.898N 76.437W Height: 18.0 m	30/0100	963.5	30/0100	52[f]	69	
Tolchester Beach NOS (TCBM2) 39.213N 76.245W Height: 10.0 m	30/0218	960.9	29/2324	41	52	
Buoy 44042 CBIBS 38.033N 76.336W Height: 3.0 m			29/2230	41	53	
Buoy 44043 CBIBS 39.152N 76.391W Height: 3.0 m	30/1520	989.9	29/2320	39	51	
Buoy 44057 CBIBS 39.544N 76.075W Height: 3.0 m	30/0310	957.7	29/2150	34		
Buoy 44061 CBIBS 38.785N 77.036W Height: 3.0 m	30/0240	969.6	30/0210	25	39	
Buoy 44062 CBIBS 38.556N 76.415W Height: 3.0 m	30/0130	969.1	29/2130	37	49	
Buoy 44063 CBIBS 38.963N 76.448W Height: 3.0 m			30/0120	37	47	
Texas Tech						
Station 104A 38.153N 75.259W	29/2102	967.6	29/2116	30	44	
Maryland DOT Mesonet						
Anne Arundel Co - I-97 at Route 100 (MD027) 39.15N 76.64W			30/0212		55[i]	
Frederick County – U.S. Route 340 at Route 180 (MD016) 39.35N 77.58W			30/0457		53[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Harford County - Route 136 at Route 646 (MD042)			29/1959		50[i]	
WeatherBug						
Baltimore Oriole Park at Camden Yards 39.28N 76.62W			29/2100		51[i]	
Baltimore Robert W Coleman ES 39.31N 76.66W			29/2320		58[i]	
Baltimore Tide Point					55[i]	
Beltsville High Point HS 39.04N 76.94W			30/0325		48[i]	
Chesapeake Beach Resort 38.69N 76.53W			29/2130		47[i]	
Clarksburg Area HS 39.22N 77.26W			30/0419		50[i]	
Clear Spring HS 39.65N 77.93W			30/0039		48[i]	
Crisfield					58[i]	
Cumberland Allegany HS 39.65N 78.78W			30/0149		46[i]	
Edgewood Deerfield ES 39.42N 76.29W			29/2205		52[i]	
Ellicott City Our Lady of Perpetual Help School 39.23N 76.77W			30/0305		54[i]	
Frederick Ballenger Creek ES 39.37N 77.43W			30/0209		57[i]	
Frederick Earth and Space Science Laboratory 39.40N 77.42W			30/0339		49[i]	
Frederick Gov. Thomas Johnson MS 39.43N 77.40W			30/0229		54[i]	
Frostburg Beall ES 39.65N 78.93W			29/2109		47[i]	
Gaithersburg National Institute of Standards and Technology 39.13N 77.22W			30/0235		57[i]	
Galena Volunteer Fire Dept.					52[i]	8.32
Havre de Grace MS 39.54N 76.11W			29/2120		45[i]	
Helen Mother Catherine Spalding School 38.37N 76.77W			29/2059		41[i]	8.78
Ijamsville Oakdale HS 39.39N 77.31W			29/2325		53[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Manchester Valley HS 39.65N 76.88W			30/0010		49[i]	
Mount Airy Christian Academy 39.34N 77.10W			30/0120		53[i]	
Ocean City At the Beach Enterprises					65[i]	
Ocean City Emergency Management Planner					59[i]	
Ocean City Phillips Beach Plaza Hotel					55[i]	
Reisterstown MEMA 39.49N 76.83W			30/0040		49[i]	
Waldorf North Point HS 38.64N 76.94W			30/0135		43[i]	
WeatherFlow						
Assateague Height: 12 m			29/2039	36	47	
Bishop's Head 38.22 N 76.04 W Height: 15 m	29/2041	971.0	29/1845	54	66	
Blackwalnut Harbor Height: 8 m			29/1755	34	47	
Point Lookout Height: 11 m			29/2220	49	64	
Greenbury Point Height: 9 m			29/2254	36	47	
Gunpowder Height: 8 m			29/2350	34	50	
Herring Bay Height: 9 m			29/2140	33	48	
Kent Island Height: 5 m			29/2020	35	47	
Ocean City Height: 15 m			28/2150	41	48	
Ocean City Height: 15 m			28/2150	41	48	
Raccoon Point Height: 6 m			29/1722	33	43	
Tolly Point Height: 9 m			29/2301	37	48	
CWOP						
Crofton (C7344) 39.69N 76.30W			30/0725		50[i]	
Ellicott City (C3900) 39.29N 76.84W			29/2200		55[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Falling Waters (D3148) 39.60N 77.88W			30/0113		45[i]	
Halethorpe (C1550) 39.23N 76.70W			30/0110		59[i]	
Laytonsville (C2463) 39.20N 77.13W			30/0113		66[i]	
Public/Other						
Annapolis					60[i]	
Arbutus					59[i]	
Colesville 1 SSE					61[i]	
Crisfield			20/2029	44[i]	63[i]	
Crocheron 2 SSE					61[i]	
Ocean City					64[i]	
Saint Inigoes 2 W					56[i]	
New Jersey						
ICAO Sites						
Andover (K12N)	29/2254	968.4	29/1854	21	49	0.85
Atlantic City (KACY)	29/2154	951.9	29/2107	34	56	6.00
Belmar (KBLM)			29/2115	34	49	
Caldwell (KCDW)	29/2233	966.8*	29/2253	36*	61*	
Millville (KMIV)	29/2354	952.5	29/2054	25	38	5.77
Morristown (KMMU)			29/1251	21	38	
Mount Holly (KVAY)	29/2254	954.9	29/2054	33	48	2.75
Newark (KEWR)	29/2233	965.3	30/0151	45	68	1.39
Somerville (KSMQ)	29/2253	963.5	29/2205	28	48	
Sussex (KFWN)	29/2253	970.5	29/2053	33	65	0.86
Teterboro (KTEB)	29/2151	966.5	29/2359	39	63	0.87
Trenton (KTTN)	29/2253	958.1	29/2253	33	55	1.75
Wildwood (KWWD)			29/0655	24	35	
Wrightstown/McGuire AFB (KWRI)	29/2355	953.4	29/2055	37	60	2.57
Marine Observations						
Atlantic City NOS (ACYN4) 39.36N 74.42W	29/2224	945.5				
Burlington NOS (BDRN4) 40.08N 74.87W	30/0030	953.7	30/0112	36[i]	50[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Cape May NOS (CMAN4) 38.96N 74.96W Height: 12.2 m	29/2218	953.8	30/0000	52	65	
Jacques Cousteau NERRS (JCRN4) 39.54N 74.46W	30/0000	946.0				
Robbins Reef NOS (ROBN4) 40.65N 74.06W Height: 22.0 m	29/2218	962.2	30/0112	55	78	
Sandy Hook NOS (SDHN4) 40.46N 74.01W	29/2212	961.0	29/2218	39*[i]	60*[i]	
Ship John Shoal NOS (SJSN4) 39.30 N 75.38 W	29/2330	953.0	30/0418	51[i]	58[i]	
Buoy 44009 38.46N 74.70W Height: 5.0 m	29/2050	956.4	29/2050	46	66	
HADS/USGS						
Atlantic City Marina (ATLN4) 39.38N 74.42W	30/0015	946.6	29/2045	36[i]	58[i]	8.15
Barnegat Light (BGLN4) 39.76N 74.11W	30/0030	950.0	29/2030	49[i]	69[i]	6.55
Texas Tech						
Station 101A 40.073N 74.042 W				52	62	
Station 103A 40.312 N 73.978 W	29/2243	955.4	30/0000	53	66	
Station 107A 39.821 N 74.2012 W	29/2346	952.0	30/0108	30	47	
Station 109A 39.941 N 74.135 W			30/0030	41	53	
Station 110A 40.545N 74.125 W	29/2227	959.4	30/0048	47	60	
Station 111A 39.379N 74.455 W	29/2226	945.6	29/2012	45	58	
New Jersey Weather/Climate Net						
Atlantic City Marina (KQ25) 39.38N 74.42W	29/2325	947.5	29/2015	43[i]	67[i]	7.17
Harvey Cedars (KQ11) 39.7N 74.1W			29/1920		64*[i]	
High Point Monument (KQ61) 41.32N 74.66W	29/2335	969.9			69[i]	
Pittstown (KQ53) 40.56N 74.96W		961.1	30/0200		64[i]	2.47
Point Pleasant (KQ37) 40.07N 74.06W	29/2215	956.0	29/2055		64[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Sea Girt (KQ52) 40.12N 74.03W	29/2225	956.0	30/0050	60[i]	69[i]	2.56
WeatherBug						
Englishtown Wemrock Brook School					57[i]	
Fair Lawn Radburn ES					57[i]	
Flanders Mt. Olive HS					60[i]	
Jersey City Ollie Culbreth ES					57[i]	
Neptune Midtown Community ES					62[i]	
Wayne Passaic County Technical Institute					58[i]	
WeatherFlow						
Bayonne (XBYO) 40.67N 74.09W Height: 10 m			30/0110	44	67	
Brick Height: 10 m			29/2355	51	68	
Cape May Height: 10 m			29/2030	48	63	
Kite Island Height: 7 m			29/1930	51	62	
Monmouth Height: 10 m			29/2345	42	65	
Ocean City South Beach Height: 10 m			30/0305	47	61	
Perth Amboy (XPER) 40.50N 74.28W Height: 10 m			30/0210	46	63	
Sandy Hook Height: 19 m			30/0035	59	76	
Tuckerton Height: 10 m			29/1955	55	77	
CWOP						
Fairfield (C2504) 40.88N 74.29W Height: 53.6 m	29/2232	967.4	29/2342		63[*i]	
Teaneck 1 SSE (D2034) 40.88N 74.00W Height: 11.0 m	29/2201	966.8	30/0201	59[i]	66[i]	
Upper Montclair (D9739) 40.84N 74.21W Elevation: 82 m	29/2145	966.4	29/2225		76[i]	
Public/Other						

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Brigantine (Wx Underground) 39.40N 74.37W	29/2330	946.2				
Dennisville					70[i]	
Galloway (Wx Underground) 39.46N 74.50W	30/0000	946.5				
Harrison			29/2320		59[i]	
Newport					76[i]	
North Arlington			29/2347		55[i]	
Surf City					77[i]	
Tompkinsville 2N			30/0024		78[i]	
Tuckerton					76[i]	
Wildwood Crest Elevation: 4.5 m			29/2200	35	61	
Pennsylvania						
ICAO Sites						
Allentown (KABE)	29/2351	964.8	30/0051	39	61	1.25
Altoona (KAOO)			29/2255		50	3.25
Clearfield Lawrence Airport (KFIG)			30/0115		52	2.79
Doylestown (KDYL)	29/2254	961.1	29/2304	27	44	1.34
Fort Indiantown Gap - Muir Army Airfield (KMUI)			29/2245		49	
Harrisburg Capital City Airport (KCXY)			30/0022		46	3.46
Harrisburg Intl. Airport (KMDT)			30/0044		45	3.60
Lancaster (KLNS)	30/0353	960.1	29/2353	29	45	
Mount Pocono (KMPO)	29/2353	969.8	29/2353	32	57	1.25
Northeast Philadelphia (KPNE)	30/0054	955.8	29/2340	41	57	
Penn Valley Airport (KSEG)			30/0031		47	
Philadelphia Intl. Airport (KPHL)	30/0132	952.6	30/0044	44	59	3.06
Philadelphia Wings Field (KLOM)			29/2355	20	36	
Pottstown (KPTW)	30/0154	959.0	30/0208	31	51	3.05
Quakertown (KUKT)			29/2055	28	45	
Reading (KRDG)	30/0054	962.8	29/2054	26	40	
University Park Airport – State College (KSCE)			29/1953		35	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Wilkes-Barre/Scranton Intl. Airport (KAVP)			30/0258		38	2.31
York Airport (KTHV)			29/2309		46	
Marine Observations						
Marcus Hook NOS (MRCP1) 9.81N 75.41W	30/0148	951.9				
Newbold NOS (NBLP1) 40.14N 74.75W	30/0018	955.3	30/0230	34[i]	51[i]	
Philadelphia NOS (PHBP1) 39.93N 75.14W	30/0124	952.0				
WeatherFlow						
Lake Nockamixon Elevation: 8 m			30/0045	38	54	
Marsh Creek Elevation: 8 m			29/2230	27	41	
Public/Other						
Allentown					70[i]	
Bear Creek 5 ENE 42.68N 75.50W			30/0053		52[i]	
Bensalem					66[i]	
Bushkill Center					61[i]	
Cashtown					54[i]	
Dimock			29/2200		36[i]	
Gouldsboro			30/0218		42[i]	
Jermyn			29/2200		37[i]	
Lakeview 1 ENE 41.87N 75.60W			29/2300		53[i]	
Lehman			29/2200		50[i]	
Loch Lomond			29/2244		43[i]	
Mount Aetna					56[i]	
Penobscot 41.17N 75.88W Elevation: 650 m			29/2220		58[i]	
Quicktown			30/0400		38[i]	
Springbrook Corner			30/0245		37[i]	
Wind Gap					54[i]	
Wrightsville			29/2145		43[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
New York						
ICAO Sites						
Albany Intl. Airport (KALY)	29/1951	984.1	29/1652	26	37	
Binghamton Regional Airport (KBHM)			30/0604		43	0.91
Buffalo Intl. Airport (KBUF)			30/0200		37	2.66
Dansville Municipal Airport (KDSV)			30/0600		37	2.26
Dunkirk Municipal Airport (KDKK)			30/0000		41	2.59
East Hampton (KHTO)			29/1955		57	
Elmira (KELM)			29/2108		53	1.68
Farmingdale (KFRG)	29/2126	966.0	29/2217	45	69	0.84
Fulton Oswego County Airport (KFZY)			30/0049		45	0.56
Glens Falls Airport (KGFL)	29/2053	988.1	29/1533	29	37	
Islip (KISP)	29/2120	967.1	29/2226	49	78	0.71
Jamestown Airport (KJHW)			30/0200		40	2.60
Massena Airport (KMSS)			30/0127		42	
Montauk Airport (KMTP)	29/1854	977.3*	29/1854	25*	49*	
Montgomery (KMGJ)	29/2229	973.4	29/2129	36	50	0.69
New York-Central Park (KNYC)	29/2203	965.7	29/1938	33	54	0.94
New York-Kennedy (KJFK)	29/2215	965.1	30/0003	49	74	0.55
New York-Laguardia (KLGA)	29/2151	966.3	29/2255	56	64	0.58
Newburgh (KSWF)	29/2145	975.3*	29/2345	37*	53*	
Ogdensburg Airport (KOGS)			30/0134		37	
Penn Yan Regional Airport (KPEO)			29/2236		44	
Plattsburgh Intl. Aiport (KPBG)			30/1038		34	
Potsdam Airport (KPTD)			29/2336		36	
Rome Griffiss Airfield (KRME)			30/0207		39	
Saranac Lake (KSLK)			29/2235		38	
Shirley/Brookhaven (KHWV)	29/2056	969.4*	30/0356	26*	52*	
Syracuse Hancock Airport (KSYR)			29/2054		35	
Watertown Airport (KART)			30/0139		50	
Wellsville Airport 1 W (KELZ)			30/0200		41	
Westhampton Beach (KFOK)	29/1702	980.3*	29/1553	33*	51*	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
White Plains (KHPN)	29/2156	969.7	29/2200	41	63	0.71
Marine Observations						
Bergen Point NOS (BGNN4) 40.64N 74.15W Height: 9.1 m	29/2154	963.8	29/1906	32	48	
Buffalo NOS (BUFN6) 42.88N 78.89W	30/0824	984.8	30/0254	27[i]	39[i]	
Dunkirk Light C-MAN (DBLN6) 42.49 N 79.35 W Height: 20 m	30/0800	980.2	30/0740	44[f]	52	
Kings Point NOS (KPTN6) 40.81N 73.77W Height: 10.0 m	29/2200	965.7	29/2106	25	41	
Niagara CG (YGNN6) 43.26N 79.06W Height: 10.0 m	30/0840	985.4	29/2330	34	46	
Oswego NOS (OSGN6) 43.46N 76.51W	30/0400	985.7	29/2242	39[i]	50[i]	
Rochester (RPRN6) 43.26N 77.59W Height: 10.0 m	30/0720	985.4	30/0040	42	52	
Buoy 44022 UCONN 40.88N 73.73W Height: 3.5 m	29/1445	988.4*	29/1845	35*	50*	
Buoy 44025 40.25N 73.17W Height: 5.0 m	29/2150	958.2	29/1830	49	64	
Buoy 44039 UCONN 41.13N 72.66W Height: 3.5 m			29/1830	37*	47*	
Buoy 44040 UCONN 40.95N 73.58W Height: 3.5 m			29/1845	37*	49*	
Buoy 44065 40.36N 73.70W Height: 5.0 m	29/2150	958.1	30/0010	48	64	
WeatherBug						
Averne Goldie Maple Academy					64[i]	
Brentwood Suffolk CC					59[i]	
Bronx Cardinal Spellman HS					62[i]	
Bronx In-Tech Academy M/HS					59[i]	
Bronx St. Barnabas ES					57[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Bronx St. Raymond HS for Boys					58[i]	
Brooklyn College Academy					57[i]	
Brooklyn Edward R. Murrow HS					67[i]	
Brooklyn IS 187 Christa McAuliffe					59[i]	
Brooklyn PS/IS 192 Magnet School for Math and Science					61[i]	
Brooklyn St. Bernadette School					61[i]	
Corona IS 61 Leonardo da Vinci					57[i]	
Jamaica HS					60[i]	
Long Beach HS					72[i]	
Mamaronek Beach Point Club					63[i]	
Mount Vernon Graham ES Magnet					61[i]	
New York City St. Elizabeth School					57[i]	
Orangeburg Rockland County Sewer District					57[i]	
Peekskill HS					64[i]	
Selden Suffolk County CC					62[i]	
Slate Hill Minisink Valley HS					57[i]	
Staten Island P.S. 32 Gifford					64[i]	
Staten Island P.S. 53 Bay Terrace					59[i]	
WeatherFlow						
Bayville (XBAY) 40.90N 73.63W Height: 14 m			29/2020	57	67	
Blue Point (XBLU) 40.73N 73.04W Height: 11 m			29/2110	52	65	
Breezy Point - Queens (XBRZ) 40.56N 73.93W Height: 10 m			29/2340	53	68	
Durand Beach Height: 10 m			29/2310	40	54	
East Moriches USCG (XMOR) 40.79N 72.75W Height: 10 m			29/2220	54	71	
Eaton's Neck (XEAT) 40.95N 73.40W Height: 24 m			29/2210	61	83	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Fire Island USCG (XFIR) 40.63N 73.26W			30/0100	48	65	
Great Gull Island (XGUL) 41.20N 72.12W Height: 18 m			29/2035	65	74	
Great South Bay (XHCK) 40.66N 73.40W Height: 12 m			29/2055	41	55	
Jones Beach USCG (XJON) 40.59N 73.56W Height: 10 m			29/2215	48	70	
Larchmont Harbor (XLAR) 40.92N 73.73W Height: 13 m			29/2304	51	64	
Kingston Height: 8 m			29/2120	31	42	
Mecox Bay (XMCX) 40.91N 73.32W Height: 10 m			29/1850	38	66	
Point of Woods Yacht Club (XPOW) 40.65N 73.14W Height: 7 m			29/2035	48	63	
Tappan Zee Light 14 (XTAP) 41.14N 73.88W Height 13 m			29/1800	34	56	
CWOP						
Middlefield (D3254) 41.52N 72.66W Height 65.2 m	29/2108	975.9	29/2248		50	
Jacksons Heights 1 E (D9152) 40.75N 73.87W Height: 28.0 m	29/2202	966.1*	29/2232	39*[i]	67*[i]	
Public/Other						
Albany WFO			30/0254		44[i]	
Arkport 1 SE			29/2141		38[i]	
Bayville			29/2121		67[i]	
Berlin			29/2252		41[i]	
Breezy Point			29/2340	53[i]	68[i]	
Canajoharie			30/0000		35[i]	
Cold Brook			29/2306		38[i]	
Coney Island			29/2242		60[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Dover Plains			29/2302		41[i]	
East Springfield			29/1535		38[i]	
Erin 2 SSE			29/1906		37[i]	
Flatbush			30/0105		50[i]	
Herkimer			29/1403		48[i]	
Hudson			29/2100		39[i]	
Hunter			29/2000		43[i]	
Johnson City			30/0654		36[i]	
Lake Luzerne			29/1920		35[i]	
Latham			29/2151		37[i]	
Long Lake			29/1850		41[i]	
Mount Holly			29/2357		34[i]	
Patchogue			29/2301		67[i]	
Ogdensburg			30/0100		41[i]	
Orange Lake			29/2345		53[i]	
Oyster Bay			29/1938		58[i]	
Pleasant Valley			30/0031		43[i]	
Port Byron			29/2200		36[i]	
Saratoga Springs			29/1948		40[i]	
Sherburne 42.68N 75.50W			30/0300		51[i]	
Stone Ridge			30/0140		52[i]	
Stottsville			29/2055		39[i]	
Syosset			29/2303		71[i]	
Upton Brookhaven National Lab Height: 85 m			29/1750		69	
Wyantskill			29/1512		37[i]	
Connecticut						
Bridgeport/Sikorski (KBDR)	29/2152	972.2	29/2104	51	66	0.43
Chester (KSNC)	29/2015	976.9	29/2055	29	45	
Danbury (KDXR)	29/2153	974.7	30/0056	35	59	0.73
Groton (KGON)	29/2029	976.8	29/1935	44	65	0.43
Hartford (KHFD)	29/2053	980.1	29/2034		47	0.49

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
New Haven (KHVN)	29/2051	974.2	29/1735	30*	43*	
Willimantic (KIJD)	29/2052	980.6	29/2215	33	46	1.44
Windsor Locks – Bradley Intl. (KBDL)	29/2151	981.5	29/2308	35	54	0.80
Marine Observations						
Bridgeport NOS (BRHC3) 41.17N 73.18W	29/2054	972.5	29/2106	37[i]	52[i]	
New Haven NOS (NWHC3) 41.28N 72.91W Height: 6.4 m	29/2036	973.9	29/2136	30	51	
New London Ledge (LDLC3) 41.31N 72.08W Height: 20 m	29/1900	976.1*	29/1900	46*	66*	
New London NOS (NLNC3) 41.36N 72.09W Height: 8.5 m	29/2012	976.9	29/2042	33	48	
WeatherBug						
Bridgeport Discovery Interdistrict Magnet School					60[i]	
Danbury Western Connecticut State University					59[i]	
Hamden Hall Country Day School					62[i]	
New Haven Cold Spring School					57[i]	
WeatherFlow						
Norwalk Light (XNOR) 41.08N 73.38W Height: 10 m			29/2243	52	64	
Fishers Island (XFSH) 41.25N 72.03W Height: 10 m			29/2230	49	68	
Public/Other						
Bristol			29/2153		61[i]	
Burlington			29/2022		58[i]	
Greenwich			29/2120		61[i]	
Groton 2 S			29/1900		66[i]	
Madison			29/2120		74[i]	
Middletown 3 SW			29/2243		50[i]	
New Hartford			29/2354		41[i]	
Norwalk			30/0030		60[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Stonington			29/1900		61[i]	
Torrington			29/2037		50[i]	
Torrington 3 SW			29/1825		40[i]	
Torrington 2 SE			29/2026		38[i]	
Trumbull			29/2240		59[i]	
Rhode Island						
ICAO Sites						
Newport (KUUU)	29/1953	982.3	29/1713		51	
Providence-Warwick (KPVD)	29/1951	984.2	29/2050	36	51	1.45
Smithfield (KSFZ)			29/2015		39	2.72
Westerly (KWST)	29/1953	979.2	29/1921		60	
Marine Observations						
Conimicut Light NOS (CPTR1) 41.72N 71.34W Heights: 4.3 m	29/2012	982.0	29/2042	46	61	
Fox Point/Providence NOS (FOXR1) 41.81N 71.40W	29/2112	983.1	29/2030	34[i]	47[i]	
Potter Cover NOS (PTCR1) 41.64N 71.34W	29/1948	982.2	29/1812	38[i]	54[i]	
Quonset Point NOS (QPTR1) 41.59N 71.41W Height: 6.4 m	29/2006	981.8	29/2048	43	55	
RAWS						
Ninigret (NINR1) 41.38N 71.58W			29/1925		65[i]	
WeatherBug						
Providence Harborside					62[i]	
WeatherFlow						
Beavertail Height: 13 m			29/1830	34	50	
Block Island Jetty Height: 12 m			29/1419	37	47	
Fogland Height: 28 m			29/1640	30	46	
Halfway Rock Height: 9 m			29/1905	44	58	
Point Judith Height: 18 m			29/1835	56	70	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Rose Island Height: 12 m			29/1915	38	59	
Sabin Point Height: 9 m			29/2107	31	49	
Sakonnet Vineyards Height: 10 m			29/1910	34	55	
University of Rhode Island Height: 10 m			29/1915	40	57	
CWOP						
Westerly (D5262) 41.32N 71.81W			29/1844	56[i]	75[i]	
Public/Other						
Barrington			29/1639		53[i]	
Burrillville			29/1836		42[i]	
Jamestown – Beavertail Park			29/1830		34[i]	
Warren			29/2010		63[i]	
Massachusetts						
ICAO Sites						
Bedford Hanscom Field (KBED)			29/2155	39	58	
Beverly (KBVY)			30/0142	35	51	1.72
Blue Hill - Milton (KMQE)			29/2122	42	64	3.39
Boston (KBOS)			30/0014	40	54	1.65
Chatham (KCQX)			29/1905	33	45	0.34
Chicopee (KCEF)			29/2047		46	
Falmouth (KFMH)			29/2015		54	
Hyannis (KHYA)			29/1939		53	
Lawrence (KLWM)			29/1826		53	
Nantucket (KACK)	29/2053	984.0	29/2017	37	52	2.06
New Bedford (KEWB)			20/2021	37	53	1.44
Norwood (KOWD)			29/2130		47	2.63
Orange (KORE)			29/2143		37	1.49
Pittsfield (KPSF)	29/1900	981.4	29/1542	30	50	
Plymouth (KPYM)			29/2111	34	49	1.78
Taunton (KTAN)			29/1950		41	2.54
Vineyard Haven (KMVY)	29/1853	983.3	29/1709	39	59	0.98

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Westfield (KBAF)	29/2053	983.7	29/1855		44	
Worcester (KORH)			29/2231	35	53	1.98
Marine Observations						
Buzzards Bay C-MAN (BUZM3) 41.40N 71.03W Height: 80 m	29/1900	981.7	29/1740	57[f]	72	
Nantucket NOS (NTKM3) 41.29N 70.10W Height: 8.5 m	29/1906	984.0	29/1936	40	52	
Buoy 44008 40.50N 69.25W Height: 5.0 m	29/1750	981.2	29/1640	43[f]	58	
Buoy 44013 42.35N 70.65W Height: 5.0 m	30/0050	988.2	29/1920	40	50	
Buoy 44020 41.44N 70.19W Height: 5.0 m	29/1950	983.3	29/1950	41	52	
Buoy 44029 NERACOOS 42.52N 70.67W Height: 4.0 m	30/0050	990.1	29/1940	38[i]	50[i]	
WeatherBug						
Blue Hill Observatory & Science Center					64[i]	
Boston Seaport Hotel					61[i]	
Brookline Dexter and Southfield Schools					60[i]	
Marion The Kittansett Club					58[i]	
Spencer Wire Village School					58[i]	
WeatherFlow						
Amelia Dam Height: 17 m			29/1820	37	57	
Carson Beach Height: 15 m			29/1940	44	57	
Chapin Height: 10 m			29/1835	36	51	
Chatham Height: 10 m			29/1820	39	54	
Children's Island Height: 10 m			29/1900	47	59	
Courageous Sailing Center Height: 24 m			29/1835	35	51	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Deer Island Height: 20 m			29/1745	47	57	
Dog Bar Breakwater Height: 16 m			30/0120	38	49	
Dread Ledge Height: 10 m			29/1755	44	54	
Duxbury Height: 13 m			29/2120	44	54	
Duxbury Bay Height: 15 m			29/2010	39	49	
Harvard Bridge Height: 8 m			29/1835	37	52	
Hatch Beach Height: 10 m			29/1915	38	53	
Hatch Beach Height: 10 m			29/1915	38	53	
Kalmus-Hyannis Height: 11 m			29/1925	46	63	
Lewis Wharf Height: 12 m			29/1740	30	44	
Longfellow Bridge Height: 18 m			29/1830	32	49	
Millennium Park Height: 7 m			29/1835	31	47	
North Alston Height: 11 m			29/1745	31	55	
Pleasure Bay Height: 10 m			29/1835	51	64	
Plum Island Height: 16 m			29/1940	35	48	
Revere Beach Height: 10 m			29/1945	47	58	
Sagamore Beach Height: 9 m			29/1825	43	52	
Scituate Height: 10 m			29/2025	43	56	
Squantum Height: 13 m			29/1930	43	57	
Vineyard Haven Height: 10 m			29/1910	39	57	
West Dennis Height: 14 m			29/1940	33	53	
West Falmouth Height: 11 m			29/1914	30	47	
West Island Height: 10 m			29/1935	51	70	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
CWOP						
Wrentham (AT213) 42.04N 71.41W			29/1915	33[i]	67[i]	
Public/Other						
Bridgewater			29/1734		48[i]	
Brookline			29/1954		60[i]	
Cuttyhunk					72[i]	
East Falmouth			29/1800	42[i]	63[i]	
Hyannis 2 NE 41.67N 70.27W					50[i]	
Milford			29/1748		58[i]	
Milton 3 SSW 42.21N 71.11W					51[i]	
Otis 3 SSE 42.16 N 73.05 W			29/2023		53[i]	
Pepperell					52[i]	
Pleasure Bay			29/1900		63[i]	
Plymouth			29/1314	39[i]		
Randolph					52[i]	
Southbridge			29/1915		47[i]	
Wellfleet					70[i]	
Ham Radio						
Barnstable			29/1701		69[i]	
Duxbury Height: 30.5 m					84	
Fairhaven			29/1726		54[i]	
Harwich			29/1410		49[i]	
New Bedford (KD1CY)			29/2000		54[i]	
Marstons Mills			29/2047		79[i]	
Mattapoisett					66[i]	
Wakefield			29/1941		54[i]	
New Hampshire						
ICAO Sites						
Berlin (KBML)			30/0228	19	41	1.92
Concord (KCON)	30/0043	992.2	29/2102	28*	48*	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Jaffrey (KAFN)			29/2055		46	4.82
Laconia (KLCI)	30/0215	993.6	30/0138	25	42	2.10
Manchester (KMHT)			30/0122	33	48	2.17
Mount Washington (KMWN) Elevation: 1910 m			30/0053	92	121	5.29
Nashua (KASH)			29/2251		41	3.54
Portsmouth (KPSM)	30/0155	993.2	29/1955	28	52	1.54
Rochester (KDAW)	30/0130	994.2	29/2000	26	47	2.05
Whitefield (KHIE)	30/0152	996.3	29/2100	20	34	
Marine Observations						
Isle of Shoals C-MAN (IOSN3) 43.97N 70.62W Height: 19 m	30/0100	990.0	29/2000	52	66	
Public/Other						
Clarksville			30/0206		42[i]	
Derry			29/2224		46[i]	
Dover			29/1937		34[i]	
Fremont			29/2206		43[i]	
Gilford			29/2027		35[i]	
Goshen					61[i]	
Hampstead			29/2120		40[i]	
Jackson			29/2114		37[i]	
Kensington			29/2341		36[i]	
Londonberry					54[i]	
Meredith			29/2103		45[i]	
Meredith 4 ENE			29/1919		52[i]	
Newington			30/0055		45[i]	
Newton			29/1944		36[i]	
Vermont						
ICAO Sites						
Barre Knapp State Airport (KMPV)			30/1200		30	
Bennington (KDDH)	29/1954	985.4	30/1046	27	38	
Burlington (KBTV)			30/0324		37	2.64

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Morrisville Airport (KMVL)			30/0419		48	
Newport Airport (KEFK)			29/1955		30	
Rutland Airport (KRUT) – North Clarendon			29/2255		46	
Springfield Airport (KVSF)			29/1954		36	
Public/Other						
Amsden 2 ESE			29/2200		33[i]	
Bolton			29/1849		30[i]	
Corinth Center 2 NNW			30/0415		37[i]	
Danby			30/0156		37[i]	
Derby Center 1 NNE			29/2016		30[i]	
Danby Four Corners 2 SSW			29/2314		35[i]	
Fair Haven 1 WSW			29/2110		32[i]	
Fairfax 2 NNE			30/0504		30[i]	
Jericho			29/1013		42[i]	
Jonesville 1 E			29/2100		30[i]	
Lyndon Center 1 WSW			29/2115		53[i]	
Lyndon State College			30/0459		35[i]	
Ludlow 3 NNE			30/0358		41[i]	
Mendon			29/2140		42[i]	
Mendon 3 ENE			30/1015		34[i]	
Nashville 1 E			29/2303		37[i]	
North Fairfax 1 WNW			29/2245		30[i]	
Richford 1 NW			30/0415		45[i]	
Shrewsbury			30/0057		32[i]	
Shrewsbury 3 ESE			29/2323		38[i]	
Stowe 8 NW					63[i]	
Swanton 5 SSE			29/2356		30[i]	
Thetford Center			29/1831		33[i]	
Underhill					52[i]	
Underhill Center 1 NE			30/1039		44[i]	
Walden 4 N			30/0411		36[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Weatherford			30/1756		36[i]	
West Bolton 1 W			30/0013		42[i]	
Westmore 1 SW			30/0924		31[i]	
Wilder			29/2101		30[i]	
Williston			29/2305		34[i]	
Woodford			29/2041		50[i]	
Wilmington			29/2141		37[i]	
Maine						
ICAO Sites						
Augusta (KAUG)			30/0353	20	38	1.66
Bangor Intl. Airport (KBGR)	30/0553	1003.7	30/0453	22	37	1.41
Bar Harbor Airport (KBHB)			30/0415	23	38	2.06
Greenville Airport (KGNR)	30/0756	1004.4	30/0256	24	38	4.43
Lewiston (KLEW)			30/0335	24	38	
Portland Jetport (KPWM)	30/0251	997.3	29/2351	32	55	1.11
Rockland (KRKD)			30/0255	28	43	
Sanford (KSFM)	30/0215	995.3	29/2018	35	46	
Wiscasset (KIWI)			29/2253	22	39	1.55
Marine Observations						
Bar Harbor NOS (ATGM1) 44.90N 66.99W Height: 7.8 m			30/0718	38	48	
Eastport NOS (PSBM1) 44.90N 66.99W Height: 7.3 m			29/2030	29	39	
Matinicus Rock C-MAN (MISM1) 43.78N 68.87W Height: 23 m	30/0600	998.8	30/0600	48	58	
Mount Desert Rock C-MAN (MDRM1) 43.97N 68.13W Height: 22.6 m	30/0600	1001.6	30/0610	43	53	
Wells NOS (WELM1) 43.32N 70.56W	30/0224	994.0	29/2130	34[i]	47[i]	
Buoy 44005 43.20N 69.13W Height: 5.0 m	30/0058	996.3	29/1950	35	45	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Buoy 44007 43.53N 70.14W Height: 5.0 m	30/0100	995.8	29/2100	35	47	
Buoy 44027 442.7N 67.31W Height: 5.0 m	30/0550	1004.3	29/1650	29	35	
Buoy 44021 NERACOOS 43.76N 69.98W Height: 4.0 m			29/2300		44	
Buoy 44030 NERACOOS 43.18N 70.42W Height: 4.0 m	30/0210	993.2	29/2040	36	44	
Buoy 44032 NERACOOS 43.72N 69.36W Height: 4.0 m	30/0350	998.4	30/0400	33	43	
Buoy 44033 NERACOOS 44.06N 69.00W Height: 4.0 m			30/0320	30	42	
Buoy 44034 NERACOOS 44.11N 68.11W Height: 4.0 m	31/2004	998.9	29/1804	29	40	
Buoy 44037 NERACOOS 43.48N 67.88W Height: 4.0 m			30/0220	35	45	
Public/Other						
Bath					66[i]	
Bristol			29/2210		46[i]	
Freeport			29/2305		35[i]	
WFO Gray			29/2300		48[i]	
Georgetown			29/2039		42[i]	
Harpswell 3 S			29/2300		44[i]	
Kennebunk 2 NE					54[i]	
Lewiston 2 E			30/0214		41[i]	
Rangeley			30/0024		38[i]	
Saco			29/2009		51[i]	
South Bristol			29/2320		50[i]	
Springvale			29/2128		41[i]	
Thomaston			29/1957		36[i]	
Wells			29/1900		40[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Ohio						
ICAO Sites						
Akron-Canton (KCAK)			30/0434		43	
Akron-Fulton (KAKR)			30/0840		43	
Ashtabula Co. (KHZY)			30/0103		42	5.08
Bolton Field Airport (KTZR)			30/0735		35	
Burke Lakefront (KBKL)			30/0125		58	
Butler County Regional Airport (KHAO)			30/0554		39	
Chillicothe Ross County Airport (KRZT)			30/0551		35	
Cincinnati – Lunken Field (KLUK)			30/0553		35	
Cleveland Hopkins (KCLE)			30/0325	53	59	5.63
Columbus OSU Airport (KOSU)			30/0727		40	
Cox Dayton Intl. (KDAY)			30/0356		40	
Darke County Airport (KVES)			30/0355		34	
Defiance Memorial Airport (KDFI)			29/2254		35	
Dayton-Weight Brothers Airport (KMGV)			30/0303		39	
Delaware Municipal Airport (KDPZ)			30/0817		39	
Erie Intl. Airport (KERI)			30/1009		45	
Fairfield County Airport (KLHQ)			30/0241		36	
Findlay Airport (KFDY)			30/0149		41	
Lebanon Warren County (KI68)			30/0414		36	
Lima Allen County Airport (KAOH)			30/0537		40	
Lorain Co. Airport (KLPR)			30/0545		55	
Mansfield-Lahm (KMFD)			30/0640		40	
Marion Airport (KMNN)			30/1453		36	
Middletown Hook Field Municipal Airport (KMWO)			30/0657		34	
Newark-Heath Airport (KVTA)			30/0846		37	
Port Columbus Intl. Airport (KCMH)			30/1051		38	
Port Meadville (KGKJ)			30/0318		40	
Rickenbacker Intl. Airport (KLCK)			30/0515		36	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Sidney Municipal Airport (KI12)			30/0459		35	
Springfield-Beckley Municipal Airport (KSGH)			30/0441		38	
Toledo Executive (KTDZ)			30/0248		40	
Toledo Express (KTDL)			30/0340		43	
Union County Airport (KMRT)			30/0834		35	
Wapakoneta Neil Armstrong Airport (KAXV)			30/0334		37	
Wayne Co. Airport (KBJJ)			30/0758		43	
Washington Courthouse Airport – Fayette County (KI23)			30/0759		34	
Wilmington Air Park (KILN)			30/0146		41	
Wright-Patternson Air Force Base (KFFO)			30/0157		36	
Youngstown-Warren Airport (KYNG)			30/0626		40	3.62
Marine Observations						
Cleveland NOS (CNDO1) 41.54N 81.64W Height: 7.8 m	30/1218	990.0	30/0206	48	59	
Conneaut Breakwater Light (CBLO1) 41.98N 80.56W Height: 11.8 m	30/0921	983.4	30/0340	43	53	
South Bass Island C-MAN (SBIO1) 41.63 N 82.84 W Height: 22 m	30/1400	993.3	30/0800	47[f]	59	
Huron Light (HHLO1) 41.40 N 82.55 W Height: 9.7 m			30/0300		54	
Fairport NOS (FAIO1) 41.76N 81.28W	30/1154	988.4	30/0518	49[i]	58[i]	
Marblehead NOS (MRHO1) 41.55N 82.73W	30/1436	994.1	30/0230	39[i]	51[i]	
Geneva on the Lake (GELO1) 41.86 N 80.97 W Height: 8 m			30/0520		50[i]	
Toledo NOS (THRO1) 41.69N 83.47W	30/1730	996.6	30/0830	24[i]	38[i]	
Toledo Light #2 NOAA/GLERL (THLO1) 41.83N 83.19W Height: 14.9 m			30/0030	39	48	
Public/Other						

