Aware

Aware is published by NOAA's National Weather Service to enhance communications between NWS and the Emergency Management Community and other government and Private Sector Partners.

June 2015

Do You Need Summer Hazard Resources?

*By **Mary Fairbanks**, Communications Meteorologist, Silver Spring, MD*

Summer is a time for backyard barbecues, outdoor sports, trips to the beach or pool and camping. It's also a time for severe weather, lightning, wildfires, heat, hurricanes and other hazardous weather. To make sure the public is prepared for summertime weather hazards, NWS Headquarters has launched a Summer Safety website.

The Summer Seasonal Safety Campaign allows NWS to focus outreach efforts on major weather hazards as they occur in your area and to prepare the public for future extreme weather events. The campaigns focus on consistent messaging and easy-to-use hazard information. NWS believes this approach creates a more timely approach to weather preparedness. Each seasonal campaign offers both science and preparedness tips.

The Summer Safety campaign website contains articles on heat awareness and fighting wildfires and social media plans for all the summer hazards. Infographics have been created to address lightning as well as wildfire safety. Plus there are numerous links to more resources. Topics covered include:

- Hurricanes
- Severe Weather/Thunderstorms
- Heat
- Lightning
- Rip Currents and Other Beach Hazards
- Wildfires
- Floods
- Poor Air Quality
- Drought

Help spread the word and keep the public safe! Share the materials on your social media outlets, put the link to the Summer Safety Website in your office headlines, and share with your partners. Visit the NWS Summer Safety page to get ready!

How to Improve Public Response to NWS Forecasts

*By **Rachel Hogan Carr**, et. al., Nurture Nature Center, Easton, PA*

During coastal flood events, NWS issues a comprehensive and timely suite of flood forecast and warning products to communicate risk and motivate public action. Coastal flood forecasts, such as the forecast for Superstorm Sandy, are highly accurate and often offer significant lead time for preparation. Yet residents often do not respond appropriately to protect their lives and property. What barriers prevent effective risk communication and what forecast products does the public value most?

To answer these questions and provide a better understanding of the gap between forecast and public action, Nurture Nature Center in Easton, PA, along with researchers from East Carolina University and RMC Research Corporation conducted a study entitled, "They Had the Facts, Why Didn't They Act?" The study was one of ten funded through NOAA's Coastal Storm Awareness Program and administered by New Jersey Sea Grant Consortium.

To investigate how New Jersey coastal residents interpret and are motivated by NWS coastal flood products, the team assembled five focus groups in Monmouth and Ocean Counties, NJ, during which residents and emergency

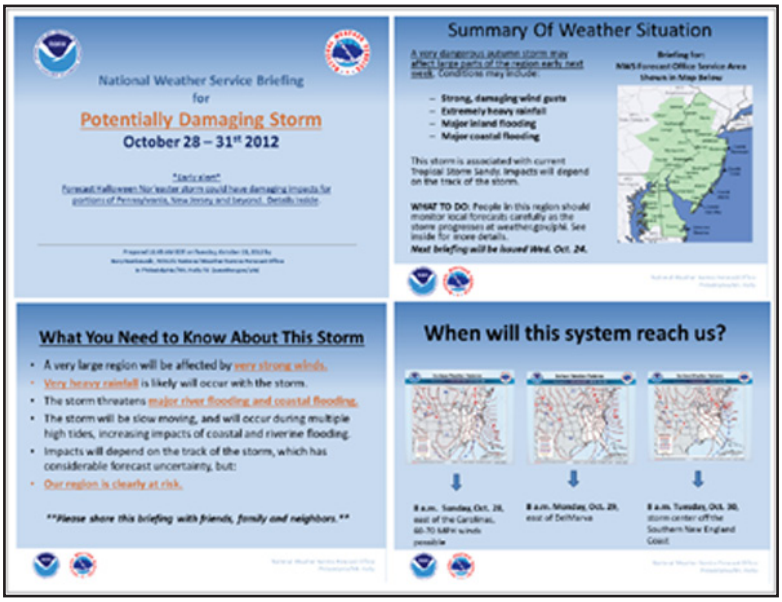
managers (EM) were taken through a scenario covering the 7 days leading up to Hurricane Sandy. The scenario was illustrated through NWS products, with a particular emphasis on emergency briefing packages. The objective was to assess how coastal residents and emergency personnel navigate and translate the NWS products, and whether and how emergency briefing packages could improve public understanding and responses to coastal flooding messages.

