

My Experience in West Springfield on the Day of the Tornado

Ahmed Ajil
Student, Agawam High School
Agawam, MA

I will be speaking about my experience on the day of the June 1 tornado. I was cleaning inside a car that was next to my house when the tornado hit. I watched houses surrounding me get destroyed. The car that I was in was pushed and partially buried with debris from the houses.

PRESENTER'S BIO

Ahmed Ajil is 17 years old and currently a student at Agawam High School, having been forced to move to Agawam from West Springfield after his residence was destroyed by the June 1 tornado. Ahmed was born in Iraq and immigrated to the United States in 2006.

Tropical Storm Irene Data for Coastal and Riverine Areas of Southern New England

Gardner Bent

U.S. Geological Survey, Massachusetts-Rhode Island Water Center
Northborough, Massachusetts

On August 27-28 Hurricane Irene travelled up the east coast of the United States, buffeting the states from South Carolina to Maine with heavy rains, damaging winds, and storm surge. Before, during, and after Irene, the U.S. Geological Survey (USGS) collected data in affected coastal and riverine areas along the east coast of the United States. This presentation will focus primarily on data in Connecticut, Massachusetts, and Rhode Island.

Based on the expected track of Irene, the USGS deployed storm-tide sensors from August 24-28 at 48 locations from Greenwich, CT to Westerly, RI to Harwich, MA. Data from storm-tide sensors and long-term, tidally influenced USGS streamgages showed storm tides ranging from about 1.7 to 4.3 ft above normal. Average storm-tides recorded were 3.3, 2.6, and 2.3 ft above normal high tides in Connecticut, Rhode Island, and Massachusetts, respectively.

Western Massachusetts and Connecticut experienced a period of intense rainfall on August 28, 2011 with totals ranging from 3 to 10 inches. This caused several rivers to peak at record levels, in many cases exceeding the stage-discharge rating curves for USGS streamgages that had been in place for decades. At a few streamgages, the river stages rose from 0.8 to 2.4 ft. in 15 minutes, and at one streamgage the river stage rose almost 20 feet in 3 hours (pre-storm to peak). A total of 9 streamgages in western Massachusetts and one in Connecticut—all with greater than 25 years of record—set new peakflows of record on August 28, 2011. These new peakflows of record ranged from approximately a 2 to <0.2 percent annual exceedance probability (50 to >500-year return interval) event. To document the historic flooding in northwestern Massachusetts, high-water mark elevation data were also collected at

about 313 locations along the rivers in Deerfield and Hoosic River Basins.

PRESENTER'S BIO

Gardner Bent is a hydrologist with the USGS Massachusetts-Rhode Island Water Science Center. He has a B.S. in Geology/Geophysics from Boston College and a M.S. in Watershed Management and M.F. in Forest Management from Utah State University. He has worked at the USGS, since 1989, mainly on surface-water projects. From 2006 to 2010 he oversaw the long-term surface-water, groundwater, and water-quality networks in Massachusetts and Rhode Island. Since 2011 he has been working on USGS-FEMA flood studies.

A Painful Look Back at the Non-Winter of 2011/12 and a More Optimistic Outlook for 2012/13

Joseph D'Aleo
Weatherbell Analytics
New York, New York

Last year the Joes (Joe D'Aleo and Joe Bastardi) and most forecasters expected three legs of cold around the hemisphere again – Asia, Europe and the United States. Well, we got two right. The cold never materialized in the lower 48 states although it was a winter to remember in Alaska. Joe will discuss reasons why.

This year after two La Nina winters it's back to El Nino. Will it be like 2002/03 or 2009/10? Joe will look at what factors argue that it might indeed.

PRESENTER'S BIO

Joe D'Aleo has B.S., M.S. degrees from Wisconsin, did his doctoral studies at NYU (with Harvey Leonard). Joe was a weather producer for the CBS Weather Center in NYC and ABS's Good Morning America. Joe was a college professor at Lyndon State College, the co-founder and first Director of Meteorology at The Weather Channel (when they did weather).

He was chief meteorologist for many years at WSI, at Hudson 7 LLC, a hedge fund and now is co-chief meteorologist at Weatherbell Analytics with Joe Bastardi - now joined by Ryan Maue. Joe is a fellow of the AMS, a CCM and former AMS councilor and chair of the AMS committee on Weather Analysis and Forecasting.

“Snowtober” Overview

Joseph Dellicarpini
National Weather Service
Taunton, Massachusetts

An historic fall snowstorm brought over two feet of snow to the Berkshires and Monadnocks on October 29th and 30th, 2011. Both Plainfield, MA and Jaffrey, NH recorded around 31 inches of snow, considered exceptional in mid winter and unprecedented for October. Much of the Connecticut River Valley and Worcester Hills received 12 to 20 inches of snow while the rest of interior southern New England received at least 4 inches of snow. Along the coast, damaging winds as high as 70 mph were reported on Cape Cod and the Islands and minor to moderate coastal flooding impacted east facing shorelines. The storm also presented a significant danger on the coastal waters where seas built as high as 25 feet.

Low pressure deepened rapidly as it tracked from the North Carolina coast and passed south of Nantucket. Precipitation started as snow early Saturday afternoon across the interior of southern New England, although a brief period of rain at the onset was common across the lower elevations. Rain in eastern Massachusetts and central Rhode Island mixed with and changed to snow Saturday night. A mesoscale band of heavy snow producing snowfall rates of 1 to 3 inches per hour affected northwest Connecticut, the Berkshires, Worcester Hills, and the Monadnocks for about a 12 hour period. The snow tapered off just after midnight in western New England and during the morning of October 30th near the coast.

Forecasts leading up to the storm correctly depicted the location of greatest impact. Forecast snowfall amounts, however, were too conservative. This was due to surface temperatures near freezing resulting in some melting and excessive settling of the snow, the likelihood of the precipitation starting as rain, and an understandable hesitancy of forecasters to predict snowfall that would be such an extreme anomaly from the climate record.