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Arctic 3 SSE			30/0630		36[i]	
Assumption 1 S			30/0400		39[i]	
Bellefontaine 1 NE			30/1032		34[i]	
Belmore 1 N			29/0320		35[i]	
Bowersville 1 ESE			30/0503		36[i]	
Centerville 2 ENE			29/2322		36[i]	
Delaware 3 NNW			30/0900		36[i]	
Dublin 2 N			30/0603		34[i]	
Five Points 4 SSW			30/0517		34[i]	
Fort Thomas 2 SE			30/0431		36[i]	
Georgetown 1 ESE			30/0601		35[i]	
Grove City 2 ENE			30/0450		35[i]	
Huber Ridge 3 E			30/0721		36[i]	
Kenton 1 SSW			30/0132		36[i]	
Kettering			30/0340		35[i]	
Liberty Center 4 SW			30/0400		37[i]	
Morenci 3 SSW			30/1050		36[i]	
New Bavaria 3 SE			30/0410		35[i]	
New Paris 2 SW			30/0341		36[i]	
Ney 2 W			30/0603		36[i]	
Park Layne 2 SW			30/0441		37[i]	
Pioneer 3 SSW			30/0440		38[i]	
Potsdam 3 WSW			30/0303		35[i]	
Springboro 2 N			29/2202		35[i]	
Vandalia 1 SSE			30/0522		35[i]	
Wauseon 2 SW			30/2103		50[i]	
Withamsville 2 NE			30/0530		46[i]	
Worthington 2 ENE			30/0940		42[i]	
Illinois						
ICAO Sites						
Chicago Midway Airport (KMDW)			30/1451		37	
Marine Observations						

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Calumet NOS (CMTI2) 41.74N 87.54W Height: 9.1 m			30/1630	27	37	
Chicago, IL NOAA/GRERL (CHII2) 42.00N 87.50W Height: 25.9 m			30/1700	40	49	
Waukegan Harbor, IL (WHRI2) 42.36N 87.81W Height: 9.0 m			30/1432		36	
Chicago Harrison-Dever Crib Height: 26 m			30/1230		50	
4 NE East Chicago (unknown ship)			30/0900		47	
Public/Other						
Burnham 2 WNW			30/0500		41	
Chicago 2 W			30/1618		37	
Lakemoor 2 E			30/1135		38	
Lockport			30/1500		38	
South Chicago 1 SE			29/0312		36	
South Holland			30/1700		35	
Indiana						
ICAO Sites						
Fort Wayne Intl. Airport (KFWA)			30/0754		35	
Fulton County Airport (KRCR)			30/1015		37	
Galveston Airport (K5I6)			29/0327		38	
Gary Regional Airport (KGYY)			30/1645		52	
Goshen Municipal Airport (KGSH)			29/2204		35	
La Porte Municipal Airport (KPPO)			30/1115		45	
Michigan City-Philips Airport (KMGC)			30/1135		43	
Richmond Municipal Airport (KRID)			30/0648		37	
South Bend Regional Airport (KSBN)			30/1103		46	
Starke County Airport (KOXI)			30/1135		43	
Valparaiso Porter County Municipal Airport (KVPZ)			30/1207		43	
Marine Observations						
Burns Harbor (BHRI13) 41.65N 87.1W			30/1250		45[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Michigan City NOAA/GRERL (MCYI3) 41.73N 86.91W Height: 21.3m	30/1500	1008.1	30/1500	47	59	
Public/Other						
Argos 3 NW			30/0818		36[i]	
East Chicago			30/0542		39[i]	
East Chicago 1 WSW			30/0625		36[i]	
Hobart 2 SE			30/1216		38[i]	
Huntington 4 SSW			30/0901		35[i]	
Mentone 2 W			30/0838		35[i]	
Michigan City 1 W			30/0741		38[i]	
New Carlisle 3 S			30/1037		37[i]	
New Chicago 1 WNW			30/0643		44[i]	
Town of Pines 2 NNE					60[i]	
Upland 3 NW Elevation: 271 m			30/0832		35[i]	
Valparaiso 2 SW			30/1132		43[i]	
Waterford 2 WSW			30/1143		42[i]	
Michigan						
ICAO Sites						
Adrian (KADG)			30/0232		42	
Ann Arbor (KARB)			30/0748		40	
Bad Axe (KBAX)			30/0353		42	
Caro (KCFS)			30/0254		38	
Detroit City Airport (KDET)			30/1218		42	
Detroit Metropolitan Airport (KDTW)			30/0205		40	
Flint (KFNT)			30/0216		38	
Grand Rapids Airport (KGRR)					35	
Gross Ille (KONZ)			30/0214		41	
Hillsdale Municipal Airport (KJYM)			29/0254		36	
Howell (KOZW)			30/0354		44	
Kalamazoo Battle Creek Airport (KAZO)					31	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Lansing/Capital City Airport (KLAN)					34	
Ludington Mason County Airport (KLDM)					40	
Mackinac Island (KMCD)			30/0413		40	
Monroe (KTTF)			30/0233		40	
Muskegon Airport (KMKG)					40	
Phelps Collins Field (KAPX)			30/1054		41	
Pontiac (KPTK)			30/0036		41	
Port Hope (KP58) Elevation: 180 m			30/0229		49	
Port Huron (KPHN)			30/0600		41	
Saginaw (KMBS)			30/0312		34	
Southwest Michigan Airport (KBEH)			30/0400		39	
Marine Observations						
Big Bay (BIGM4) 46.83N 87.73W Height: 10.0 m			30/1603	28	36	
Big Sable Point (BSBM4) 44.06N 86.51W Height: 10.0 m			30/1240	34	45	
DeTour Village NOS (DTLM4) 45.99N 83.90W Height: 11.7 m			30/1236	32	38	
Fairport (FPTM4) 45.62N 86.66W Height: 10.1 m			30/1730		34	
Ft. Gratoit NOS (FTGM4) 43.01N 82.42W Height: 27.4 m	30/1830	995.3	30/0636	56	65	
Grand Marais (GRMM4) 46.68N 85.97W Height: 9.1 m			30/0910	37	44	
Grand Traverse Light (GTLM4) 45.21N 85.55W Height: 16.0 m			30/1000	36	46	
Gravelly Shoals Light (GSLM4) 44.02N 83.54W Height: 24.7 m	30/1840	1000.0	30/0638	38	47	
Harbor Beach NOS (HRBM4) 43.85N 82.64W Height: 9.1 m	30/1854	997.6	30/0824	43	52	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Holland NOS (HLNM4) 42.77N 86.21W Height: 10.0 m			30/0712	36	42	
Ludington NOS (LDTM4) 43.95N 86.44W			30/1748		38[i]	
Mackinaw City NOS (MACM4) 45.78N 84.73W Height: 10.4 m			30/0724	26	37	
Manistee Harbor (MEEM4) 44.25N 86.35W Height: 10.0 m			30/1120	39	50	
Menominee NOS (MNMM4) 45.10N 87.59W Height: 6.6 m			30/1454	33	41	
Muskegon NOAA/GLERL (MKGM4) 43.23N 86.34W Height: 24.4 m			30/1400	27	38	
Naubinway (NABM4) 46.09N 85.44W Height: 10.1 m			30/1515		41	
Port Inland NOS (PNLM4) 45.97N 85.87W Height:10.2 m			30/1512	27	38	
Port Sanilac (PSCM4) 43.42N 82.54W Height: 10.0 m	30/2010	995.3	30/0910	48	58	
Presque Isle Light (PRIM4) 45.36N 83.49W Height: 33.5 m			30/1306		51	
Rock of Ages C-MAN (ROAM4) 47.87N 89.31W Height: 46.9 m			30/1530	31[f]	35	
Saginaw Bay Light #1 (SBLM4) 43.81N 83.72W Height: 12.5 m	31/0530	995.3	30/0620	40	47	
St. Clair Shores (CLSM4) 42.47N 82.88W	30/1710	995.6	30/1230	29[i]	42[i]	
South Haven C-MAN (SVNM4) 42.40N 86.29W Height: 16.8 m					57	
Stannard Rock C-MAN (STDM4) 47.18N 87.23W Height: 35.2 m			30/2100	39	46	
Sturgeon Point Light (SPTM4) 44.71N 83.73W Height: 22.5 m			30/0408		52	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Thunder Bay Island NOAA/GLERL (TBIM4) 45.04N 83.19W			30.0900	29	44[i]	
Public/Other						
Bayshore 4 W			30/1201		47[i]	
Benzonia 2 S			30/1935		44[i]	
Berrien Springs			30/1500		34[i]	
Cadillac 2 E			30/0750		39[i]	
Lakeport 3 WSW			30/0400		43[i]	
Mount Clemens			30/0355		45[i]	
Rochester Hills			30/0439		43[i]	
Rudyard 4 SE			30/1150		43[i]	
St. Joseph Elevation: 183 m			30/1100		50	
Toledo Harbor					57[i]	
West Branch 2 SSE			30/1230		44[i]	
Ypsilanti			29/2325		43[i]	
Wisconsin						
ICAO Sites						
Door County-Cherryland Airport (KSUE)			30/1055		40	
Green Bay (KGRB)			30/1453		34	
Manitowac County Airport (KMTW)			30/0415		35	
Marine Observations						
Algona City (AGMW3) 44.61N 87.43W Height: 9.1 m			30/1811		41	
Chambers Island, WI (CBRW3) 45.20N 87.36W Height: 10.0 m			30/2100	34	42	
Death's Door, WI (NPDW3) 45.29N 86.98W Height: 10.0 m			30/2330	37	44	
Kenosha, WI (KNSW3) 42.59N 87.81W Height: 19.5 m			30/1350	30	38	
Kewaunee NOS (KWNW3) 44.47N 87.50W			30/1818		37[i]	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Sheboygan, WI (SGNW3) 43.75N 87.69W			30/1400	35[i]	46[i]	
Sister Bay, WI (SYWW3) 45.20N 87.12W Height: 3.0 m			30/2244	42	52	
APRS/Public/Other						
Sister Bay 2 NNW (APRS) Elevation: 180 m			30/2144		48[i]	
Great Lakes Buoys						
Buoy 45002 45.34 N 86.41 W Height: 5.0 m	31/1950	1005.5	30/1100	34[e]	43	
Buoy 45003 45.35 N 82.84 W Height: 3.2 m	30/1850	999.8	30/1130	36[e]	45	
Buoy 45004 47.58N 86.59W Height: 5.0 m			31/0250	29	36	
Buoy 45005 41.68 N 82.40 W Height: 5.0 m	30/1150	990.6	30/0720	39[f]	52[e]	
Buoy 45007 42.67 N 87.03 W Height: 5.0 m	31/0750	1006.2	30/1040	38[e]	48[e]	
Buoy 45008 44.28 N 82.42 W Height: 5.0 m	30/1950	997.1	30/0700	39[f]	49[e]	
Buoy 45012 43.62 N 77.42 W Height: 5.0 m	30/0450	985.6	30/0240	37[f]	48	
Kentucky						
ICAO Sites						
Cincinnati/Northern Kentucky Intl. Airport (KCVG)			30/0653		39	
Falmouth Gene Snyder Airport (KK62)			30/0104		42	
Wilder 1 SSE (KYMN)			30/0330		36[i]	
Public/Other						
Park Hills 1 NNE			30/0640		36[i]	
Canada						
Quebec						
ICAO Sites						

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Beauport (CXBO)					43[i]	
Cap Rouge (CWQM)			30/0656		42[i]	
Quebec St. Francois (Orléans) (CWER)			30/0608		51[i]	
WeatherFlow						
La Baie Elevation: 10 m			30/0615	32[i]	40[i]	
St. Laurent d'Orléans Elevation: 12 m			29/2335	35[i]	45[i]	
St. Mathias Elevation: 52 m			30/0145	43[i]	42[i]	
Vaudreuil Elevation: 11 m			30/0435	32[i]	40[i]	
Quebec St. Francois (Orléans)			30/0608		51[i]	
Bois–Francis (St. Germaine)					43[i]	
Montréal (Laval)					47[i]	
Ontario						
ICAO Sites						
Burlington Pier (CWWB)			30/0355		51[i]	
Kitchener Waterloo-Wellington (CYKF)			30/0100		47[i]	
London Airport (CXYU)			30/0100		43[i]	
Oshawa (CYOO)					43[i]	
Point Petre (CWQP)			30/0416		50[i]	
Port Weller (CWWZ)			30/0615		44[i]	
Ridgetown (CXRG)					43[i]	
Sarnia (CZYR)			30/1118	42[i]	55[i]	
Toronto Island (CYTZ)			30/0616		49[i]	
Toronto Pearson Intl. (CYYZ)			30/0426		43[i]	
Western Island (CWMZ)			30/0729		58[i]	
WeatherFlow						
Belle River Elevation: 12 m			30/0725	47	57	
Hamilton Harbor Elevation: 10 m			30/0000	33	48	
Rondeau Bay Elevation: 15 m			30/0715	40	56	

Location	Minimum Sea Level Pressure		Maximum Surface Wind Speed			Total rain (in)
	Date/ time (UTC)	Press. (mb)	Date/ time (UTC)[a]	Sustained (kt)[b]	Gust (kt)	
Sunset Point Elevation: 8 m			30/0145	33	38	
Public/Other						
Stoney Creek			30/0415		52[i]	
Buoys						
Buoy 44150 (Atlantic) 42.51N 64.02W Height: 5.0 m	29/2120	1007.0*	30/2220	29*	36*	
Buoy 45132 (Lake Erie) 42.47N 81.22W Height: 5.0 m			30/0431	35*	41*	
Buoy 45135 (Lake Ontario) 43.79N 76.87W Height: 5.0 m			30/0030	39*	49*	
Buoy 45136 (Lake Superior) 48.53N 89.95W Height: 5.0 m			30/1335	28*	34*	
Buoy 45137 (Georgian Bay) 45.55N 81.02W Height: 5.0 m			30/0632	39*	49*	
Buoy 45139 (Lake Ontario) 43.26N 79.54W Height 5.0 m			30/0250	33	44	
Buoy 45142 (Lake Erie) 42.74N 79.20W Height: 5.0 m			30/0639		41*	
Buoy 45153 (Georgian Bay) 44.95N 80.63W Height: 5.0 m			30/0351	38*	47*	
Buoy 45149 (Lake Huron) 43.54N 82.08W Height: 5.0 m			30/0402	37*	45*	

[a] Date/time is for sustained wind when both sustained and gust are listed.
[b] Except as noted, sustained wind averaging periods for C-MAN and land-based ASOS reports are 2 min; buoy averaging period is 8 min.
[c] Storm surge is water height above normal astronomical tide level.
[d] Storm tide is referenced above Mean Lower Low Water (MLLW). Bold numbers indicate that the maximum recorded water level exceeded historical maximum values.
[e] Anemometer height 5 m.
[f] Wind averaging period 10 min.
[g] Sensor reached physical limit on measurements and did not record a maximum value.
[h] Maximum storm tide/storm surge likely includes effects from freshwater runoff.
[i] station has unknown elevation
[j] Wind averaging period 1 min.
[*] incomplete record

Table 4. All-time minimum surface pressures listed by station set during Sandy.

Location	Minimum pressure in mb and (inches)
Atlantic City, NJ (ACY)	948.5 (28.01)
Philadelphia, PA (PHL)	952.2 (28.12)
Trenton, NJ (TTN)	958.7 (28.31)
Harrisburg, PA (MDT)	963.8 (28.46)
Baltimore, MD (BWI)	964.8 (28.49)
Scranton, PA (AVP)	971.6 (28.69)

Table 5. National Ocean Service (NOS) Tide Gauges, and United State Geological Survey (USGS) High-Water Marks and Storm Tide Pressure Sensors during Sandy.

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
National Ocean Service (NOS) Tide Gauges			
Maine			
Eastport (PSBM1 - 8410140) (44.90N 66.98W)	2.21	10.71	1.38
Cutler Farris Wharf (CFWM1 - 8411060) (44.66N 67.21W)	2.50		1.67
Bar Harbor (ATGM1 - 8413320) (44.39N 68.21W)	2.26		1.37
Portland (CASM1 - 8418150) (43.66N 70.25W)	3.27	6.65	1.99
Wells (WELM1 - 8419317) (43.32N 70.56W)	3.53		1.88
New Hampshire			
Fort Point (8423898) (43.07N 70.71W)	3.32	6.41	2.00
Massachusetts			
Boston (BHBM3 - 8443970) (42.35N 71.05W)	4.57	7.42	2.64
Fall River (FRVM3 - 8447386) (41.70N 71.16W)	5.50		4.18[R]
Chatham (8447435) (41.69N 69.95W)	4.20	5.87	2.85
Woods Hole (BZBM3 - 8447930) (41.52N 70.67W)	5.07	4.44	3.60
Nantucket Island (NTKM3 - 8449130) (41.29N 70.10W)	3.90		2.40
Rhode Island			
Newport (NWPR1 - 8452660) (41.51N 71.33W)	5.34	6.13	4.32
Conimicut Light (CPTR1 - 8452944) (41.72N 71.34W)	5.89		4.48[R]
Providence (FOXR1 - 8454000) (41.81N 71.40W)	6.20	6.89	4.52

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Quonset Point[I] (QPTR1 - 8454049) (41.59N 71.41W)	5.16		2.61
Connecticut			
New London (NLNC3 - 8461490) (41.36N 72.09W)	6.50	6.16	4.95
New Haven (NWHC3 - 8465705) (41.28N 72.91W)	9.14		5.54[R]
Bridgeport (BRHC3 - 8467150) (41.17N 73.18W)	9.83	9.30	5.82[R]
New York			
Montauk (MTKN6 - 8510560) (41.05N 71.96W)	5.89	5.55	4.59
Kings Point (KPTN6 - 8516945) (40.81N 73.76W)	12.65		6.51[R]
The Battery (BATN6 - 8518750) (40.70N 74.01W)	9.40	11.28	9.00[R]
Bergen Point West Reach (BGNN4 - 8519483) (40.64N 74.14W)	9.56		9.53[R]
New Jersey			
Sandy Hook[I] (SDHN4 - 8531680) (40.47N 74.01W)	8.57	10.42	8.01[R]
Atlantic City (ACYN4 - 8534720) (39.36N 74.42W)	5.82	6.28	4.29
Cape May (CMAN4 - 8536110) (38.97N 74.96W)	5.16	5.89	3.46[R]
Ship John Shoal (SJSN4 - 8537121) (39.31N 75.38W)	5.30		
Tacony-Palmyra Bridge (TPBN4 - 8538886) (40.01N 75.04W)	6.11		3.76
Burlington, Delaware River (BDRN4 - 8539094) (40.08N 74.87W)	6.29		3.84
Pennsylvania			
Marcus Hook (MRCP1 - 8540433) (39.81N 75.41W)	6.26		4.03[R]
Philadelphia (PHBP1 - 8545240) (39.93N 75.14W)	5.83	7.52	3.93[R]
Newbold (NBLP1 – 8548989) (40.14N 74.75W)	6.42		3.88
Delaware			
Delaware City (DELD1 - 8551762) (39.58N 75.59W)	5.99		3.74[R]
Reedy Point (RDYD1 - 8551910) (39.56N 75.57W)	5.80	6.13	3.26
Brandywine Shoal Light[I] (BRND1 - 8555889) (38.99N 75.11W)	4.22		
Lewes (LWSD1 - 8557380) (38.78N 75.12W)	5.34	6.08	4.05
Maryland			
Ocean City Inlet (OCIM2 - 8570283) (38.33N 75.09W)	4.33	4.42	3.59
Bishops Head (BISM2 - 8571421) (38.22N 76.04W)	3.10	3.05	2.25[R]
Cambridge (CAMM2 - 8571892) (38.57N 76.07W)	3.24	3.44	2.51
Tolchester Beach (TCBM2 - 8573364) (39.21N 76.25W)	3.54		3.06
Chesapeake City (CHCM2 - 8573927) (39.53N 75.81W)	4.88		2.72

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Baltimore (BLTM2 - 8574680) (39.27N 76.58W)	3.69	3.83	3.00
Annapolis (APAM2 - 8575512) (38.98N 76.48W)	3.35	3.11	2.45
Solomons Island[I] (SLIM2 - 8577330) (38.32N 76.45W)	2.57	2.08	1.45
District of Colombia			
Washington (WASD2 - 8594900) (38.87N 77.02W)	4.03	4.72	2.94
Virginia			
Wachapreague (WAHV2 - 8631044) (37.61N 75.69W)	4.95		3.88
Kiptopeke (KPTV2 - 8632200) (37.17N 75.99W)	3.76	4.92	3.89
Lewisetta (LWTV2 - 8635750) (38.00N 76.46W)	2.46	2.92	2.25
Windmill Point (8636580) (37.62N 76.29W)	2.77		2.99
Yorktown USCG Training Center (YKTV2 - 8637689) (37.23N 76.48W)	3.86		3.44
Sewells Point (SWPV2 - 8638610) (36.95N 76.33W)	4.57	5.17	4.05
Chesapeake Bay Bridge Tunnel (CBBV2 - 8638863) (36.97N 76.11W)	4.36		
Money Point (MNPV2 - 8639348) (36.78N 76.30W)	4.79		4.08
North Carolina			
Duck[I] (DUKN7 - 8651370) (36.18N 75.75W)	4.16	4.79	3.29
Oregon Inlet Marina (ORIN7 - 8652587) (35.80N 75.55W)	3.62	3.59	3.11
USCG Station Hatteras (HCGN7 - 8654467) (35.21N 75.70W)	4.00		4.15[R]
Beaufort (BFTN7 - 8656483) (34.72N 76.67W)	1.90		1.82
Wilmington (8658120) (34.23N 77.95W)	1.84		1.23
Wrightsville Beach (JMPN7 - 8658163) (34.21N 77.79W)	2.25	3.85	2.09
South Carolina			
Springmaid Pier (MROS1 - 8661070) (33.66N 78.92W)	2.02	3.95	1.51
Oyster Landing (N. Inlet Estuary) (8662245) (33.35N 79.19W)	2.91	3.92	1.51
Charleston (8665530) (32.78N 79.93W)	2.39	4.20	1.57
Clarendon Plantation (8667633) (32.50N 80.78W)	3.55		1.40
Georgia			
Fort Pulaski (FPKG1 - 8670870) (32.03N 80.90W)	2.89	4.98	1.53
Florida			
Fernandina Beach (FRDF1 - 8720030) (30.67N 81.47W)	2.95	4.24	1.50
Mayport (Bar Pilots Dock) (8720218) (30.40N 81.43W)	2.53	3.59	1.64

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
I-295 Bridge, St. Johns River (8720357) (30.19N 81.69W)	1.86	2.19	1.64
Trident Pier (TRDF1 - 8721604) (28.42N 80.59W)	2.49	3.77	2.72
Lake Worth Pier (LKWF1 - 8722670) (26.61N 80.03W)	2.29	2.84	2.29[R]
Virginia Key (VAKF1 - 8723214) (25.73N 80.16W)	1.61	2.17	1.96
Vaca Key (VCAF1 - 8723970) (24.71N 81.11W)	1.70	1.38	1.73
Key West (KYWF1 - 8724580) (24.56N 81.81W)	0.93	1.29	1.24
US Geological Survey (USGS) High-Water Marks			
Virginia			
Accomack County			
Parksley (VA-ACC-054) (37.79N 75.71W)		6.2	2.3
Wachapreague (VA-ACC-002) (37.61N 75.69W)		5.8	2.0
Sanford (VA-ACC-051) (37.93N 75.66W)		6.0	1.7
Sanford (VA-ACC-052) (37.93N 75.66W)		5.9	1.7
Chincoteague Island (VA-ACC-001) (37.94N 75.35W)		4.0	1.5
Harborton (VA-ACC-057) (37.67N 75.83W)		5.0	1.2
Onanock (VA-ACC-055) (37.72N 75.79W)		5.1	0.8
Gloucester County			
Hayes (VA-GLO-001) (37.28N 76.40W)		4.5	1.2
Hayes (VA-GLO-002) (37.28N 76.40W)		4.6	1.0
Mathews County			
Port Haywood (VA-MAT-003) (37.32N 76.27W)		4.6	1.8
Port Haywood (VA-MAT-004) (37.32N 76.27W)		4.7	0.8
Moon (VA-MAT-002) (37.45N 76.28W)		3.5	0.8
Moon (VA-MAT-001) (37.45N 76.28W)		3.5	0.5
Northampton County			
Franktown (VA-NOR-002) (37.48N 75.93W)		4.3	3.0
Virginia Beach County			
Virginia Beach (VA-VAB-001) (36.70N 75.93W)		7.9	1.0
Virginia Beach (VA-VAB-002) (36.74N 75.94W)		8.7	1.0
New Jersey			

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Cape May County			
Avalon (NJ-CPM-008) (39.10N 74.72W)		6.9	2.9
Cape May Court House (NJ-CPM-004) (39.08N 74.80W)		6.9	2.0
Sea Isle City (NJ-CPM-006) (39.06N 74.66W)		6.8	1.4
Avalon (NJ-CPM-007) (39.08N 74.74W)		7.8	1.2
Cape May Court House (NJ-CPM-234) (39.12N 74.89W)		6.7	0.9
Stone Harbor (NJ-CPM-005) (39.06N 74.77W)		6.7	0.3
Atlantic County			
Atlantic City (NJ-ATL-103) (39.37N 74.42W)		7.7	3.8
Absecon (NJ-ATL-102) (39.40N 74.49W)		7.5	3.0
Absecon (NJ-ATL-100) (39.43N 74.52W)		7.6	2.4
Brigantine (NJ-ATL-107) (39.42N 74.36W)		8.0	2.4
Hammonton (NJ-ATL-232) (39.62N 74.62W)		7.4	2.4
Atlantic City (NJ-ATL-302) (39.35N 74.46W)		7.7	2.3
Brigantine (NJ-ATL-108) (39.41N 74.37W)		7.8	2.1
Atlantic City (NJ-ATL-300) (39.36N 74.45W)		7.3	2.0
Brigantine (NJ-ATL-105) (39.39N 74.40W)		7.6	1.9
Brigantine (NJ-ATL-106) (39.38N 74.41W)		7.8	1.9
Longport (NJ-ATL-305) (39.30N 74.54W)		8.4	1.8
Ventnor City (NJ-ATL-303) (40.33N 74.03)		6.9	1.7
Longport (NJ-ATL-304) (39.30N 74.54W)		8.3	1.3
Ocean City (NJ-ATL-306) (39.28N 74.57W)		8.5	0.7
Burlington County			
Hammonton (NJ-BUR-233) (39.64N 74.65W)		7.5	4.0
Ocean County			
Tuckerton (NJ-OCE-386) (39.60N 74.34W)		8.0	4.9
Tuckerton (NJ-OCE-390) (39.58N 74.33W)		7.8	4.8
Seaside Park (NJ-OCE-330) (39.92N 74.08W)		6.2	4.4
Long Beach (NJ-OCE-375) (39.58N 74.23W)		7.4	4.3
Little Egg Harbor Township (NJ-OCE-394) (39.55N 74.37W)		8.5	4.2
Manahawkin (NJ-OCE-382) (39.67N 74.22W)		7.5	4.1
Seaside Park (NJ-OCE-328) (39.91N 74.08W)		6.3	3.9

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Bay Head (NJ-OCE-228) (40.07N 74.04W)		6.8	3.5
Little Egg Harbor Township (NJ-OCE-392) (39.59N 74.35W)		7.9	3.2
Ocean Gate (NJ-OCE-323) (39.93N 74.14W)		6.5	3.1
Lavallette (NJ-OCE-332) (39.99N 74.07W)		6.9	2.8
Seaside Heights (NJ-OCE-334) (39.96N 74.07W)		8.7	2.8
Bayville (NJ-OCE-314) (39.91N 74.13W)		5.3	2.4
Mantoloking (NJ-OCE-336) (40.04N 74.05W)		7.0	2.3
Harvey Cedars (NJ-OCE-373) (39.61N 74.21W)		7.7	2.3
Brick (NJ-OCE-347) (40.06N 74.09W)		7.1	2.0
Borough of Point Pleasant (NJ-OCE-229) (40.07N 74.06W)		6.4	1.9
Long Beach (NJ-OCE-377) (39.54N 74.26W)		7.9	1.9
Harvey Cedars (NJ-OCE-319) (39.71N 74.14W)		5.2	1.8
Ship Bottom (NJ-OCE-371) (39.64N 74.19W)		5.5	1.7
West Creek (NJ-OCE-384) (39.64N 74.30W)		4.9	1.3
Surf City (NJ-OCE-379) (39.67N 74.16W)		5.6	1.2
Barnegat Light (NJ-OCE-321) (39.76N 74.11W)		5.3	0.8
Barnegat Township (NJ-OCE-303) (39.77N 74.20W)		4.4	0.7
Forked River (NJ-OCE-309) (39.83N 74.18W)		5.8	0.6
Waretown (NJ-OCE-306) (39.79N 74.18W)		7.3	0.2
Monmouth County			
USCG Station, Gateway National Recreation Area, Sandy Hook (NJ-MON-124) (40.47N 74.01W)		11.6	8.9
Keyport (NJ-MON-220) (40.45N 74.22W)		13.4	6.0
Keyport (NJ-MON-218) (40.45N 74.21W)		14.5	5.7
Union Beach (NJ-MON-217) (40.45N 74.16W)		13.0	5.6
Highlands (NJ-MON-205) (40.40N 73.98W)		11.0	5.5
Keyport (NJ-MON-219) (40.45N 74.21W)		14.5	5.5
Brielle (NJ-MON-363) (40.11N 74.05W)		9.3	5.5
Rumson (NJ-MON-119) (40.38N 74.01W)		10.9	5.2
Highlands (NJ-MON-204) (40.40N 73.98W)		11.1	5.2
Sea Bright (NJ-MON-122) (40.37N 73.97W)		10.6	5.1
Union Beach (NJ-MON-116) (40.45N 74.17W)		12.5	5.0

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Highlands (NJ-MON-202) (40.40N 73.99W)		11.0	4.8
Highlands (NJ-MON-206) (40.40N 73.98W)		10.6	4.8
Sea Bright (NJ-MON-207) (40.36N 73.97W)		10.0	4.7
Sea Bright (NJ-MON-208) (40.36N 73.97W)		10.2	4.5
Highlands (NJ-MON-203) (40.40N 73.98W)		10.9	4.3
Sea Bright (NJ-MON-209) (40.36N 73.97W)		10.1	4.1
Monmouth Beach (NJ-MON-314) (40.34N 73.98W)		9.5	4.1
Sea Bright (NJ-MON-123) (40.40N 73.98W)		10.9	4.0
Union Beach (NJ-MON-216) (40.44N 74.16W)		12.0	3.9
Little Silver (NJ-MON-316) (40.33N 74.03W)		9.7	3.3
Keansburg (NJ-MON-214) (40.44N 74.14W)		5.2	2.6
Keansburg (NJ-MON-215) (40.45N 74.15W)		5.1	2.5
Atlantic Highlands (NJ-MON-210) (40.42N 74.04W)		11.7	2.2
Port Monmouth (NJ-MON-211) (40.42N 74.10W)		9.6	2.2
Port Monmouth (NJ-MON-213) (40.43N 74.11W)		11.7	2.0
Long Branch (NJ-MON-315) (40.31N 74.00W)		9.6	2.0
Little Silver (NJ-MON-317) (40.33N 74.03W)		9.7	1.8
Keyport (NJ-MON-223) (40.44N 74.23W)		13.0	1.7
Point Pleasant Beach (NJ-MON-365) (40.10N 74.05W)		8.7	1.4
Oceanport (NJ-MON-121) (40.31N 74.01W)		9.6	1.3
Keansburg (NJ-MON-117) (40.45N 74.14W)		5.1	0.9
Leonardo (NJ-MON-212) (40.42N 74.06W)		11.7	0.4
Middlesex County			
Laurence Harbor (NJ-MID-408) (40.44N 74.23W)		12.8	7.9
Sayreville (NJ-MID-402) (40.48N 74.35W)		13.3	7.7
Perth Amboy (NJ-MID-404) (40.50N 74.28W)		13.6	4.4
South Amboy (NJ-MID-405) (40.49N 74.28W)		13.3	3.8
Perth Amboy (NJ-MID-205) (40.51N 74.26W)		12.7	3.7
Perth Amboy (NJ-MID-206) (40.54N 74.26W)		12.5	1.6
Carteret (NJ-MID-210) (40.57N 74.22W)		12.3	1.4
Perth Amboy (NJ-MID-204) (40.51N 74.29W)		12.9	1.1
Carteret (NJ-MID-150) (40.60N 74.24W)		12.2	0.7

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Union County			
Linden (NJ-UNI-209) (40.60N 74.21W)		12.1	5.7
Elizabeth (NJ-UNI-208) (40.66N 74.21W)		11.9	5.0
Elizabeth (NJ-UNI-207) (40.64N 74.20W)		11.7	2.8
Essex County			
Newark (NJ-ESS-102) (40.71N 74.13W)		11.6	3.5
Hudson County			
Weehawken (NJ-HUD-001) (40.76N 74.03W)		9.4	6.5
Weehawken (NJ-HUD-002) (40.76N 74.03W)		9.4	6.5
Weekawken (NJ-HUD-003) (40.76N 74.03W)		9.4	6.5
Weehawken (NJ-HUD-004) (40.76N 74.03W)		12.0	6.0
Weehawken (NJ-HUD-005) (40.76N 74.03W)		12.0	6.0
Weehawken (NJ-HUD-006) (40.76N 74.03W)		12.0	6.0
Hoboken (NJ-HUD-110) (40.74N 74.03W)		10.6	5.6
Jersey City (NJ-HUD-109) (40.72N 74.03W)		10.4	4.1
Weehawken (NJ-HUD-008) (40.76N 74.02W)		10.1	2.5
Hoboken (NJ-HUD-009) (40.74N 74.02W)		10.7	2.5
Weehawken (NJ-HUD-007) (40.76N 74.02W)		10.3	2.4
West New York (NJ-HUD-421) (40.78N 74.00W)		10.1	2.3
Bayonne (NJ-HUD-104) (40.65N 74.13W)		11.6	2.2
Jersey City (NJ-HUD-103) (40.73N 74.09W)		11.0	1.9
Weehawken (NJ-HUD-420) (40.76N 74.02W)		10.3	1.1
North Bergen (NJ-HUD-422) (40.80N 73.99W)		9.8	1.1
Hoboken (NJ-HUD-010) (40.74N 74.03W)		10.5	0.8
Bergen County			
Edgewater (NJ-BER-415) (40.84N 73.97W)		9.4	3.8
Hackensack (NJ-BER-413) (40.88N 74.04W)		8.2	3.5
Moonachie (NJ-BER-416) (40.84N 74.04W)		7.4	2.5
Kearny (NJ-BER-417) (40.79N 74.15W)		11.8	1.5
Edgewater (NJ-BER-423) (40.82N 73.98W)		9.5	0.3
New York			

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Richmond County (Staten Island)			
Oakwood (NY-RIC-718) (40.56N 74.12W)		12.5	7.9
Tottenville (NY-RIC-703) (40.50N 74.24W)		13.2	5.5
Dongan Hills (NY-RIC-701) (40.58N 74.10W)		12.5	4.7
Arrochar (NY-RIC-719) (40.59N 74.07W)		12.7	2.5
Prince's Bay (NY-RIC-716) (40.51N 74.21W)		13.1	1.0
New York County (Manhattan)			
Financial District (Battery Park) (NY-NEW-101) (40.70N 74.02W)		11.4	5.5
One World Trade Center, Financial District (NY-NEW-127) (40.71N 74.01W)		9.7	4.7
Financial District (Pier 11 Wall St.) (NY-NEW-104) (40.70N 74.01W)		11.3	4.5
Battery Park City (NY-NEW-126) (40.72N 74.01W)		9.8	4.3
Randall's Island (NY-NEW-981) (40.80N 73.93W)		10.3	3.8
Financial District (NY-NEW-107) (40.71N 74.01W)		11.2	3.5
Financial District (NY-NEW-105) (40.71N 74.01W)		11.1	3.5
Financial District (NY-NEW-106) (40.71N 74.01W)		11.2	3.5
Financial District (NY-NEW-109) (40.71N 74.00W)		11.0	3.5
Randall's Island (NY-NEW-806) (40.80N 73.92W)		11.1	3.1
Two Bridges (NY-NEW-112) (40.71N 74.00W)		11.2	3
Financial District (Battery Park) (NY-NEW-100) (40.70N 74.02W)		11.6	2.5
Financial District (Battery Park) (NY-NEW-102) (40.70N 74.02W)		10.0	2.5
Inwood (NY-NEW-803) (40.87N 73.91W)		9.0	2.1
Financial District (Battery Park) (NY-NEW-103) (40.70N 74.02W)		11.0	2
Tribeca (NY-NEW-125) (40.72N 74.01W)		10.6	1.5
Tribeca (NY-NEW-124) (40.72N 74.01W)		10.9	1.0
Tribeca (NY-NEW-128) (40.72N 74.01W)		10.8	1.0
Financial District (NY-NEW-110) (40.71N 74.00W)		11.1	1
Financial District (NY-NEW-111) (40.71N 74.00W)		11.1	1
Kings County (Brooklyn)			
Brooklyn (NY-KIN-902) (40.66N 74.02W)		11.5	4.5
Dumbo, Brooklyn (NY-KIN-504) (40.70N 73.99W)		11.3	4.4
Red Hook, Brooklyn (NY-KIN-511) (40.67N 74.01W)		11.2	4.1

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Canarsie, Brooklyn (NY-KIN-003) (40.64N 73.89W)		11.0	4.1
Gerritsen Beach, Brooklyn (NY-KIN-906) (40.59N 73.93W)		10.9	4.0
Brooklyn (NY-KIN-908) (40.61N 73.90W)		11.2	3.6
Red Hook, Brooklyn (NY-KIN-724) (40.67N 74.01W)		11.3	3.6
Gowanus, Brooklyn (NY-KIN-725) (40.68N 73.99W)		9.8	3.2
Greenwood, Brooklyn (NY-KIN-901) (40.66N 74.01W)		11.2	3.0
South Side, Brooklyn (NY-KIN-510) (40.72N 73.97W)		9.72	2.6
East Williamsburg, Brooklyn (NY-KIN-002) (40.72N 73.92W)		10.9	2.2
Dumbo, Brooklyn (NY-KIN-604) (40.70N 73.99W)		11.0	1.6
Brooklyn (NY-KIN-904) (40.60N 74.00W)		9.2	1.1
Brooklyn (NY-KIN-909) (40.66N 73.86W)		10.0	1.1
Bronx County			
Throgs Neck, The Bronx (NY-BRO-809) (40.82N 73.84W)		10.7	3.4
Highbridge, The Bronx (NY-BRO-804) (40.84N 73.93W)		9.7	2.1
Hunts Point, The Bronx (NY-BRO-807) (40.80N 73.90W)		10.6	1.0
Queens County			
Maspeth, Queens (NY-QUE-001) (40.72N 73.92W)		10.9	6.0
Breezy Point, Queens (NY-QUE-729) (40.56N 73.93W)		12.7	5.4
Belle Harbor, Queens (NY-QUE-730) (40.58N 73.86W)		11.2	5.4
Long Island City, Queens (NY-QUE-505) (40.74N 73.96W)		11.3	5.0
Springfield Gardens, Queens (NY-QUE-210) (40.64N 73.75W)		10.6	4.6
Breezy Point, Queens (NY-KIN-907) (40.57N 73.88W)		11.0	4.2
Astoria, Queens (NY-QUE-506) (40.77N 73.94W)		10.9	4.0
Breezy Point, Queens (NY-QUE-728) (40.56N 73.91W)		9.7	3.6
Little Neck, Queens (NY-QUE-501) (40.78N 73.75W)		10.3	3.5
Howard Beach, Queens (NY-QUE-508) (40.65N 73.84W)		10.8	2.7
Howard Beach, Queens (NY-QUE-507) (40.66N 73.84W)		10.9	2.5
Little Neck, Queens (NY-QUE-502) (40.78N 73.75W)		10.3	2.1
Malba, Queens (NY-QUE-520) (40.80N 73.83W)		10.8	0.3
Nassau County			
Hempstead (Freeport) (NY-NAS-921) (40.63N 73.58W)		9.0	4.6
Hempstead (Inwood) (NY-NAS-911) (40.62N 73.76W)		10.2	4.3