The team conducted two rounds of focus groups to test how emergency briefing packages and mocked-up revisions of numerous NWS products to improve understanding of these products:

- Extratropical Surge Forecast
- Surface Prognosis Map
- Precipitation Forecast Map
- Wind Speed/Direction Forecast Map
- Coastal Flood Watches and Warnings

Original versions of the products were shown in Round 1 and revised versions in Round 2. Additionally, the focus groups discussed individual products, actions those product would motivate them to take. Researchers also assessed preferred timing and method of delivery.

Before Sandy, emergency briefing packages were largely used by forecasters and EMs, but this study's findings suggest they would also be valuable to the public, in combination with graphic and explanatory text, to enhance risk communication. While the briefings were well received, some redesign enhanced their effectiveness.



How can NWS improve public response to it's warnings? A new study offers options.

Recommendations include reducing length and jargon, starting with a concise summary, putting action steps next and ending with meteorological details. The focus groups also suggested better use of color and bold text (see figure, right).

Participants stressed the briefing should be written so that if they only read the first page they would take away the critical pieces of information about an event and how to respond. Attendees also said they found a personalized statement, such as the personal plea issued by NWS Mt. Holly, NJ, Meteorologist in Charge Gary Szatkowski during Sandy, highly motivational. There are many other recommendations in the full report. These types of efforts to communicate the impacts of extreme events are an essential part of creating a Weather-Ready Nation.

Easy Ways to Access USGS River and Lake Levels

*By **Gary T. Fisher,** P.E., Hydrologist (Emeritus), USGS, Baltimore, MD*

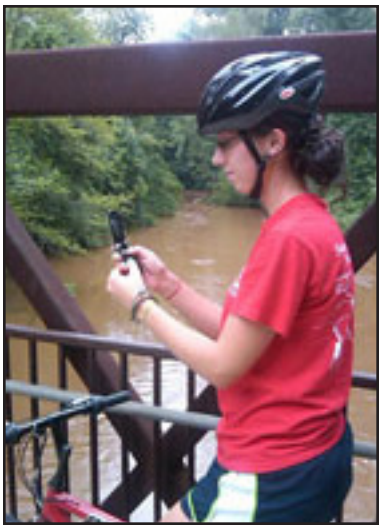
Most of the 3,300 locations for which the NWS provides river forecasts are a subset of the nationwide network of 9,800 real-time streamgaging stations operated by the U.S. Geological Survey (USGS). These stations are operated in cooperation with federal, state, tribal and local partners.

Current and historical data from all of these stations supplement NWS forecasts to make meaningful decisions during emergencies and for daily activities. USGS provides several electronic products to enable easy access to these data, plus relevant data from 300 lakes, 1,550 wells, 1,800 water-quality stations and 2,650 precipitation stations.

- The National Water Information System (waterdata.usgs.gov) is the master portal to USGS water data and includes search and output options. This service provides maps, tables, graphics and web data services to meet user needs. Smart phone and tablet users have the option to use a customized mobile version.

- WaterAlert (water.usgs.gov/wateralert) is a subscription service that will email or text subscribers an alert when real-time data at a station exceeds a user-specified threshold, such as a flood stage or other significant condition in a stream. Users can easily adjust the service to meet individual needs and can include conditions that are greater than, less than or within or outside a range of real-time data values for surface water, groundwater, water quality or precipitation. The service, open to the public as well as professionals, numbers more than 67,000 active subscribers as of June 2015.

- WaterNow (water.usgs.gov/waternow) quickly retrieves current conditions for a single station by sending an email or text message. This service also is useful for tracking conditions following an alert or a forecast. Because it does not require a web browser, WaterNow is particularly useful for tracking conditions from any text-enabled cell phone. For example, sending a text message "01646500 00065" to WaterNow@usgs.gov will return the current water level for the Potomac River near Washington, DC, in less than a minute.



USGS provides several electronic products to enable easy access to its data.

The referenced web pages contain detailed instructions and contact information to use the various services. These and additional USGS water data products and contact links are listed at http://water.usgs.gov/data.

Paramedics Pound the Pavement to Help Seniors Beat the Heat

*By **Jim Kramper**, WCM, NWS St. Louis, MO*

Paramedics walk neighborhoods heavily populated with seniors offering heat safety tips and a bottle of cold water.

The St. Charles County Ambulance District has joined NWS to promote excessive heat safety. Paramedics usually are seen rolling stretchers, but this summer, local resident may spot first responders in St. Charles County rolling something else—coolers stocked with ice-cold bottled water. It's part of a program being launched by St. Charles County Ambulance District (SCCAD) Paramedics in partnership with the local Costco store to keep senior citizens safe on hot summer days.