This presentation will describe the evolution of this historic winter storm, including analysis of numerical model data which showed the potential for a significant event several days in advance. Other data sets, including radar and satellite imagery, will be shown in order to illustrate the development of the mesoscale snow band which led to the unprecedented snowfall totals.

PRESENTER'S BIO

Joe DelliCarpini is the Science and Operations Officer at the National Weather Service in Taunton, MA. He is a native of the New York City area and received a Bachelor of Science degree in Meteorology from the State University of New York at Oswego.

His career with the National Weather Service began as a Student Trainee in Boston before going to the Binghamton, NY Weather Forecast Office (WFO) as a Meteorologist Intern. He returned to southern New England in 1996 as a Hydrologic Forecaster at the Northeast River Forecast Center in Taunton, before heading back to the WFO as both a General Forecaster and Senior Forecaster.

One of Joe's interests includes aviation meteorology. He is also involved with several regional and national teams related to aviation forecasting, and assists with training at the NWS Center Weather Service Unit at the Boston Air Route Traffic Control Center in Nashua, NH.

Joe and his wife Kelly have two children, Jessica and Jason. They live in Norwood, MA.

Breakfast with Matt

Matt Doody
National Weather Service
Taunton, MA

PRESENTER'S BIO

Matt Doody is a meteorologist at the National Weather Service Office in Taunton, Massachusetts. He was born and raised in Caribou, Maine. He credits his love for weather to his grandmother, who, at their family camp used to stay up late at night and watch thunderstorms with him.

Matt went to Caribou High School in Caribou, and attended college at the University at Albany in Albany, New York. At the University at Albany, he earned his undergraduate degree in Atmospheric Science and went on to earn his M.S. in Atmospheric Science under Drs. Lance Bosart and Daniel Keyser. His thesis focused on climatology of strong anticyclones globally.

Matt began his career in meteorology when he volunteered as a student intern at both the Albany, New York and Caribou, Maine National Weather Service offices, and started his career with the National Weather Service as a Meteorologist Intern at the office in Caribou. He joined the team in Taunton, Massachusetts in January of 2011. Matt lives in Rhode Island.

Challenges of Storm Surveying: The Massachusetts Tornado of June 1, 2011

Alan E. Dunham
National Weather Service
Taunton, Massachusetts

The most significant tornado to strike Massachusetts in 16 years occurred on June 1, 2011. It traveled 39 miles from Westfield to Charlton, Massachusetts and resulted in 3 fatalities and 72 injuries. This presentation will focus on the difficulties of surveying such a far reaching tornado in an area that rarely sees a storm of this intensity and the tell-tale signs that went into classifying this tornado as an EF3. Considerations of the intensive media and political scrutiny a tornado such as this presents to the storm survey team members, as well as the sensitivity the survey team members must take when dealing with those who have lost everything, will be presented.

PRESENTER'S BIO

Alan E. Dunham began his weather career in the United States Air Force in 1973. Alan spent his first 4 years in the Air Force as an Electronics Technician fixing weather observing equipment. He cross-trained to the weather observer classification and finished his Air Force career as a forecaster stationed at Westover Air Force Base in Chicopee MA. He spent the next year and a half as a civilian forecaster for the Air Force at Pease AFB in Portsmouth, NH.

Alan became a member of the National Weather Service in September of 1986 as a Meteorological Technician at the Portland, ME Forecast Office. From Portland he transferred to the Weather Service Office at Bradley International Airport in Windsor Locks, CT. Alan was assigned to the Boston Forecast Office in 1992 and stayed with the office when it moved to Taunton in 1993, where he was the Data Acquisition Program Manager. Part of Alan's job was to commission the 25 Automated Surface Observation Systems (ASOS) across southern New England.

Over his years in the National Weather Service, Alan has expanded his knowledge of not only surface weather observations, but also his knowledge of conducting storm damage surveys. Alan is often the lead investigator on storm damage surveys conducted in Southern New England.

A VERY SEVERE 2011, A BETTER SPRING 2012

Dr. Greg Forbes
The Weather Channel
Atlanta, Georgia

2011 was a horrific year for tornadoes, floods, heat and drought, and other weather phenomena. It brought three of the deadliest tornadoes in decades and a tornado death toll not seen since 1936. The talk will put the year in a historical perspective and review some of the major events, including several from the Northeast. The talk will also examine winter and spring of 2012, how it differed from 2011, and the severe weather consequences.

PRESENTER'S BIO

Gregory S. Forbes is the Severe Weather Expert for The Weather Channel, Inc., based in Atlanta, GA. Dr. Forbes deals with dangerous thunderstorm weather hazards such as tornadoes, damaging winds, hail, floods, and lightning. He received his PhD at the University of Chicago, where he studied tornadoes and severe thunderstorms under Prof. T. Theodore Fujita-- world-famous for his invention of the F-scale used to rate tornadoes and for his discovery of narrow, intense thunderstorm downdrafts called microbursts.

Forbes joined the faculty in the Department of Meteorology at Penn State University in 1978, where as Assistant and then Associate Professor he taught courses in weather analysis and forecasting, natural disasters, and other topics until joining The Weather Channel, Inc. in June 1999.

Dr. Forbes has had a variety of experiences outside of the classroom, including surveying the damage paths left by about 300 tornadoes and windstorms, among them Hurricane Andrew and Typhoon Paka. He spent three summers performing studies to improve lightning forecasting at the Kennedy Space Center. He has written numerous papers on tornadoes, severe thunderstorms, and other meteorological topics and has co-authored and co-edited two books:

Natural and Technological Disasters and Images in Weather Forecasting-- the latter of which deals with the use of satellite and radar imagery in weather forecasting.

He is a Fellow of the American Meteorological Society; on the International Editorial Board of the International Journal of Meteorology; on the Board of Directors of StruckByLightning.Org.; a member of the Board on Atmospheric Sciences and Climate of the National Research Council.