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Oyster Bay (Laurel Hollow) (NY-NAS-923) (40.86N 73.46W)		9.7	3.7
Hempstead (Jones Beach State Park, Wantagh) (NY-NAS-224) (40.60N 73.50W)		8.0	3.6
Oyster Bay (Massapequa) (NY-NAS-416) (40.65N 73.46W)		7.9	3.5
East Massapequa (NY-NAS-901) (40.66N 73.43W)		7.5	3.5
Oyster Bay (Massapequa) (NY-NAS-903) (40.65N 73.46W)		8.0	3.3
Hempstead (Freeport) (NY-NAS-920) (40.64N 73.60W)		9.2	3.3
Oyster Bay (Mill Neck) (NY-NAS-929) (40.88N 73.55W)		9.6	3.1
Hempstead (Atlantic Beach) (NY-NAS-220) (40.59N 73.73W)		12.7	3.0
Hempstead (Lawrence) (NY-SUF-912) (40.61N 73.73W)		9.8	2.8
Hempstead (Merrick) (NY-NAS-922) (40.65N 73.55W)		8.4	2.8
Hempstead (Port Washington) (NY-SUF-517) (40.82N 73.70W)		10.0	2.5
Hempstead (Baldwin Harbor) (NY-NAS-919) (40.63N 73.61W)		9.3	2.5
Oyster Bay (Centre Island) (NY-NAS-933) (40.89N 73.53W)		10.0	2.3
Oyster Bay (Laurel Hollow) (NY-NAS-927) (40.88N 73.49W)		9.5	2.0
Oyster Bay (Oyster Bay Cove) (NY-NAS-925) (40.87N 73.50W)		9.3	1.9
Hempstead (Cedarhurst) (NY-NAS-910) (40.63N 73.73W)		10.4	1.8
Glen Cove (NY-NAS-938) (40.89N 73.64W)		10.0	1.8
Long Beach (NY-QUE-710) (40.59N 73.67W)		11.6	1.7
Oyster Bay (Bayville) (NY-NAS-935) (40.91N 73.56W)		11.1	1.7
Hemptead (Jones Beach State Park, Wantagh) (NY-NAS-225) (40.59N 73.55W)		8.7	1.5
Oyster Bay (Bayville) (NY-NAS-936) (40.91N 73.58W)		10.4	1.3
Tobay Beach Park (NY-NAS-954) (40.61N 73.43W)		7.1	1.3
Oyster Bay (Oyster Bay Cove) (NY-NAS-928) (40.87N 73.52W)		10.0	1.2
Long Beach (NY-NAS-707) (40.58N 73.64W)		10.7	1.1
Oyster Bay (Centre Island) (NY-NAS-932) (40.90N 73.51W)		9.7	1.1
Long Beach (NY-NAS-708) (40.59N 73.64W)		8.7	1.1
Hempstead (Seaford) (NY-NAS-905) (40.66N 73.50W)		5.0	1.0
Hempstead (Valley Stream) (NY-NAS-909) (40.65N 73.73W)		8.8	1.0
North Hempstead (Roslyn) (NY-NAS-940) (40.80N 73.65W)		10.2	0.9
Hempstead (Lido Beach) (NY-NAS-222) (40.59N 73.61W)		10.2	0.8
Oyster Bay (Oyster Bay) (NY-NAS-502) (40.88N 73.54W)		10.1	0.8

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Oyster Bay (Massapequa) (NY-NAS-904) (40.66N 73.47W)		8.4	0.8
Glen Cove (NY-NAS-939) (40.90N 73.63W)		9.9	0.8
Long Beach (NY-NAS-709) (40.59N 73.67W)		9.3	0.8
North Hempstead (Glenwood Landing) (NY-NAS-941) (40.82N 73.65W)		10.2	0.8
Oyster Bay (Bayville) (NY-NAS-934) (40.91N 73.54W)		8.1	0.7
Hempstead (East Atlantic Beach) (NY-NAS-221) (40.59N 73.71W)		10.6	0.6
Hempstead (Point Lookout) (NY-NAS-223) (40.59N 73.58W)		9.3	0.6
Suffolk County			
Brookhaven (Fire Island) (NY-SUF-418) (40.63N 73.22W)			5.6*
Babylon (Oak Beach-Captree) (NY-SUF-950) (40.64N 73.29W)			5.5*
Riverhead (Wading River) (NY-SUF-506) (40.96N 72.86W)		8.3	4.5
Southold (East Marion) (NY-SUF-957) (41.12N 72.34W)			4.5*
Babylon (Gilgo) (NY-SUF-952) (40.62N 73.39W)			4.3*
Brookhaven (Mastic Beach) (NY-SUF-401) (40.75N 72.85W)		5.7	3.9
Babylon (Amityville) (NY-SUF-417) (40.66N 73.41W)			3.8*
Brookhaven (Mastic Beach) (NY-SUF-415) (40.77N 72.82W)			3.7*
Islip (Ocean Beach) (NY-SUF-419) (40.64N 73.16W)			3.7*
Southampton (Shinnecock Hills) (NY-SUF-421) (40.88N 72.45W)			3.7*
Brookhaven (Mt. Sinai) (NY-SUF-611) (40.96N 73.02W)			3.4*
Islip (Brightwaters) (NY-SUF-624) (40.70N 73.25W)			3.4*
Huntington (Huntington Bay) (NY-SUF-604) (40.91N 73.40W)			3.4*
Islip (Bayshore) (NY-SUF-625) (40.71N 73.24W)			3.2*
Brookhaven (Mastic Beach) (NY-SUF-618) (40.76N 72.83W)			3.1*
Brookhaven (Blue Point) (NY-SUF-631) (40.73N 73.04W)			3.1*
Southold (Laurel) (NY-SUF-961) (40.96N 72.55W)			3.1*
Islip (West Islip) (NY-SUF-405) (40.69N 73.28W)			2.9*
Riverhead (Wading River) (NY-SUF-507) (40.96N 72.86W)		8.5	2.8
Brookhaven (Mt. Sinai) (NY-SUF-510) (40.95N 73.03W)		8.6	2.8
Babylon (Lindenhurst) (NY-SUF-621) (40.67N 73.37W)			2.8*
Smithtown (Head of the Harbor) (NY-SUF-944) (40.88N 73.19W)			2.8*
Southampton (Quiogue) (NY-SUF-412) (40.82N 72.62W)		6.4	2.7

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Southampton (Bridgehampton) (NY-SUF-423) (40.90N 72.32W)			2.7*
Brookhaven (Center Moriches) (NY-SUF-414) (40.79N 72.80W)			2.6*
Brookhaven (Hamlet of Brookhaven) (NY-SUF-636) (40.76N 72.91W)			2.6*
Riverhead (South Jamesport) (NY-SUF-962) (40.94N 72.58W)			2.6*
East Hampton (Montauk) (NY-SUF-426) (41.05N 71.96W)		6.0	2.5
Huntington (Asharoken) (NY-SUF-606) (40.93N 73.36W)		9.8	2.5
Southold (Peconic) (NY-SUF-614) (41.05N 72.47W)			2.5*
Southampton (Noyack) (NY-SUF-432) (40.99N 72.36W)		6.5	2.4
Huntington (Lloyd Harbor) (NY-SUF-602) (40.91N 73.48W)			2.4*
Babylon (Oak Beach-Captree) (NY-SUF-945) (40.65N 73.26W)			2.4*
Southampton (Remsenburg-Speonk) (NY-SUF-633) (40.80N 72.70W)			2.4*
Islip (Fire Island) (NY-SUF-420) (40.63N 73.20W)			2.3*
Brookhaven (Mastic) (NY-SUF-617) (40.80N 72.83W)			2.3*
Brookhaven (Shirley) (NY-SUF-619) (40.74N 72.88W)			2.3*
Southampton (Hampton Bays) (NY-SUF-515) (40.91N 72.56W)			2.3*
Southampton (Hampton Bays) (NY-SUF-516) (40.91N 72.56W)		7.4	2.2
Southampton (North Haven) (NY-SUF-429) (41.01N 72.30W)		6.4	2.1
Southampton (North Sea) (NY-SUF-434) (40.92N 72.44W)		6.7	2.1
Southampton (Shinnecock Hills) (NY-SUF-435) (40.90N 72.47W)			2.1*
Islip (Oakdale) (NY-SUF-628) (40.73N 73.14W)			2.1*
Southold (Orient) (NY-SUF-302) (41.13N 72.26W)			2.0*
East Hampton (Napeague) (NY-SUF-424) (41.01N 72.04W)		5.2	1.9
Islip (West Sayville) (NY-SUF-629) (40.72N 73.09W)			1.9*
Smithtown (Kings Park) (NY-SUF-609) (40.90N 73.22W)			1.9*
Southampton (North Haven) (NY-SUF-430) (41.04N 72.32W)		6.5	1.9
Southampton (Noyack) (NY-SUF-431) (40.99N 72.32W)		6.3	1.8
Brookhaven (Port Jefferson) (NY-SUF-508) (40.95N 73.07W)		8.8	1.8
Brookhaven (Port Jefferson) (NY-SUF-509) (40.95N 73.07W)		8.8	1.8
Huntington (Asharoken) (NY-SUF-607) (40.95N 73.40W)		10.0	1.8
Islip (Brightwaters) (NY-SUF-406) (40.71N 73.25W)			1.8*
Babylon (Village of Babylon) (NY-SUF-622) (40.68N 73.33W)			1.8*
Southampton (East Quogue) (NY-SUF-411) (40.84N 72.57W)			1.7*

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Brookhaven (Stony Brook) (NY-SUF-610) (40.92N 73.15W)			1.7*
Brookhaven (Patchogue) (NY-SUF-402) (40.75N 73.01W)		5.8	1.6
Riverhead (Hamlet of Riverhead) (NY-SUF-513) (40.92N 72.66W)		8.2	1.6
Southold (East Marion) (NY-SUF-306) (41.13N 72.33W)			1.6*
Southampton (Hampton Bays) (NY-SUF-410) (40.85N 72.50W)			1.5*
Brookhaven (Bellport) (NY-SUF-620) (40.75N 72.93W)			1.5*
East Hampton (Northwest Harbor) (NY-SUF-427) (41.00N 72.19W)		6.1	1.4
Southold (Mattituck) (NY-SUF-613) (40.99N 72.54W)			1.4*
Huntington (Centerport) (NY-SUF-605) (40.89N 73.37W)			1.4*
Babylon (Fire Island) (NY-SUF-948) (40.63N 73.27W)			1.4*
Brookhaven (East Patchogue) (NY-SUF-632) (40.75N 72.98W)			1.4*
Southampton (Westhampton Beach) (NY-SUF-637) (40.79N 72.66W)			1.4*
Brookhaven (Hamlet of Brookhaven) (NY-SUF-635) (40.77N 72.90W)			1.4*
Brookhaven (East Moriches) (NY-SUF-413) (40.79N 72.75W)		6.3	1.3
Riverhead (Hamlet of Riverrhead) (NY-SUF-612) (40.99N 72.62W)			1.3*
Babylon (Gilgo) (NY-SUF-951) (40.64N 73.34W)			1.3*
Southold (New Suffolk) (NY-SUF-307) (40.99N 72.47W)			1.3*
Southold (East Marion) (NY-SUF-305) (41.13N 72.33W)			1.2*
Islip (Bayport) (NY-SUF-630) (40.73N 73.06W)			1.2*
Southold (Greenport) (NY-SUF-301) (41.10N 72.36W)			1.2*
Riverhead (Hamlet of Riverhead) (NY-SUF-512) (40.92N 72.66W)		8.1	1.1
Brookhaven (Center Moriches) (NY-SUF-616) (40.79N 72.80W)		6.5	1.1
Islip (Bay Shore) (NY-SUF-407) (40.71N 73.24W)			1.1*
Babylon (Oak Beach-Captree) (NY-SUF-946) (40.64N 73.25W)			1.1*
Southold (Hamlet of Southold) (NY-SUF-960) (41.04N 72.43W)			1.1*
Southold (Mattituck) (NY-SUF-511) (41.01N 72.56W)		7.8	1.0
Southold (Greenport West) (NY-SUF-958) (41.08N 72.39W)			1.0*
Babylon (Gilgo) (NY-SUF-953) (40.62N 73.42W)			1.0*
Southampton (Westhampton Beach) (NY-SUF-638) (40.80N 72.63W)			1.0*
Huntington (Northport) (NY-SUF-608) (40.92N 73.30W)			0.8*
Southampton (Riverside) (NY-SUF-408) (40.92N 72.66W)			0.8*
Southold (Hamlet of Southold) (NY-SUF-959) (41.04N 72.39W)			0.8*

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Babylon (Fire Island) (NY-SUF-947) (40.62N 73.28W)			0.6*
Smithtown (Hamlet of Smithtown) (NY-SUF-943) (40.86N 73.21W)			0.6*
Riverhead (Flanders) (NY-SUF-409) (40.90N 72.62W)		7.7	0.5
Southampton (Village of Southampton) (NY-SUF-422) (40.87N 72.39W)		7.9	0.5
East Hampton (Sag Harbor) (NY-SUF-428) (41.00N 72.29W)		6.3	0.5
Southampton (Quogue) (NY-SUF-639) (40.82N 72.57W)			0.5*
Riverhead (Hamlet of Riverhead) (NY-SUF-514) (40.92N 72.66W)		7.9	0.3
Westchester County			
New Rochelle (NY-WES-801) (40.89N 73.78W)		10.2	3.1
Rye (NY-WES-815) (40.98N 73.67W)		9.8	3.0
Mamaroneck (NY-WES-800) (40.94N 73.72W)		10.5	2.7
Rye (NY-WES-814) (40.96N 73.69W)		10.2	2.5
Ossining (NY-WES-002) (41.16N 73.87W)		9.0	2.4
Hastings-on-Hudson (NY-WES-003) (41.00N 73.88W)		8.9	1.9
Southwest Yonkers (NY-WES-006) (40.94N 73.90W)		9.2	1.1
Rockland County			
Piermont (NY-ROC-006) (41.04N 73.90W)		9.7	4.1
Stony Point (NY-ROC-002) (41.23N 73.98W)		9.4	2.0
Stony Point (NY-ROC-003) (41.23N 79.98W)		8.6	1.5
Orange County			
West Point (NY-ORA-004) (41.38N 73.96W)		8.6	4.2
Newburgh (NY-ORA-002) (41.50N 74.00W)		8.9	3.0
Newburgh (NY-ORA-001) (41.50N 74.01W)		8.9	1.9
Ulster County			
Kingston (NY-ULS-004) (41.93N 73.97W)		9.3	4.9
Saugerties (NY-ULS-002) (42.07N 73.94W)		9.4	4.3
Kingston (NY-ULS-005) (41.93N 73.97W)		9.3	4.0
Saugerties (NY-ULS-003) (42.07N 73.94W)		9.4	3.8
Kingston (NY-ULS-006) (41.93N 73.97W)		9.2	3.1
Saugerties (NY-ULS-001) (42.07N 73.94W)		9.4	3.0
Kingston (NY-ULS-007) (41.93N 73.97W)		9.2	1.5

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Dutchess County			
Poughkeepsie (NY-DUT-007) (41.65N 73.94W)		9.1	5.1
Poughkeepsie (NY-DUT-006) (41.65N 73.94W)		9.1	4.1
Poughkeepsie (NY-DUT-001) (41.71N 73.94W)		9.0	4.0
Poughkeepsie (NY-DUT-003) (41.71N 73.94W)		9.1	2.9
Poughkeepsie (NY-DUT-005) (41.71N 73.94W)		9.0	2.7
Poughkeepsie (NY-DUT-004) (41.71N 73.94W)		9.1	2.4
Columbia County			
Castle-on-Hudson (NY-COL-001) (42.53N 73.76W)		10.0	2.6
Castle-on-Hudson (NY-COL-003) (42.53N 73.76W)		10.1	2.2
Greene County			
Coxsackie (NY-GRE-002) (42.35N 73.79W)		9.7	4.0
Catskill (NY-GRE-009) (42.21N 73.85W)		9.6	3.9
Catskill (NY-GRE-012) (42.21N 73.85W)		9.6	3.5
Catskill (NY-GRE-011) (42.21N 73.85W)		9.6	3.4
Catskill (NY-GRE-010) (42.21N 73.85W)		9.5	3.1
Catskill (NY-GRE-008) (42.21N 73.85W)		8.5	3.1
Coxsackie (NY-GRE-001) (42.35N 73.79W)		9.6	1.9
Connecticut			
Fairfield County			
Norwalk (Marvin Beach) (CT-FFD-422) (41.09N 73.39W)			4.5*
Fairfield (CT-FFD-632) (41.12N 73.26W)			4.3*
Westport (CT-FFD-513) (41.14N 73.36W)		10.2	4.1
Southport (CT-FFD-628) (41.13N 73.30W)			4.0*
Norwalk (CT-FFD-412) (41.10N 73.42W)		10.6	3.6
Bridgeport (South End) (CT-FFD-724) (41.17N 73.18W)			3.5*
Greenwich (CT-FFD-121) (41.02N 73.62W)			3.4*
Norwalk (CT-FFD-411) (41.10N 73.42W)		10.5	3.3
Bridgeport (South End) (CT-FFD-723) (41.17N 73.19W)			3.2*
Bridgeport (Enterprise Zone) (CT-FFD-722) (41.19W 73.19W)			3.1*
Bridgeport (South End) (CT-FFD-726) (41.15N 73.21W)			3.0*

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Westport (Green Farms) (CT-FFD-522) (41.11N 73.33W)			2.9*
Westport (CT-FFD-515) (41.15N 73.36W)		10.2	2.8
Stamford (CT-FFD-223) (41.04N 73.52W)			2.8*
Stratford (Lordship) (CT-FFD-811) (41.16N 73.11W)		8.6	2.8
Old Greenwich (CT-FFD-123) (41.00N 73.58W)			2.6*
Greenwich (CT-FFD-111) (41.00N 73.66W)		11.7	2.4
Fairfield (CT-FFD-624) (41.14N 73.25W)			2.4*
Riverside (CT-FFD-122) (41.02N 73.59W)			2.3*
Darien (CT-FFD-321) (41.05N 73.49W)			2.2*
Fairfield (CT-FFD-621) (41.14N 73.24W)			2.2*
Stamford (Waterside) (CT-FFD-221) (41.03N 73.54W)			2.1*
Westport (Green Farms) (CT-FFD-521) (41.11N 73.33W)			2.1*
Westport (CT-FFD-523) (41.10N 73.35W)			2.0*
Stratford (Lordship) (CT-FFD-822) (41.15N 73.13W)			2.0*
Stamford (Shippan Point) (CT-FFD-222) (41.03N 73.52W)			1.8*
Greenwich (CT-FFD-112) (41.00N 73.66W)		11.7	1.7
Fairfield (CT-FFD-625) (41.14N 73.25W)			1.7*
Fairfield (CT-FFD-623) (41.14N 73.24W)			1.6*
Fairfield (CT-FFD-622) (41.14N 73.24W)			1.4*
Stratford (CT-FFD-821) (41.17N 73.12W)			1.4*
Norwalk (South Norwalk) (CT-FFD-421) (41.10N 73.42W)			1.3*
Bridgeport (Black Rock) (CT-FFD-729) (41.15N 73.24W)			1.3*
Fairfield (CT-FFD-631) (41.13N 73.25W)			1.2*
Stratford (Lordship) (CT-FFD-812) (41.16N 73.11W)		8.3	1.2
Bridgeport (Enterprise Zone) (CT-FFD-721) (41.19N 73.19W)			0.7*
Fairfield (CT-FFD-626) (41.12N 73.27W)			0.5*
Westport (CT-FFD-514) (41.14N 73.36W)		10.3	0.2
New Haven County			
Milford (CT-NHV-128) (41.21N 73.06W)			5.5*
West Haven (CT-NHV-222) (41.27N 72.94W)			5.2*
East Haven (CT-NHV-521) (41.25N 72.88W)			5.1*
Milford (CT-NHV-123) (41.21N 73.02W)			5.0*

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Guilford (CT-NHV-711) (41.27N 72.67W)			4.9*
Branford (CT-NHV-628) (41.27N 72.77W)			4.7*
Madison (Madison Center) (CT-NHV-832) (41.27N 72.61W)			4.4*
Madison (Madison Center) (CT-NHV-833) (41.27N 72.59W)			4.1*
Milford (CT-NHV-112) (41.21N 73.05W)		9.5	3.8
West Haven (CT-NHV-223) (41.27N 72.94W)			3.6*
Milford (CT-NHV-127) (41.21N 73.06W)			3.2*
Guilford (CT-NHV-713) (41.27N 72.67W)		8.4	3.0
New Haven (CT-NHV-329) (41.25N 72.90W)			2.5*
Branford (CT-NHV-629) (41.26N 72.75W)			2.5*
Milford (CT-NHV-125) (41.19N 73.09W)			2.3*
Guilford (CT-NHV-712) (41.27N 72.67W)			2.1*
New Haven (Fair Haven) (CT-NHV-321) (41.31N 72.89W)			1.5*
East Haven (CT-NHV-524) (41.25N 72.86W)			1.4*
Branford (CT-NHV-627) (41.26N 72.80W)			1.4*
New Haven (City Point) (CT-NHV-324) (41.28N 72.93W)			1.3*
East Haven (CT-NHV-522) (41.27N 72.87W)			1.3*
East Haven (CT-NHV-523) (41.26N 72.85W)			1.3*
Madison (Madison Center) (CT-NHV-834) (41.28N 72.59W)			1.3*
Branford (CT-NHV-611) (41.26N 72.82W)		9.7	1.2
Branford (Branford Center) (CT-NHV-625) (41.29N 72.80W)			1.2*
Branford (CT-NHV-624) (41.27N 72.81W)			1.1*
Milford (CT-NHV-113) (41.21N 73.06W)			1.0*
Milford (CT-NHV-121) (41.21N 73.03W)			1.0*
West Haven (CT-NHV-224) (41.26N 72.96W)			1.0*
New Haven (CT-NHV-318) (41.27N 72.90W)			1.0*
Branford (CT-NHV-626) (41.26N 72.80W)			0.9*
West Haven (CT-NHV-221) (41.27N 72.93W)			0.8*
Branford (CT-NHV-613) (41.27N 72.82W)		9.4	0.7
Madison (Madison Center) (CT-NHV-831) (41.27N 72.62W)			0.6*
Milford (CT-NHV-122) (41.21N 73.03W)			0.5*
New Haven (Hill) (CT-NHV-325) (41.30N 72.95W)			0.5*

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
New Haven (Mill River) (CT-NHV-323) (41.30N 72.91W)			0.3*
Middlesex County			
Clinton (CT-MSX-111) (41.27N 72.53W)		8.0	3.8
Westbrook (CT-MSX-223) (41.27N 72.47W)			2.7*
Clinton (CT-MSX-113) (41.28N 72.52W)		6.8	2.6
Old Saybrook (Saybrook Manor) (CT-MSX-330) (41.28N 72.41W)			2.5*
Clinton (CT-MSX-112) (41.29N 72.53W)		7.1	1.4
Clinton (CT-MSX-131) (41.27N 72.50W)			1.4*
New London County			
Old Lyme (CT-NLD-112) (41.28N 72.28W)			3.2*
Old Lyme (CT-NLD-123) (41.29N 72.31W)			3.1*
Groton (Groton Long Point) (CT-NLD-523) (41.31N 72.01W)			2.9*
Mystic (CT-NLD-524) (41.34N 71.98W)			2.6*
Old Lyme (CT-NLD-124) (41.29N 72.32W)			2.4*
Waterford (CT-NLD-330) (41.33N 72.17W)			2.3*
Niantic (CT-NLD-222) (41.30N 72.24W)			2.0*
Pawcatuck (CT-NLD-622) (41.33N 71.84W)			2.0*
Stonington (CT-NLD-627) (41.34N 71.92W)			2.0*
Old Lyme (CT-NLD-125) (41.31N 72.34W)			1.9*
New London (CT-NLD-421) (41.31N 72.10W)			1.9*
Mystic (CT-NLD-632) (41.35N 71.96W)			1.8*
Stonington (CT-NLD-629) (41.34N 71.93W)			1.7*
Mystic (CT-NLD-631) (41.34N 71.96W)			1.6*
Mystic (CT-NLD-634) (41.36N 71.96W)			1.5*
Mystic (CT-NLD-522) (41.36N 71.97W)			1.4*
Mystic (CT-NLD-612) (41.35N 71.97W)		6.0	1.2
Stonington (CT-NLD-628) (41.33N 71.93W)			1.2*
Mystic (CT-NLD-635) (41.35N 71.96W)			1.1*
Groton (CT-NLD-515) (41.33N 71.99W)		6.7	1.0
Old Lyme (CT-NLD-111) (41.31N 72.35W)			1.0*
Groton (CT-NLD-517) (41.32N 72.06W)		5.7	0.9
Pawcatuck (CT_NLD-623) (41.34N 71.88W)			0.8*

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Stonington (CT-NLD-611) (41.34N 71.91W)		6.0	0.7
Mystic (CT-NLD-633) (41.36N 71.97W)			0.6*
Stonington (CT-NLD-626) (41.33N 71.91W)			0.5*
Rhode Island			
Washington County			
Narragansett (RI-WAS-227) (41.46N 71.45W)			3.9*
Westerly (Misquamicut) (RI-WAS-234) (41.32N 71.82W)			3.4*
Westerly (Watch Hill) (RI-WAS-232) (41.31N 71.86W)		5.8	3.1
Westerly (RI-WAS-235) (41.33N 71.79W)			3.1*
Westerly (Misquamicut) (RI-WAS-233) (41.32N 71.82W)			2.9*
Wakefield (RI-WAS-247) (41.37N 71.56W)			2.7*
Narragansett (Narragansett Pier) (RI-WAS-228) (41.45N 71.45W)			2.5*
Charlestown (Quonochontaug) (RI-WAS-238) (41.33N 71.72W)			2.5*
Wakefield (RI-WAS-245) (41.37N 71.61W)			2.5*
Wakefield (RI-WAS-246) (41.37N 71.57W)			2.3*
Charlestown (RI-WAS-240) (41.36N 71.68W)			2.0*
Narragansett (RI-WAS-226) (41.47N 71.42W)			1.8*
Westerly (Weekapaug) (RI-WAS-236) (41.33N 71.77W)			1.8*
Wakefield (RI-WAS-650) (41.43N 71.50W)			1.8*
Westerly (RI-WAS-230) (41.38N 71.83W)			1.5*
Narragansett (Narragansett Pier) (RI-WAS-229) (41.43N 71.46W)			1.2*
Charlestown (RI-WAS-243) (41.36N 71.63W)			1.1*
Wakefield (RI-WAS-653) (41.38N 71.52W)			1.1*
Westerly (RI-WAS-231) (41.35N 71.83W)			1.0*
Saunderstown (RI-WAS-224) (41.53N 71.42W)		8.4	0.7
Charlestown (Quonochontaug) (RI-WAS-239) (41.34N 71.70W)			0.7*
Charlestown (RI-WAS-241) (41.38N 71.64W)			0.4*
Westerly (RI-WAS-237) (41.34N 71.73W)			0.3*
Charlestown (RI-WAS-242) (41.36N 71.64W)			0.3*
Narragansett (Point Judith) (RI-WAS-648) (41.37N 71.49W)			0.2*
Newport County			

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Jamestown (RI-NEW-223) (41.51N 71.37W)			4.4*
Newport (RI-NEW-219) (41.46N 71.33W)			4.3*
Jamestown (RI-NEW-222) (41.49N 71.40W)			4.2*
Middletown (RI-NEW-215) (41.49N 71.25W)			3.1*
Jamestown (RI-NEW-220) (41.50N 71.37W)			3.0*
Newport (RI-NEW-218A) (41.46N 71.31W)			2.9*
Tiverton (RI-NEW-209) (41.56N 71.21W)			1.9*
Tiverton (RI-NEW-210) (41.58N 71.21W)			1.3*
Little Compton (RI-NEW-207) (41.47N 71.19W)			0.9*
Little Compton (RI-NEW-208) (41.47N 71.19W)			0.4*
Portsmouth (RI-NEW-214) (41.55N 71.24W)			0.4*
Kent County			
Warwick (RI-KEN-645) (41.65N 71.44W)			2.3*
Bristol County			
Warren (RI-BRI-637) (41.73N 71.26W)			1.0*
Warren (RI-BRI-640) (41.72N 71.29W)		6.2	0.7
Bristol (RI-BRI-639) (41.67N 71.28W)			0.4*
Barrington (RI-BRI-641) (41.75N 71.35W)			0.3*
Providence County			
East Providence (RI-PRO-644) (41.80N 71.38W)			3.0*
Massachusetts			
Bristol County			
Swansea (Ocean Grove) (MA-BRI-631) (41.73N 71.22W)			2.0*
South Dartmouth (MA-BRI-202) (41.54N 70.97W)			1.4*
Westport (MA-BRI-204) (41.50N 71.04W)			1.1*
Westport (MA-BRI-205) (41.51N 71.10W)			0.9*
Plymouth County			
Wareham (Wareham Center) (MA-PLY-626) (41.76N 70.71W)			0.3*
US Geological Survey (USGS) Storm Tide Pressure Sensors			
Virginia			

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Accomack County			
Chincoteague (VA-ACC-001) (37.90N 75.41W)		5.00	3.5
Parksley (Metompkin Bay) (VA-ACC-002) (37.73N 75.59W)		5.98	2.5
Onancock (Holly Cove) (VA-ACC-003) (37.72N 75.79W)		5.38	1.5
City of Poquoson			
Plumb Tree Island (VA-YOR-003) (37.11N 76.32W)		5.08	4
City of Virginia Beach			
Lynnhaven Inlet (VA-VAB-001) (36.91N 76.09W)		5.49	2
Hampton County			
Hampton (Buckroe Beach) (VA-HAM-002) (37.02N 76.32W)		5.30	3
Mathews County			
Hudgins (Gwynns Island) (VA-MAT-001) (37.49N 76.31W)		3.54	0.5
Northampton County			
Cape Charles (Wise Point) (VA-NOR-004) (37.13N 75.95W)		5.71	4
Cape Charles (Cape Charles Marina) (VA-NOR-003) (37.26N 76.02W)		5.02	2
Marionville (Red Bank) (VA-NOR-001) (37.45N 75.84W)		5.46	1.5
Maryland			
Anne Arundel County			
Annapolis (MD-ANN-003) (38.97N 76.48W)		3.41	1.5
Annapolis (MD-ANN-001) (38.98N 76.49W)		3.61	1.5
Baltimore County			
Baltimore (Pier 5) (MD-BAL-001) (39.28N 76.61W)		6.70	2.5
Delaware			
Sussex County			
Lewes (Roosevelt) (DE-SUS-008) (38.79N 75.16W)		8.20	4.5
Bethany Beach (DE-SUS-014) (38.51N 75.06W)		4.74	2.5
Lewes (Old Mill Creek) (DE-SUS-057) (38.77N 75.20W)		5.47	2.5
Fenwick Island (Little Assawoman Bay) (DE-SUS-015) (38.45N 75.06W)		4.06	2
Millsboro (Indian Creek) (DE-SUS-033) (38.59N 75.21W)		6.17	2

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Rehoboth Beach (Dewey Bridge) (DE-SUS-010) (38.69N 75.08W)		4.84	2
Millsboro (Massey Landing) (DE-SUS-032) (38.63N 75.10W)		2.93	1.5
Lewes (Love Creek @ Hwy 24) (DE-SUS-030) (38.70N 75.16W)		3.86	1
Kent County			
Smyrna (Woodland Beach) (DE-KEN-051) (39.33N 75.47W)		5.63	4
Dover (Little Creek) (DE-KEN-053) (39.16N 75.45W)		5.38	1
New Castle County			
Smyrna (Duck Creek) (DE-NEW-001) (39.31N 75.61W)		7.09	1
New Jersey			
Cape May County			
Marmora (Great Egg Harbor Bay) (NJ-CPM-010) (39.29N 74.63W)		6.97	3.5
Cumberland County			
Millville (Maurice River) (NJ-CUM-020) (39.40N 75.04W)		6.31	2.5
Bridgeton (Cohansey River) (NJ-CUM-025) (39.43N 75.24W)		5.50	1
Atlantic County			
Port Republic (Mullica River) (NJ-ATL-005) (39.55N 74.46W)		7.62	4.5
Middlesex County			
South Amboy (Old Bridge Waterfront Park) (NJ-MID-001) (40.46N 74.25W)		11.71	6
Union County			
Rahway (Rahway River) (NJ-UNI-002) (40.60N 74.27W)		12.06	
Elizabeth (Elizabeth River) (NJ-UNI-208) (40.66N 74.21W)		12.20	
Hudson County			
East Rutherford (Hackensack River) (NJ-HUD-001) (40.76N 74.03W)		8.80	
New York			
Richmond County			
Tottenville, Staten Island (NY-RIC-003) (40.50N 74.23W)		16.00	
Great Kills, Staten Island (NY-NEW-101) (40.54N 74.13W)		13.33	
Arrochar, Staten Island (NY-RIC-001) (40.59N 74.06W)		15.02	
New York County			

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Uptown, Manhatten (Harlem River, Inwood Hill Park) (NY-NEW-124) (40.72N 74.01W)		9.50	
Kings County			
Brooklyn (East River @ Manhatten Bridge) (NY-KIN-001) (40.70N 73.99W)		7.48	
Gowanus, Brooklyn (NY-KIN-003) (40.68N 73.99W)		11.08	
Sea Gate, Brooklyn (NY-KIN-001) (40.58N 74.01W)		13.32	
Queens County			
Broad Channel, Far Rockaway, Queens (NY-QUE-005) (40.61N 73.82W)		10.38	
Howard Beach, Queens (NY-QUE-002) (40.65N 73.84W)		11.16	
Astoria, Queens (Flushing Bay) (NY-QUE-001) (40.76N 73.86W)		10.35	
Whitestone, Queens (NY-QUE-004) (40.80N 73.83W)		10.57	
Nassau County			
Long Beach (NY-NAS-006) (40.58N 73.64W)		17.48	
Oyster Bay (Hamlet of Oyster Bay) (NY-NAS-003) (40.88N 73.53W)		10.12	
Suffolk County			
Islip (Ocean Beach) (NY-SUF-014) (40.64N 73.16W)		13.41	
Huntington (Northport) (NY-SUF-003) (40.90N 73.35W)		9.48	
Brookhaven (Port Jefferson) (NY-SUF-009) (40.95N 73.07W)		8.81	
Riverhead (Wading River) (NY-SUF-010) (40.96N 72.86W)		8.19	
Southampton (Flanders) (NY-SUF-008) (40.92N 72.64W)		7.86	
Southold (Mattituck) (NY-SUF-011) (41.01N 72.56W)		7.86	
Islip (West Islip) (NY-SUF-001) (40.69N 73.28W)		7.35	
Southampton (Hampton Bays) (NY-SUF-018) (40.85N 72.50W)		7.32	
Brookhaven (East Moriches) (NY-SUF-017) (40.79N 72.75W)		6.83	
Southampton (Hampton Bays) (NY-SUF-019) (40.89N 72.50W)		6.53	
Brookhaven (Patchogue) (NY-SUF-016) (40.75N 73.01W)		6.39	
Southampton (Sag Harbor) (NY-SUF-021) (41.00N 72.29W)		6.33	
East Hampton (Montauk) (NY-SUF-026) (41.07N 71.93W)		6.08	
Brookhaven (Mastic Beach) (NY-SUF-028) (40.75N 72.86W)		5.68	
Babylon (Oak Beach-Captree) (NY-SUF-002) (40.66N 73.26W)		5.57	
Islip (Fire Island) (NY-SUF-013) (40.63N 73.20W)		4.09	
Westchester County			

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Mamaroneck (NY-WES-001) (40.94N 73.72W)		10.92	
New Rochelle (NY-WES-003) (40.89N 73.78W)		10.44	
Connecticut			
Fairfield County			
Westport (CT-FFD-005) (41.15N 73.36W)		10.31	
Byram (CT-FFD-001) (41.00N 73.66W)		10.27	
Westport (CT-FFD-006) (41.12N 73.37W)		10.15	
South Norwalk (CT-FFD-003) (41.10N 73.42W)		9.92	
Stratford (CT-FFD-009) (41.25N 73.09W)		9.65	
New Haven County			
Milford (CT-NHV-020) (41.21N 73.05W)		9.84	
New Haven (CT-NHV-013) (41.27N 72.90W)		9.50	
New Haven (CT-NHV-019) (41.27N 72.90W)		9.23	
Guilford (CT-NHV-015) (41.27N 72.66W)		8.56	
Branford Center (CT-NHV-018) (41.26N 72.82W)		8.77	
North Haven (CT-NHV-014) (41.37N 72.88W)		7.20	
Middlesex County			
Old Saybrook Center (CT-MSX-020) (41.28N 72.35W)		7.86	
Old Saybrook Center (CT-MSX-019) (41.28N 72.35W)		7.73	
Clinton (CT-MSX-018) (41.27N 72.53W)		7.63	
New London County			
Niantic (CT-NLD-018) (41.32N 72.20W)		11.72	
Old Lyme (CT-NLD-023) (41.28N 72.28W)		8.41	
Old Lyme (CT-NLD-019) (41.28N 72.28W)		8.26	
Groton (CT-NLD-025) (41.32N 72.06W)		6.55	
Noank (CT-NLD-016) (41.33N 71.98W)		6.42	
Noank (CT-NLD-015) (41.33N 71.98W)		6.35	
Mystic (CT-NLD-027) (41.38N 71.97W)		6.16	
Groton (CT-NLD-026) (41.33N 72.04W)		5.98	
Mystic (CT-NLD-029) (41.35N 71.97W)		5.96	
Stonington (CT-NLD-030) (41.34N 71.91W)		5.83	

Location	Storm surge (ft)[a]	Storm tide (ft)[b]	Estimated Inundation (ft)[c]
Rhode Island			
Washington County			
Wakefield (RI-WAS-003) (41.36N 71.61W)		8.43	
Wakefield (RI-WAS-008) (41.38N 71.51W)		6.59	
Westerly (RI-WAS-005) (41.33N 71.77W)		6.39	
Saunderstown (RI-WAS-012) (41.53N 71.42W)		6.35	
Westerly (RI-WAS-001) (41.31N 71.86W)		5.86	
Charlestown (RI-WAS-007) (41.38N 71.64W)		3.97	
Bristol County			
Warren (RI-BRI-013) (41.73N 71.29W)		6.27	
Newport County			
Portsmouth (RI-NEW-014) (41.62N 71.24W)		6.42	
Little Compton (RI-NEW-015) (41.46N 71.19W)		6.36	

[a] Storm surge is water height above normal astronomical tide level.
[b] Storm tide is water height above the North American Vertical Datum of 1988 (NAVD88).
[c] Estimated inundation is the maximum depth of water on land. For some USGS storm tide pressure sensors, inundation is estimated by subtracting the elevation of the sensor from the recorded storm tide. For other USGS storm tide sensors and USGS high water marks, inundation is estimated by subtracting the elevation of the land derived from a Digital Elevation Model (DEM) from the recorded and measured storm tide. For NOS tide gauges, the height of the water above Mean Higher High Water (MHHW) is used as a proxy for inundation.
[I] Incomplete
[R] Exceeded historical maximum value.
* preliminary

Table 6. Selected precipitation totals in the United States associated with Sandy.