On select days throughout the summer, paramedics volunteer their time to canvass neighborhoods heavily populated by seniors, knocking on doors to check in and provide heat safety information. Each resident will also receive a bottle of water, which was obtained via a grant from the Costco store in St. Peters, MO.

"Our region is known for its hot, humid summers, and these conditions can be particularly dangerous for older adults. Our goal with these one-on-one interactions is to encourage our community to remember a few key points throughout the summer," said Kyle Gaines, SCCAD Director of Community Relations. Key points paramedics are emphasizing to seniors include:

- Check with your physician to see if any prescriptions taken can cause sensitivity to heat and/or sunlight
- Schedule errands and appointments for early morning to avoid the hottest part of the day
- Make simple changes to your diet to help the body stay hydrated

West Texas Mesonet Improves Forecasts

By Jenn Daniel, Pathways Intern, NWS Lubbock, TX

On June 4, 2015, NWS staff from forecast offices in El Paso, Midland, Amarillo and Lubbock gathered to celebrate the 15th anniversary of the West Texas Mesonet (WTM) at Texas Tech University. The WTM has grown to include 90 stations across West Texas and eastern New Mexico, with stations serving seven NWS county warning areas.

Many of the NWS employees in attendance helped build one or more of the stations and plan to continue that tradition as the WTM works toward its goal of 100 sites.

The WTM provides data that improves forecasts by providing a real time picture of current conditions across the region. The Mesonet is particularly valuable during severe weather events, providing vital wind and rainfall data.

The NWS offices across West Texas are grateful for the hard work and dedication of the Mesonet Team over the past 15 years.

Attendees at the West Texas mesonet event celebrate 15th anniversary of this vital forecast service.

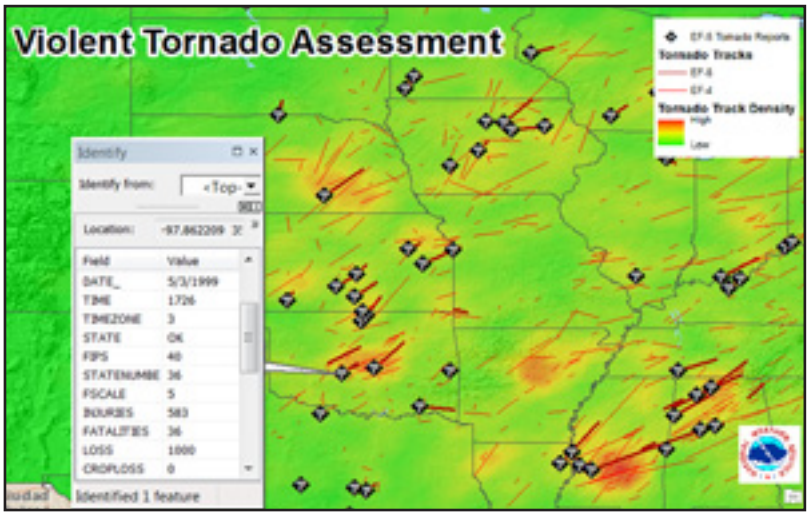
Free GIS Tutorial for Atmospheric Sciences

By Greg Dobson, Research Scientist, UNC Asheville

The University of North Carolina at Asheville and the National Center for Atmospheric Research has recently released a free GIS Tutorial for Atmospheric Sciences. This tutorial is the first of its kind to teach basic GIS skills purely within a weather and climate context.

The course is geared to both NWS and private sector meteorologists, atmospheric science professors who want to introduce their students to GIS (without having to send them to another department), and other climatologists, atmospheric scientists, and emergency managers.

Five exercises cover basic GIS fundamentals. Among the many topics covered by the tutorial are the following exercises:



This free GIS class teaches users how to make maps such as this one.

- Creating snowfall event maps
- Working with severe weather and hurricane data
- Working with climate projections
- Analyzing drought conditions

UNC Asheville and NCAR plans to add 4-5 more segments later this summer to cover more intermediate and advanced topics. You are required to register on the site so we can track who is using it.