Planning and Response to Major Natural Disasters

Sylvia Dake, presenter
Douglas Glowacki, author
Emergency Management Program Specialists
CT Dept. of Emergency Services and Public Protection
Hartford, CT

In 2010 Connecticut updated its Emergency Response Plan to be aligned with the tenets of the National Response Framework. Our new State Response Framework (SRF) was aggressively exercised weekly in 2010 – 2011 and this proved invaluable in the late summer and fall of 2011 when Connecticut was impacted by two major natural disasters in less than two months. The SRF provided the blueprint for the State response to these disasters.

Concurrently our state also conducted counts of trees in the right-of-ways of 7 towns that indicated very high Urban/Wildland interface densities. This result was confirmed by the U.S. Forest Service that ranked Connecticut first in the Nation for Urban/Wildland Interface density. The very high urban/wildland interface density was one of the primary contributing factors in the degree of damage inflicted by both Tropical Storm Irene and the October Nor'easter in 2011. This Interface density remains our primary vulnerability to several natural hazards including Hurricanes, Ice Storms, Wildfires, and freak snowstorms that occur when leaves are still on trees. Only two logical solutions are possible to reduce this vulnerability; a very expensive tree trimming / utility hardening program or an impact by a major hurricane. Sooner or later one of these solutions will be implemented by us or by mother nature.

PRESENTER'S BIO

Sylvia Reeves Dake was born in St. Louis, Missouri and grew up in tornado alley. Strong interests in the sciences eventually lead to a Bachelor of Science degree in Atmospheric Sciences from Cornell University – Ithaca, New York - in 1981. She earned a Master of Arts in Liberal Studies degree from North Carolina State University – Raleigh, North Carolina - in 2006. (This unique graduate program allows students to create individualized programs of study around a topic of their choice. Sylvia's multidisciplinary studies focused on three disciplines – Earth Sciences, International Policy and Geospatial Information Systems.)

Sylvia began her professional career as an officer in the United States Air Force. Her first assignment was as an Environmental Analyst at Scott AFB, IL. Sylvia joined the Air Force to serve her country, begin her career in meteorology and see the world. And yes, her first assignment was 30 minutes from her childhood home. There her work was with

atmospheric analysis software that was used during the United Kingdom/Falkland's war and during testing at White Sands Missile Range. Her second assignment was more oriented toward daily operational forecasting for the deactivation of Titan missiles, a KC 135 Tanker Squadron and a variety of other aviation assets at McConnell Air Force Base in Kansas. She transitioned to Air Force Reserve duty and continued to support both National Guard and Reserve units. Sylvia finally got that long dream-of overseas deployment when she was selected to provide weather support to US and Royal Air Force Harrier jet units for a NATO training exercise at RAF Base Wittering, UK.

Following her military career, Sylvia worked for private meteorological firms and opened her own consulting practice. Work for one firm focused on forecasts for radio and television clients in the Mid-West. She also provided customized local and global forecasts for agriculture, utility companies, highway departments, and shipping interests. Other duties included sourcing specialized weather data sets for clients and the evaluation of transmission and display options for weather data and imagery. For one company, Sylvia created and edited "ON THE FRONT," a monthly weather services newsletter. This publication was designed to educate customers and keep them informed about new developments in meteorology and forecasting products. She was also responsible for sales and customer support to high profile US DOT and DOE agencies, commercial aviation clients, airports, and corporate aviation departments.

When Sylvia moved to Connecticut in 2004 with her family, she volunteered as the Emergency Management Coordinator for the town of Andover, Connecticut. In this very small New England town Sylvia recruited and trained their first Community Emergency Response Team (CERT). As an instructor for this program, Sylvia went on to train hundreds of CERT members for other Connecticut communities. Their activations included H1N1 flu clinic support, local shelter operations and commodities distribution as well as public preparedness education. Local emergency planning was the focus of her position with the town but regional integration opportunities were the key to post storm recovery in 2011. Sylvia was a member of several regional planning and working groups dedicated to coordination and collaboration at that level.

To facilitate these efforts, Sylvia's continuing education and professional development has focused on training in the Incident Command System (ICS) and specialized course work in the public health domain, radiological and hazardous materials emergency response support and mass care.

This past June, Sylvia accepted a position with the State of Connecticut's Division of Emergency Management and Homeland Security (DEMHS). Her duties include planning for radiological emergencies with the staff of Millstone Power Station and providing backup for Doug Glowacki. Their detailed weather forecasts for real world events and exercises support the DEMHS staff and help protect the citizens of Connecticut.

Sylvia's hobbies include tennis, downhill skiing, attending her son's high school football and track games (he's the coach), viewing science fiction movies with her daughter when she's home from college and exploring historical sites with her husband. Sylvia and her husband are also training Layla – a sixty pound, seven month old, Blonde Lab and Great Pyrenees mix puppy.

Coastal Flooding From Tropical Storm Irene – From the Perspective of a First Responder

Douglas Jackson
East Haven Fire Chief
East Haven, Connecticut

An event like Tropical Storm Irene presents a challenge for those in the Emergency Management and First Responder Community. The presentation will discuss the plans and actions taken 24 hours prior to the storm's onset, and how many agencies at the federal, state and local levels must work together to prepare. It will also discuss how these plans were implemented once the storm was occurring, and the aftermath. Images during the height of the flooding and the devastation to follow will be a centerpiece of the presentation.

PRESENTER'S BIO

Douglas F. Jackson is the Fire Chief and Emergency Management Director for the Town of East Haven Connecticut. He is the 2012 recipient of the Emergency Manager of the Year Award by the Northeast States Emergency Consortium (NESEC) for CT in regards to his command of first responders after T.S. Irene and efforts for the town and homeowners receiving assistance from the state and FEMA in the months that followed the storm. He has been previously recognized for his leadership of local forces responding to ground zero at the World Trade Center in NY on 9-11, and was chosen by former CT Governor Rell to represent CT at the five year anniversary ceremony held there. Chief Jackson has over 28 years of career service to the EHFD, is a state licensed fire inspector, EMT, and holds an AS in Fire Science.