Florida	Precipitation (inches)
Daytona Beach Intl. 1 NE (DIAF1) 29.19N 81.06W	4.30
Scottsmoor 2 NNW (SCMF1) 28.78N 80.88W	3.58
Suntree 2 W (FL-BV-2) 28.20N 80.70W	3.27
North Miami Beach Coop (NMBF1) 25.93N 80.16W	3.17
Chuluota 1 N (FL-SM-8) 28.65N 81.12W	2.52
Suntree 1 WSW (FL-BV-1) 28.21N 80.70W	2.51
Rockledge 1 WSW (FL-B-1) 28.31 N 80.75 W	2.45
Edgewater 3 NE (FL-VL-2) 28.99N 80.87W	2.43
Lake Mary Jane 2 NE (WELF1) 28.40N 81.16W	2.42
Mims 1 WNW (FL-BV-4) 28.66N 80.86W	2.25
Rockledge 1 NE (FL-BV-3) 28.33N 80.72W	2.20
Hialeah Coop (HIAF1) 25.82N -80.28W	2.19
North Carolina	
Avon 0.7 NE 35.34 N 75.49 W	8.20
Salvo 0.9 NNE 35.55 N 75.47 W	8.18
Corolla 3.2 SSE	7.66
Duck 0.3 SE 36.16 N 75.75 W	7.54
Kill Devil Hills 2.5 NNW 36.04 N 75.69 W	6.98
Kill Devil Hills 0.9 WNW 36.02 N 75.68 W	6.96
1.1 SSE Duck 36.15 N 75.75 W	6.57
Ocracoke 35.10 N 75.98 W	6.50
Kitty Hawk 4.0 NNW 36.12 N 75.75 W	6.35
Trent Woods 1.3 SSE	4.11
Jamesville 6.1 SW	3.84
Jacksonville 2.0 E	3.75
Holly Ridge 4.8 ENE	3.63
Elizabeth City 10.5 NNW	3.56
Merry Hill 3.8 E	3.51
Elizabeth City (KECG)	3.44
Virginia	
Reedville	9.90
Virginia Beach	9.58

Pungo	9.58
Oceana/Soucek	9.57
Cashville 0.1S	9.38
Oceana (KNTU)	9.38
City of Hampton Emergency Management (WB)	9.37
White Stone 8.0 SSW	8.96
Greenbackville 0.4 WNW	8.64
Port Haywood 1.00 SE	8.59
Onley 0.6 SE	8.47
Onancock 3.90 SW	8.39
Virginia Beach 1.70 NE	7.99
Chantilly HS (WB)	7.95
Purcellville (LO036) 39.13 N 77.71 W	7.89
Centreville ES (WB)	7.82
Isle of Wright Smithfield HS (WB)	7.79
Maysville 5 S	7.75
Yorkstown 0.8 SE	7.73
Alexandria Franconia ES (WB)	7.64
Newport News 5.80 NE	7.63
Sterling Park 1 NW (LOE41) 39.00 N 77.42 W	7.50
Fairfax Providence ES (WB)	7.01
Hampton 8.10W	6.91
Lottsburg 2.30 NNE	6.77
Newport News 2.70 ESE	6.74
Smithfield 2.0 SE	6.25
Fairfax 1 ENE (FCC05) 38.85 N 77.29 W	6.25
Urbanna 6.20 NNE	6.20
Williamsburg 1.40 ENE	6.12
Manassas 1 ESE (MSS02) 38.74 N 77.47 W	6.06
Franconia 1 SSE (VA-FX-3) 38.74 N 77.14 W	6.03
Centreville 1 SE (FXW106) 38.83 N 77.43 W	6.02
Lovettsville 2 ENE (LOE84) 39.28 N 77.60 W	5.98
Lorton 1 NE (VA-FX-5) 38.71 N 77.23 W	5.70
City of Norfolk 30 S	5.64
Dulles International Airport 1 NNE (X390077) 38.96 N 77.45 W	5.62
Hampton 1.90 NW	5.59
Suffolk 13 NE	5.54
Middleburg 2 NW (LOC14) 38.99 N 77.77 W	5.50
Rose Hill (AX066) 38.79 N 77.10 W	5.42
Manassas (X387077) 38.74 N 77.48 W	5.40
Williamsburg 1.30 SSW	5.33

Woolsey 3 NNW (PWN18) 38.90 N 77.67 W	5.30
Burke (X388077) 38.78 N 77.27 W	5.15
Stanley (X386078) 38.57 N 78.50 W	5.15
Lydia 2 SE (GRC24) 38.31 N 78.47 W	5.11
Frostburg (ALW63) 39.64 N 78.92 W	5.10
Honeyville 1 ESE (PES02) 38.57 N 78.54 W	5.10
Sterling (KLWX)	5.03
Wakefield (KAKQ)	3.18
Hanover (KOFP)	3.13
West Virginia	
Maysville (GN003) 5 S 39.04 N 79.17 W	7.75
Shenandoah Junction	4.46
Falling Waters 2.4 NW	4.36
Slanesville 2.1 SE	3.99
Morgantown/Hart Field (KMGW)	3.97
McMechen 6.0 E	3.56
Charles Town 2.5 NE	3.15
Bunker Hill 0.8 WNW	3.06
Springfield 2.3 ESE	3.04
Huntington/Tri-State Airport (KHTS)	2.94
Boothsville 1.4 SE	2.83
Delaware	
Indian Rivert Inlet DEOS 38.63N 75.97W	10.98
Rehoboth Beach DEOS 38.71 N 75.08 W	10.60
Georgetown 38.69 N 75.39 W	10.20
Viola DEOS 39.04 N 75.57 W	9.69
Dover 6.4 NNW	9.62
Milford 38.91 N 75.43 W	9.55
Indian River Acres	9.49
Dover DEOS 39.15 N 75.52 W	9.38
Milford DEOS 38.88N 75.44W	9.38
Ellendale DEOS 38.80 N 75.42 W	9.33
Selbyville DEOS 38.45 N 75.22 W	9.28
Greenwood DEOS 38.80 N 75.59 W	9.07
Seaford DEOS 38.64 N 75.62 W	8.80

Harrington DEOS 38.92 N 75.57 W	8.74
Harbison DEOS 38.68N 75.25W	8.71
Clayton 6.6 W	8.62
Bridgeville DEOS 38.74 N 75.60 W	8.48
Dover AFB (KDOV) 39.13 N 75.47 W	8.47
Seaford 2.3 SSE	8.45
Blackbird DEOS 39.40N 75.63W	8.39
Delaney Corner	8.33
Milton 38.77 N 75.31 W	8.30
Smyrna 2.7 SSE	8.30
Felton 3.6 NE	8.20
Smyrna DEOS 39.29 N 75.61 W	8.12
Dover 39.15 N 75.52 W	7.98
Smyrna 3 SSE 39.25 N 75.59 W	7.96
Seaford 1 SW 38.63 N 75.63 W	7.95
Felton 4 NE 39.04 N 75.52 W	7.94
Georgetown 5.8 W	7.94
Georgetown DEOS 38.69 N 75.39 W	7.92
Viola DEOS 39.04 N 75.57 W	7.84
Bethany Beach DEOS 38.53 N 75.06 W	7.83
Ellendale 38.80 N 75.42 W	7.80
Georgetown 6 W 38.68 N 75.50 W	7.73
Laurel DEOS 38.55 N 75.57 W	7.62
Townsend DEOS 39.39 N 75.69 W	7.57
Selbyville 38.45 N 75.22 W	7.53
Newport 39.71 N 75.61 W	7.30
Greenwood 38.80 N 75.59 W	7.18
Bridgeville 38.74 N 75.60 W	6.92
Glasgow DEOS 39.61N 75.73W	6.80
Seaford 38.64 N 75.62 W	6.48

Middletown 1 SSW 39.43 N 75.71 W	6.44
Greenville DEOS 39.80N 75.61W	6.42
Newark DEOS AG Farm 39.67 N 75.76 W	6.12
Newark DEOS 39.67 N 75.76 W	6.05
Hockessin Chesapeake Bay Girl Scouts (WB)	6.03
Newport 2 WNW 39.72 N 75.64 W	5.83
New Castle DEOS 39.66 N 75.57 W	5.73
Wilmington 39.63 N 75.74 W	5.73
Wilmington DEOS 39.78 N 75.53 W	5.52
2 S Newark 39.64 N 75.76 W	5.36
Claymont DEOS 39.80 N 75.46 W	5.21
Wilmington 39.73 N 75.53 W	5.20
Newark 39.67 N 75.76 W	5.02
Washington, D.C.	
Washington 5.1 NW	5.83
Maryland	
Bellevue	12.83
Easton 0.7 NNW	12.55
New Market Deer Crossing ES (WB)	11.68
Cavetown 3 ESE	11.15
Greensboro 1.4 ENE	10.70
Ridgely 0.2 ESE	10.68
American Corrner	10.55
Easton 2 SE 38.75 N 76.05 W	10.52
Ridge 1.0 N	10.36
Queenstown 2.6 S	10.29
Mount Airy Summit Ridge (WB)	10.28
Columbia Oakland Mills MS (WB)	10.08
Stevensville Bayside ES (WB)	10.00
Easton 1 SSW 38.76 N 76.07 W	9.97
Greensboro 38.97 N 75.81 W	9.93
Queenstown 38.98 N 76.16 W	9.89
Trappe 3.5 NE	9.78
Columbia Howard Community College (WB)	9.76
Trappe 38.65 N 76.06 W	9.60
Churchton 1 ENE 38.80 N 76.52W	9.50

Sykesville Piney Ridge ES (WB)	9.49
Germantown Sally Ride ES (WB)	9.49
Bishopville 3.1 E	9.48
St. Michaels 0.7 SE	9.38
Greenbelt 1 NNE (PGW69) 39.00N 76.88W	9.30
Denton 5.8 WSW	9.28
Princess Anne 4.4 WSW	9.08
Denton 38.88 N 75.82 W	8.93
Pasadena 2.6 ESE	8.70
Easton Talbot County EMA (WB)	8.69
Easton Saints Peter and Paul HS (WB)	8.68
Westminister East MS (WB)	8.61
Bryans Road 2 ESE (X386077) 38.61N 77.04W	8.51
Burtonsville Banneker MS (WB)	8.50
Chestertown Kent County EMA (WB)	
Easton 1 SW 38.76 N 76.08 W	8.50
Ridge (SMS08) 38.12N 76.36W	8.42
Dundalk 1 SW (BL021) 39.25N 76.51W	8.40
Parkville (BLS28) 39.38N 76.56W	8.38
Laurel St. Vincent Pallotti HS (WB)	8.38
Goldsboro VFC (WB)	8.26
Seaford 2 SSE 38.08 N 75.34 W	8.14
Crofton 1 NNE (MD-AA-1) 39.02N 76.67W	7.99
Clarksburg Little Bennett ES (WB)	7.90
Olney St. Peter's School (WB)	7.90
Rosedale 1 NNE (BL017) 39.33N 76.50W	7.82
Perry Hall MS (WB)	7.82
Tracy's Landing 2 WSW (CT04) 38.76N 76.64W	7.78
Boonsboro HS (WB)	7.76
Baltimore Youth in Transition School	7.55
Pimlico 1 NE (MD-BC-3) 39.37N 76.6W	7.52
Oella 1 E (BLS92) 39.27N 76.77W	7.46
Olney ES (WB)	7.45
Eckhart Mines (ALW28) 39.65N 78.90W	7.22
Baltimore Maryland Science Center (WB)	7.21
Upper Marlboro County Administration Building (WB)	7.21
Potomoc Bells Mills ES (WB)	7.20
Downtown Baltimore 1 SSE (X393076) 39.28N 76.61W	7.13
Annapolis US Naval Academy	7.09

Annapolis St. Mary's ES (WB)	7.08
Myersville ES (WB)	7.07
Darlington ES (WB)	7.03
Bowie 2 NNW (PGE12) 38.98N 76.75W	7.00
Worton	6.93
Columbia 3 ENE (HWC03) 39.21N 76.81W	6.90
Gaithersburg 2 SE (MD-HW-2) 39.34N 76.97W	6.82
Stevensville 38.99 N 76.31 W	6.77
Manchester 1 SSW (CLC12) 39.65N 76.89W	6.64
Savage 1 WSW (HWS04) 39.13N 76.84W	6.59
North Beach (X387076) 38.70N 76.53W	6.54
Glenmont 1 NNE (MOE01) 39.07N 77.04W	6.37
Stevensville 3 N 39.0 N 76.31W	6.40
Catonsville 1 ENE (BLS93) 39.27N 76.73W	6.24
Westminster 1 W (X396077) 39.57N -77.03W	6.19
Germantown 2 ESE (MO182) 39.17N 77.23W	6.19
Cavetown 1 WSW (WAS03) 39.63 N 77.60 W	6.15
Aspen Hill 2 ENE (MD-MG-5) 39.09N 77.05W	6.14
Gaithersburg 1 ENE (MO060) 39.14 N 77.20W	6.13
Bowleys Quarters (MD-BL-4) 39.31N 76.38W	6.08
Pimlico (BCN02) 39.35N 76.67W	6.01
Cloverly 1 E (MOS117) 39.10N -76.96W	6.00
Hagerstown 1 ENE (MD-WH-3) 39.64N 77.70W	5.99
Elkton 39.60 N 75.82W	5.95
Dentsville 1 SW (CHC34) 38.46N 76.91W	5.94
College Park 1 SW (PGN172) 38.98N 76.94W	5.85
Norbeck 1 ESE (MO035) 39.10 N 77.06 W	5.81
Hampton 1 W (BLC20) 39.41 N 76.59 W	5.71
Elkton 7 NNW 39.69 N 75.87 W	5.77

Myersville (X395077) 39.50 N 77.56 W	5.30
Owings 1 NNE (AAS06) 38.73 N 76.59 W	5.03
Belvedere Heights (AAC04) 39.05 N 76.50 W	5.00
Glenn Dale 3 ENE (PGE08) 39.00 N 76.75 W	5.00
New Jersey	Rainfall (inches)
Wildwood Crest 38.97 N 74.84 W	11.91
Middle Township 4.4 SW	11.41
Green Creek	11.40
North Wildwood 39.00 N 74.80 W	10.24
Seaville	10.06
Rio Grande 39.02 N 74.88 W	9.51
Milford 38.91 N 75.43 W	9.38
West Cape May 38.94 N 74.94 W	9.37
Dover 6 WNW 40.91 N 74.67 W	9.14
Dennisville 2.2 NE Lower Township	8.41
Erma	8.20
Cape May 38.94 N 74.91 W	8.10
Woodbine 0.8 NNW	7.87
Upper Township 3.2 SE	7.82
Woodbine 39.22 N 74.81 W	7.82
Cape May Courthouse 38.94 N 74.91 W	7.69
Newark 4 SSW 39.62 N 75.78 W	7.65
Hamilton Township 2.1 SE	7.57
Newport	7.30
Vineland 2.6 WSW	7.07
Estell Manor	7.06
Cedarville	7.00
Egg Harbor Township	6.83
Upper Deerfield	6.20
Barnegat 39.75 N 74.22 W	6.14
The Estell Manor School – Estell Manor (WB)	6.08
Bivalve	5.93
Folsom 3 SE 39.85 N 75.29 W	5.74
Pittsgrove Township	5.56
Hammonton 39.63 N 74.82 W	5.46
Pitman 39.73 N 75.13 W	5.31

Franklin	5.23
Malaga	5.22
Pennsylvania	
Easton 40.68 N 75.22 W	12.49
Myerstown ELCO MS (WB)	9.23
Dallastown Area HS (WB)	8.81
Hanover Clearview ES(WB)	8.71
Hanover 5.4 S	8.15
Schellsburg 2.6 WNW	7.94
Fleetwood 2.0 ESE	7.26
Dillsburg ES (WB)	7.24
Grantham Messiah College (WB)	7.19
Lampeter Martin Meylin MS (WB)	7.15
Newtown BioClinica (WB)	7.02
Nottingham DEOS 39.74N 76.05W	6.97
Carlise Lamberton MS (WB)	6.90
Glen Rock 2.2 ESE	6.82
New Salem 0.3 WSW	6.47
Landenberg 1.8 ENE	6.38
Malvern 0.5 NNE	6.32
West Chester DEOS 39.95 N 75.61 W	6.18
Littlestown 0.8 NNW	6.05
Atglen DEOS 39.94 N 75.97 W	6.00
West Chester 1.8 SE	5.96
Kennett Square 39.84 N 75.71 W	5.93
Landenburg	5.90
West Chester 39.95 N 75.61 W	5.78
Kennett Square DEOS 39.84 N 75.71 W	5.68
Exton 40.03 N 75.63 W	5.59
West Grove DEOS 39.82 N 75.83 W	5.12
Unionville	5.12
Media 39.91 N 75.39 W	5.02
New York	
Warsaw ES (WB)	7.07
Riverhead MS (WB)	6.52
Whitesville	4.83
Hamburg 1 S	4.59
Perrysburg	4.41
Dunkirk 1 SW	4.09
Lockport 0.8 NE	3.87
Batavia Genessee	3.80
Sherman 0.4 ENE	3.50
Niagara Falls International Aiport (KIAG)	3.32
Lancaster 4.1 ENE	3.26

Alcott Center	3.25
West Almond 3.6 SW	3.14
Dansville 1.0 ENE	3.06
Elma Center 0.7 SE	3.06
Rhode Island	
Woonsocket 1.3 ESE	2.98
Manville 0.2 NE	2.83
Little Compton 1.7 NW	2.40
Massachusetts	
Leominster 1.5 S	4.40
Foxborough 0.4 S	3.91
Fitchburg	3.86
North Ashburnham	3.70
Natick 1.7 NNE	3.56
Action 1.3 SW	3.49
Norwood 1.3 NW	3.47
East Milton	3.39
Andover 1.5 W	3.34
Pepperell	3.30
Ashburnham	3.20
Ayer	3.11
Norton 1.8 NNE	2.80
Millis 0.6 SSE	2.65
Northborough 0.6 SSE	2.60
New Hampshire	
Gorham 3.1 S	8.45
Randolph 1.4 NE	6.11
Center Sandwich 4.9 E	5.19
New Ipswich 0.8 S	4.72
Unity 3.2 ENE	4.14
Greenville 1.1 ENE	4.06
Newbury 1.6 NW	4.00
Hillsborough 2.1 NNW	3.51
Brooksfield 0.9 WSW	3.50
Hollis 2.9 ENE	3.50
Maine	
Kingbury 2 SSE	4.60
Greenville 2 E	4.24
Pembroke 5.4 SSE	3.30
Norway 11.5 WNW	3.26
Old Town 1 SE	3.24
Whiting 3 NNE	3.00
New Sharon 2.0 NW	2.95
Acton 2.7 NW	2.69
Lubec 4.1 W	2.65
Belmont 2.7 SSE	2.62
Blanchard	2.58
Shirley	2.52
Ohio	
Kirtland 0.9 SW	7.04
North Ridgeville 2.8 W	6.79
Painesville 3.8 SSW	6.51
Broadview Heights 1.5 NW	6.33

Elyria 0.4 SE	5.80
Brunswick 0.5 NE	5.57
Wakeman 4.6 NNE	5.50
South Russell 2.0 W	5.42

Table 7. Selected snowfall totals associated with Sandy and its post-tropical remnants, 28-31 Oct. 2012

West Virginia	Snowfall (in inches)
1 SE Richwood	36.0
2 NNW Clayton	33.0
Quinwood	29.0
Summerville	28.0
Flat Top	28.0
Davis	28.0
Huttonsville 5 WSW	28.0
Craigsville	26.0
Alpine Lake	24.0
Alexander	24.0
Mingo 2 SSE	24.0
Nettie	24.0
Terra Alta	24.0
2 E Kitzmiller	24.0
Bayard	22.3
Beverly	21.0
French Creek	18.5
Runa 0.1 W	18.1
Beaver	18.0
MacArthur 1 E	18.0
Snowshoe 1 S	18.0
Webster Springs	17.0
1 SSW Valley Head	17.0
Hazelton	16.0
Buckhannon	15.0
Fayatteville 11 E	15.0
Princeton	15.0
1 SW Bluefield	14.5
Elkins	14.0
Crawley	13.0
Lashmeet	12.0
5 SW Nebo	11.0
Bluefield	11.0
3 WSW Cherry Grove	10.0
Athens	9.5
2 N Athens	9.0
2 SSW Mullens	7.0
1 SE Buckhannon	6.0
Pipestem	6.0
Hinton	5.0
Kentucky	
Whitesburg 4 SE	18.0

Payne Gap	14.0
Lynch 3 S	14.0
Kingdom Come S.P.	10.2
Elko 1 NW	9.0
Vicco 4 SE	7.0
Benham 3 S	6.0
Viper	6.0
Harlan 5 N	6.0
North Carolina	
Cove Creek 10 NW	24.0
Faust	24.0
Newfound Gap	22.0
Clifton	14.0
Elk Park	14.0
Buladean	12.0
Beech Mountain	12.0
Bakersville 5 N	11.0
Boone	11.0
Beech Mountain 1 SE	10.0
Grayson Highlands	10.0
Flat Springs	9.8
Ashland	9.0
Lansing	9.0
4 NW Sugar Grove	7.0
Flat Springs	7.0
1 WSW Rominger	6.0
Deep Gap	6.0
Virginia	
Norton 2 S	24.0
Tazewell 2 N	15.0
Wise 6 E	14.0
Big Meadows	12.0
Lebanon	12.0
Tazewell	10.0
Grayson Highlands Station	10.0
Richlands	9.0
Burkes Garden	8.4
Honaker	8.0
Mouth of Wilson	8.0
Richlands	8.0
Bland	7.0
Mountain Lake	7.0
Marion 2.4 ENE	6.0
Flat Ridge	5.0
1 W McMullin	5.0
Ceres	5.0
Maryland	
Redhouse	29.0
Deep Creek Lake	26.0
Finzel	24.0
Oakland	24.0
Champoin 4 SE	13.0
Grantsville	12.0

Frostburg	6.0
Ohio	
Bellefontaine	4.5
Washington Court House	3.0
Mansfield	2.5
Pennsylvania	
Champion 4 SE	13.0
Laurel Summit	10.0
Mount Davis	9.0
Farmington	8.8
Stahlstown	6.0
Chalkhill 2 ENE	5.1
Tennessee	
Gatlinburg 5 SE	34.0
Roan Mountain	19.0
Newfound Gap	18.0
Mount Leconte	17.0

Table 8. Direct deaths associated with Sandy by country.

Country	Direct Deaths
United States	72
Haiti	54
Cuba	11
Dominican Republic	3
Bahamas	2
Atlantic Ocean (~90 n mi offshore of North Carolina)	2
Canada	1
Jamaica	1
Puerto Rico	1
Total	147

Table 9. Direct U.S. deaths associated with Sandy by state.

State	Direct Deaths
New York	48
New Jersey	12
Connecticut	5
Pennsylvania	2
Virginia	2
New Hampshire	1
West Virginia	1
Maryland	1
Total	72

Table 10a. NHC official (OFCL) and climatology-persistence skill baseline (OCD5) track forecast errors (n mi) for Hurricane Sandy. Mean errors for the 5-yr period 2007-11 are shown for comparison. Official errors that are smaller than the 5-yr means are shown in boldface type.

	Forecast Period (h)						
	12	24	36	48	72	96	120
OFCL	**23.9**	**33.2**	**39.6**	**41.6**	**61.3**	**88.3**	**148.9**
OCD5	56.7	118.2	189.7	252.1	360.8	477.9	647.3
Forecasts	28	26	24	22	18	14	10
OFCL (2007-11)	30.4	48.4	65.9	83.1	124.4	166.5	213.4
OCD5 (2007-11)	46.9	95.2	151.7	211.6	316.8	404.3	485.2

Table 10b. Homogeneous comparison of selected track forecast guidance models (in n mi) for Hurricane Sandy. Errors smaller than the NHC official forecast are shown in boldface type. The number of official forecasts shown here will generally be smaller than that shown in Table 10a due to the homogeneity requirement.

Model ID	Forecast Period (h)						
	12	24	36	48	72	96	120
OFCL	21.7	30.6	37.9	40.2	58.7	74.5	139.7
OCD5	57.3	119.8	190.8	239.0	324.5	434.0	613.0
GFSI	21.9	31.2	43.5	**38.3**	76.7	142.9	241.9
GHMI	25.9	38.6	52.8	66.5	74.6	108.6	146.7
HWFI	29.6	48.4	62.1	54.3	91.0	206.1	374.2
EMXI	23.2	32.1	46.5	53.6	101.9	79.8	**71.4**
AEMI	**20.5**	**27.1**	**34.5**	**34.5**	**55.4**	108.6	164.4
TVCA	**21.1**	**29.1**	**36.6**	**31.2**	**54.3**	96.0	181.3
FSSE	**20.1**	**24.8**	**33.9**	**29.1**	**56.1**	87.3	142.2
BAMD	69.7	129.3	185.0	226.7	202.1	190.6	**119.1**
BAMM	41.0	69.5	76.6	54.8	62.0	164.4	225.8
BAMS	72.2	123.7	154.6	157.1	131.2	229.8	310.0
Forecasts	25	23	21	19	16	12	8

Table 11a. NHC official (OFCL) and climatology-persistence skill baseline (OCD5) intensity forecast errors (kt) for Hurricane Sandy. Mean errors for the 5-yr period 2007-11 are shown for comparison. Official errors that are smaller than the 5-yr means are shown in boldface type.

	Forecast Period (h)						
	12	24	36	48	72	96	120
OFCL	8.0	**10.6**	**11.0**	**10.9**	**10.3**	**8.9**	**14.5**
OCD5	10.6	14.0	16.9	17.2	18.0	22.9	27.9
Forecasts	28	26	24	22	18	14	10
OFCL (2007-11)	7.1	10.8	13.0	15.0	16.9	17.1	18.1
OCD5 (2007-11)	8.4	12.4	15.4	17.7	20.5	21.5	21.2

Table 11b. Homogeneous comparison of selected intensity forecast guidance models (in kt) for Hurricane Sandy. Errors smaller than the NHC official forecast are shown in boldface type. The number of official forecasts shown here will generally be smaller than that shown in Table 11a due to the homogeneity requirement.

Model ID	Forecast Period (h)						
	12	24	36	48	72	96	120
OFCL	8.3	11.3	11.8	11.0	6.6	8.3	12.5
OCD5	10.6	14.6	16.7	16.1	13.7	21.9	30.8
GHMI	8.8	**10.7**	13.2	13.1	9.2	8.8	**7.1**
HWFI	9.8	12.6	**10.5**	**9.3**	9.8	**7.3**	**9.6**
DSHP	9.8	13.6	15.0	13.9	12.1	15.3	33.1
LGEM	9.5	14.2	16.3	17.8	17.8	21.9	29.1
IVCN	8.8	11.8	12.7	12.6	7.8	9.8	18.1
FSSE	8.5	12.0	13.0	13.5	13.4	15.8	17.3
GFSI	9.8	13.0	14.7	15.5	11.4	11.0	**12.4**
EMXI	9.5	14.5	16.7	18.1	13.0	9.0	**3.4**
Forecasts	26	24	22	20	16	12	8

Table 12. Tropical cyclone watches and warnings for Hurricane Sandy, 22 – 29 Oct 2012.

Date/Time (UTC)	Action	Location
22 / 1500	Tropical Storm Watch issued	Jamaica
23 / 0900	Tropical Storm Watch changed to Tropical Storm Warning	Jamaica
23 / 0900	Hurricane Watch issued	Jamaica
23 / 0900	Tropical Storm Watch issued	Haiti
23 / 1500	Tropical Storm Warning changed to Hurricane Warning	Jamaica
23 / 1500	Tropical Storm Watch issued	Southeastern and Central Bahamas
23 / 1500	Hurricane Watch discontinued	Jamaica
23 / 1500	Hurricane Watch issued	Camagüey to Guantánamo
23 / 1800	Tropical Storm Watch changed to Tropical Storm Warning	Haiti
23 / 2100	Hurricane Watch changed to Hurricane Warning	Camagüey to Guantánamo
23 / 2100	Tropical Storm Watch issued	Northwestern Bahamas
24 / 0300	Tropical Storm Warning issued	Central Bahamas
24 / 0900	Tropical Storm Watch issued	Jupiter Inlet to Ocean Reef
24 / 0900	Tropical Storm Watch issued	Ocean Reef to Craig Key
24 / 1200	Tropical Storm Watch changed to Tropical Storm Warning	Northwestern Bahamas
24 / 1200	Tropical Storm Watch modified to	Jupiter Inlet to Ocean Reef
24 / 1500	Tropical Storm Watch modified to	Volusia/Brevard County Line to Ocean Reef
24 / 1500	Tropical Storm Watch modified to	Volusia/Brevard County Line to Ocean Reef
24 / 1500	Hurricane Watch issued	Central and Northwestern Bahamas
24 / 1800	Tropical Storm Watch modified to	Volusia/Brevard County Line to Ocean Reef
24 / 2100	Tropical Storm Warning changed to Hurricane Warning	Central and Northwestern Bahamas
24 / 2100	Tropical Storm Watch modified to	Ocean Reef to Craig Key
24 / 2100	Tropical Storm Watch issued	Sebastian Inlet to Flagler Beach
24 / 2100	Tropical Storm Warning issued	Ocean Reef to Sebastian Inlet
24 / 2100	Hurricane Watch discontinued	All
25 / 0300	Tropical Storm Watch changed to Tropical Storm Warning	Southeastern Bahamas
25 / 0300	Tropical Storm Warning issued	Lake Okeechobee
25 / 0300	Hurricane Warning issued	Ragged Islands
25 / 0900	Tropical Storm Watch modified to	Flagler Beach to Fernandina Beach
25 / 0900	Tropical Storm Warning modified to	Ocean Reef to Flagler Beach
25 / 0900	Hurricane Warning discontinued	Jamaica
25 / 1500	Tropical Storm Warning discontinued	Haiti

25 / 1500	Hurricane Warning discontinued	Camagüey to Guantánamo
26 / 0300	Hurricane Warning changed to Tropical Storm Warning	Central Bahamas
26 / 0300	Tropical Storm Warning discontinued	Southeastern Bahamas
26 / 0300	Hurricane Warning discontinued	Ragged Islands
26 / 0300	Hurricane Warning issued	Northwestern Bahamas
26 / 0600	Tropical Storm Warning issued	Andros Island
26 / 0900	Tropical Storm Watch issued	Savannah River to Oregon Inlet
26 / 1500	Hurricane Warning changed to Tropical Storm Warning	Northwestern Bahamas except Great Abaco and Grand Bahama
26 / 1500	Tropical Storm Watch discontinued	Ocean Reef to Craig Key
26 / 1500	Tropical Storm Watch issued	Bermuda
26 / 1500	Tropical Storm Warning discontinued	Central Bahamas
26 / 1500	Tropical Storm Warning discontinued	Andros Island
26 / 1500	Hurricane Warning changed to Tropical Storm Warning	Great Abaco to Grand Bahama Island
26 / 1800	Hurricane Warning changed to Tropical Storm Warning	Great Abaco to Grand Bahama Island
26 / 1800	Tropical Storm Warning modified to	Deerfield Beach to Flagler Beach
26 / 1800	Tropical Storm Warning discontinued	Northwestern Bahamas except Great Abaco and Grand Bahama Island
26 / 2100	Tropical Storm Watch modified to	St. Augustine to Fernandina Beach
26 / 2100	Tropical Storm Watch modified to	Savannah River to South Santee River
26 / 2100	Tropical Storm Warning modified to	Deerfield Beach to St. Augustine
26 / 2100	Tropical Storm Warning discontinued	Lake Okeechobee
26 / 2100	Tropical Storm Warning issued	South Santee River to Duck
27 / 0000	Tropical Storm Warning modified to	Jupiter Inlet to St. Augustine
27 / 0900	Tropical Storm Warning modified to	Sebastian Inlet to St. Augustine
27 / 1500	Tropical Storm Watch discontinued	St. Augustine to Fernandina Beach
27 / 1500	Tropical Storm Warning discontinued	Sebastian Inlet to St. Augustine
27 / 2100	Tropical Storm Watch changed to Tropical Storm Warning	Bermuda
27 / 2100	Tropical Storm Warning discontinued	Great Abaco to Grand Bahama Island
28 / 0300	Tropical Storm Watch discontinued	All
28 / 0900	Tropical Storm Warning modified to	Cape Fear to Duck
28 / 2100	Tropical Storm Warning modified to	Surf City to Duck
29 / 1500	Tropical Storm Warning discontinued	Bermuda
29 / 2100	Tropical Storm Warning discontinued	All

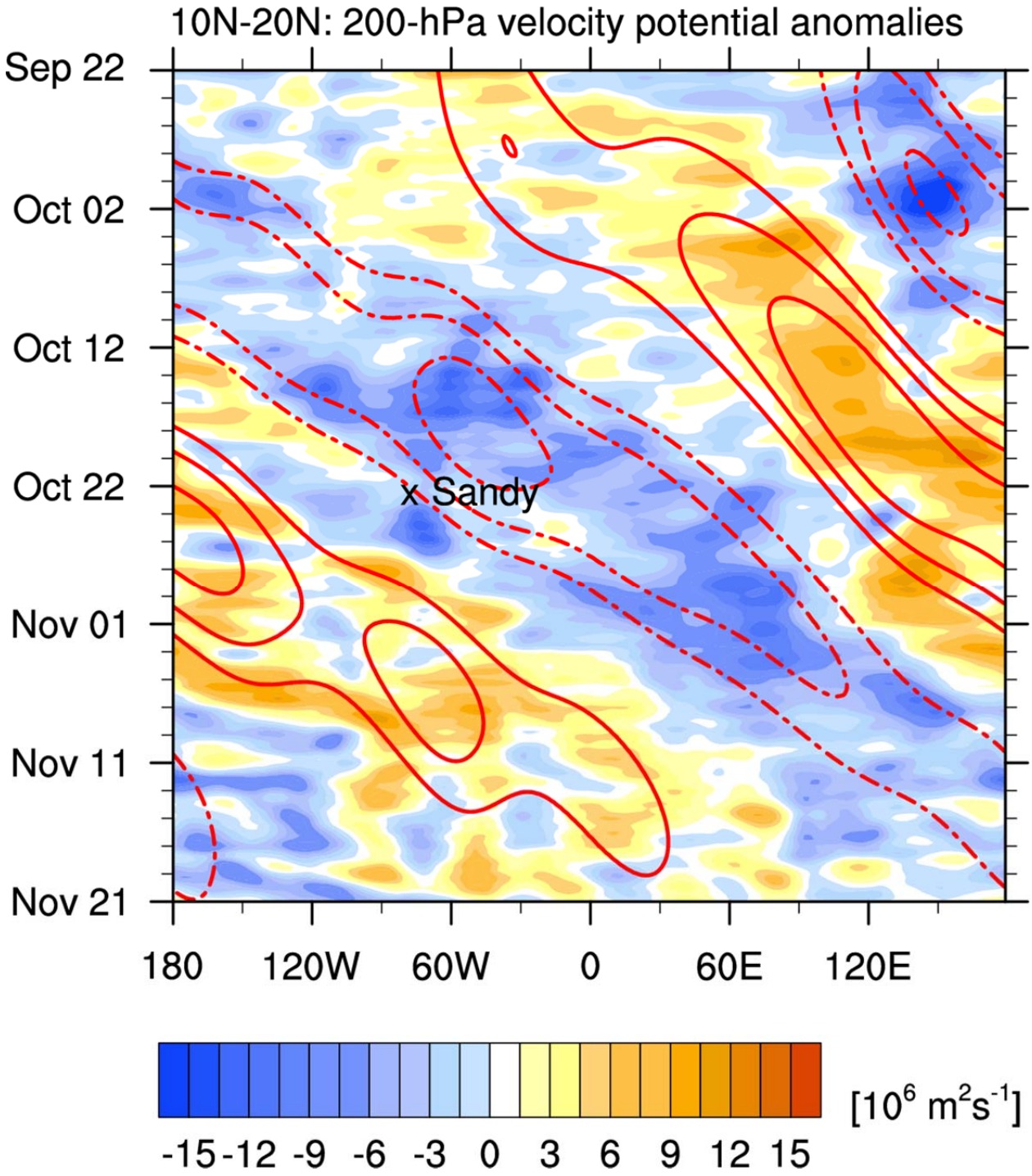


Figure 1. Velocity potential anomalies at 200 mb (VP200) from 10°N-20°N. The shading shows unfiltered VP200 anomalies (negative values [in blue] represent mass divergence). Red contours show MJO-filtered VP200 anomalies; dashed lines represent the upper-level divergent (convectively active) phase of the MJO. The contour interval begins at 1 standard deviation and is in 0.5 standard deviation increments thereafter. Figure courtesy of Michael Ventrice (SUNY-Albany).

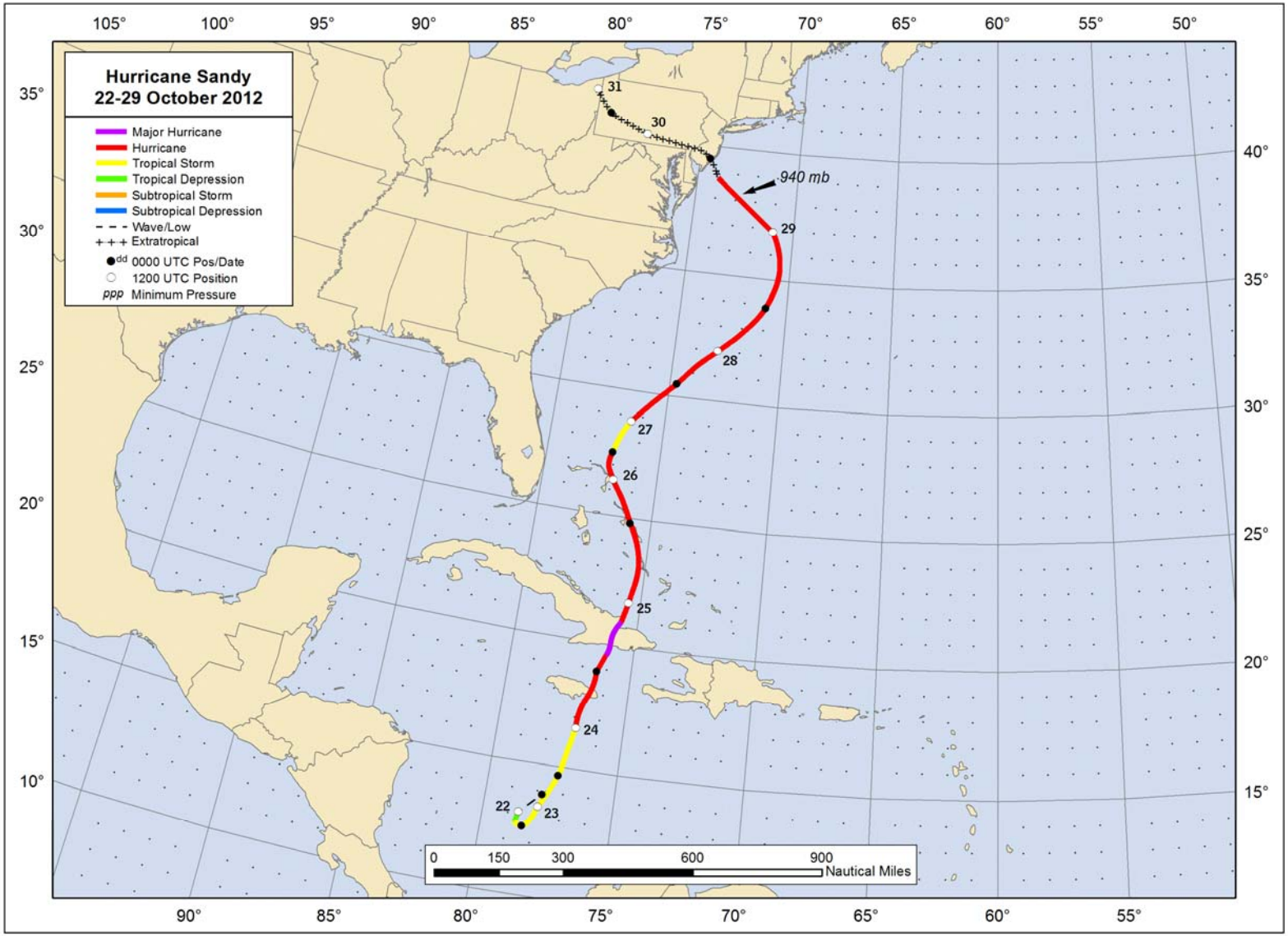


Figure 2. Best track positions for Hurricane Sandy, 22 - 29 October 2012.