Reducing Thunderstorm Risk: Experimental Collaborative Aviation Weather Statement

By Deb Blondin, Meteorologist, Aviation Weather Center, Kansas City, MO

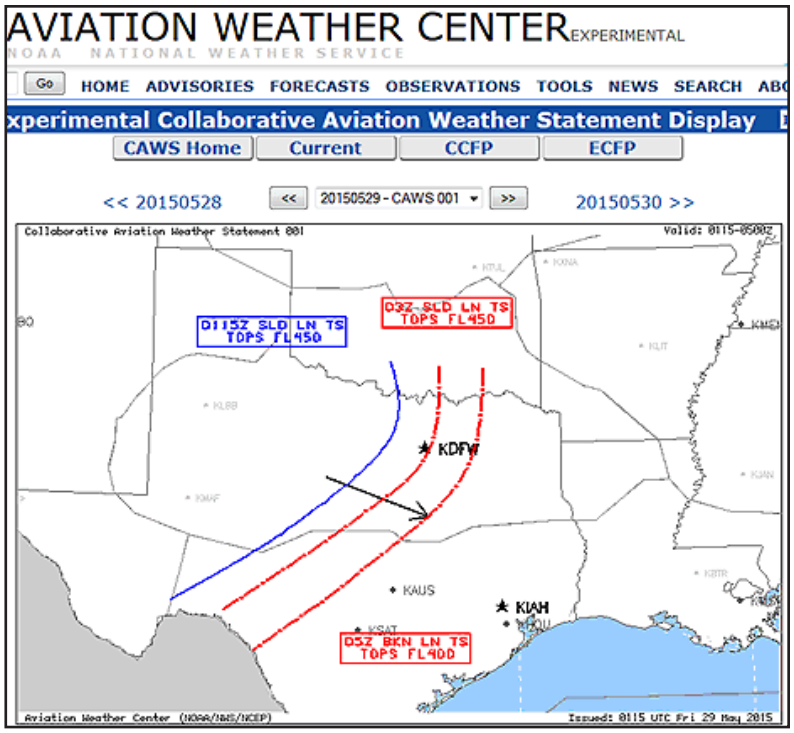
On March 3, 2015, the Aviation Weather Center began testing a new continuous collaborative process called Operational Bridging (OB) as well as the experimental Collaborative Aviation Weather Statement (CAWS).

AWC meteorologists regularly work with other NWS meteorologists at the Center Weather Service Units and at the Federal Aviation Administration (FAA) Command Center as well as airline meteorologists and other airline and FAA personnel. Through NWSChat, these meteorologists continually work to identify thunderstorm-related flight constraints that may impact strategic National Airspace System (NAS) planning.

Operational Bridging captures the collaborative component of the Collaborative Convective Forecast Product (CCFP). The experimental CAWS product delivers specific, high-impact, thunderstorm event forecasts focused on major U.S. airports and high traffic, sensitive regions. For the demonstration, an objectively generated product replaced the CCFP.

The OB/CAWS supports the airlines' ability to remain weather ready and the FAA's ability to more effectively initiate, adjust or terminate planned or active Traffic Management Initiatives (TMI). From this collaborative effort, decision makers are better equipped to balance air traffic demand resulting in more efficient use of available airspace. These new products should reduce fuel costs and expenses associated with flight delays, cancellations, and diversions because the products allow for more timely adjustments to the weather forecast and more efficient TMI support.

During the operational demonstration of OB/CAWS, scheduled for the 2015 convective season, the FAA will refine its requirements. AWC will collect input focusing on usability, effectiveness, and areas of potential improvement for OB and the experimental CAWS.



Collaborative Aviation Weather Statement 001
NWS Aviation Weather Center Kansas City MO
0115 UTC Fri 29 May 2015

Weather: Thunderstorms
Valid: 0115-0500Z

ARTCCs: affected: ZFW, ZHU
Terminals affected: KDFW

SUMMARY: A line of thunderstorms to continue moving across TX through 05z

DISCUSSION: At 0115Z, a solid line of thunderstorms from south central OK into southwest TX will move east-southeast at 30 knots. The KDFW terminal will be impacted between 0230Z and 0330Z before the line moves off to the east and southeast. The line possibly could become broken after 04Z. Echo tops will be in the FL400-450 range.

Auto CCFP looks to have too large/wide of an area of medium coverage and also doesn't show lines.

Aware

NOAA's National Weather Service, Analyze, Forecast and Support Office
Managing Editor: *Melody Magnus,* Editors: ***Donna Franklin, Nancy Lee***
Aware online: www.weather.gov/os/Aware/ ISSN 1936-8178
Subscribe/Unsubscribe www.weather.gov/os/Aware/awarelist.shtml