Surviving the Storm: Readyng a Home for Disaster

Danielle Koziol
Author
Monson, Massachusetts

Monson, Massachusetts author & tornado survivor, Danielle Koziol will be discussing safety measures taken following the June 1, 2011 tornado, which carved a thirty-nine mile path across western & central Massachusetts. Koziol's home took a direct hit during the tornado and shortly after, a second tornado warning was issued for her area on July 26th, 2011. This storm, which caused extensive damage throughout several neighborhoods that were hit by the June tornado, was later classified as a microburst, with wind speeds reaching 100 mph. The severity of weather in 2011 prompted Koziol to take action and create a 'Safety Room' in her home with essential items for survival in lieu of threatening weather, *in particular*, another tornado. Naturally, the only room in Koziol's house that did not sustain damage during the tornado was an ideal location when creating the 'Safety Room' and preparing for potentially severe storms. Koziol purchased a back-up NOAA weather radio, flashlights, a portable mattress and pet crates to ensure her cats would remain in the safest room in her house. Storing several essential items, including medication, cat food and water, as well as blankets and pillows, were a few of the necessary steps needed to prepare for the future.

PRESENTER'S BIO

Author **Danielle Koziol** majored in Psychology at Becker College, Leicester, MA and began working on her first novel at the age of twenty-three. Following the release of her first novel, "Dragonflies In July," she began operating a cat rescue from her home – which was unfortunately destroyed during the tornado. Using photos from her rescue work, she is now working on a picture book entitled, "Life's Tough!," her second novel entitled, "The Black Bay" and documenting her experiences following the tornado in a work of narrative non-fiction entitled, "The Chosen Path." "The Chosen Path" also includes the numerous, weather-related events that occurred in 2011, such as the July 26th microburst, Hurricane Irene and the October Nor'easter, more commonly known as Snowtober.

FOX25 Interview in Monson, MA

Kevin Lemanowicz
Chief Meteorologist, FOX25
Boston/Dedham, MA

One year after the devastating tornado hit Monson, MA we returned to the scene to see how the community was rebuilding. Photographer Aron Willey was one of the first there the day it happened and was able to point out all of the destruction as we drove along. I started out lining up an interview with a gentleman who was rebuilding with solar power. It seemed to give an extra hook to the weather story. However, when I sat down with him and listened to his story, it was clear there was much more to be told. We barely talked about the solar power in the end and our visit to the town was both sobering and uplifting.

PRESENTER'S BIO

Kevin Lemanowicz was the first Chief Meteorologist for FOX25 News at Ten in 1996 and has guided viewers through all the twists and turns of New England weather for two decades.

His love of meteorology likely is a result of being a native New Englander, where he has had the opportunity to see what a powerful impact weather has on the lives of New England residents.

Often, Kevin is seen on-location or producing stories that enhance the weather and science presentation at FOX 25. He is active in the community, especially area schools. His classroom SKYPE discussions are very popular and allow him to reach many classrooms. He also shares his meteorology and science expertise with a variety of groups throughout the region.

Before coming to FOX25, Kevin was Chief Meteorologist at WTIC FOX 61 in Hartford, CT; worked at the New England Weather Service in Hartford; was a staff meteorologist at Fleetweather, Inc.; and began his career as a meteorologist at WVIT-TV in Hartford, CT.

Kevin is a recognized Certified Broadcast Meteorologist by the American Meteorological Society and has been nominated 14 times for an Emmy for New England's Best Meteorologist. He graduated from Cornell University with a Bachelor of Science degree in Meteorology in 1991.

Impacts of the "Snowtober" Storm of 29-30 October 2011: An Airline Operations Perspective

Tom Lloyd
JetBlue Airways Corp.
Long Island City, NY

The winter storm of 29-30 October 2011 created nearly unprecedented impacts to airline operations in the Northeast, causing failures of navigation equipment which effectively shut down the New York City area airports for hours. Dozens of flights diverted to alternate airports throughout the region. In particular, Bradley International Airport near Hartford, CT was overwhelmed by over 25 diverted flights just as the storm entered an extended period of heavy snow and high winds, causing extreme difficulty for the customers and crew members aboard those flights.

This presentation will discuss the challenges associated with winter operations at an airline and examine the 29-30 October event to identify the impacts of observed and forecast weather.

PRESENTER'S BIO

Tom Lloyd is Manager, Meteorology & Route Optimization at JetBlue Airways, working out of JetBlue's corporate headquarters and System Operations Center (SOC) in Long Island City, Queens, NY. Tom's responsibilities include oversight of weather forecast services, policy and procedure at JetBlue, as well as the air traffic control coordination function within JetBlue's SOC.

Tom is active in the weather and air traffic communities, notably as the Industry Lead for the Collaborative Decision Making (CDM) Weather Evaluation Team. He is also a member of the Airlines For America (formerly Air Transport Association) Meteorology Work Group and AMS (American Meteorological Society), and has presented at the last several AMS Aviation & Range Meteorology symposia.

A native of Milwaukee, WI, Tom studied meteorology at St. Cloud State University before obtaining the FAA Aircraft Dispatcher certificate and

embarking on an airline career. Prior to joining JetBlue in 2007, he was the Manager of SOC at Skyway Airlines/Midwest Connect. Tom resides in Fairfield, CT with his wife and 8-year-old son.

Surviving the Storm: Spiritual Healing

Rev. Ian Lynch
First Congregational Church
Brimfield, Massachusetts

Rev. Ian Lynch has been pastor of First Congregational Church, United Church of Christ, Brimfield, MA. That is where he took cover on June 1, 2011. The tornado's path passed less than a mile south of the church leaving this historic building unscathed. Beginning June 2nd, the church has been the center of the community's response. Meals were served, donations were collected, volunteers were organized and emotional and spiritual care was offered. Support has come from both professionals and neighbors. The church steeple, now visible in more locations throughout town has become a beacon of hope and a symbol of a community united in caring.