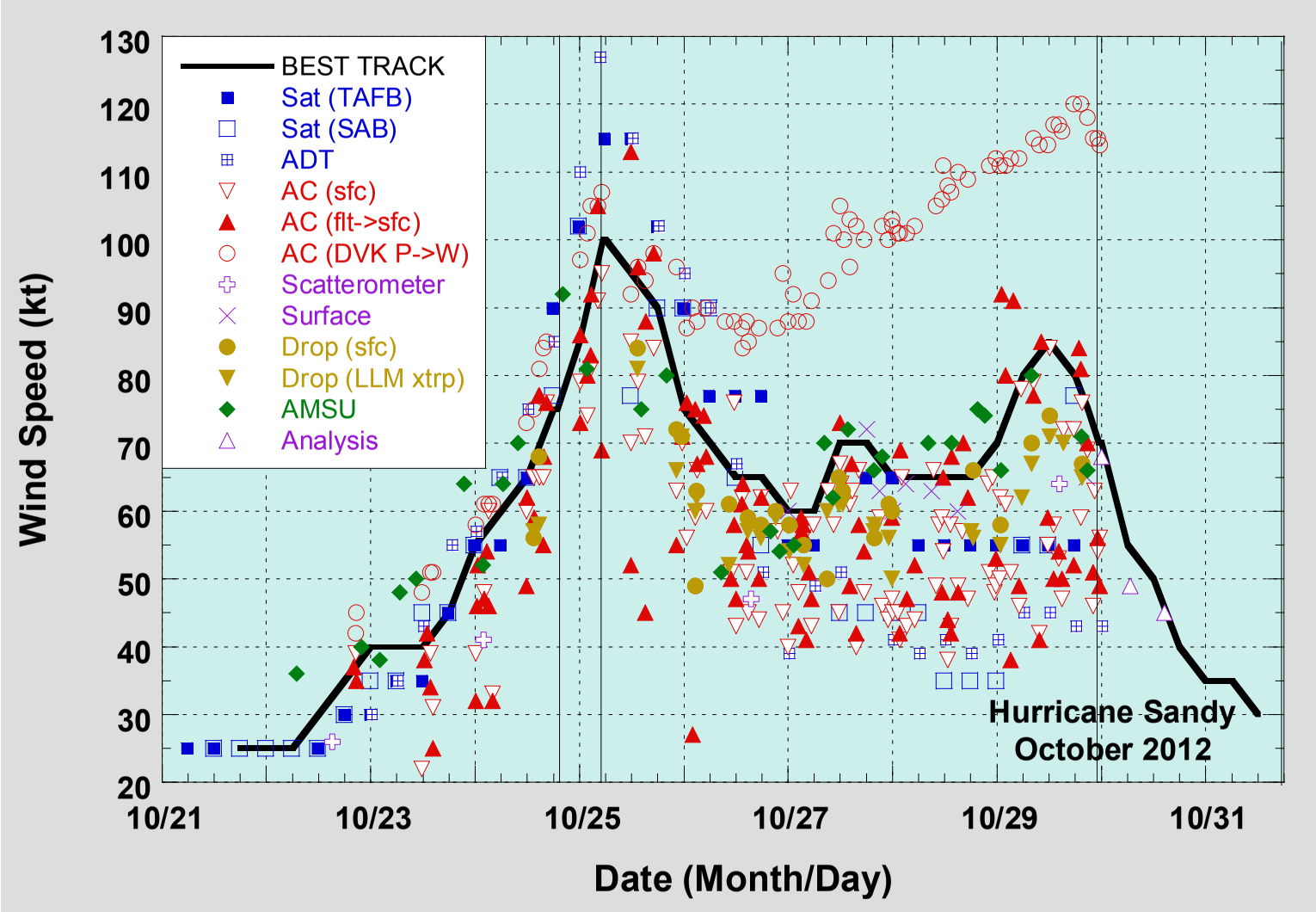


Figure 3. Selected wind observations and best track maximum sustained surface wind speed curve for Hurricane Sandy, 22 – 29 October 2012. Advanced Dvorak Technique (ADT) estimates courtesy of UW-CIMSS. AMSU estimates are derived from the UW-CIMSS technique. Dashed vertical lines correspond to 0000 UTC. The solid vertical lines correspond to the times of landfall.

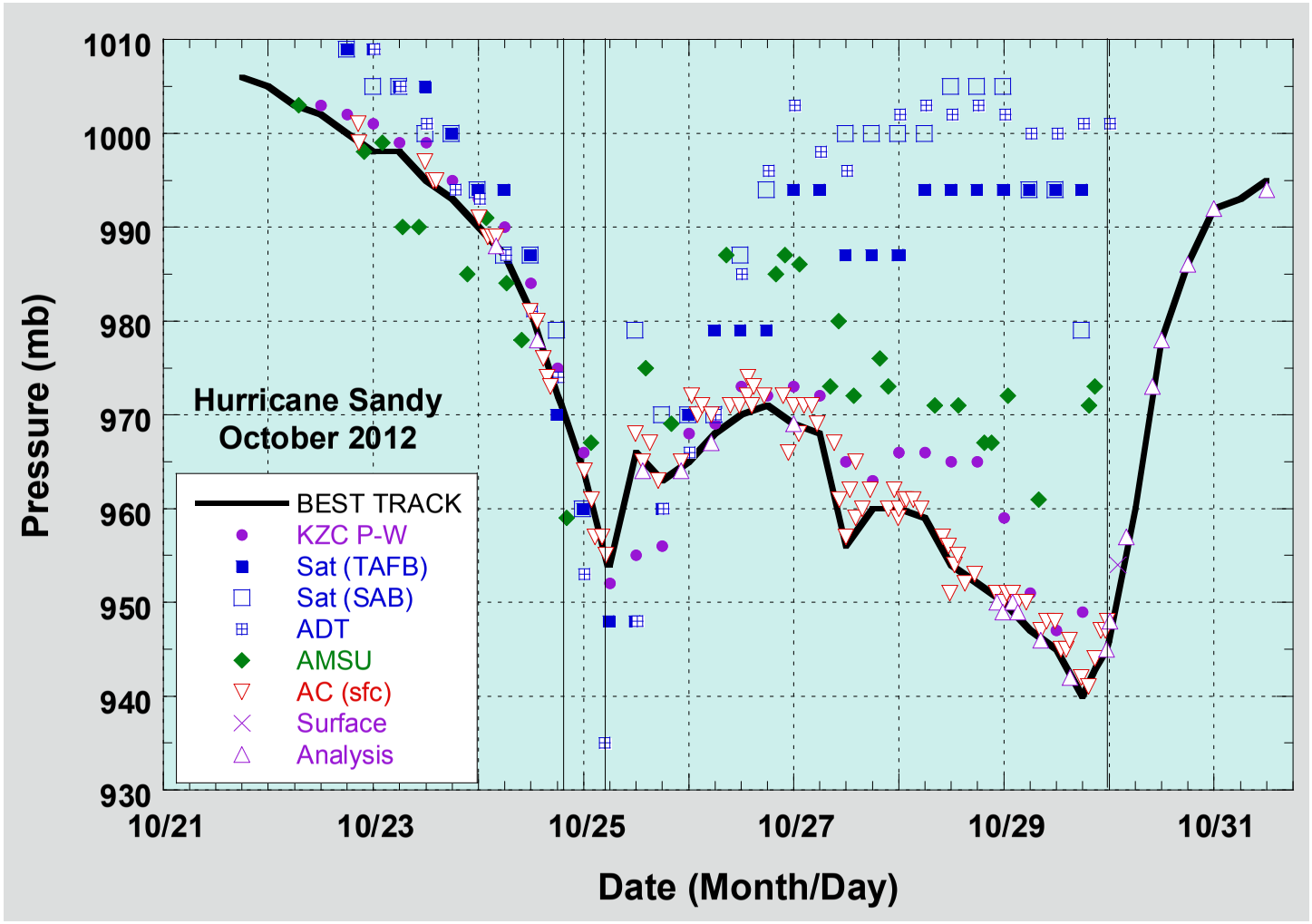


Figure 4. Selected pressure observations and best track minimum central pressure curve for Hurricane Sandy, 22 – 29 October 2012. Advanced Dvorak Technique (ADT) estimates courtesy of UW-CIMSS. Dashed vertical lines correspond to 0000 UTC. KZC P-W refers to pressure estimates derived by applying the Knaff-Zehr-Courtney pressure-wind relationship to the best track wind speeds. AMSU estimates are derived from the UW-CIMSS technique. The solid vertical lines correspond to the times of landfall.

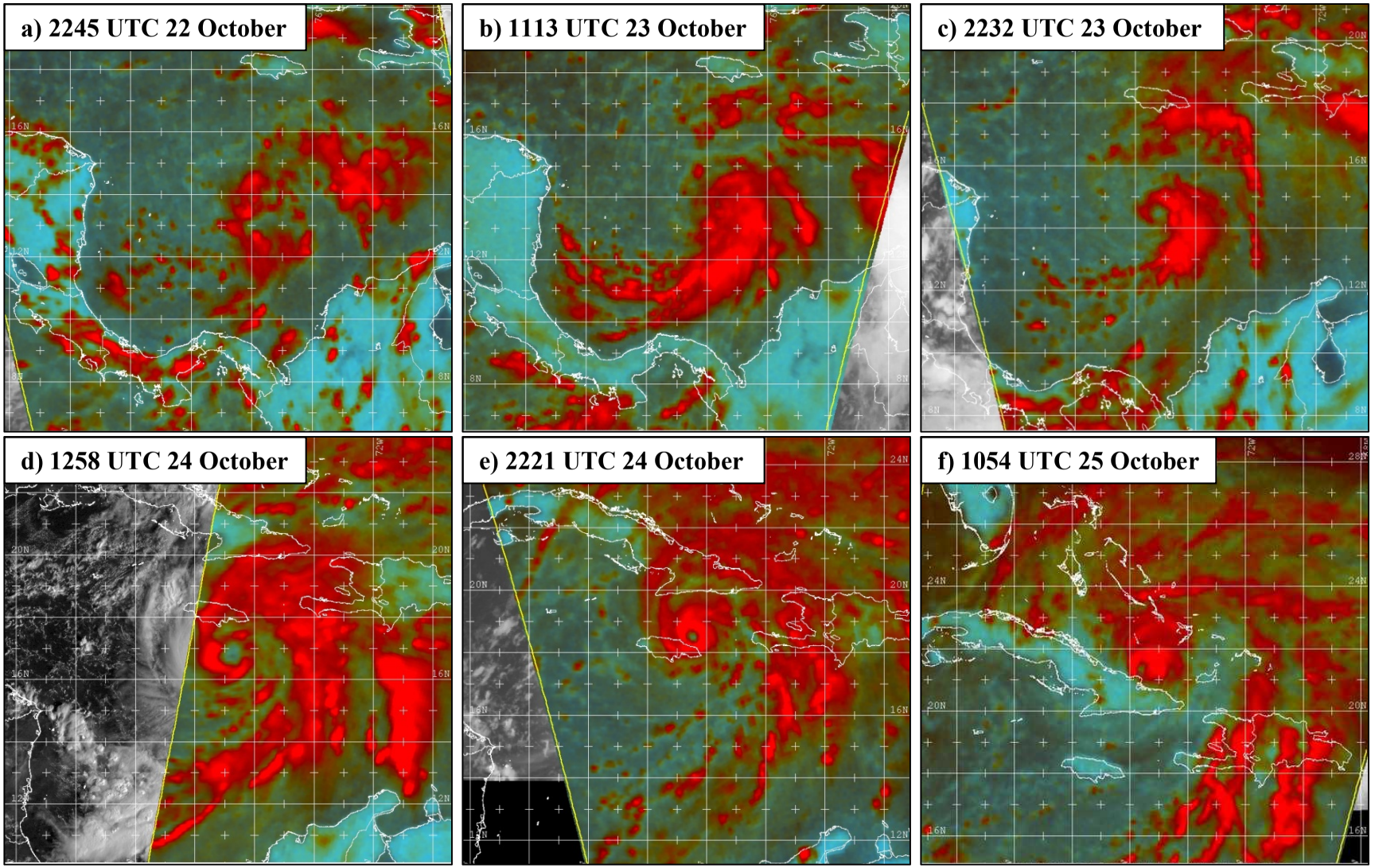


Figure 5. Series of 85-gHz microwave images showing the gradual and then rapid development of Sandy during its time in or near the Caribbean Sea, 22-25 October. Images courtesy of the Naval Research Lab in Monterey, California.

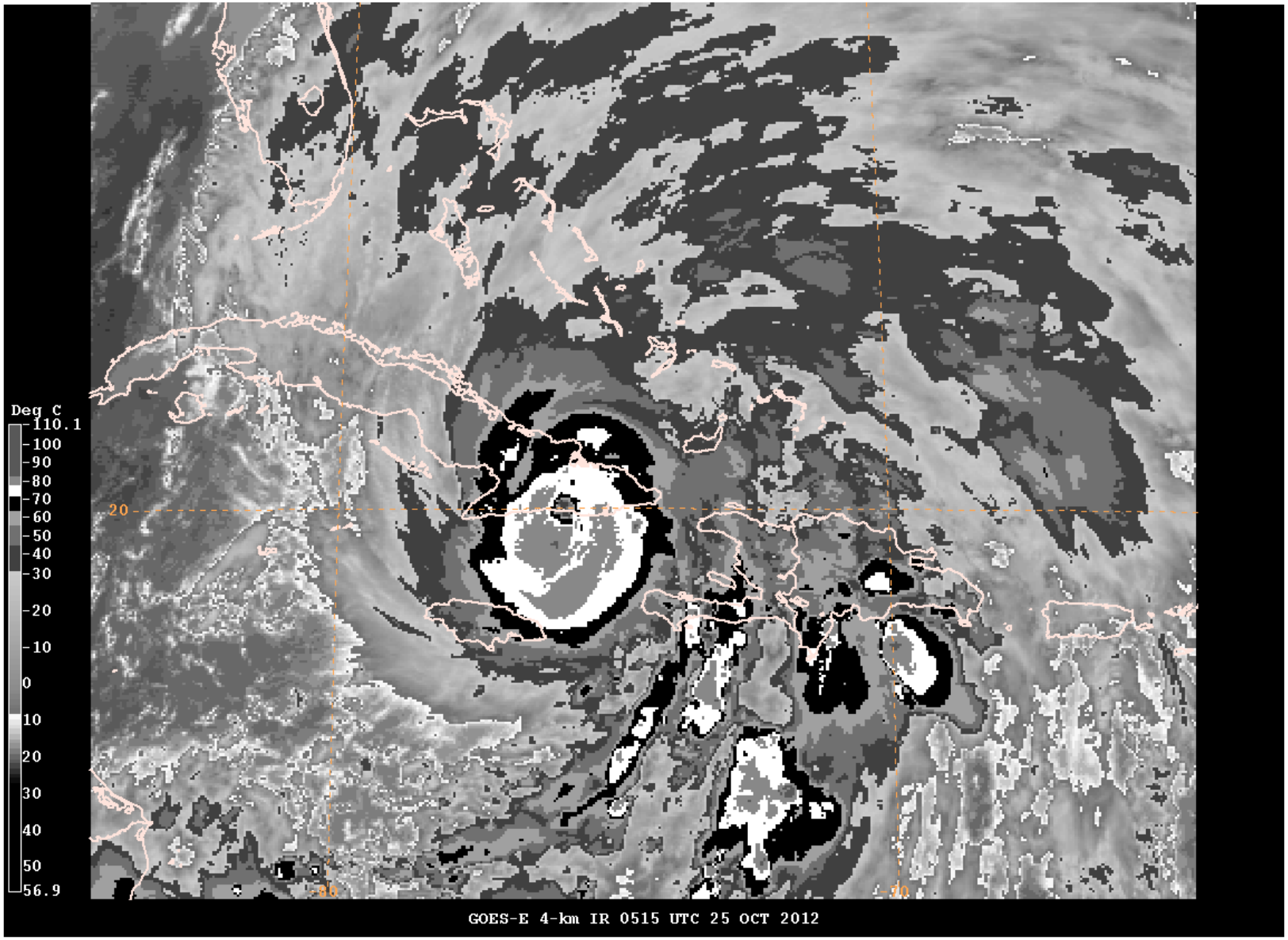


Figure 6. GOES-E infrared satellite image of Sandy at 0515 UTC 25 October, close to the time of peak intensity and landfall.

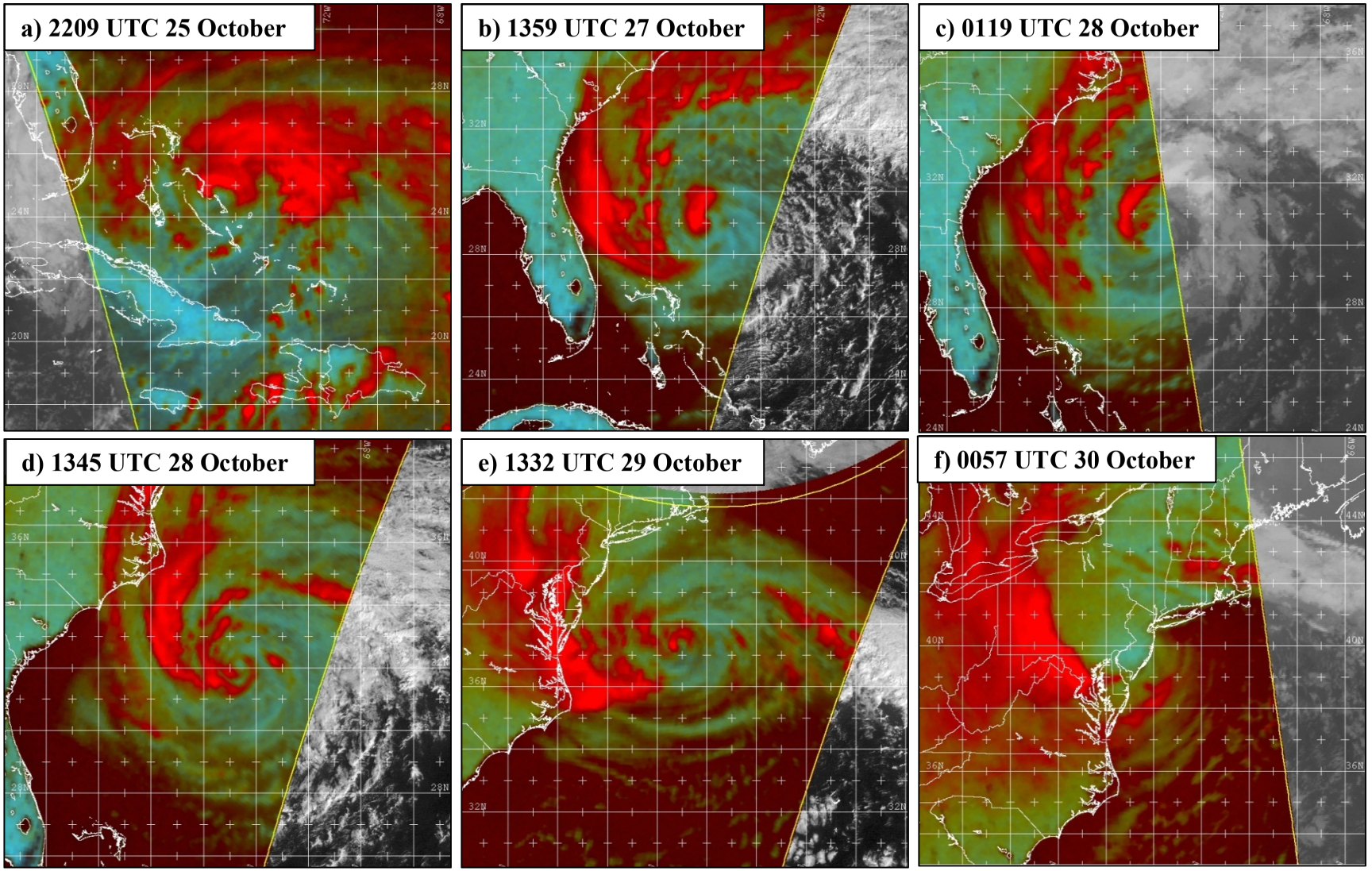


Figure 7. Series of 85-GHz microwave images showing the structural evolution of Hurricane Sandy during its track from the Bahamas until its landfall in New Jersey. Images courtesy of the Naval Research Lab in Monterey, California.

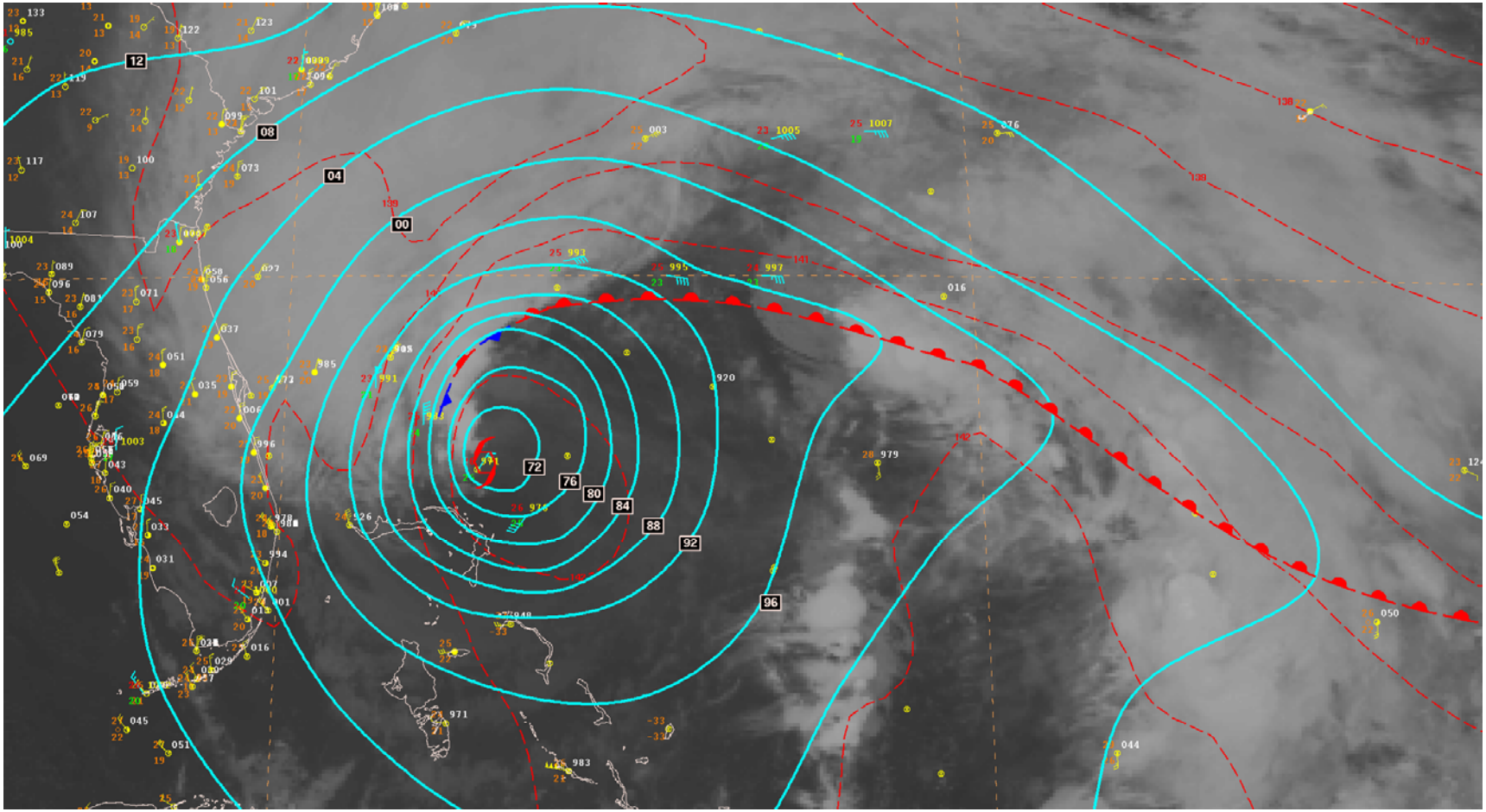


Figure 8. NHC surface post-analysis of Sandy north of the Bahamas valid at 0000 UTC 27 October, superimposed on with the GOES-E infrared satellite picture at 2345 UTC 26 October. Isobars (blue lines, 4-mb contours), and the 1000-850 mb thickness (red dashed lines, in dekameters) values are from the GFS analysis at 0000 UTC 27 October.

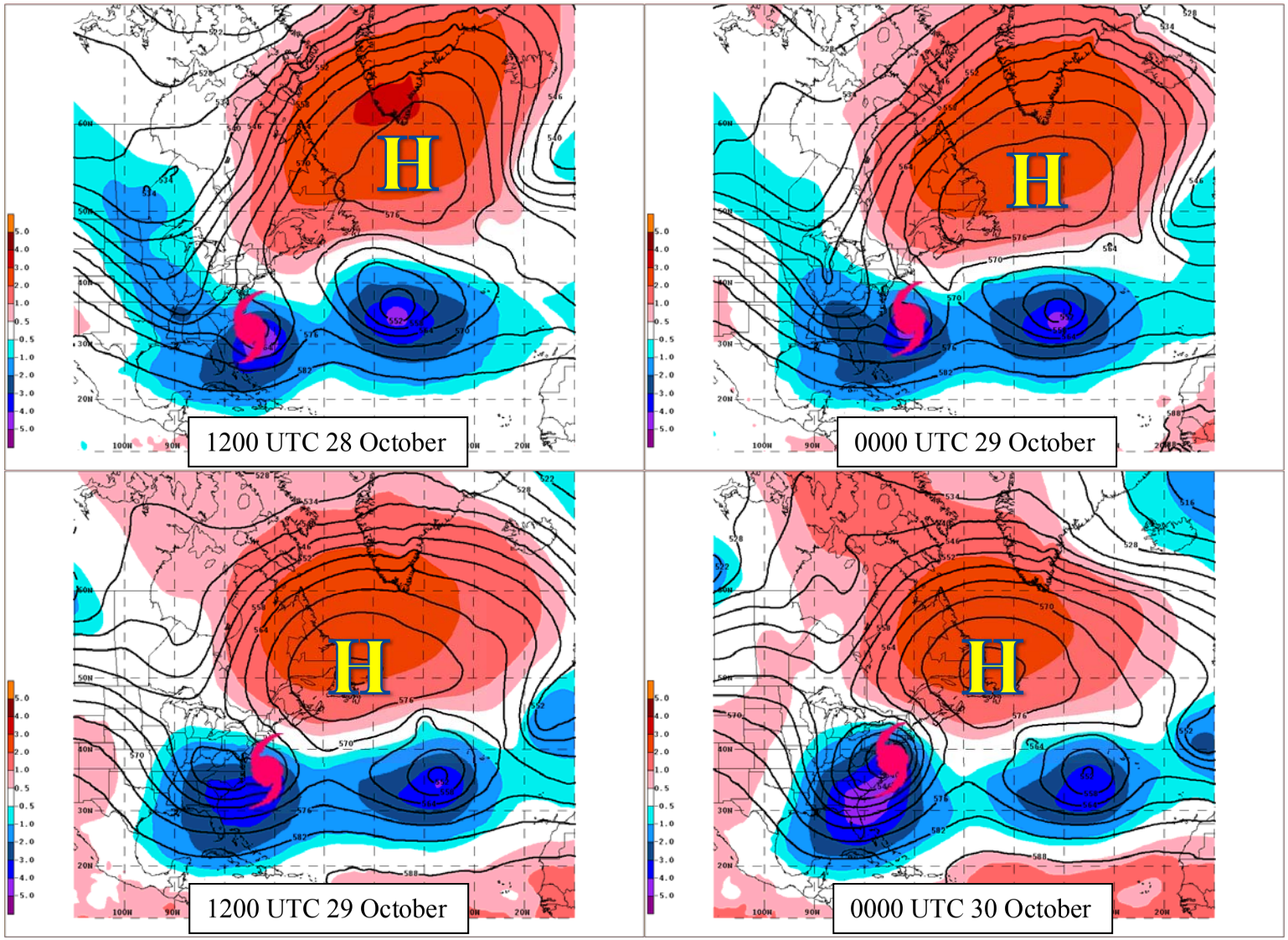


Figure 9. GFS analyses of 500-mb geopotential heights (contours) and standardized anomalies (shaded in standard deviations relative to a 1948-2011 mean) from 28-30 Oct. 2012. Red shaded regions indicate anomalously high heights and blue shaded areas represent anomalously low heights. Sandy is denoted by the hurricane symbol.

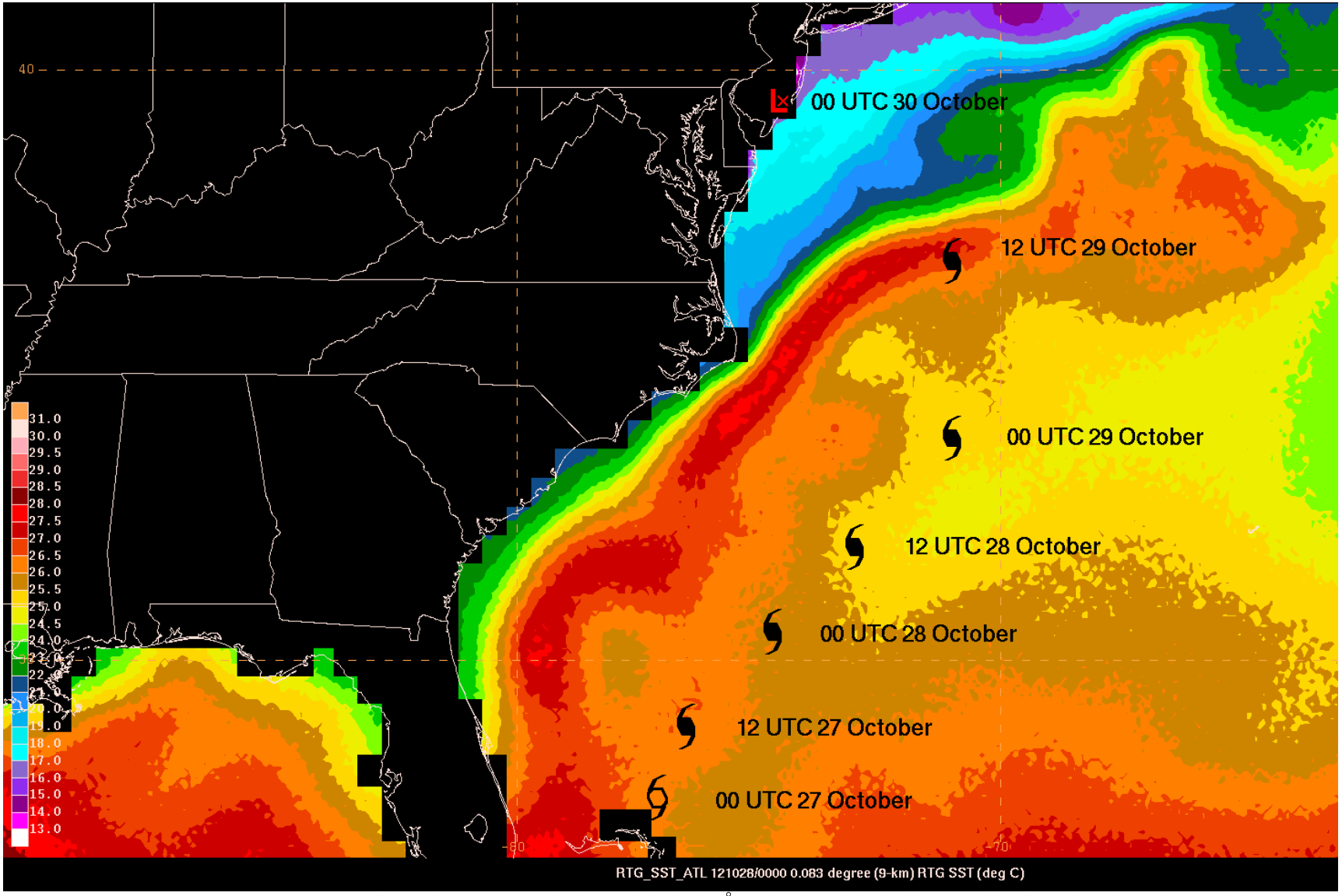


Figure 10. SSTs (°C) on 28 Oct 2012 from the NCEP real-time global 1/12° analysis, with the best track of Sandy plotted at 12-h intervals.

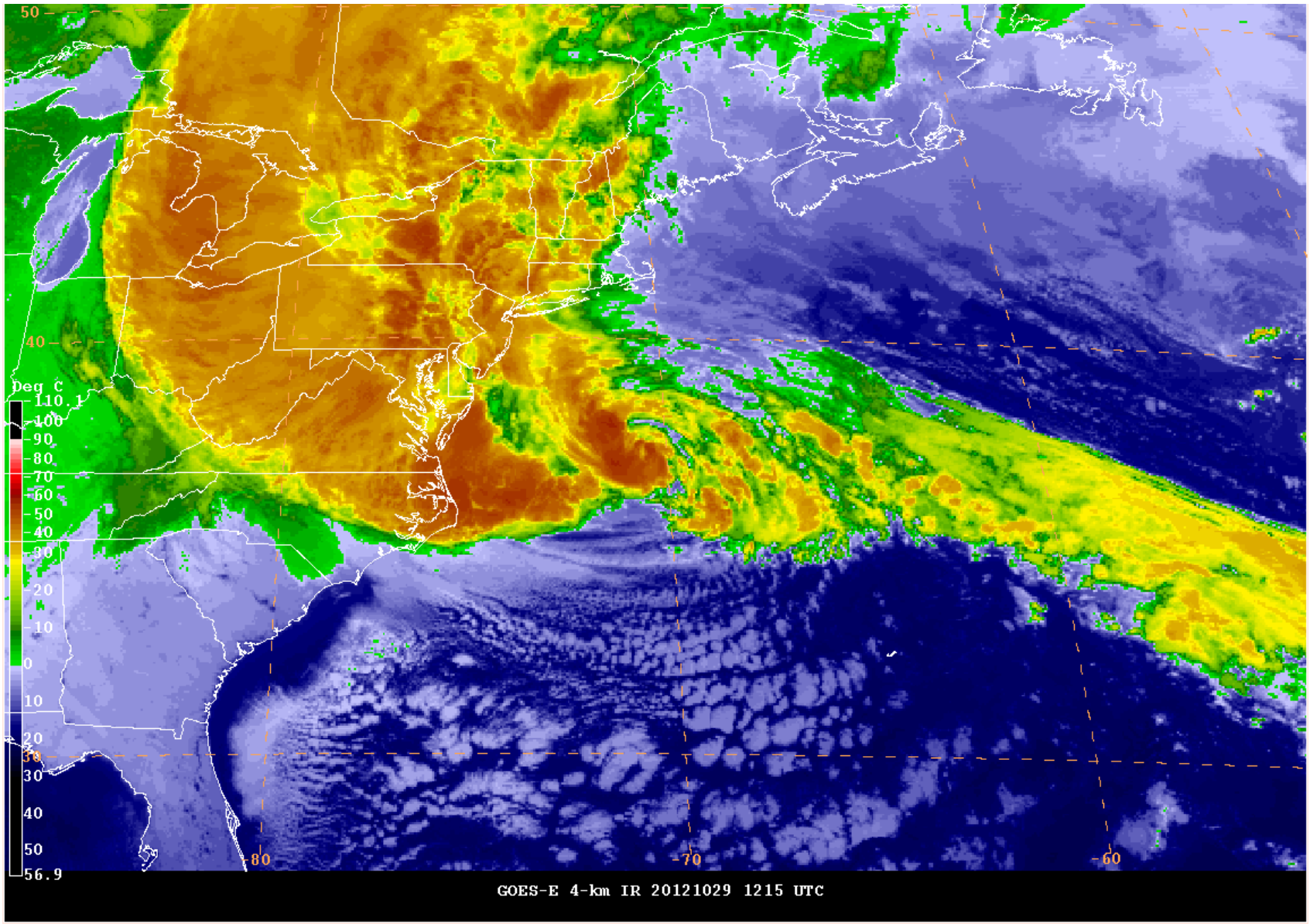


Figure 11. GOES-E infrared satellite image of Sandy at 1215 UTC 29 October 2012, near its secondary peak intensity.

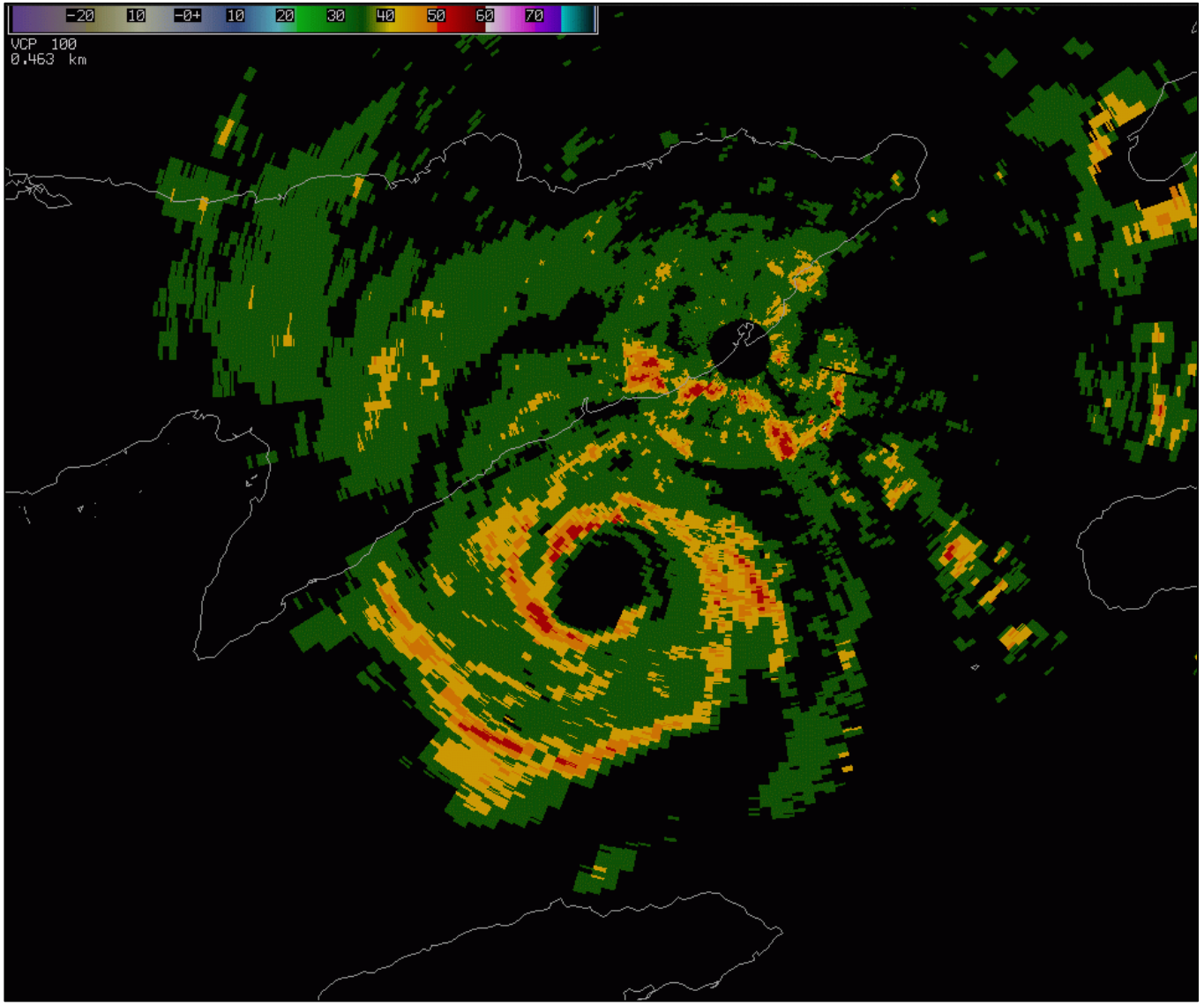


Figure 12. Guantánamo Bay Naval Base ARSR-4 FAA ATC Doppler radar reflectivity image showing the eye of Sandy approaching Santiago de Cuba at 0332 UTC 25 October 2012.

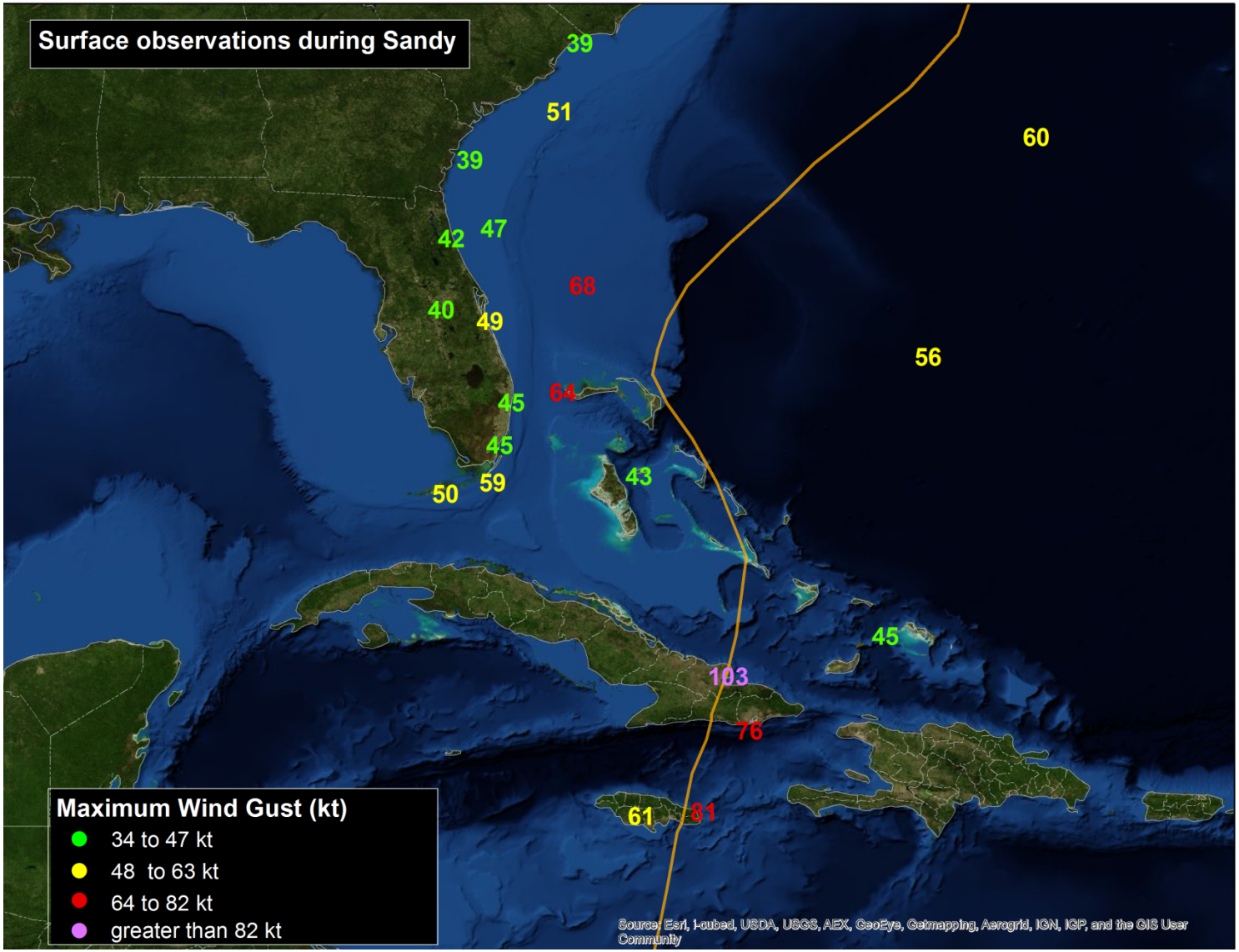


Figure 13. Selected observations of wind gusts of 34 kt or greater from surface stations and buoys during Sandy in the Caribbean Sea, western Atlantic Ocean and southeastern coast of the United States.

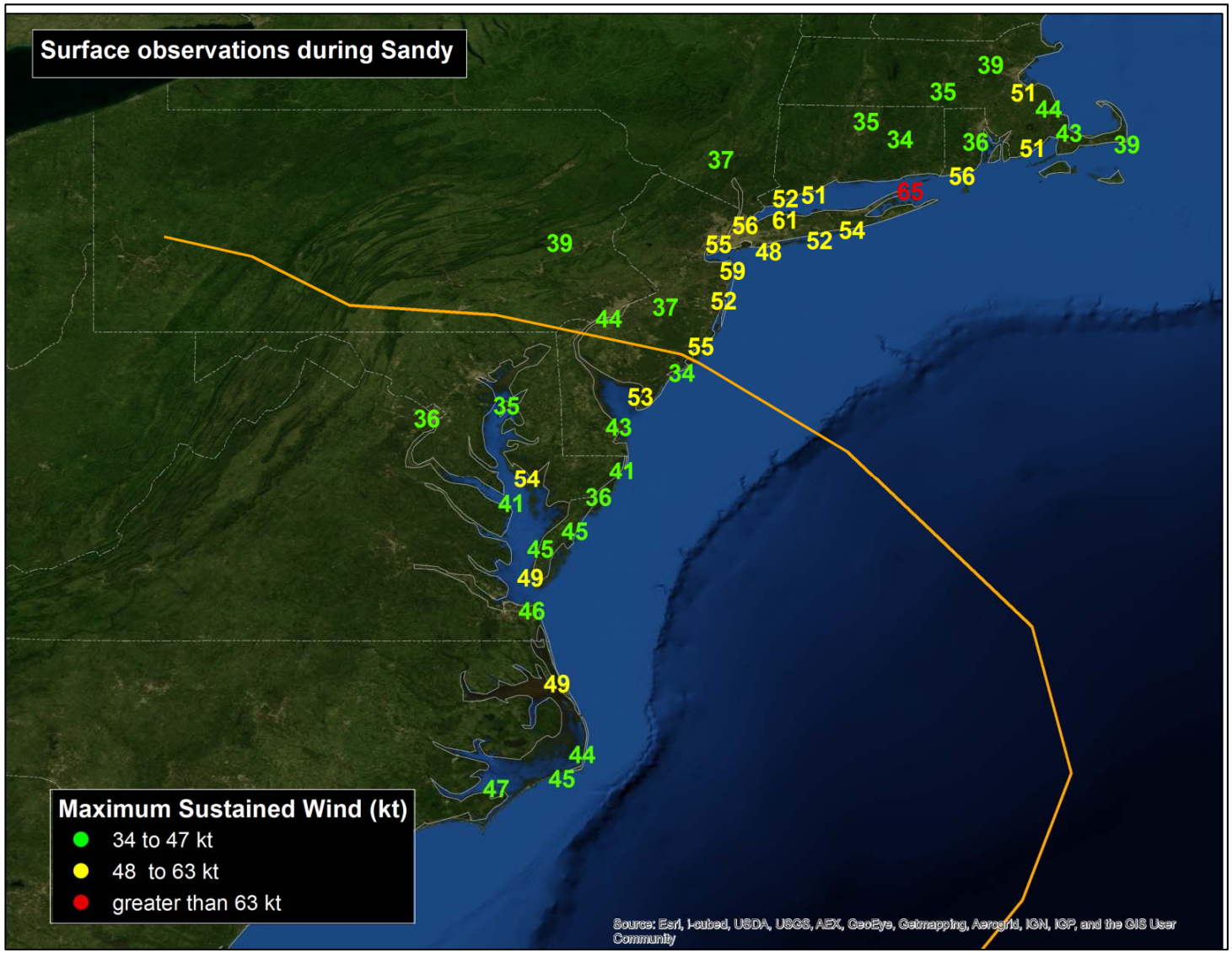


Figure 14. Selected observations of sustained winds of 34 kt or greater along the mid-Atlantic and New England coasts associated with Sandy. All the observations shown were taken from an elevation of 24 m or less.

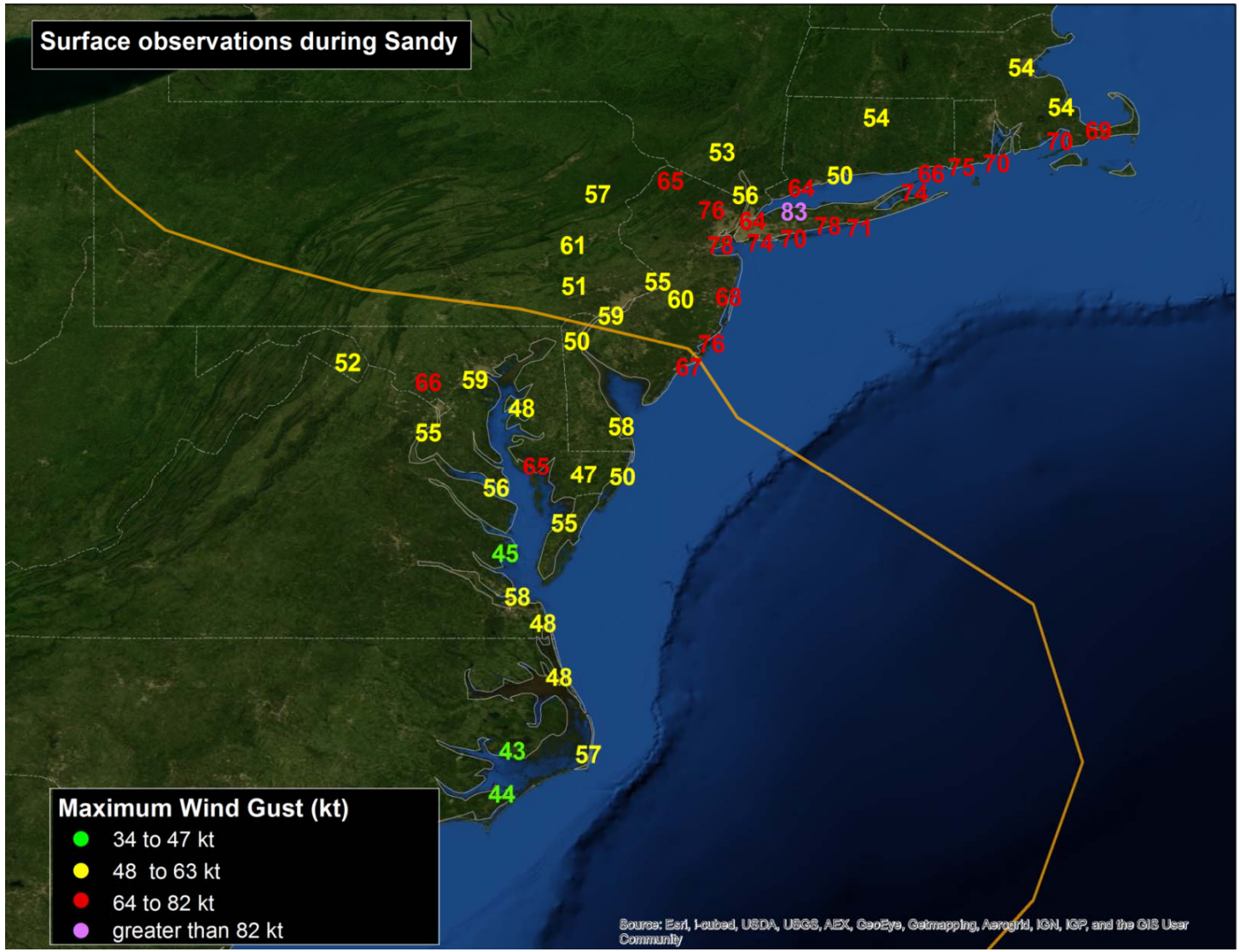


Figure 15. Selected observations of wind gusts of 34 kt or greater along the mid-Atlantic and New England coasts associated with Sandy. All the observations shown were taken from an elevation of 24 m or less.

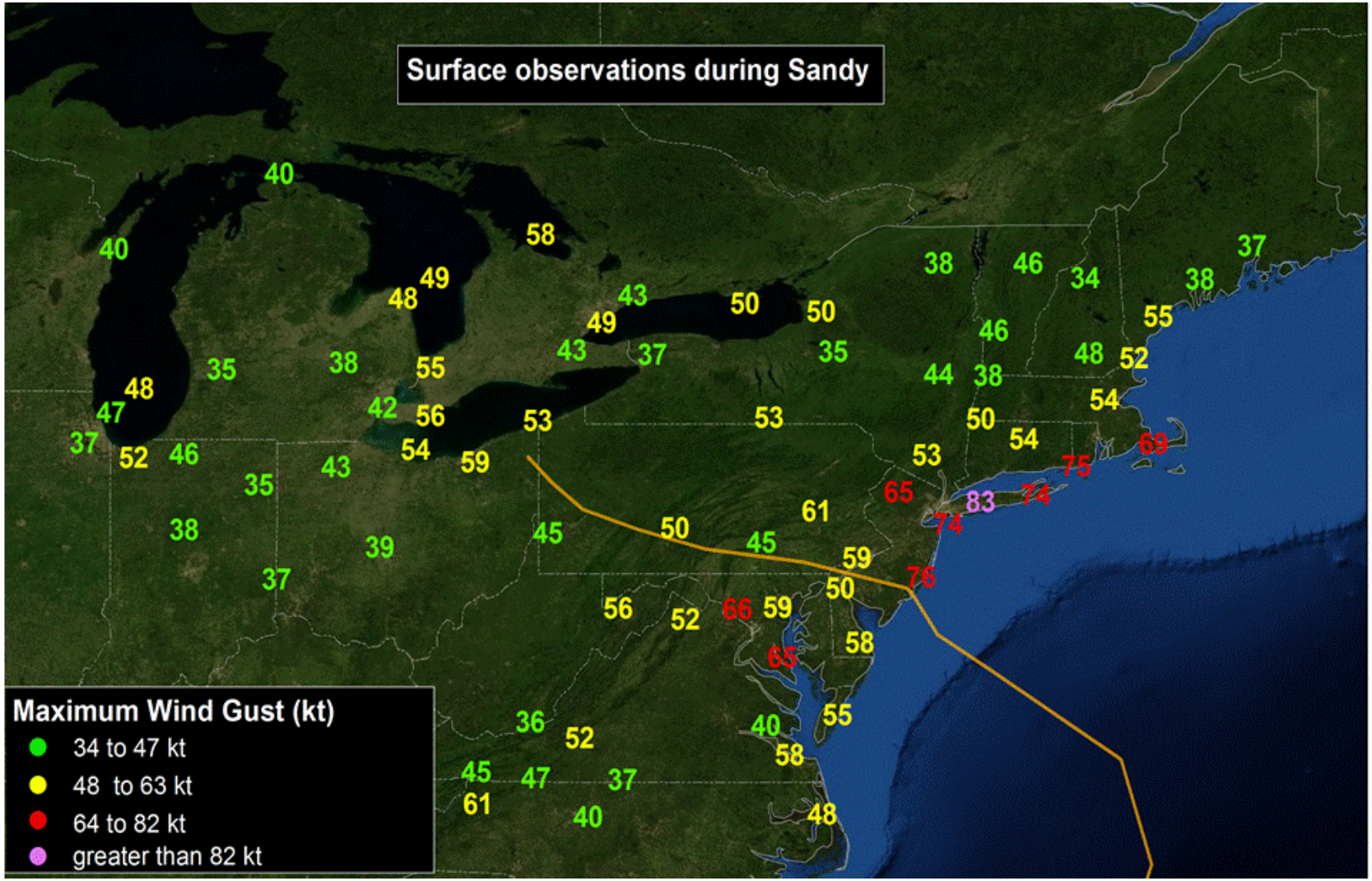


Figure 16. Selected observations of wind gusts of 34 kt or greater wind gusts associated with Sandy as a tropical or post-tropical cyclone. Some of these stations were elevated.

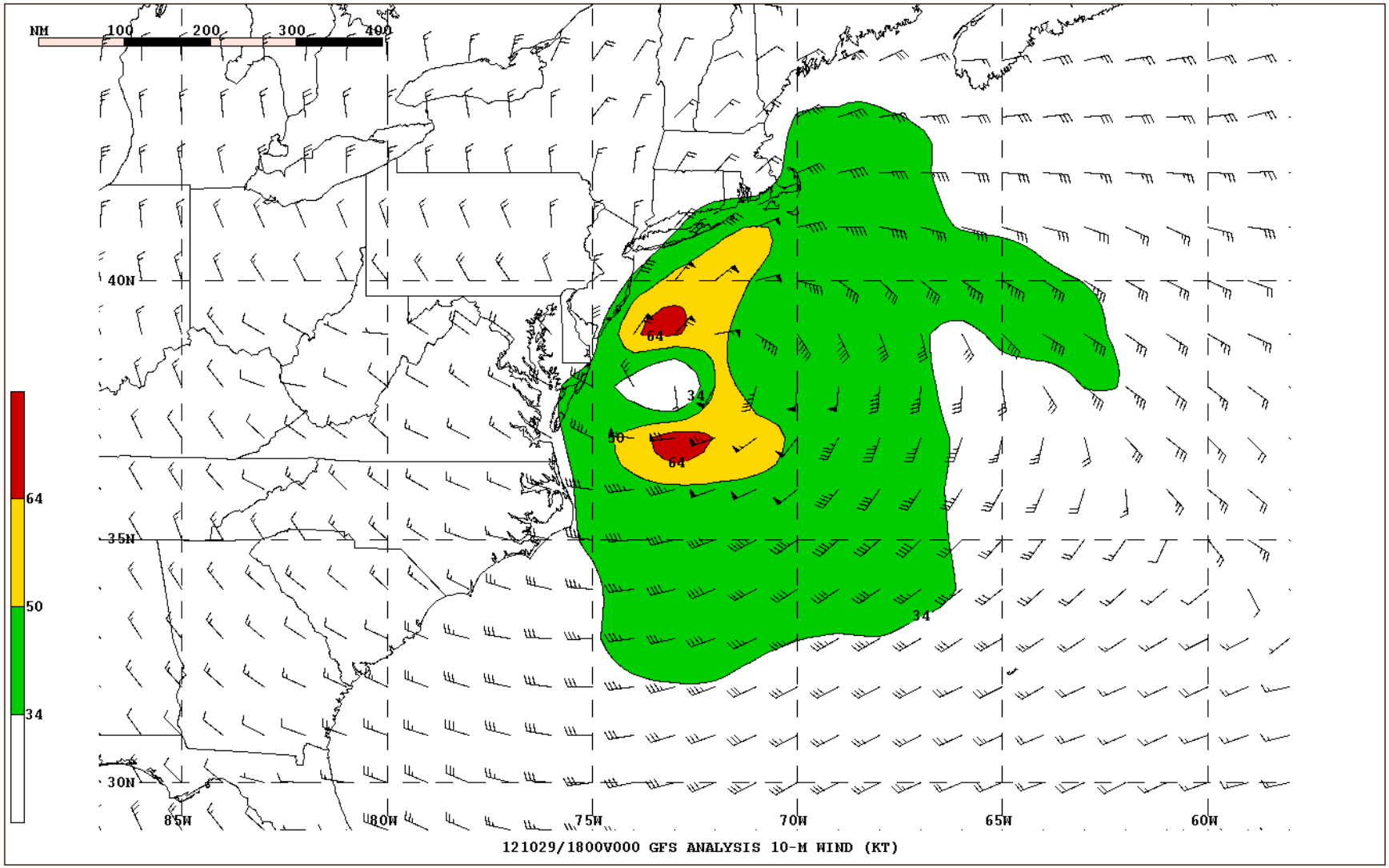


Figure 17. GFS model analysis (1° resolution) from 1800 UTC 29 October 2012 of Hurricane Sandy's wind field. 10-m wind barbs are shown in black. Shaded colors are isotachs representing wind thresholds at 34, 50, and 64 kt.

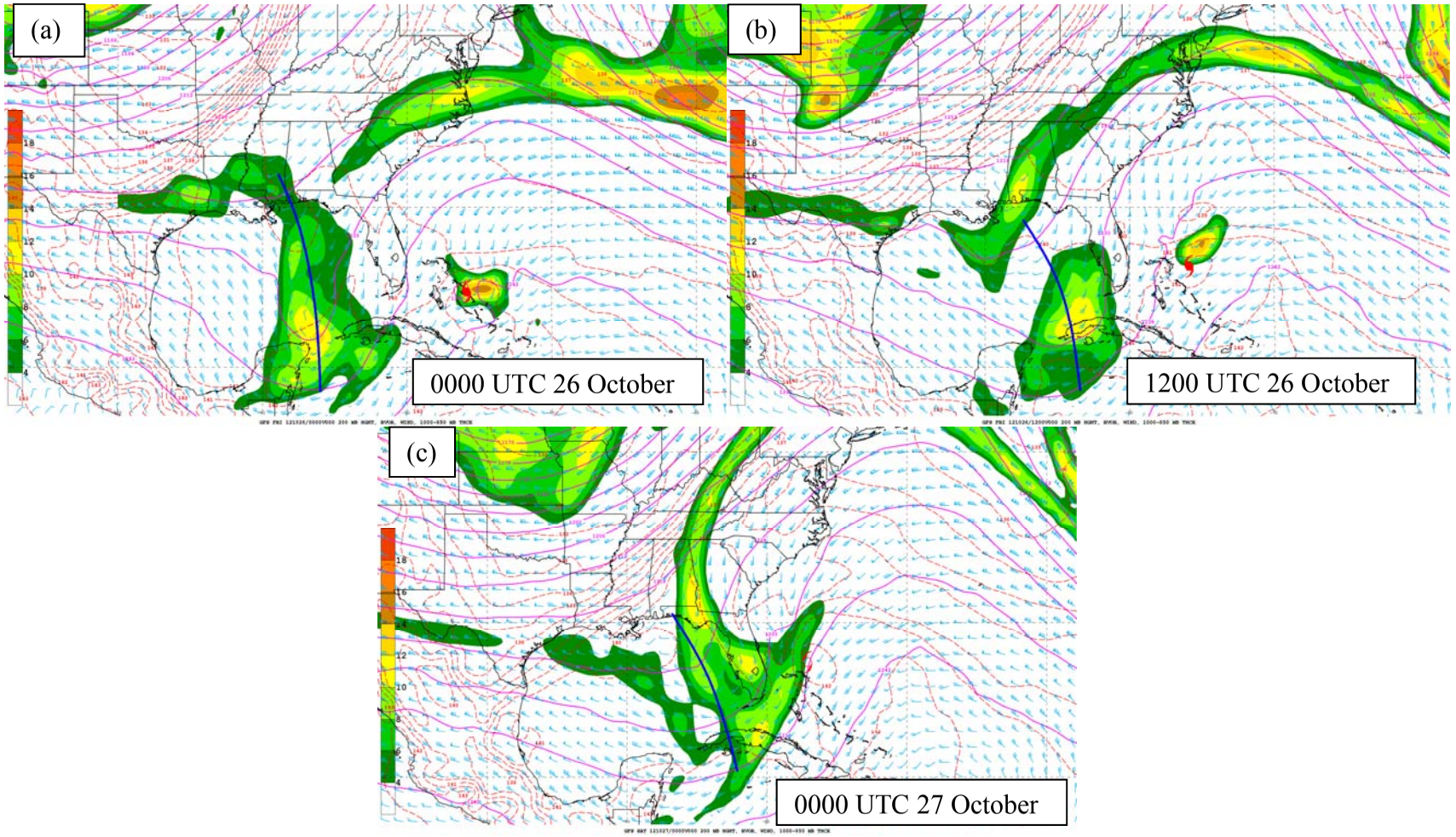


Figure 18. GFS model analyses from 26-27 October 2012, showing the interaction of Sandy with an upper-level trough to its west. The plot features 200-mb geopotential heights (solid magenta contours), relative vorticity (shaded), and winds (barbs, kt), with 1000-850 mb thickness (red dashed) contours superimposed. The upper-level trough axis is denoted by a blue line, and the center of Sandy is shown by the hurricane or tropical storm symbol.

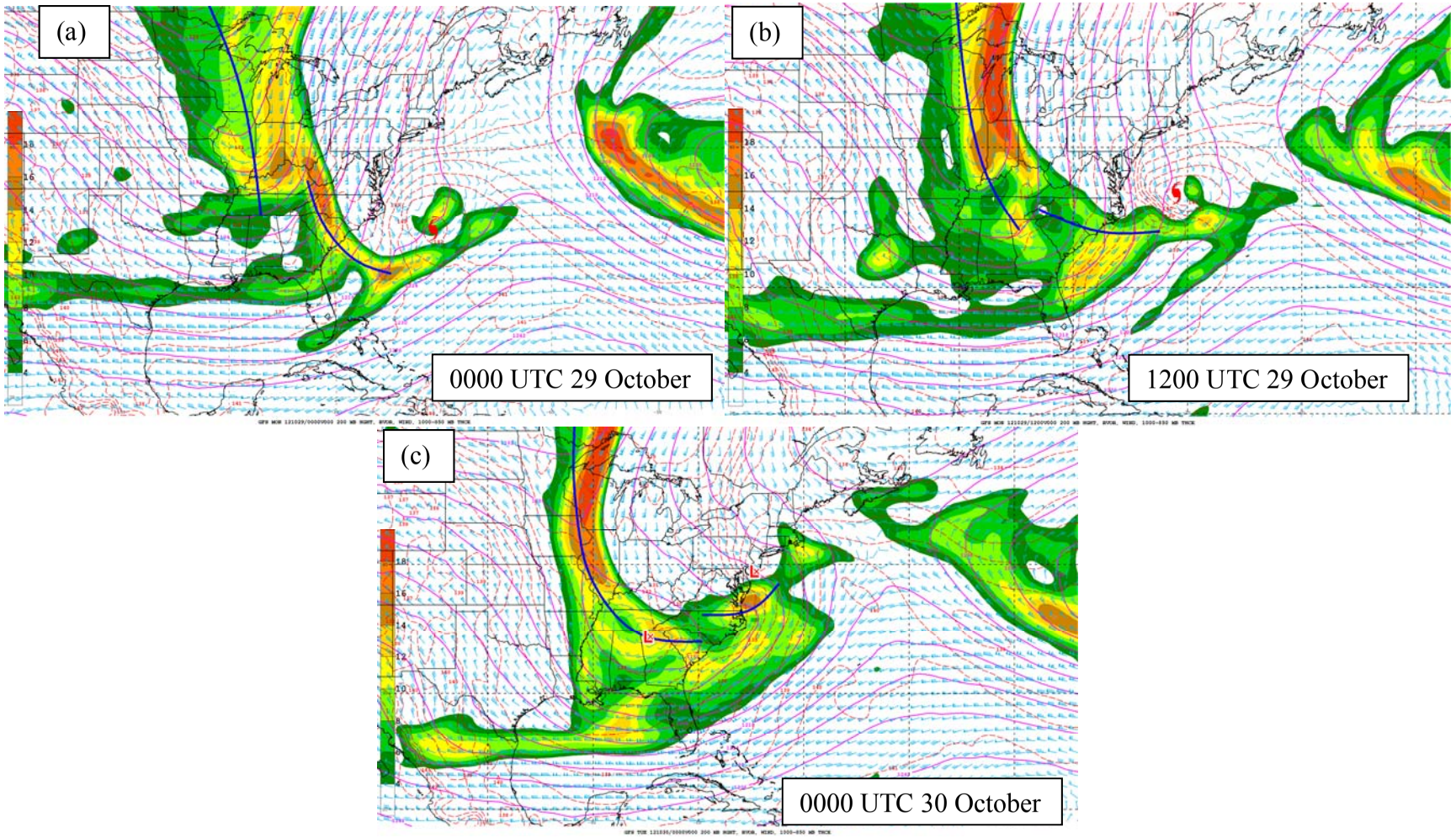


Figure 19. GFS model analyses from 29-30 Oct., showing the interaction of Sandy with a large upper-level trough over the east-central United States prior to landfall. The plot features 200-mb geopotential heights (solid magenta contours), relative vorticity (shaded), and winds (barbs, kt), with 1000-850 mb thickness (red dashed) contours superimposed. The upper-level trough axis is denoted by a blue line, and the center of Sandy is shown by the hurricane symbol (or "L" in last panel).

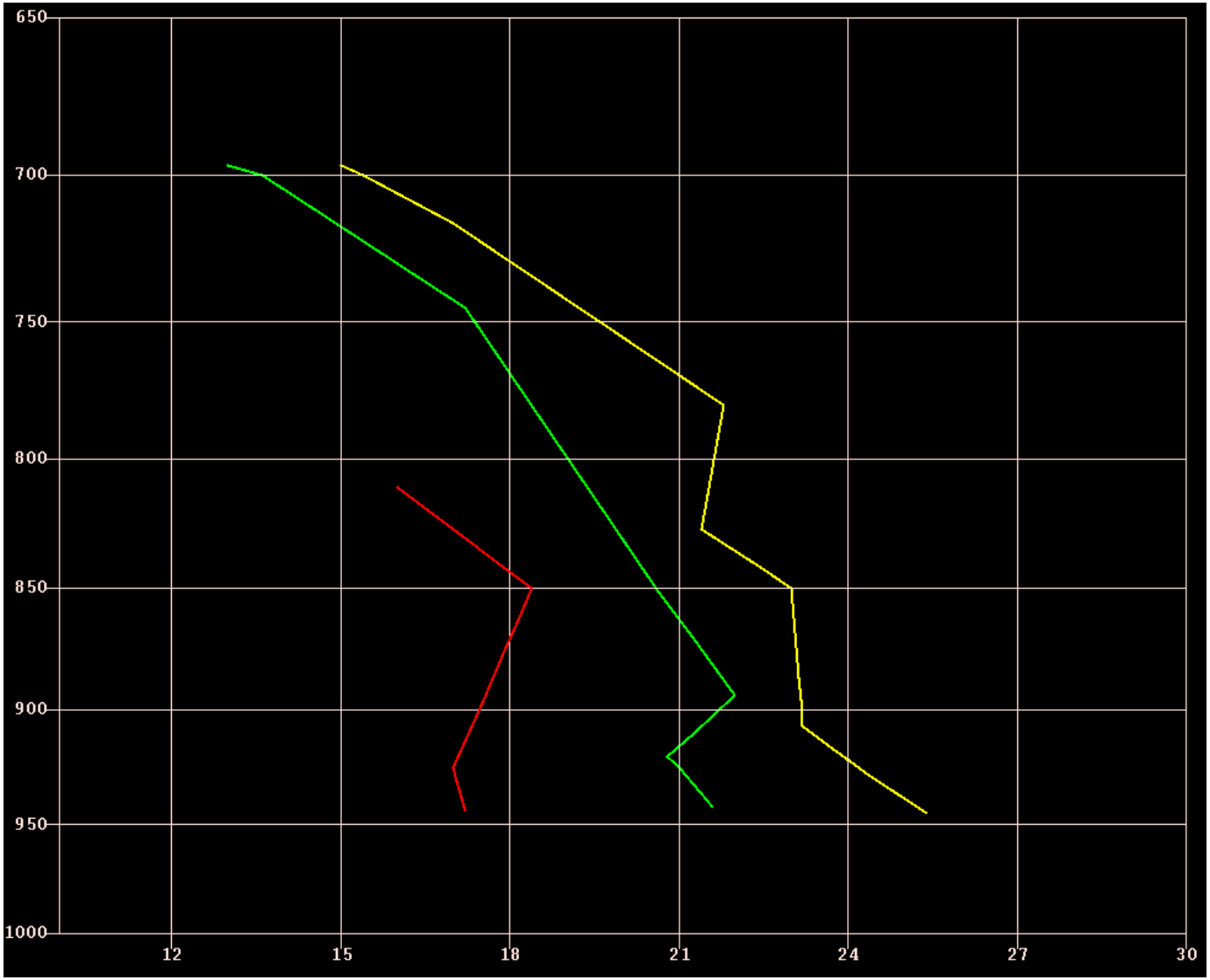
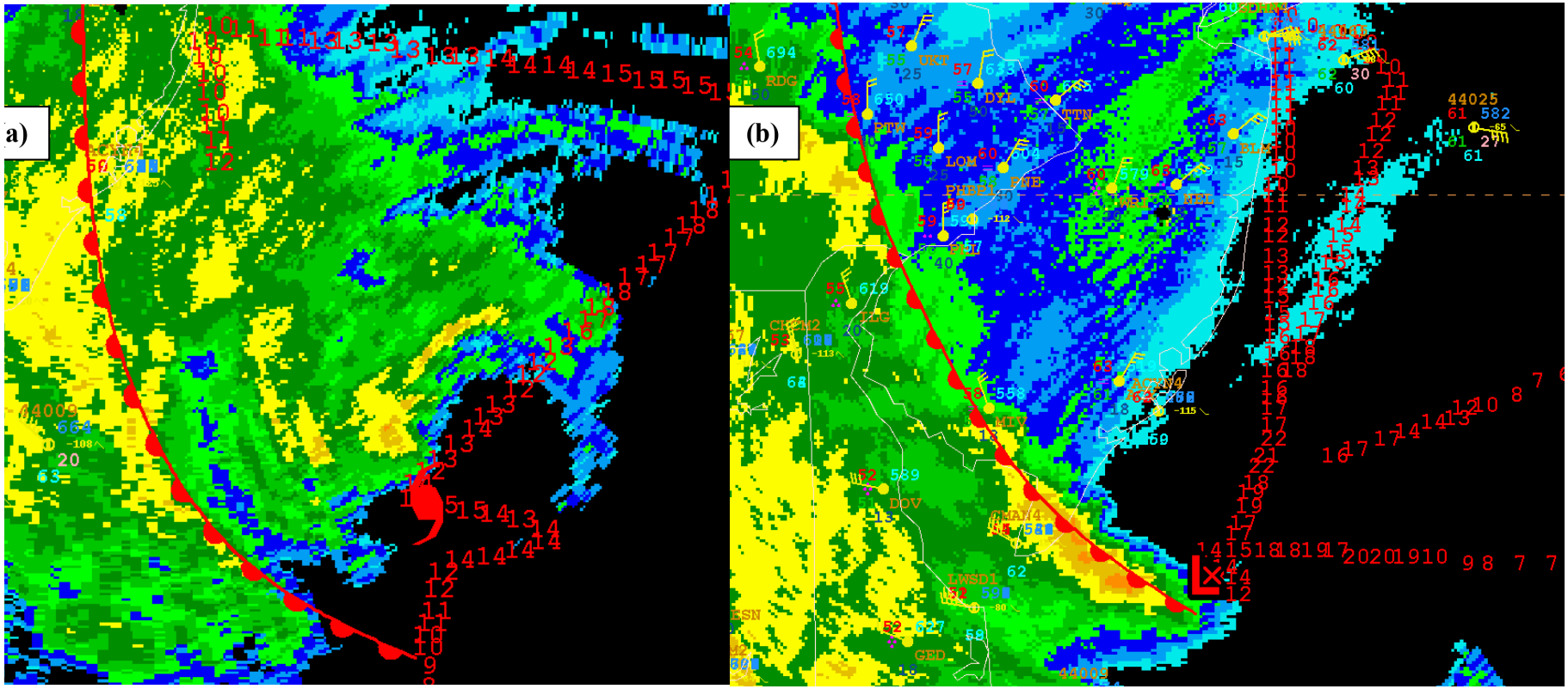


Figure 20. Dropsonde temperature profiles within a few miles of the center of Sandy from 29 October at 1420 UTC (yellow), 1749 UTC (green) and 2052 UTC (red), showing the large lower-tropospheric cooling. The x-axis is temperature (in °C) and the y-axis is pressure (in mb).



gure 21. NHC surface analysis, with aircraft 850-mb temperatures (red, °C), radar from Mt. Holly, NJ, and surface observations from 29 October 2012. Panel (a) is centered at 1730 UTC (aircraft observations within 1 h of valid time), panel (b) is centered at 2134 UTC. Note the dissipation of the eye feature in the radar reflectivity between these times, along with the center becoming embedded within cooler air, and just northeast of a warm front extending near the reflectivity gradient extending to the northwest into extreme southern New Jersey. The center of circulation is indicated by the hurricane symbol and "L" in panels (a) and (b), respectively. An occluded front in panel b has been omitted for legibility.

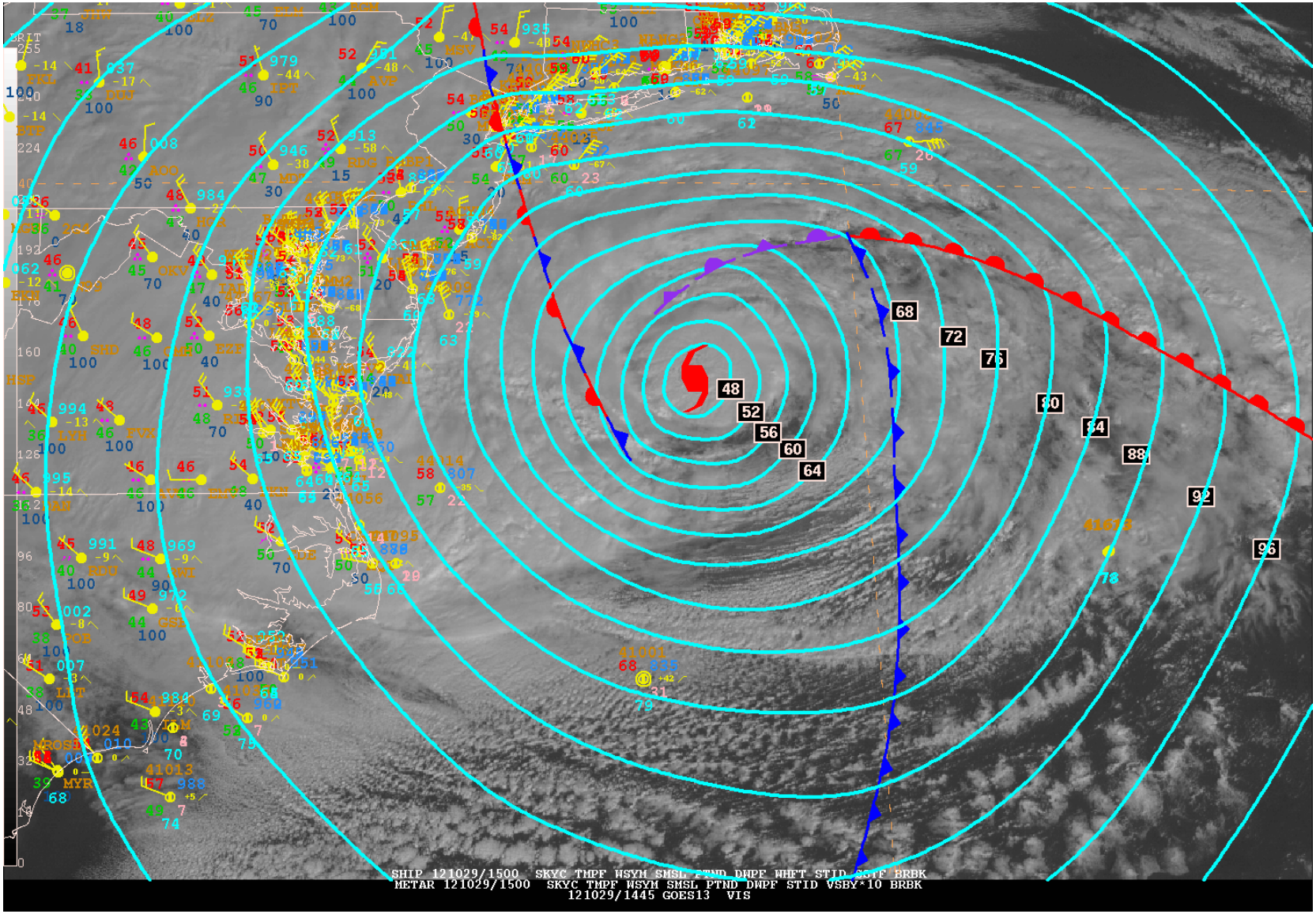


Figure 22. NHC analysis of fronts and isobars (4-mb contours) at 1500 UTC 29 October 2012, plotted with 1500 UTC surface observations and a GOES-E visible satellite image at 1445 UTC 29 October.