PRESENTER'S BIO

Rev. Ian Lynch is the pastor of First Congregational Church United Church of Christ, Brimfield, MA. He graduated from Andover Newton Theological School in 2002. Prior to that he spent 15 years in ministry to homeless individuals at the Salem, MA Mission. He is also Fire Chaplain in the Brimfield Fire Department, having sought that appointment directly as a result of his experience during the tornado aftermath.

The Wild Weather of 2011 and Its Impacts on Electricity Delivery Service

Michael McCallan
Director of Emergency Planning, National Grid
Waltham, Massachusetts

The presentation will focus primarily on the impact the different type of weather events have on the transmission and distribution electrical systems, in particular, the 2011 weather events (June 1st tornado, Irene, and the October Snowstorm). In addition, the presentation will provide an opportunity to understand the restoration process during a major weather event and the various stages of emergency response for an energy delivery Company like National Grid.

PRESENTER'S BIO

Michael McCallan is the Director of Emergency Planning at National Grid based in Waltham, Massachusetts. He has nearly 28 years of experience in engineering and operations at National Grid. He was recently named as the Director of Emergency Planning in 2012. Emergency Planning is responsible for facilitating the readiness to respond to operational disruptions. His other responsibilities of Emergency Planning include: Coordination for the development and distribution of the plans that are to be followed during an emergency in order to return to normal operations as quickly as possible, coordination of required training, drills, and exercises, continuous assessment of performance; research and development of new capabilities; and systemic updates to Company Emergency Plans.

National Grid delivers electricity to approximately 3.3 million customers in Massachusetts, New York and Rhode Island. We manage the electricity network on Long Island under an agreement with the Long Island Power Authority (LIPA), and owns over 4,000 megawatts of contracted electricity generation, providing power to over one million LIPA customers. We are the largest distributor of natural gas in northeastern U.S., serving approximately 3.4 million customers in New York, Massachusetts, and Rhode Island.

Experiences in Monson with the June 1st Tornado

Christopher McCray
Monson, MA

June 1, 2011 looked to be just another day tracking severe weather in Western Massachusetts. As we rehearsed that Wednesday morning for Monson High School graduation, scheduled for two days later, the air became oppressively hot and humid. Just a few hours later, something happened that I and most others in this area never would've expected. I watched in shock as a tornado touched down in Springfield, live on local news. As hail larger than I had ever experienced fell here in Monson, I went outside to watch the skies. Soon after, the unmistakable "freight train" roar of a tornado could be heard in the distance. I went into the basement with my family as the power flashed and wind picked up. As we emerged, it was clear that we had missed whatever had passed. Not until a few minutes later did I learn that a tornado had hit only one-half mile to my south.

In my presentation I will be discussing, through photos, video and anecdotes, the events leading up to and the hours and days following the June 1, 2011 tornado in Monson. This includes my experiences assisting in the recovery effort, as well as the state of the town today.

PRESENTER'S BIO

Chris McCray is a second-year atmospheric sciences and mathematics double major at Lyndon State College in Lyndonville, Vermont. With an interest in weather since age eight, he began reporting weather in his hometown of Monson, Massachusetts to area news stations when he was in middle school. In 2005 he started a website covering local weather events and current conditions, MonsonWeather.org. He was at his home in Monson on June 1, only one-half mile from the tornado-ravaged center of town. After Lyndon, he plans to go on to graduate school to eventually work as an operational meteorologist in either government or private industry.

Air Quality Issues that Resulted from Snowtober and Irene

Anne McWilliams
U.S. Environmental Protection Agency Region 1
Boston, Massachusetts

Unhealthy air quality can be one of the unexpected consequences of the recovery from natural events such as Snowtober and Irene. The pollutant of concern after these two events was particle pollution, fine particles from wood burning and coarse particles from windblown dust. See what you can do to lessen your potential impact and protect yourself.

PRESENTER'S BIO

Anne McWilliams has been with the U.S. Environmental Protection Agency for 12 years, specializing in air quality forecasting and air quality planning. She received her B.S. and M.S. in Environmental Science, with an emphasis in Atmospheric Physics, from the University of Massachusetts - Lowell.

The Springfield Tornado – Multimedia Showcase

Matt Noyes
New England Cable News (NECN)
Boston/Newton, MA

The tornado of June 1, 2011, brought the New England media sector an opportunity to utilize multimedia technology to cover real-time, life threatening and volatile weather conditions. In a region that sees some of the nation's worst storms, typically on a time-scale of several hours or days, the mesoscale took center-stage with the most intense example since 1953, showcasing one of New England's most rare natural phenomenon: rapidly changing, life-threatening weather on a temporal scale of minutes. The media platforms and tools employed over recent years - from live radar for broadcast, to email, social media and YouTube videos - converged on the coverage of this one event, engaged to portray comprehensive and all-encompassing reports of real-time developments. This presentation examines some of the multimedia communications of that historic day.

PRESENTER'S BIO

Matt Noyes is the primetime weeknight meteorologist and Executive Producer of Meteorology for New England Cable News (NECN), the nation's largest and most honored 24-hour regional news network, broadcasting to nearly four million households in all six New England states. He began as the weekend meteorologist at NECN in 2002, and served as weekday morning meteorologist from 2004 until 2010.

Matt holds a Bachelor of Science degree in Meteorology from Cornell University, and is a member of both the American Meteorological Society and the National Weather Association. Matt enjoys making the weather interesting and accessible to all, speaking at various weather conferences and keeps the network's weather team on the cutting edge of forecast and presentation technology. Noyes has traveled across the nation serving as a consultant for TV weather graphics, served as sole media representative on a national panel for the Climate Prediction Center and has worked closely with the Northeast River Forecast Center in evaluation of operational forecast products.

In addition to his forecasting experience, Noyes was an instructor of Introductory Meteorology at the college level in Binghamton, NY, and has traveled across New England to bring the science of meteorology into school classrooms, visiting 10,000 school children per year, and receiving a commendation from the Massachusetts State Senate for his educational efforts with children.