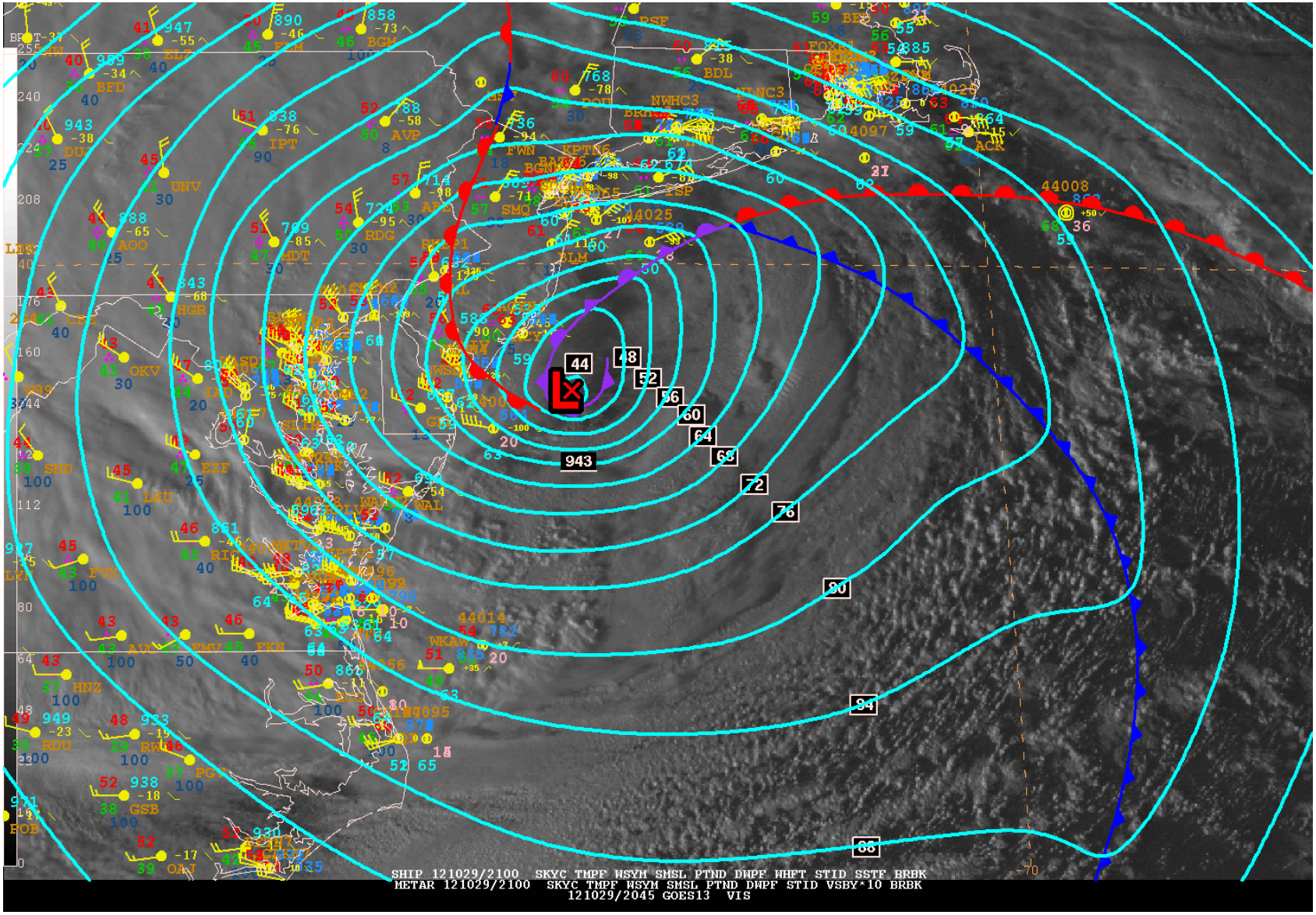


Figure 23. NHC analysis of fronts and isobars (4-mb contours) at 2100 UTC 29 October 2012, plotted with 2100 UTC surface observations and a GOES-E visible satellite image at 2045 UTC 29 October.

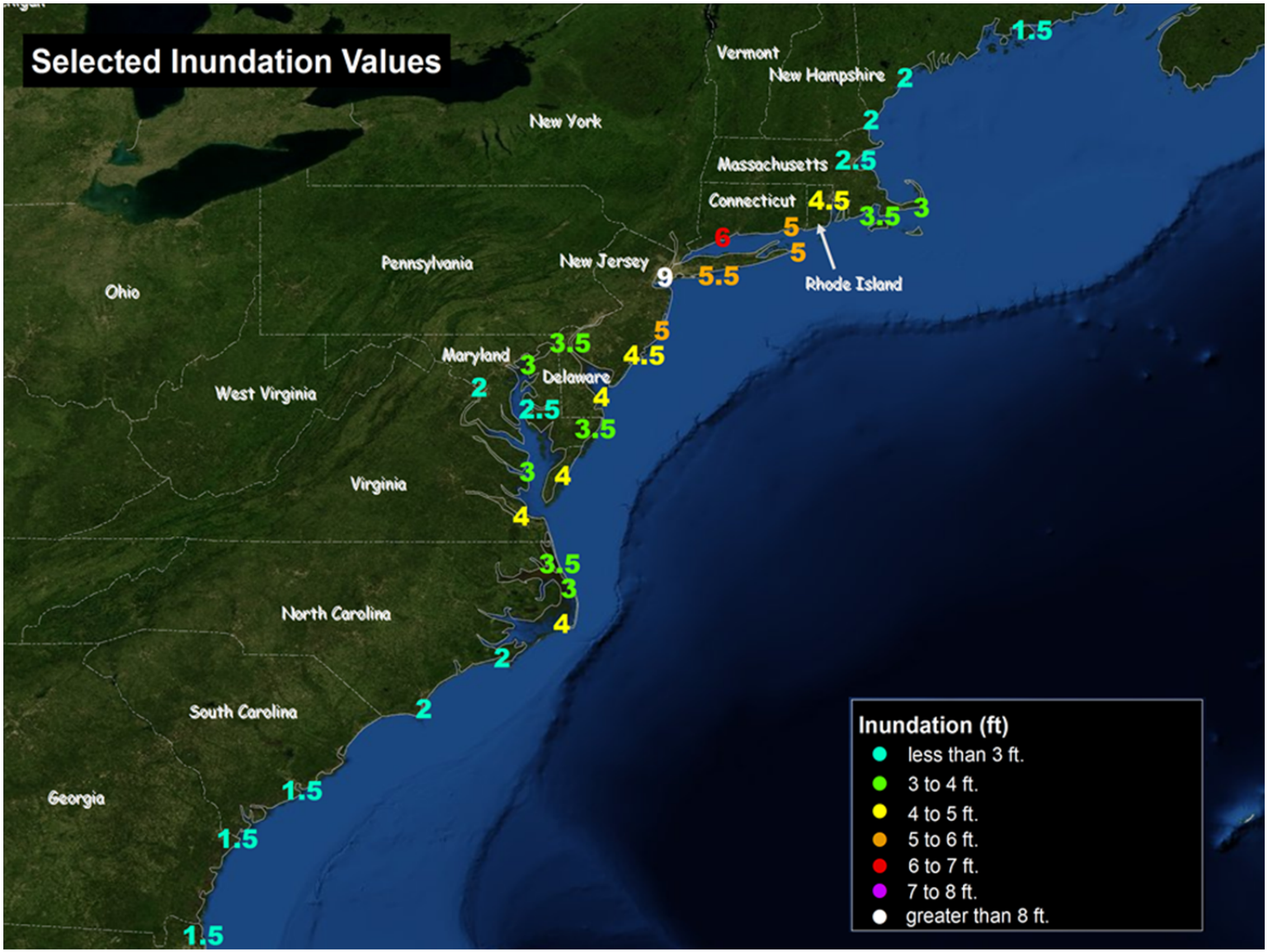


Figure 24. Estimated inundation (feet above ground level) calculated from USGS high-water marks and NOS tide gauges along the U.S. East Coast from Sandy. Values are rounded to the nearest half-foot.

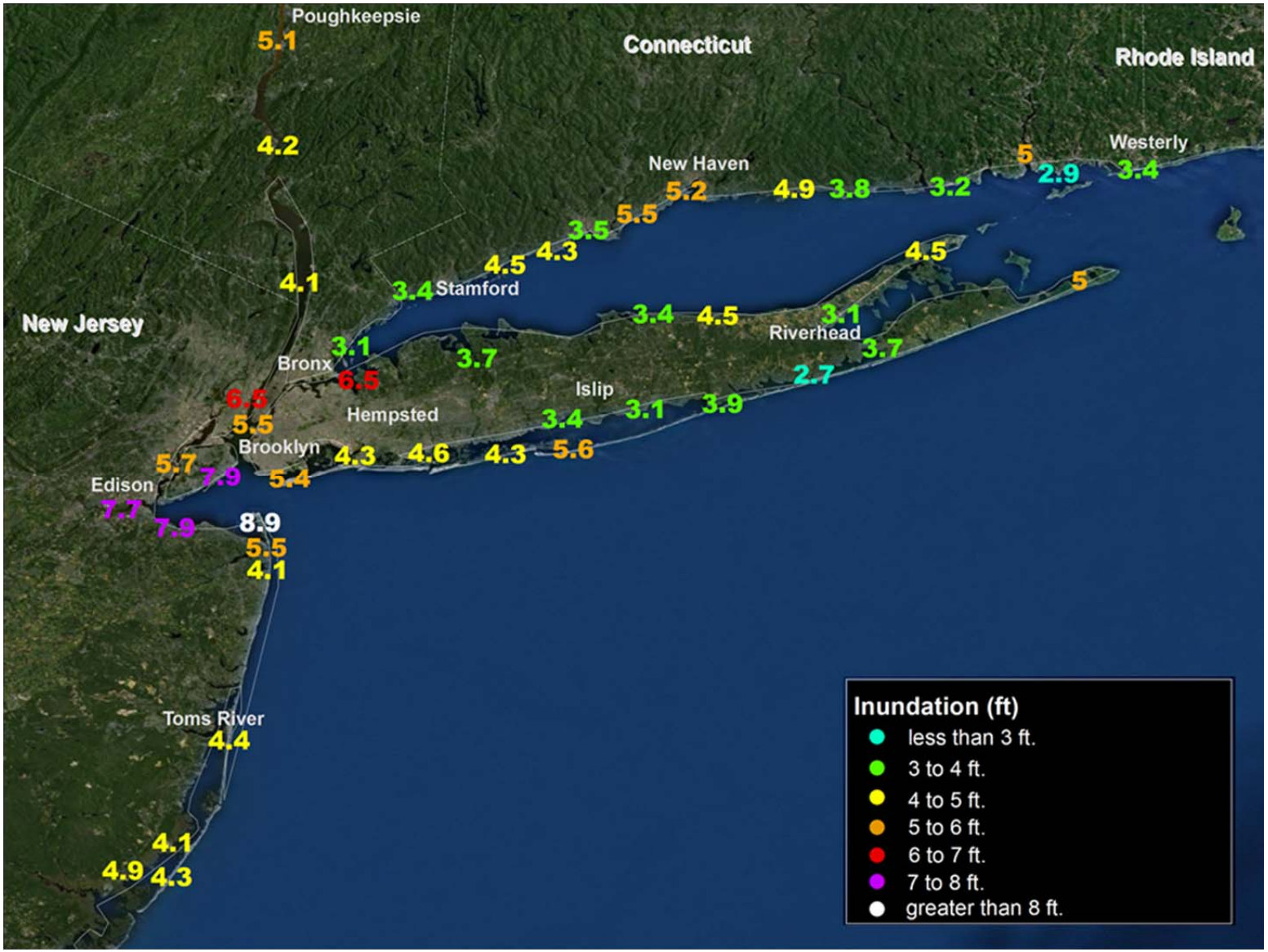


Figure 25. Estimated inundation (feet above ground level) calculated from USGS high-water marks and NOS tide gauges in New Jersey, New York, and Connecticut from Sandy.

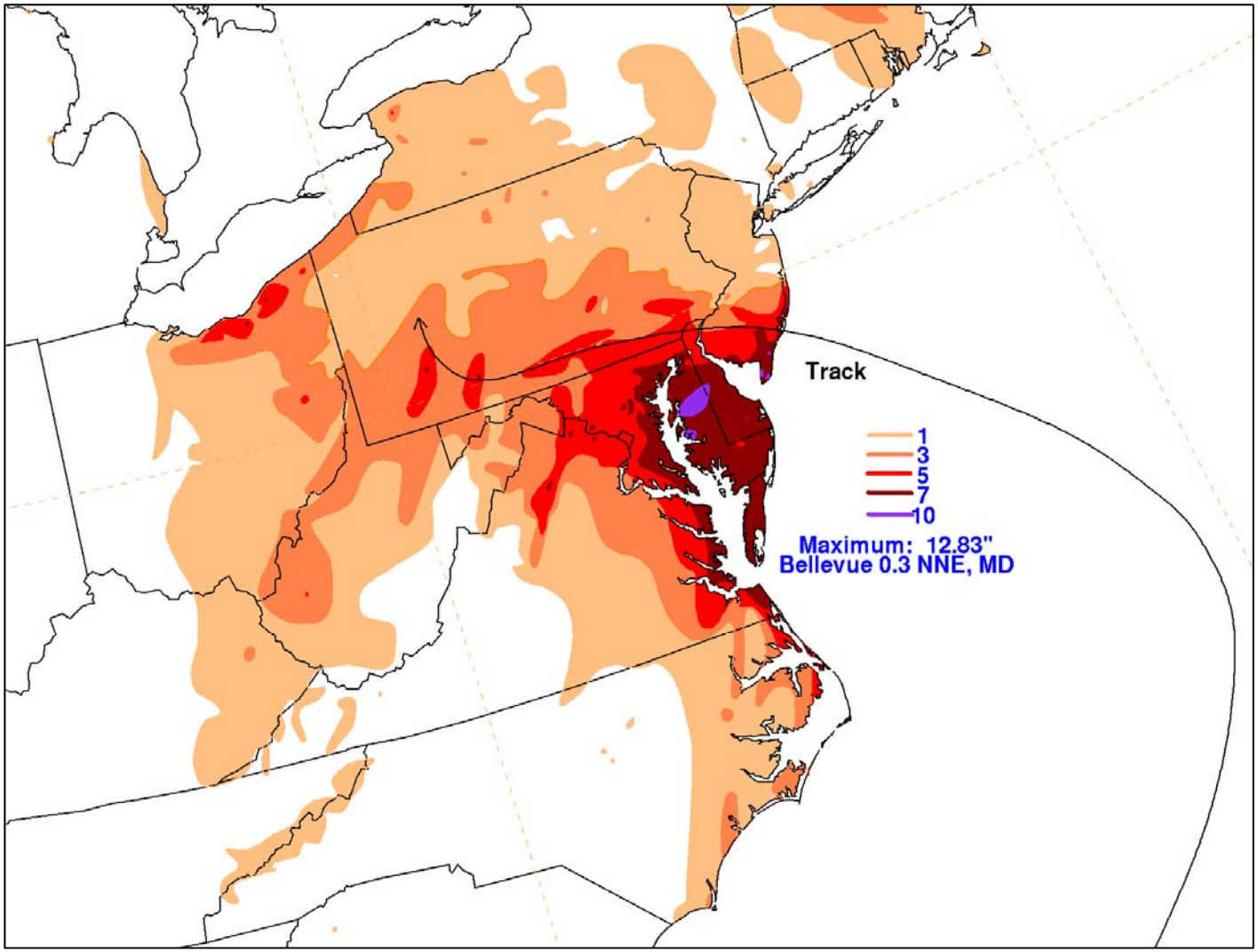


Figure 26. Rainfall (in inches) associated with Hurricane Sandy and its extratropical remnants from 27-31 October 2012. Figure courtesy of the Hydrometeorological Prediction Center.

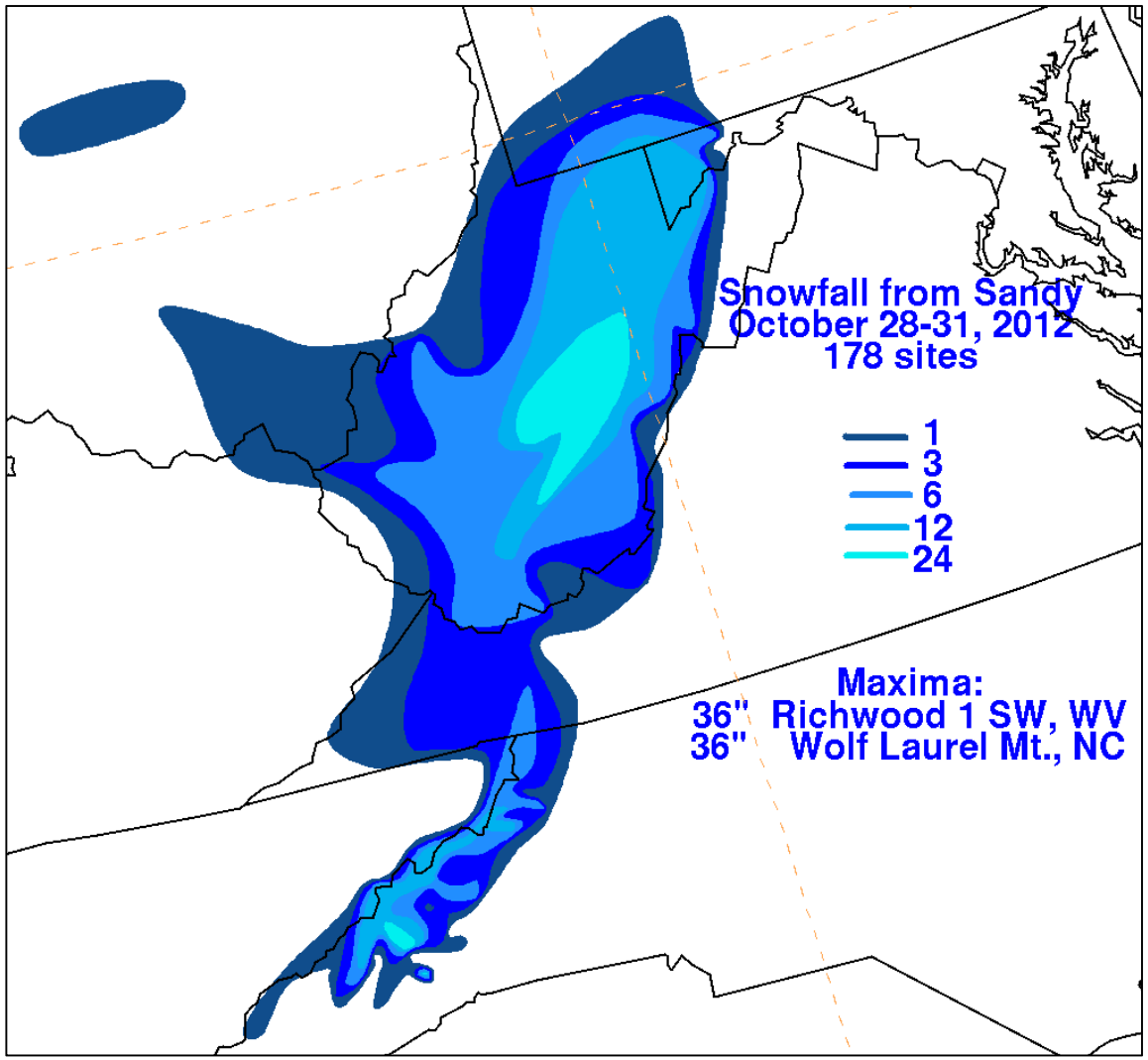


Figure 27. Snowfall (in inches) associated with Hurricane Sandy and its extratropical remnants from 28-31 October 2012. Figure courtesy of the Hydrometeorological Prediction Center.

Figure 28. a) House in Holguin destroyed by Sandy's strong winds, b) severe structural damage in Holguin, c) roof damage to a residence in Holguin, and d) storm surge flooding at the Hotel Baconao near Santiago de Cuba. Images courtesy of the Cuban Meteorological Service.

Figure 29. (a) Before and after images of a portion of the coast in Mantoloking, NJ, showing the effect of storm surge flooding. (b) Before and after image of a portion of the coast near Rockaway, New York, in Queens County, showing the inland extent of storm surge flooding. All images are courtesy of the U.S. Geological Survey.

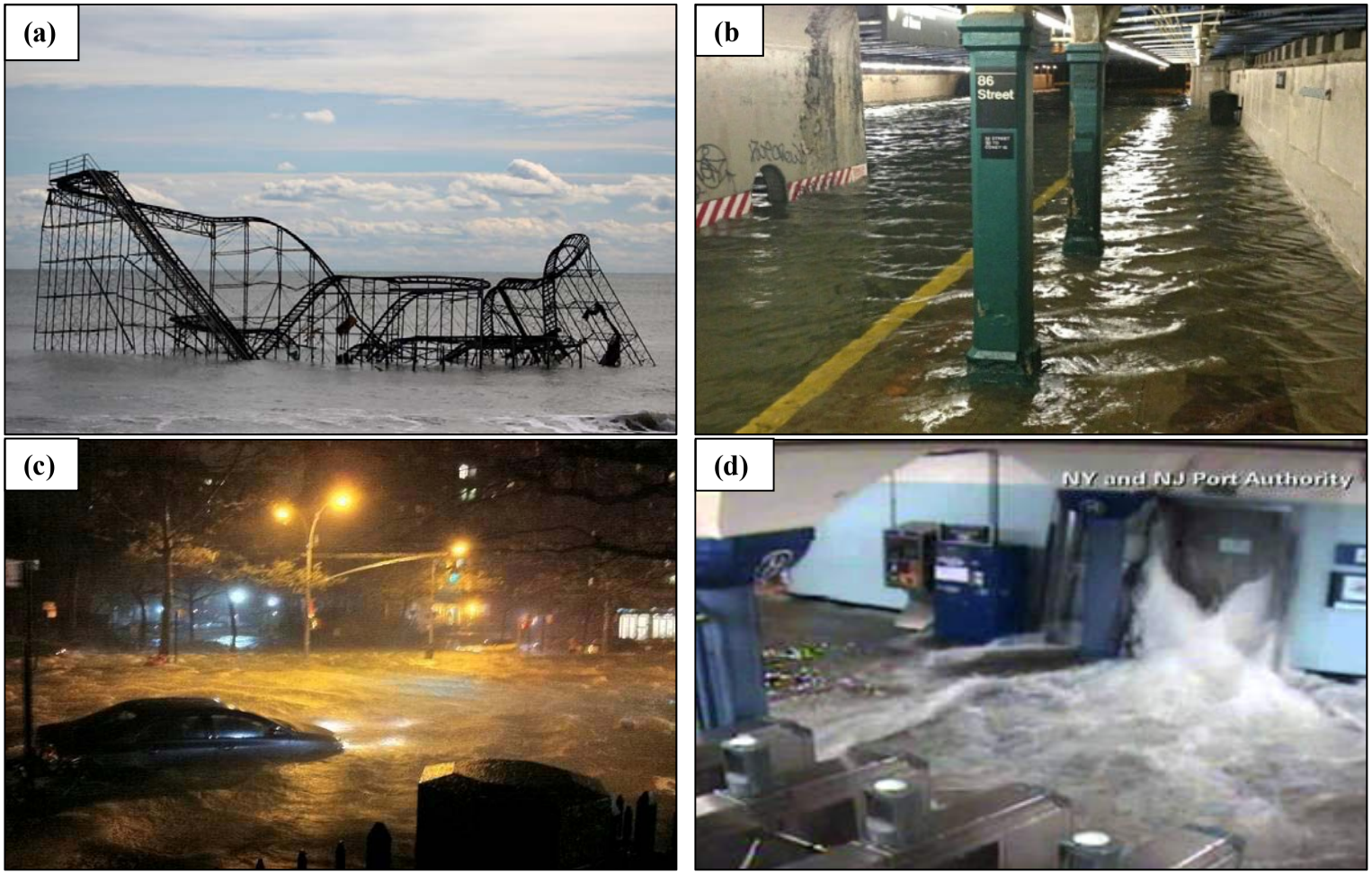


Figure 30. a) Image of a rollercoaster sitting in the Atlantic Ocean in NJ after the Fun Town pier it sat on was destroyed by the storm surge associated with Sandy (*courtesy of Getty Images*), b) photo showing the Lexington Avenue subway station flooded during Sandy (*courtesy Wzohaib/Flickr*) c) storm surge penetrating the lower East Side in Manhattan, New York City, on 29 October 2012 (*courtesy Twitter/nycarecs*) , d) photo from a surveillance camera that shows a PATH station in Hoboken, New Jersey, as it is flooded around 9:30 p.m. EDT 29 October 2012 (*courtesy AP/Port Authority of New York and New Jersey*).

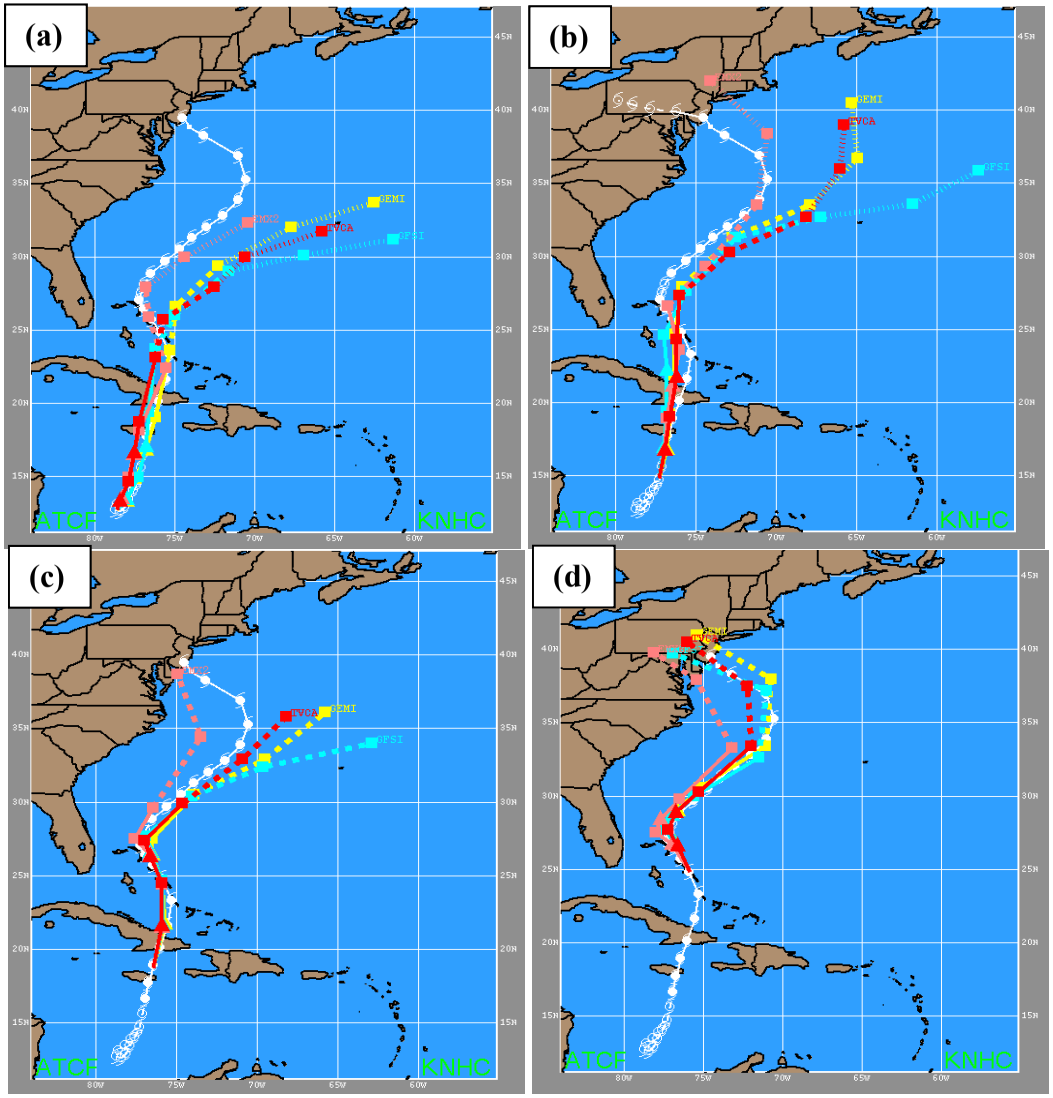


Figure 31. Model forecast tracks for Sandy at 0000 UTC 23 October (a), 0000 UTC 24 October (b), 0000 UTC October 25 (c), and 0000 UTC 26 October (d). Solid color lines are the forecasts through 72 h, while dashed lines are from 72-120 h, and dotted lines represent the 120-168 h forecasts (top panels only). The ECMWF is in coral, the GFS ensemble in yellow, the GFS is in cyan, and the TVCA model consensus is in red.

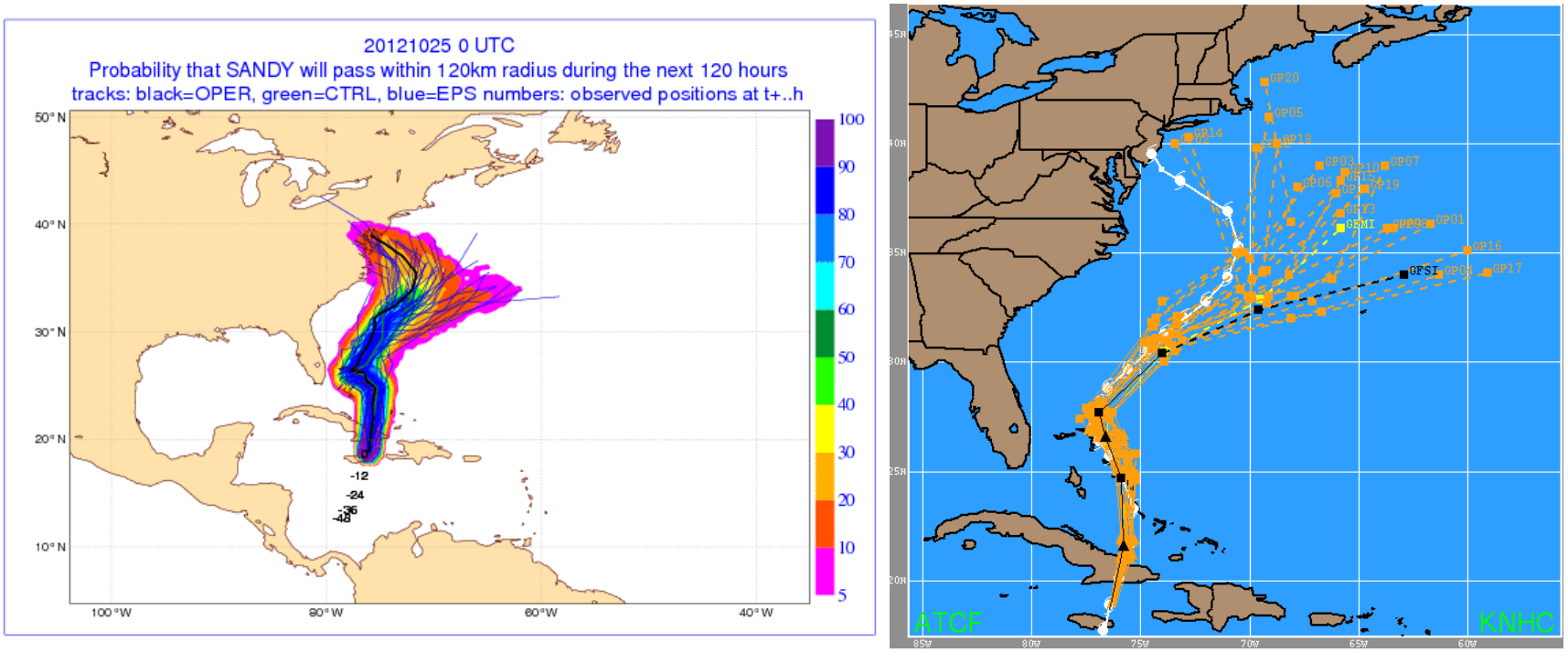


Figure 32. Five-day ECMWF ensemble tracks and probabilities (left) and GFS ensemble tracks (right) in orange issued 0000 UTC 25 October 2012. Note that a majority of ECMWF ensemble members showed a threat to the United States, while most of the GFS ensemble members were well out to sea (with the deterministic GFS in black). The verifying position is in southern New Jersey (last white hurricane symbol in the right panel). Left panel image courtesy of ECMWF.

Proposal for Hurricane Sandy Mediation Training

1. In addition to substantive issues, it would be helpful to familiarize our panelists with the documents they are likely to review in connection with the mediation. This can be effectively done in a segment on preparing for mediation, which would include key elements: [Who teaches this course? Views of advocates. Later – afternoon – group discussion among mediators.]

    a. Conducting a pre-mediation joint conference call with counsel. This call is likely to address:

        i. Parties who will be attending. This is one way to be sure that key players, including insurance representatives will be attending, or to discuss accommodations, if any, that are acceptable to all (*e.g.*, having the representative

available throughout by Skype or telephone, but not hidden from a caucus, as needed, with the mediator).

ii. Pre-mediation statements. What will be needed to bring the mediator up to speed – facts, pivotal law, settlement history and thoughts, interparty dynamics, process recommendations, etc. This includes exhibits to the pre-mediation statement – a fertile place for discussing documents that might be exchanged and information that is essential or, at least, helpful. This can include deposition transcripts, motion papers, and information examples of which are listed in the following subparagraph. It can also include law to the extent is it likely to influence or be pivotal to the negotiation. It could be helpful to annex or incorporate into the pre-mediation statement, the list of legal issues and legal

authority provided in summary form, by letter, pursuant to par. V of the Sandy Order.

iii. Information to be exchanged or developed by the parties. It is helpful during the initial pre-mediation call to ask whether there is anything that needs to be done to ensure that when the parties meet for mediation they have a fully productive session.

1. Here, discussion of the automatic disclosure provisions of the Sandy Order might be helpful, to the extent it has not already been covered.

2. Certainly, it bears underscoring for the last two points, that the mediator will wish to know the following information:

    a. Information about the property, including photos of the damage.

b. Itemized damages. Often a spreadsheet, and at times backup, is helpful here.

c. The above should include the amount in dispute.

d. Settlement history and thoughts for settlement.

e. Expert reports, loss estimates, contractors' bids or reports and other items listed in Section IV of the Sandy Order, if any.

f. At times, the insurer requests a pre-mediation demand, to help its representative prepare for (and obtain adequate authority for) the mediated negotiation. We can discuss the issues that arise with this stated need and the countervailing considerations that can be

expressed by plaintiffs' counsel, relating to strategic non-disclosure to preserve room for in person bargaining. Handling of these concerns is sensitive and can generate some good and thoughtful discussion.

g. Policy language at issue – declaration sheets, statement relating to coverage and exclusions, etc.

h. One way or another, the mediator should look for information that will develop the net sum sought by plaintiff and, by contrast, asserted by defendants to be actually owing.

NEW YORK STATE BAR ASSOCIATION

NYSBA

Dispute Resolution Section

White Paper Subcommittee

Insurance Disputes

NYSBA

DISPUTE RESOLUTION SECTION

January 2011

"Disputes arise across a broad spectrum of relationships and substantive areas of the law. Alternatives to litigation may best serve client needs for resolving many of these disputes. The NYSBA Dispute Resolution Section has prepared a series of White Papers to set forth some of the special advantages of mediation and arbitration in the various contexts in which disputes commonly arise."

Edna Sussman, Chair, NYSBA Dispute Resolution Section
David Singer, Chair, White Paper Subcommittee

INSURANCE /REINSURANCE ARBITRATION AND MEDIATION

BY CHARLES PLATTO, PETER A. SCARPATO AND SIMEON H. BAUM *

At the heart of the insurance business is the resolution of claims. Insurers routinely adjust claims and provide for indemnity and defense. Accordingly, some have said that the business of insurers is litigation. In fact, it is more accurate to say that the business of insurers is dispute resolution: including negotiation, mediation, neutral evaluation, and arbitration, as well as litigation.

Where insurers and reinsurers find themselves consistently involved in matters that are heading towards or involved in litigation, it is no surprise that the industry currently makes extensive use of a variety of dispute resolution processes. In this paper, our focus will be on mediation and arbitration, in handling: (1) insurers with an obligation to defend/indemnify the insured, (2) subrogation matters; (3) insurance coverage disputes between insurer and insured, (4) disputes between insurers, and (5) reinsurance disputes.

As with other areas covered by this series of White Papers, the mediation and arbitration processes offer a wide range of benefits to the insurance industry, providing effective and efficient processes for the resolution of disputes. We will consider both benefits and special uses of alternative dispute resolution processes in these various scenarios. In all areas of insurance it pays to apply the questions of "who, what, when, where, and why": who should or

will be attending the dispute resolution process; what process should be selected; the ideal timing of the use of that dispute resolution process; the forum or venue for the procedure – court-annexed or otherwise; and the reasons for selecting one process over another – keeping in mind the players, goals, opportunities and circumstances.

1) Insurance Defense and Indemnity – Third Party Claims

The typical liability policy requires the insurer to defend and indemnify the insured against claims asserted by one or more persons. These are known as "third party claims" because the persons asserting the claim against the insured are not parties to the insurance agreement. By contrast, first party claims are those presented by the insured party to its insurer under policies that cover the insured against risk of harm or loss to its own person or property. In this section, we will focus on the use of alternative dispute resolution processes for third party claims. Third party coverage is offered in a wide range of areas, including, *inter alia:* automobile, homeowners, commercial general liability, professional liability (also known as Error & Omissions), Directors & Officers, employment practices liability, and products liability insurance.

Arbitration is used in a number of arenas for the resolution of third party claims, including automobile no-fault cases, small claims and civil court matters, and for certain Workers Compensation[1] claims. Arbitration, for these and commercial matters, can be an effective means of obtaining a decision from a neutral without going through a trial. Mediation is frequently used across the board for third party claims, both privately and through court-annexed panels. Mediation vests control in the parties, offering an informal, flexible and inexpensive process, with resolutions tailored for and by the parties. Mediation's popularity is reinforced by the benefit derived from a neutral who can keep parties and counsel engaged in constructive dialogue, and from the fact that there tend to be no pre-dispute arbitration clauses running between third party claimants and the insured.

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[1] Workers' Compensation insurers may initiate subrogation arbitrations to recover payments of health benefits from third parties if the defendant companies or their insurers and the subrogated insurer are parties to a Special Arbitration Agreement. In addition, persons involved in the administration or determination of Workers' Compensation benefits hearings may also arbitrate their own claims. *See*, NY Workers Compensation Law, Section 20.2.

There has been much discussion on "when" – the ideal timing for holding a mediation. As a general rule, the sooner one mediates the better. This enables the insurer to take funds that would otherwise be used in the defense of a claim and instead contribute them to the settlement pot. The sooner a dispute is resolved, the less parties will harden in their positions, and the less there will be a build up of emotion and resentment (not only by parties but also by counsel). Early resolution lessens the sunk cost phenomenon, in which parties and counsel who have invested time and expense hold out for a better return on investment – making it harder to settle a case. Another consideration that impacts timing is the need to develop information. Parties might feel a need to conduct an Independent Medical Examination, do destructive testing, nail down certain testimony in a deposition, test legal theories with a motion to dismiss or for summary judgment, or obtain an expert's report. At each juncture there is a balancing test of whether the information to be gained will offset the benefit of settling before the outcome is known. Conversely, its pursuit might, hydra-like, simply lead to additional questions, uncertainty, cost, and hardening of positions. Certain parties observe that "the heat of the trial melts the gold," and prefer to wait until they are at the courthouse steps – or even with an appeal pending – before conducting a mediation. Frankly, mediation can be useful at any stage. It is our view, however, that the earlier done, the better. In all instances, good judgment dictates giving serious consideration to the timing question.

In order most effectively to utilize the mediation or arbitration process where an insurer is involved, perhaps the most significant of our questions is "*who* is involved and what role should the insurer play?" It is critical to be sure that the proper parties are engaged in deciding to enter mediation, preparing for the mediation, and attending the mediation session. Whether it is an adjuster with responsibility for monitoring the case,[2] or a lawyer or other official of the claims department, the person involved should have a full appreciation of the way mediation or

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[2] A number of people are ordinarily involved in handling claims presented to an insurer. Chief among them is the insurer's claims department or claims handling unit. This can be a group within the insurer and can also involve outside adjusters or third party administrators. Claims handlers are involved from the moment notice of a claim is received, through initial efforts to assess and possibly adjust a claim, and through all stages of litigation. The claims group triggers the issuance of any letter to the insured accepting the claim, assuming the defense but reserving rights to deny coverage. Claims appoints or approves counsel to handle the defense; sets reserves for the risk; and monitors the defense of a case. Moreover, claims evaluates case strengths and weaknesses, assessing liability and damages, and ultimately determines whether and under what terms to settle the claim. Other key players are counsel who are appointed to defend and must routinely report to the insurer; any counsel separately responsible for coverage questions; and, of course, the insured, who owes a duty of cooperation to the insurer. On the other side of the equation tend to be the claimant and claimant's counsel.

arbitration can be used effectively, full authority to resolve the matter, and sufficient knowledge of the case and the issues to be appropriately involved in the process and make a reasoned decision. This means that the claims department should be actively engaged in evaluating the matter and reassessing reserves, and the person with full authority, ideally, should attend the mediation session. When dealing with a corporate claimant, it also means bringing the person with full settlement authority. If that claimant is an individual, say, with a personal injury claim, it might mean seeing that certain family members are also involved or, at least, on board. It pays for claims adjusters and counsel on both sides to educate themselves well on negotiation strategy and techniques and on the nature and role of the mediator, so that they can take full advantage of the opportunities presented by using the mediation process. In addition to persons with authority, experts or persons familiar with certain facts may be helpful to have present at a mediation. Of course, a mediation is not a hearing, but the presence of these people might aid the parties in coming to a common understanding of the facts and adjust their assessment of the matter. In all instances, the best prepared attendees should be cautioned to maintain an open mind so that they get the full benefit of the mediation process, including the capacity to learn and make adjustments in accordance with reality.

The "what" and "why" of mediation include using a neutral party to help all involved conduct a constructive dialogue, getting past many of the snags that arise with traditional positional bargaining. The mediator can help cut through posturing and can keep people on course. When a large demand or tiny offer threatens to end negotiations, the mediator is the glue keeping people in the process, encouraging them to stick with it and reach the goal of resolution. The mediator can help counsel and parties understand legal risks that "advocacy bias" might blind them to, help them develop information that is key to assessing and resolving the matter, and help them as they make their bargaining moves. While some cases involve claims for damages which one party believes can best and most favorably be resolved by a jury and others involve a legal issue which call for a judicial resolution, the vast majority of claims and litigations, particularly involving insured matters, are ultimately resolved by settlement. A mediation can fast forward the camera, truncating procedures and shrinking costs, by bringing about the inevitable settlement much sooner. Claims adjusters, risk managers, and counsel are well advised to consider the myriad benefits of mediation listed in the general introduction – the "why" – at the commencement of a matter, so that they can make an informed choice of process – the "what" – initially and reevaluate process choices throughout the course of handling the claim.

Development of information needed for an informed settlement decision can, in fact, be expedited through the use of mediation in the third party claim context. Rather than awaiting depositions or extensive document production, parties can use mediation to conduct truncated disclosure -- getting the information that is most essential to the resolution decision. Good use and development of information is critical to taking full advantage of mediation in the insurance

context. Prior to the mediation session, it is good practice for the insurer's team to assess damages and liability and develop a good sense of the reserve for the case. This can include obtaining expert reports, appraisals, photographs or other key information. Pre-mediation conference calls can facilitate interparty disclosures that will provide parties with information needed to prepare or to conduct a meaningful discussion when they arrive at the mediation session. It is also valuable to help the mediator get current with information in the form of pre-mediation conference calls and written submissions, with exhibits. Further useful disclosures for the benefit of the parties can occur in the confidential mediation session, enabling parties to adjust their views and assessment of damages and liability. Even if the matter does not settle at the first mediation session, information can be further developed thereafter bringing the matter to resolution.

Additional points to keep in mind include the potential for conflicts or different interests or priorities between the insured and the primary and excess carriers and reinsurers. Also, insurance policies historically placed the burden of a complete defense on the primary carrier regardless of limits. While this is still the case in an automobile policy or an occurrence-based commercial general liability policy, a variety of claims made and specialized policies may provide for defense costs to be deducted from and be subject to the limits of coverage. Additionally, the claim may exceed the limits of primary coverage and impact excess coverage and/or the primary coverage may be typically reinsured in whole or in part. These may be important practical factors to keep in mind in evaluating the "who, what, when, where and why" of mediations and arbitrations in insured matters.

In sum, the insurer, parties, and counsel should be proactive in addressing our journalist's questions – and in developing, exchanging, and analyzing information – so that a mediation can be held at an appropriately early stage – and indeed, if not initially resolved, in pursuing further mediation as the case evolves.

Case Study: The Multi-Party Subrogation Claim

Have you ever participated in a negotiation or mediation involving multiple defendants, each pointing the finger at another? In the third party insurance world, this is a frequent occurrence. Often, counsel or claims adjusters will enter a negotiation with a predetermined percentage which they believe their company should bear relative to the other defendants. Moreover, they have set views on the percentage responsibility the other parties should bear as well – particularly party X, whom they deem to be the chief target, or party Y, who was in a position similar to their own insured's. The latter scenario can generate feelings among professionals not unlike sibling rivalry.

In one case involving a construction site with twelve defendants, the mediator used an approach he calls the *consensus based risk allocation model.* This approach was undertaken with the recognition that, sometimes, shifting from percentages to hard dollars, and getting people to focus on their own pot rather than the other defendants', is a good way to move from stalemate to progress. First the mediator conducted an initial joint session and one or more caucuses (private, confidential meetings with fewer than all parties) in which he got a good sense of what the Plaintiff would need to settle the case. Then he held some caucuses with the entire group of defendants and subgroups of defendants in which the mutual finger pointing became apparent. To address this problem, the mediator held a series of caucuses with each of the defendants. In each caucus he asked the same set of questions: do you think plaintiff will win at trial, and, if so, how much? What percentage liability do you think will be allocated to each defendant? How much will it cost to try this case? Answers to these questions were recorded on an Excel spreadsheet, with a line for each defendant's answer, including columns for each defendant discussed.

When the interviews were completed, the mediator created different economic scenarios: (1) the average of the amount the plaintiff was predicted to win, with and without applying predicted defense costs, (2) the amount the mediator guessed the plaintiff would need to settle the case (the realism of which was assessed in light of the first set of numbers), and (3) amounts smaller than the projected settlement number which might serve as initial pots in making proposals to the plaintiff. The mediator then applied the average of all defendants' views of each defendant's relative liability to these economic scenarios. The result was a listing of dollar numbers allocated to each defendant for each economic scenario. The mediator then held a joint conference call with all defense counsel. He explained what he had done and inquired whether they would like to hear the outcome of this experiment. Not surprisingly, all asked to hear the outcome and agreed to share with one another this information that had been derived from their private, confidential caucuses.

Essentially, the mediator presented to the defendants three packages for presentation to the plaintiff – an initial, a subsequent, and a final pot – identifying, by dollar figure only, each defendant's contribution to each of these three pots. As a result, a doable settlement path appeared in place of what had been a field of warring soldiers. Defendants got their approvals to each pot – one pot at a time – and the case settled. This is just one way mediation can help create productive order out of multi-party bargaining sessions in third party liability cases.

2) Subrogation

Another area that has lately benefited from the use of mediation is subrogation. In subrogation matters, an insurer that has already paid a first party claim for a loss suffered by its insured stands in the shoes of that insured and seeks recovery of damages for that loss from third parties who caused the loss. Over the last decade or two, subrogation has risen in the insurance industry's regard as one of the three chief ways in which insurers gain funds, along with premiums and return on investments.

The same considerations that apply to the mediation of all third party claims apply here. Unique features include that plaintiff is a professional insurer, and, typically, insurers are involved on the defense side, as well. As a consequence, some of the emotional issues that might be generated by parties seeking recovery of damage or loss to their own personal or property are diminished. Negotiations can proceed on a steady course. Yet, special challenges also arise when professionals engage in strategic bargaining. *See*, for example, the multi-party finger pointing discussed in the inset above. Some certainty on the size and nature of the loss is gained where the claim has already been adjusted by the subrogated insurer, but other issues take center stage: if the insurer paid replacement value, should the defendants' exposure instead be limited to actual, depreciated value of the property? Were payments made for improvements, rather than losses? And, of course, questions on liability, causation and allocation among multiple parties remain. Mediators can be quite helpful in organizing these discussions, developing information, assisting in assessments of exposure, and helping multiple parties stay on track to reach a conclusion. Sometimes, the mediator's phone follow up after a first mediation session is the key to keeping the attention of multiple parties, with many other distracting obligations, focused on the settlement ball.

3) Insurance Coverage Disputes Between Insurer and Insured

Disputes can arise between the insurer and the insured in either the first party (e.g., property) or third party (*e.g.*, liability) context. Such disputes can be particularly complicated in the third party context where the insurer owes a duty to defend if there is any possibility of coverage for one or more claims even if the carrier has potential unresolved coverage defenses. In all events, the carrier owes a duty of good faith and fair dealing to the insured and may have to consider settlement offers within policy limits in third party claims even if coverage issues are unresolved. Similarly, in the first party context, although the defense obligation may not be present, the carrier does have an obligation to process claims in a fair and efficient manner.

Notwithstanding these complications and obligations, the carrier does have the right to deny coverage if it believes that the policy does not cover or excludes a claim, or the carrier may defend under a reservation of rights if it believes there is a possibility of coverage, especially if

that possibility is dependent on the outcome of the underlying claim, *e.g.*, was the conduct that gave rise to the claim intentional (not covered) or negligent (covered).

A typical way of raising and resolving insurer/insured coverage disputes (after the carrier sets forth its initial coverage position generally by letter) is by a declaratory judgment action. Such an action may be brought by the insurer or the insured. In some states, *e.g.*, New Hampshire, a declaratory judgment action is required as a condition of denying coverage or requesting a denial.

As with all other disputes, insurance coverage disputes can be effectively resolved by mediation or arbitration (whether provided for in certain complex sophisticated insurance policies or voluntarily).

Mediation or arbitration is especially attractive in the first party context where the question of timing and amount of payment, if any, may turn on a prompt and efficient resolution of the insurance coverage dispute. While at first blush, it might appear that the insurer has an advantage or disincentive in this regard to the extent it could benefit from a delay in payments, there have been significant developments throughout the country, including in New York (in the *Bi-Economy* and *Panasia* cases, 10 N.Y.3d 187,200 (NY 2008)), adopting a tort of first part bad faith or other analysis or remedies which protect the insured in first party insurance coverage disputes and give the insurer an incentive to resolve such disputes.

In the third party claim context, the timing and coordination of any insurance coverage dispute and the resolution thereof is particularly sensitive. Simply put, if the underlying case is resolved by settlement or otherwise before the coverage dispute is resolved, the opportunity to resolve the coverage dispute in an effective fashion may be lost to the carrier or the insured. The parties may, therefore, have a genuine interest in resolving the coverage issues in coordination with the underlying claims in one way or the other. Mediation, or arbitration, involving some or all parties and some or all claims may be effective in this regard.

Case Study– Mediating the Dream within the Dream

In one mediation of a multi-party third party property damage case, one of the defendants had a coverage issue arise between its primary and excess insurer. The mediator called a "time out" and conducted a separate, abbreviated mediation of that coverage dispute by phone caucuses. The coverage issue was resolved and the parties then moved on to resolve the original third party claim.

Apart from these complexities, the same who, what, when, and why consideration noted above apply. In endeavoring to coordinate an underlying claim proceeding with an insurance coverage dispute, the when of any mediation and the who is involved amongst the parties and their representatives becomes critical. On the insurer side for example, there is typically and appropriately, a separation between the adjusters or claims representatives handling the defense of the underlying litigation, and those responsible for the coverage dispute. This is where they need to coordinate. The why includes the potential benefit of resolving the coverage issue which may impede resolution of the underlying claim and/or resolving the underlying claim which may be impacting the resolution of the coverage dispute. The what may involve a mechanism to bring together in a single forum, e.g., before a mediator, parties involved in different proceedings or aspects thereof.

Finally, a word about the need for subject matter expertise in mediators or arbitrators. In arbitration, expertise is what is often sought in a decision maker, although some have argued that non-experts might approach a case with a more open mind. In mediation, maintaining an open mind is essential in the mediator; and process skills are of paramount importance. Nevertheless, users of these processes in insurance coverage matters, find it helpful if their mediators or arbitrators are conversant with insurance policy interpretation and implementation.

4) Insurer v. Insurer Disputes

Another area where mediation or arbitration may be particularly effective is in insurer v. insurer disputes.

Because of the complexity of the world we live in, it is not uncommon to encounter situations where multiple carriers and policies may respond to one or more potentially covered claims. This may give rise to disputes among carriers under "other" insurance clauses which seek to prioritize coverage obligations between carriers, or pursuant to subrogation rights, or where primary and excess carriers are involved, or there are additional insured claims, etc.

Disputes between insurers present a perfect opportunity for mediation or arbitration. One reason for this is that since insurers will often find themselves on one side of an issue in one case and on the opposite side of that issue in another case, or even on both sides of an issue in the same case, e.g., with affiliated carriers or the same carrier involved for different insureds, there are multiple situations where it would be in the carriers' interest to have an efficient effective resolution of the particular case without setting a precedent for one position or an another.

Beyond the potential for setting unwarranted precedent in litigations between carriers, arbitration or mediation is simply an unusually effective mechanism for resolving disputes between entities which are in the business of resolving and paying for disputes. No entity is better equipped and has more interest in efficient effective resolution of claims and the coverage therefore than an insurance company – and insurers would prefer to avoid battling with each other, although the nature of today's' massive insured litigation is such that more often than not carriers will find themselves on opposite sides of the table from their colleagues in the industry and have difficult problems between themselves that need to be resolved. Once again the who, when, what and why become important. It is often important that insurance executives at the appropriate level recognize the significance of the issue to be resolved in the broader sense of the business rather than just the dollars and cents of a particular case. When is important in the evolution of the underlying matter and the issues between the carriers. The what is to identify an appropriate forum and mechanism and the why is because particularly with carriers it becomes a question of the best and most effective way to run their business.

5) Reinsurance

"Reinsurance" is basically the industry practice where one insurer insures all or a portion of another insurer's liabilities. Virtually all reinsurance agreements are in writing, and most contain either arbitration clauses or the occasional mediation clause. Thus, the first and best benefit of this ADR mechanism in reinsurance is that it is contractual, i.e. automatic and nonnegotiable. Unless the very efficacy of the arbitration or mediation clause is challenged, the parties cannot litigate.

Arbitration: By design, reinsurance arbitrations are meant to be faster, less expensive and more industry-focused than the usual litigation model. The typical panel consists of three individuals, two quasi-partisan arbitrators[3], one selected by each party, and a third, neutral umpire, technically chosen by the two arbitrators, who manages the proceedings. The arbitrators are quasi-partisan because parties interview them in advance to ensure, based on the pre-discovery facts as described, that they generally support the party's position. Also, in some cases, the

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[3] This characteristic of arbitrators depends upon the rules under which the arbitration is conducted. For example, under Rule 17, Disqualification of Arbitrator, of the Commercial Arbitration Rules of the American Arbitration Association: "(a) Any arbitrator shall be impartial and independent and shall perform his or her duties with diligence and in good faith, and shall be subject to disqualification for (i) partiality or lack of independence, (ii) inability or refusal to perform his or her duties with diligence and in good faith, and (iii) any grounds for disqualification provided by applicable law.

parties and their arbitrators continue to have ex parte conversations throughout most of the case, usually terminating with the parties' filing of their initial, pre-hearing briefs. Ultimately, arbitrators "vote with the evidence" in final deliberations. The neutral umpire has no ex parte communications at all with either side. While the contracts technically permit the arbitrators to select the neutral alone, most do so with outside counsel and party input. Since decisions require a panel majority, the neutral umpire casts the swing vote, if necessary, throughout the case.

Another important benefit of the reinsurance arbitration model is that all three panelists are experts in the industry customs and usages of the particular lines of business, claims and practices in dispute. This is one of the quintessential aspects of arbitration that differentiates it from litigation. The people reviewing and weighing the evidence, assessing the parties' conduct and witnesses' credibility, and interpreting the agreements have been involved in the very business in dispute for years, enabling them to make informed judgments. While arbitrators are not permitted to discuss evidence outside the record in deliberations, they may apply their knowledge of industry customs and practices to judge the facts, assess witness credibility and understand contract language.

Typically, most arbitration clauses contained a broadly worded "Honorable Engagements" clause, for example: "The arbitrators shall interpret this Contract as an honorable engagement and not as merely a legal obligation; they are relieved of all judicial formalities and may abstain from following the strict rules of law. " This clause, combined with their non-codified yet recognized authority, provides arbitration panels with broad discretion to apply industry standards and equity, not necessarily strict legal rulings, to resolve all manner of procedural and substantive disputes, to manage the proceedings before them, and ultimately to render a fair and just award based upon the totality of the circumstances.

This discretion is particularly beneficial to parties because it affords panels the ability to mold and streamline the proceedings to the particular facts, issues, and amounts in dispute. For example, to prevent the occasional overly zealous counsel from "over litigating," the dispute, panels may limit the availability and scope of discovery, the number and length of depositions, the amount and necessity of hearing witnesses, and many other procedural aspects of the case, especially since most arbitration clauses do not require the application of Federal or State rules of evidence or procedure. Like judges, arbitrators have authority to issue sanctions, draw adverse inferences and, where necessary, dismiss elements of an offending party's case, to maintain control of the process.

If properly molded and limited to the particular necessities of the given case, the arbitration process is designed to proceed to hearing and award much faster and less expensively than litigation. Following the hearing, most arbitration panels in reinsurance disputes promptly issue "non-reasoned" awards - essentially a few lines stating who won and the amount of damages awarded. The trend in more recent arbitrations and newer arbitration clauses is for parties to

specifically request the issuance of a "reasoned award." Even in that instance, panels usually issue awards much faster than courts, since the acceptable form of reasoned award requires a brief statement of factual findings, followed by the panel's ruling on each contested issue - much less than the typical length and scope of a court opinion.

The benefits of a reasoned award are obvious. First, it provides the parties insight into the panel's reasoning process and rationale for their decisions, particularly important if aspects of the panel's ruling differ from either party's requests. Second, allowing the losing party to understand how and why the panel ruled against them reduces the possibility that the award will be challenged as "arbitrary, capricious or unreasonable." And third, since many parties have business relationships, governed by the very contract(s) involved in the dispute, that continue post arbitration, a reasoned award reveals how the parties should construe the challenged terms and conditions in the future, avoiding repetitive, expensive and wasteful arbitrations over identical issues.

Mediation: The mediation model employs an impartial, trusted facilitator to help parties explore, respect and react to objective, subjective and psychological factors creating conflict between them, helping them to perceive and communicate positions leading to an inexpensive, voluntary resolution of the dispute on their own terms. Though a mediator with reinsurance industry background is preferred, the technical aspects of the specific factual and legal issues in dispute are not the most important elements of the process. In joint meetings and private caucuses, an experienced, professional mediator with no formal power to issue rulings works with the parties, using an informal, confidential process designed to suspend judgment and promote candor, to identify and understand each side's interests and goals underlying the actual dispute. To the trained and experienced mediator, disputes present an opportunity to empower parties to structure a resolution that best meets their respective short and long term needs.

Currently in the US, disputants have been slow to select mediation to resolve reinsurance disputes. But mediation, by its very nature, fits well within the reinsurance model for many reasons. First, contractual reinsurance relationships, whether from active underwriting or run-off business, typically last longer than one underwriting year. Mediators can harness the positive power of this beneficial, continued relationship to facilitate the parties' negotiations. Second, as a facilitated negotiation, mediation is symbiotic with the usual background and experience of reinsurance professionals – industry savvy business people accustomed to arms-length negotiations, but occasionally stuck within their own positions, unable to objectively assess their adversary's views. Finally, since the aggravation, expense and time required to arbitrate or litigate is on the rise, the reinsurance industry is searching for alternatives and beginning to choose mediation, either by contract or ad hoc agreement. Compared to arbitration or litigation, mediation is a **less** aggressive, less costly, less damaging and less divisive alternative.

The reinsurance mediation process offers participants many benefits:

Given the complexity and overlapping nature of reinsurance contractual relationships and resultant business/factual/legal issues, sufficient time and care must be given to pre-mediation preparation. Before the actual mediation session, the parties submit mediation statements containing salient documents and information supporting their positions on specific issues in dispute. Both before and after these are filed, the mediator works with the parties jointly and individually by phone or in person to uncover the underlying interests to be addressed, some of which may transcend the narrow issues briefed in their mediation statements. For example, in the usual ceding company/reinsurer relationship, the cedant and/or its broker may possess documents and information that the reinsurer has requested and/or needs to fully evaluate its current position, requiring the mediation to be "staged" to accommodate such production. Proper pre-mediation planning is critical. If handled correctly, parties, counsel and the mediator arrive at the mediation room better prepared to address their true underlying needs and interests.

Reinsurance professionals are no more immune to psychological negotiation roadblocks than anyone else. In the opening joint session, the mediator first asks parties and counsel to actively listen to, understand and acknowledge their business partner's arguments, even repeating them back to one another, as a sign of their appreciation and respect for such views. This often overlooked but incredibly powerful step builds trust, breaks down barriers and actually makes the other side less defensive and more candid, producing valuable information to use in the mediation process; information which helps define the proper depth and scope of issues the participants must address and resolve.

Especially with reinsurance experts, often negotiators themselves, who well understand the merits of both parties' positions, the real work of an industry savvy mediator occurs in private caucuses. There, the mediator meets separately with and encourages each side to suspend judgment and comfortably and critically evaluate their positions, creatively explore options to resolve their disputes and, with the mediator's help, develop proposals designed to get what they need, not what they want, from a mutually-acceptable settlement. Once the mediator garners the respect and trust of both sides, s/he can deftly help parties develop, discuss and respond to successive financial and non-financial proposals, supported by an articulated rationale, designed to satisfy the offering party's needs and the responding party's interests. The very heart of the process, this unscripted, evolving and changing dynamic requires a perceptive, inventive and focused mediator, patient, calm and committed parties, and an open exchange of ever-broadening proposals that accentuate agreement and eliminate disagreement.

The true value of any mediator reveals itself at negotiation impasse. In reinsurance, internal, corporate and/or financial pressures often impact one party's ability or willingness to settle on negotiated terms, leaving a gap between the last demand and last offer. Maintaining a positive, trusting environment, the mediator should continue moving the parties to propose alternatives

and reframe the problem, remaining focused on re-evaluating barriers between them and brainstorming ways to eliminate them. A mediator who has worked in the reinsurance business can knowledgeably help the parties explore "value-generating" alternatives that lead to acceptable compromises and settlement.

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Mediation—Alchemical Crucible for Transforming Conflict to Resolution

By Simeon H. Baum

Mediation in Context—Negotiation and Dialogue

Day in and day out, we encounter one another, make deals and resolve disputes. Whether it is setting a bedtime with a recalcitrant five-year-old, making dinner plans with a narcissistic couple, setting up a distributorship, breaking a lease, working out credits and offsets in a requirements contract, accounting for changes and delays in a construction job, or the host of issues that might make their way into court if not otherwise resolved—we negotiate. Negotiation is so common, we barely notice it. We are like fish not noticing the water in which we swim. We communicate with others, offering trades where needed, to obtain the cooperation of the other to achieve satisfaction of our needs and interests. Cooperation might come in the form of offering goods, land, information, intellectual property, services, cash, securities, some other form of property, right, permission, or agreement of non-interference or cessation of offending activity,

Sometimes, all that is sought is understanding and acknowledgement. Beyond the trades of negotiation, there are times when, at home or at work, we meet one another in the depth of our humanity, sharing time together in a manner that breaks the mold of social expectations or joint projects, celebrating the wonder of life and mutual existence. Conversely, there are times when we cannot recognize one another, when all we can see is the bundle of needs and obligations that lie upon us. The "other" is an impediment, failing to assist in the achievement of our ends. Or, the other reads us this way, ignoring our humanity. There is a crisis in our relationship, and with it, as said by the Captain of Road Prison 36 to Paul Newman's character in *Cool Hand Luke*: "What we got here is a failure to communicate."

Escalation to Agents and Authorities

When there is a snag in negotiations or in communications, one option is to seek the help of others. We turn to agents to negotiate or intercede on our behalf, including lawyers. We turn to authority figures to help us—such as the boss or HR department in an employment setting or, G-d forbid, a mother-in-law for help at home. And, of course, when we get nowhere, and the problem merits the financial outlay, time, disruption, negative impact on our relationship with the other, and reputational risk, we, or our counsel, turn to the Courts, or to arbitrators, to render a decision that will resolve the dispute and bear with it the force of law.

Mediation Defined by a Developing Profession

Even before reaching the courthouse, there is another time-honored practice: turning to a trusted, neutral third party to help us in our negotiation. In its simplest form, mediation is a negotiation, or dialogue,[1] facilitated by a neutral third party. As early as medieval Japan, one Zen master acted as intermediary bringing about peace between warring lords. Mediation has been used informally in many contexts and many lands. Today, with substantial growth in the U.S. over the last two decades, mediation is used as a dispute resolution process both through court-annexed panels and through private mediation providers. Mediation has increasingly become professionalized. There are associations of mediators,[2] rules of ethics, like the Model Standards of Conduct for Mediators prepared jointly by the AAA, ABA, and SPIDR during the early 1990s and revised in 2005; mediator training programs, like the three-day Commercial Mediation training offered through NYSBA's Dispute Resolution Section last Spring; mediation practice reflection groups; and legislative initiatives, like the effort to enact in New York the Uniform Mediation Act to provide for a mediation privilege adopted by eleven other states.

Mediation, as a confidential, facilitated negotiation, unlike its dispute resolution cousins arbitration and litigation, does not involve a neutral third party's making a determination, award, verdict or judgment that is binding on the parties. Rather than evaluate or tell the parties what to do, the mediator facilitates the parties' own communication and decision making. Mediation is binding only to the same extent that any negotiation is binding: when a deal is struck and memorialized in writing, that becomes a binding agreement. As with the settlement of any matter, the agreement can have bells and whistles—requiring the filing a stipulation of dismissal or discontinuance, papers attendant to a security agreement, including an affidavit of confession of judgment, if appropriate, notes, liens, mortgages, or any other document that the parties and their counsel might require to complete or enforce the agreement transaction.

Evaluation and Facilitation Considered

Mediation has also been distinguished from neutral evaluation. In the latter process, parties, typically with counsel, present a preview to the mediator of what their case might be like at trial. The neutral evaluator, after discussion that can include caucus, gives the parties a preview of the judicial outcome. This is a predictive exercise in which it is best that the evaluator draw on meaningful expertise. The parties can then use that prediction

to clarify the "shadow of the law" under which they are bargaining and, in its light, strike a deal. In former Magistrate Judge Wayne Brazil's model, before sharing the prediction, the evaluator advises the parties that he or she has written it down and offers, before delivering the message, to facilitate their negotiation of a settlement, essentially shifting to the role of mediator. If the parties reach an impasse, at that point, the evaluation can be shared, and the mediation can continue.

During the 1990s there was significant debate in the mediation field on whether it is ever appropriate for a mediator to provide the parties with an evaluation. This debate was prompted by a seminal article by Professor Len Riskin,[3] which presents a "grid" for classifying mediator orientations, types and strategies. Riskin's grid identifies two major spectrums: broad/narrow focus, and evaluative and directive/facilitative approach. A narrowly focused mediator might attend only to the legal question, ignoring, discarding, or directing discussions away from "irrelevant" emotions, values, business considerations, or even broader societal concerns—all of which are recognized as meaningful by those who maintain a broad focus. The other spectrum distinction shows some mediators as being more evaluative and directive—sharing with parties their own views on the merits of a case, or even, where broadly focused, their views on the moral, just, fair, economically sound, or appropriate thing to do and urging the parties to take a particular course of action. Other mediators, Riskin found, tended to refrain from sharing their view or telling the parties what to do. Their function was primarily to facilitate the parties' own reflection and analysis, decision making and communication. Responding to Riskin's article, Professors Kimberly Kovach and Lela Love published a piece calling "evaluative mediation" an oxymoron.[4] Their view was that the mediator's role is to help the parties with their own problem solving, facilitating their own thinking and communication, but not to drive them to the mediator's solution or, especially, to act as a private judge.

Adding Transformation and Understanding to the Mix

This debate was enriched by the transformative mediation and understanding-based mediation schools. The transformatives urge that the mediator's role was not even to be a problem solver or to get a settlement. Rather the mediator's purpose is twofold, fostering empowerment and recognition.[5] Transformative mediators take a micro focus, following the parties with reflective feedback wherever their discussion leads, and, as they proceed, noting opportunities along the way to make choices (empowerment) or for understanding and acknowledging the other. Transformative theory sees disputing parties as feeling embattled, weakened, and even "ugly," and as uncomfortable with the condition of dispute. Disputes are crises in relationship affecting the quality of the parties' communication. The theory is that when parties begin seeing opportunities to make choices, they feel more empowered. As empowerment increases, parties can shift from defensiveness to recognition of the other. The growth of empathy is the "transformation" for which this school bears its name. As this occurs, relationship and communication are enhanced and disputes tend to resolve themselves. This approach has particularly taken hold for use in family, neighbor, and embedded employment disputes—where there are obvious continuing relationships.

The understanding-based model emphasizes that parties are in conflict together and can resolve it together, by a growth in understanding.[6] The most controversial aspect of this approach is Himmelstein's and Friedman's insistence on using joint session only in mediation, eschewing caucus. Caucuses are confidential meetings of fewer than all participants in a mediation. Himmelstein's and Friedman's concern is that caucus takes parties away from jointly resolving their conflict and makes the mediator the bearer of critical information unknown to one or more of the parties. A caucus process might produce a "fix" with a settlement. But it risks being one imposed from without, maintaining the barriers between the parties. It might not resolve their fundamental conflict in the way that occurs with mutual decisionmaking as a result of deepened understanding, which produces a shift in the parties' understanding of their "own" reality. Critics of Himmelstein and Friedman observe that disputing parties might prefer to express certain views independently or to maintain separateness for the sake of reflection and decision making. Moreover, caucus enables the mediator to give feedback in a manner that does not put the recipient of the mediator's comments in an awkward spot. In caucus, mediator and party can metaphorically sit on the same side of the table and wonder together about possible outcomes of a case or possible deal packages—all of this without putting that party on the spot.

The 360-Degree Mediator

Many providers today consider themselves 360 degree[7] mediators, maintaining a broad focus, utilizing facilitative skills, raising opportunities for empowerment and recognition, facilitating the parties' own evaluation, even giving evaluative feedback when appropriate, and utilizing both joint sessions and caucus.

Case and Mediator Selection as Guided by an Understanding of Mediation

Understanding the debate and divergences in mediation theory and practice, and the opportunities available in mediation, enables counsel to make sophisticated choices in designing mediation clauses for contracts, selecting a mediator, determining if and when a matter is appropriate and ripe for mediation, and in effectively rep-

resenting parties in the mediation process. If the matter is an embedded employment dispute, primarily involving an ongoing relationship with significant communication problems and low economic stakes, transformative mediation might be the best way to go. In these circumstances the form of the settlement might matter far less than healing the relationship and improving the parties' communication. The United States Postal Service set up a program to handle Equal Employment Opportunity complaints using transformative mediation.[8] In other matters where ongoing relationship is important and where both parties are willing to invest in the greater time that a joint-session-only approach might take, counsel might opt for the Himmelstein Friedman understanding-based model. In a scenario where a partnership dispute has devolved into a costly accounting proceeding that threatens to kill the goose that lays the golden egg, restructuring of their business relationship might be the most effective path to resolution. Wise counsel might then seek a mediator who will have a broad enough focus to shift from legal to business considerations, put on a "business head," and activate the parties to develop creative options. If two commercial parties—with little emotional investment in the dispute by party representatives and counsel alike, and ample capacity to bear the cost of litigation—have a *bona fide* difference of opinion on how a point of law affects their respective rights, it might make sense to select a mediator with capacity and credibility to facilitate the parties' analysis of this legal point, or, when and if appropriate, add some reliable evaluative feedback.

Disputes are complex social animals. At times parties might believe they are stuck on a point of law when, in fact, it is a point of pride. For this reason, it is often wise to seek a mediator with "360" capacity, who can make insightful assessments on all fronts, work with the participants to design an appropriate process, and adapt as the mediation process and circumstances require. It is not a bad idea for counsel to determine the mediator's background or orientation through talk with others who have used that mediator or an initial, frank discussion with the mediator at time of selection or in the initial pre-mediation conference.

What Mediators Can Do for You

Mediators may play many functions to lubricate the wheels of a negotiation or to fine-tune the channel of dialogue. Whether it is a hard-core commercial dispute or a family or employment relationship matter, parties—and even counsel—might have strong feelings about the matter or their counterparties. Mediators are trained to facilitate difficult discussions and to use "active listening" skills—validating, empathizing, clarifying, summarizing and reflecting back statements by the participants. Good listening engenders satisfaction in the speaker, a sense of being heard, acknowledged and understood. From a utilitarian standpoint, permitting emotional expression enables people to get past feelings of frustration, disappointment, anger and despair and engage constructively in problem solving to get a dispute resolved. From a non-utilitarian standpoint, good listening creates opportunities for realizing meaning and humane regard for one another. Either way, where emotions are drivers in a dispute, mediation is the process of choice—a richer forum for expression than the witness chair under cross-examination, with objections on relevance and materiality, motions to strike, and directions to limit the answer to just the question that was asked.

Mediators can also assist the parties with a joint problem solving, mutual gains approach—the "win/win" popularized by Fisher & Ury's book "Getting to Yes." Also known as integrative bargaining, this approach seeks to expand the pie by identifying the issues, the needs and interests of *all* parties, and then seeking options that will meet as many of those needs and interests as fully as possible, thus resolving the issues in dispute. Options proposed during this process can be judged and supported by identifying or developing standards—principles with which all parties can agree and which take the matter away from a subjective battle. Standards can include fairness, legality, doability, equity, empathy, durability or whatever principle the parties can adopt. Good communication and cooperation enables parties to learn about one another's needs and interests and be effective in brainstorming and generating options, Thus, Fisher and Ury recommend separating the people from the problem, being "soft" on the people and hard (focused and analytic) on the issues. Counsel might seek mediators who are effective in facilitating this problem solving.

Another Fisher and Ury concept is the BATNA, the best alternative to a negotiated agreement. Considering what might happen if a party does not take a proposed deal is a good way to judge whether the deal is worth taking. In the legal context, the litigation alternative can also be analyzed with a focus on risk and transaction cost. Here, effective mediators might gather information in advance of the mediation session, through phone conferences with counsel and review of pre-mediation statements laying out key facts, any critical law, settlement history and proposals, and annexing useful documents. These pre-mediation communications can also address process issues, making sure the right people with full authority attend, and learning about inter-party dynamics to be sure the process is designed to maximize its effectiveness. Thus, finding a mediator who can be adept at gathering the key information, facilitating a good analysis of the case at the mediation, and helping the parties assess risk and transaction costs (fees for lawyers and witnesses and related costs) can be key. At times, where one's own client, or the other party, is having difficulty hearing tough news about litigation prospects from its legal champion, "reality testing" by a mediator might open the client's eyes to legitimate case risks and prompt more realistic settlement discussions.

Benefits and Promise of Mediation

Properly conducted, mediation offers parties a host of benefits. It can dramatically cut the cost of litigation. This confidential process can reduce some litigation side effects, such as reputational damage through the play of the press and media, and the more localized disruption of griping at the water cooler or removing key employees from work to answer discovery demands, undergo witness preparation, and appear to testify or observe in depositions or trial. It provides a forum for much richer communications, and for addressing a host of feelings, issues, principles and concerns that could never directly be considered or respectfully and humanely given their due at trial. It provides opportunities to improve or restore relationships. Moreover, mediation, like negotiation, permits parties to design their own creative solutions, taking into consideration economic and other factors, to arrive at more doable, durable and mutually acceptable resolutions than a judgment that cannot be collected due to evasion or the lack of funds.

"It [mediation] supports compassion, creativity and realism as parties work together to understand each other and their needs, constraints, and context."

Ultimately, mediation, which has at its core the principle of party self-determination, wrests decision making from third parties—judge, jury, arbitrator—and restores it to the parties. Indeed, while lawyers can still play a very significant role in mediation—as process guides, counselors, and even advocates in opening session or later in laying out the litigation risk to the other side—parties do not live or die on competence of counsel, witnesses, or other agents in presenting a case; again, power lies with the parties in the mediation outcome.

Mediation offers a depth of possibility and sensitivity to truth and values consistent with the philosophical resources and developments in our history of ideas. An underlying humanism puts people, not external systems or things, in the driver's seat. With a valuing of people comes recognition of all aspects of the person, not just that which is legally relevant. Yet, to quote Frank Sander and Robert Mnookin, we bargain in the shadow of the law. The mediation sphere is a place where the norms of both justice and harmony can work themselves out in a manner that fits the actual parties and their circumstances. With recognition of the significance of all parties' perceptions, the philosophical advances of phenomenology come into play. The individual, business and circumstantial focus bears with it the influence of pragmatism. Business considerations embrace our theories of economics. Ultimately, by affirming the parties' joint decision making, mediation celebrates our freedom and our interdependence and our relatedness. It supports compassion, creativity and realism as parties work together to understand each another and their needs, constraints, and context. It offers the possibility of holistic solutions. Fundamentally non-coercive and fostering party responsibility, mediation offers participants a chance to be their best selves and to arrive at superior resolutions.

Endnotes

1. As discussed *infra*, proponents of transformative mediation do not see the mediator's role as assisting in problem solving or in settlement of a dispute. Rather, the role is to foster empowerment and recognition. Similarly in Himmelstein and Friedman's model, understanding is the key. Accordingly, for those schools, non-utilitarian "dialogue," as an encounter of persons, might be a better description of the mode of communication that is facilitated by the mediator. A rich description of dialogue is found in the writings of Martin Buber, such as "I and Thou." *See, e.g.*, Martin Buber: The Life of Dialogue by Maurice S. Friedman (The University of Chicago Press, 1955, reprinted 1960 by Harpers, N.Y. as a First Harper Torchbook edition, and available online at: http://www.religion-online.org/showbook.asp?title=459).
2. E.g., The Association for Conflict Resolution (ACR), a merged entity of SPIDR, CreNet and ACR.
3. Riskin, L., *Understanding Mediators' Orientations, Strategies and Techniques: A Grid for the Perplexed*, Harvard Negotiation L. Rev., vol. 1:7, Spring 1996, available online at: http://www.mediate.com/pdf/riskinL2_Cfm.pdf. An earlier version of this piece was published by Riskin, L., *Mediators' Orientations, Strategies and Techniques*, Alternatives to the High Cost of Litigation, at 111, September 1994.
4. Kovach, K. K. and Love, L. P., *"Evaluative" Mediation is an Oxymoron*, CPR Institute for Dispute Resolution, Alternatives, Vol. 1, no. 3, at 31 et seq., March 1996.
5. The transformative mediation manifesto is "The Promise of Mediation: Responding to Conflict Through Empowerment and Recognition," by Bush, R. A. B. and Folger (J. P., Jossey-Bass, Inc. 1994).
6. *See*, Friedman, G. and Himmelstein, J., Challenging Conflict: Mediation Through Understanding (ABA 2008).
7. I first heard this term used by Lori Matles.
8. The USPS program is known as REDRESS (Resolve Employment Disputes Reach Equitable Solutions Swiftly). Instituted over a decade ago when the Postal Service had nearly a million employees, this program significantly reduced costs of administering EEO claims, and produced settlement of the vast majority of claims with a very high user satisfaction rate and enhancement of employee morale.

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