Matt's community dedication also earned him the Massachusetts State Police Public Service Award for assisting the organization in preparation for a major hurricane strike to New England, and he provided street level weather forecasting and analysis to the State Police Integrated Command Center during the Democratic National Convention in Boston in 2004. Noyes also conducts private forecasting for aviators, providing forecasts that have led to national victories in races requiring no use of instrumentation during flight, and to private mariners.

Before joining the NECN family, Matt was the Morning Meteorologist at NewsChannel 34 in Binghamton, NY, and a meteorologist at NewsChannel 9 in Syracuse, NY.

SKYWARN Recap Videos of Irene, Snowtober, and the June 1 Tornado

Jim Palmer, KB1KQW
Peabody Access Telecommunications
Peabody, MA

Rob Macedo, KD1CY
EMC Corporation
Franklin, MA

Both Amateur Radio and Non-Amateur Radio SKYWARN Spotters from across the region have provided pictures and videos of many of the significant severe weather events that have impacted the region. Videographer and Amateur Radio Assistant North Shore SKYWARN Coordinator Jim Palmer, with assistance from Amateur Radio Emergency Services SKYWARN Coordinator Rob Macedo, have put together several recap videos to highlight these major storms. This presentation will focus on the Tropical Storm Irene, "Snowtober," and June 1st Western Massachusetts Tornado Outbreak videos, complete with recordings of some of the reports as they were received at the Amateur Radio Station at the National Weather Service Taunton Forecast office, WX1BOX.

Tropical Storm Irene Recap Video

A review of the SKYWARN Activation for Tropical Storm Irene, which affected the region with damaging winds, storm surge, and river/stream/urban flooding from August 27-28, 2011. This includes recordings of reports being delivered to the Amateur Radio Station at the National Hurricane Center, WX4NHC, and their coordinator team.

"Snowtober" Recap Video

Amateur Radio SKYWARN Recap Video from the early season October snowstorm that affected the region from October 29-30, 2011. This includes snowfall and damage pictures that affected much of the region during this major nor'easter.

Western Massachusetts Tornado Outbreak - June 1, 2011

Pictures and video, including from an aerial survey by Amateur Radio SKYWARN Coordinators, from the historic June 1, 2011 tornado that affected areas from Westfield to Charlton along a 39 mile path. A total of 4 tornadoes struck Western Massachusetts on June 1st, 2011.

These videos (along with numerous others) are available at <http://video.nsradio.org/>

PRESENTERS' BIOS

Jim Palmer is a Graduate of the Visual/Media arts program at Emerson College in Boston, MA and has worked in community media for most of his career. He is currently working at Peabody Access Telecommunications as their Production Manager, with his primary roles both guiding local residents to produce their own local programming and assisting with the day-to-day operations of the facility.

Jim has produced several short video reviews for the bi-annual SKYWARN coordinator strategy meetings along with short documentaries on Amateur Radio's involvement with SKYWARN, including a recent project on Amateur Radio's role in the NWS-Taunton SKYWARN program. Both his professional and private work has been recognized by the Alliance for Community Media's various video festivals.

Jim has held an Amateur Radio license under call sign KB1KQW for several years, and is very active in both the SKYWARN and Amateur Radio Emergency Services (ARES) programs, as well as the local North Shore Radio Association. Jim is the Eastern Massachusetts Assistant Section Emergency Coordinator and North Shore ARES-SKYWARN Assistant Coordinator. In his spare time, he enjoys camping, hiking, and still assists with the Boy Scouts of America, where he earned his Eagle Scout award and currently serves as the Advisor of ham radio Venture Crew 47 in Peabody.

Rob Macedo (Amateur Radio Call-Sign: KD1CY) was born and raised in Saratoga Springs, NY and moved to New Bedford, MA for college in 1991, where he went to UMASS-Dartmouth and graduated with an Electrical Engineering degree. He works as an Engineering Manager/Principal Disk Drive Evaluation Engineer at EMC Corporation, where he has been for over 17 years. He manages a global team of engineers working on disk drive and Solid State Drive evaluation in EMC products. Rob has always had a very strong interest in technology, meteorology, emergency management, and emergency communications.

He has been the Amateur Radio Emergency Services (ARES) SKYWARN Coordinator for NWS Taunton for 17 years and became the Eastern Massachusetts ARES Section Emergency Coordinator in 2005. He is also involved with the Voice over Internet Protocol (VoIP) Hurricane Net, where he was named the Director of Operations for the net in January, 2006. In this capacity, he visited the National Hurricane Center several times, the latest of which was in 2012 to meet with the Amateur Radio Coordinator team at the National Hurricane Center in Miami, Florida as part of the 2012 National Hurricane Conference in Orlando Florida. He has been honored as a winner of the NOAA Environmental Heroes Award for outstanding service for NOAA with the NWS Taunton SKYWARN program in 2003. He enjoys working and coordinating emergency communications and has been an Amateur Radio operator since 1988. When he is not at work or doing Amateur Radio emergency communications and weather spotting public service work, Rob enjoys movies, shows, time with family and friends, as well as sporting events.

The Xenia, Ohio Tornado of April 3, 1974 (F5, 34 dead, 1150 injured)

Thomas Plant
Director of Special Projects, Environmental Health Office
Boston Public Health Commission
Boston, MA

April 3, 1974 started out as a great day. I was completing my senior year of college at Central State University in Chemistry. That morning, I got up and headed over to the Banneker Hall, the Science Building for classes. As I came out in the early afternoon, I noticed strange cloud formations (puffy cotton balls shaped with a golden undertone) all over the sky. Things were very quiet, no birds, no crickets, no extraneous noises, etc. I thought that very strange for the campus, but decided to head back over to my Dormitory, Broaddus Hall, which was across campus to the southeast of the Science Building. After studying for a while I wrote a letter to my brother who was attending Wittenberg University in Springfield, Ohio. I was going to head over to the Post Office across campus to mail him the letter. I then turned on the television to see Gilligan's Island and suddenly the WHIO-Channel 7 (Dayton, OH) interrupted the program and said that a tornado had been sighted outside of Cincinnati moving about 50 mph. I didn't think much of it at the time, since we were some distance from Cincinnati.

I heard a great commotion at the front of the dormitory where students had congregated looking out the window. I was the floor proctor and went to see what the fuss was all about. I saw a huge massive black cloud several hundred feet up into the air and over a quarter of a mile wide. Most of the foreign students had never seen a tornado and didn't know what to do. They thought there were birds flying around it but I recognized that the tornado had destroyed buildings and that it was debris circling up and into it. It looked like it was moving slowly as it came directly down U.S. Route 42.

I yelled to the students to get down to the basement floor hallway immediately that was 2 floors down rear stairs. After making sure everyone was off the floor and out of their rooms, the campus was engulfed by the blackness of the tornado. Its winds sounded light a freight train roaring and slamming into the building. I made it to my room and hid in the closet, as I was not able to make it off the floor. I could hear the rage of the tornadic winds (later found to be over 200 mph) and the building shaking. I was screaming for my life but couldn't hear myself due to the winds. Out of the corner of my eye I could also see part of the Science building collapse from the storm. I tried to get out of my room but the vacuum coming down the hall was too strong for me to open the door. Within minutes the tornado had hit and left the campus. I finally was able to get down to the basement where other students were. We stayed there all evening. Someone had a radio and followed the weather reports, since more tornadoes were spawned that evening. *Our whole world stopped at about 4:40 PM on April 3, 1974.*

After coming out and surveying the destruction, it was unbelievable. More than half of the campus buildings had been hit hard by the tornado. There was debris everywhere and people were injured. Trees were impaled in buildings, roof ripped off, cars smashed into horrible twisted metal. There had been a track meet that day in the stadium and, unfortunately, they did not know of the tornado approaching until it was too late. People lost their homes, their lives, and my graduation was seriously in doubt.

The Post Office had been destroyed and the people in it killed. Many people had tried to get into Xenia to get their children, but they ran right into the tornado's path, and many lost their lives in their cars. The highway road was blocked with debris and few were able to get out. We were without water, power. The Dabney Cafeteria at Central State University was able to provide some food. We felt cut off from the world. I went to the Science Bldg., yelled for someone, but it was too dangerous to enter. One person, who had made it to Dayton, had said that the campus had been destroyed. We knew we were alive but no one else knew. Checks from the University were found as far away Cleveland, Ohio. I now realized that had I gone over to the Post Office that day, I would have possibly been killed also. Finally, the National Guard was able to get water to us about a couple of days after the tornado. My older brother, Lucious, came to pick me up. I was devastated when we reached Xenia to see that its downtown and Arrowhead section had been completely obliterated, as if it had been bombed out. I was so very thankful that I lived through the devastation of this tornado, but my life was altered forever that day. I was forever concerned about the weather and became a severe weather watcher.

PRESENTER'S BIO

Thomas Plant was born in Villa Rica, Georgia on his family's farm and was raised in Dayton, Ohio where he attended primary and secondary education. He attended Central State University in Wilberforce, Ohio, where he received his B.S. in Chemistry in 1974. On April 3 of 1974, Mr. Plant was witnessed the destructive power of the Xenia, Ohio Tornado first hand and has been a severe weather watcher since that time. He attended graduate studies at the University of Lowell in synthetic organic chemistry.

Mr. Plant has worked for Hercules the Alleghany Ballistic Laboratory in Rocket Center, WV and Hercules Imperial Pigment Plant in Glens Falls, NY, and as a consultant in synthetic organic chemistry. He has worked as an environmental consultant for seven years with NUS Halliburton Environmental Corporation (now Brown and Root) as a regional quality assurance representative for EPA's Superfund Field Investigation Team (FIT) Program for litigation and cost recovery efforts at uncontrolled waste sites throughout the New England Region. He has worked for 17 years in public health concerning environmental health issues, particularly childhood lead poisoning and regulatory enforcement. Mr. Plant's interests continue to be wide ranging and he currently lives and works in Boston.

In 1991, as Treasurer of the Langham Four Corners Development Corporation, Mr. Plant helped build the Langham Court Affordable Housing Development in the South End of Boston. In 2001, he did a collaborative research project with The Massachusetts Institute of Technology Urban Studies Department, *Mapping the Industrial Archeology of Boston, a GIS project*. In 2005, he received the Henry L. Shattuck Award for Public Service and was honored at the World Trade Center Boston, Massachusetts. In 2010, he received the Public Sector Award from the Lead Action Collaborative for the reduction of childhood lead poisoning in Boston. r. Plant has also served as a Commissioner on the South End Landmarks Commission, Boston Landmark Commission, City of Boston; President of the Roxbury Highlands Historical Society; as a Governor and Secretary of the Shirley-Eustis House Association, Roxbury, Massachusetts; President of the First Church in Roxbury, and as a board member of Discover Roxbury.

Vermont's Greatest Disasters: Comparing Irene with the Great Flood of November 1927

Paul Sisson
National Weather Service
Burlington, Vermont

William E. Minsinger
Blue Hill Observatory
Milton, Massachusetts

Hurricane Irene moved through southwestern New England into southern Vermont on 28 August 2011 and caused \$500 million in damage due mainly to flash flooding. However, the Great Flood of November 1927 is still arguably the worst natural disaster to hit Vermont. These two storms' general weather circulation patterns, tracks, wind, and precipitation are presented along with a comparison to Hurricane Floyd in 1999. Historic photographs from the 1927 storm and Irene are compared, contrasted, giving a general historical perspective of these events. Both storms caused historical amounts of damage related to the extratropical transition of tropical cyclones interacting with surface fronts and the complex geography/topography of Vermont. The risk of repeated episodes of flooding will be also be discussed.

PRESENTERS' BIOS

Paul Sisson has been the Science and Operations Officer at the National Weather Service Office in Burlington, VT since 1993. He is the program manager for training, research, new technology and forecasting techniques. He previously served as Meteorologist In-Charge of the National Weather Service office in Providence, RI and staff meteorologist for Aberdeen Proving Ground, MD. His research interests and publications have focused on improving forecasting of heavy precipitation.

Dr. William Minsinger lives in Randolph Center, VT and is semi-retired from the practice of orthopedic surgery. He has had a long interest in weather with some of his childhood experiences including

seeing debris falling from the sky from the Worcester tornado in 1953 and experiencing Hurricanes Carol and Connie and Diane in his hometown of Milton, MA. He has been the President of Blue Hill Meteorological Observatory in Milton for a number of years and has written several books on historical weather events including the 1938 Hurricane and the 1927 Flood.

Examining Tropical Storm Irene's Hydro-meteorological Impacts on the Northeast United States; A Northeast River Forecast Center Perspective

David R. Vallee
Hydrologist-in-Charge
NOAA/NWS/Northeast River Forecast Center
Taunton, Massachusetts

Tropical cyclones are rather infrequent visitors to the Northeast United States, averaging about one landfall every decade. However, history has shown that in spite of their typical acceleration northward, a land falling tropical cyclone in the region can produce devastating inland flooding. Irene was indeed a classic New England breed of tropical cyclone, leaving in her wake, eight to fifteen inches of rain and tremendous widespread flooding throughout eastern New York, Vermont, northern New Hampshire and the western portions of Connecticut and Massachusetts. This presentation will examine the classic nature of Irene's approach, the significance of the antecedent conditions preceding her arrival, and the devastating flooding she produced throughout much of eastern New York and western New England.

PRESENTER'S BIO

David Vallee is the Hydrologist-in-Charge of the National Weather Service's Northeast River Forecast Center. The center provides detailed water resource forecasting information to National Weather Service Forecast Offices and the hundreds of federal, state and local water resource entities throughout the Northeast and New York. Under David's leadership, the Northeast River Forecast Center is one of four acceleration centers to have transitioned operations to the new Community Hydrologic Prediction System which has revolutionized the center's forecasting and modeling operations. His center has also led a regional initiative to introduce a new short-range

ensemble river forecasting methodology to assist with Decision Support Services.

Prior to becoming the Hydrologist-in-Charge, David served as Science and Operations Officer, and Hurricane Program Leader at the NWS Weather Forecast Office, in Taunton, MA from 2001 through 2006, and as Senior Service Hydrologist from 1993 through 2000. He began his National Weather Service Career as an Intern at T.F. Green State Airport. David has extensive experience leading hydrometeorological forecast and warning operations and directing weather research and training programs. David has conducted research on a variety of topics including flooding, severe weather forecasting and radar detection, and orographically enhanced heavy rainfall in southern New England.

David has served as the NWS lead investigator with the State University of New York, at Albany, on a multi-year project addressing Land Falling Tropical Cyclones in the Northeastern United States. This multi-faceted project was aimed at improving the forecasting of heavy precipitation associated with these land falling tropical cyclones, as well as developing a better understanding the mechanisms which lead to the recurvature and rapid acceleration of tropical cyclones as they approach the Northeast. David is most known locally for his outreach and education work on the behavior of New England Hurricanes, including many appearances on local radio and T.V. networks as well as the Weather Channel, the History Channel and the Discovery Channel.

David is a graduate of Lyndon State College. He is a life long resident of the Rhode Island, living in the northeast part of Cumberland, with his wife **and two sets of twins!** He considers it a tremendous privilege to be serving the people of the very region he calls home.

Poster Presentation:

Field Applications of the Enhanced Fujita Scale during Storm Survey of Long Track Tornado across Southwest and South Central Massachusetts in June 2011

Eleanor Vallier-Talbot and Joseph DelliCarpini
NOAA/National Weather Service, Taunton, MA

At 4:17 PM EDT on Wednesday, June 1, 2011, a tornado touched down in Westfield, Massachusetts. By late that afternoon, this tornado turned into one of the longest lived, strongest tornadoes in Massachusetts history, on the ground a total of 70 minutes and 39 miles.

Observing the veracity of this tornado on National Weather Service (NWS) Doppler radar and near real time videos made available on the Internet, staff at the NWS Forecast office in Taunton, Massachusetts, knew that survey teams would need to be assembled. Seven staff members from the NWS office as well as the Northeast River Forecast Center (NERFC) and NWS Eastern Region Headquarters were gathered to investigate this long track tornado during June 2 and 3, 2011.

In order to determine the strength of this tornado, the relatively new Enhanced Fujita (EF) scale would need to be utilized. This would only be the second time the EF scale, which was implemented by NWS field offices on February 1, 2007, would be used by NWS Taunton staff. There are major changes in using the EF scale in the field, including incorporating many more Damage Indicators (DIs) and Degrees of Damage (DODs). This would mean trying to determine structural integrity and age of buildings that were damaged or destroyed along the tornado's path, all the while working around utility and public works crews that were starting to repair power lines and clear the massive amounts of damage.

This turned into quite an interesting two-day project, including field surveys of the 10 cities and towns hit by this tornado, an aerial survey provided by the Civil Air Patrol, meetings between the two teams to examine the hundreds of photographs of damage, as well as a second visit to two towns along the path in order to reconfirm the first team's EF scale determination. There was intense local and national media coverage by television crews from Boston, Springfield, Hartford, and the Weather Channel, including reports on all three national television networks on the day of the tornado. Many newspapers and radio stations were also looking for interviews. All were clamoring for the final determination of this tornado. Finally, late on Friday, June 3, it was determined that this was an EF3 tornado, with estimated maximum sustained winds of 160 mph and a path width up to one-half mile.

This poster will examine the Enhanced Fujita scale, including a summary of the DIs and DODs now in use, and information on the development of the EF scale. Some of the many photographs will be used, including the DIs and DODs that were used to determine the strength of this tornado. Details about this tornado, along with three other weaker tornadoes that occurred on June 1, will also be included.