



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.

August 2013

From the Top

Building on Success

Louis Uccellini, NWS Director



Louis Uccellini,
NWS
Director

Technology often improves at breakneck speeds. To remain at the cutting edge of weather forecasting, Sen. Barbara Mikulski (D-MD), newly-appointed Commerce Secretary Penny Pritzker, Acting NOAA Administrator Kathryn Sullivan and I announced major upgrades to the NWS supercomputers that run our forecast models.

Our newly upgraded supercomputers, "Tide" and "Gyre," can process about 213 trillion teraflops (TF), or calculations, per second, a significant increase from the previous 90 TF maximum.

NWS computing speed has doubled, allowing us to provide more accurate forecasts further out in time. In addition, as the hurricane season ramps up, NWS forecasters are armed with an enhanced hurricane model to improve track and intensity forecasts.

The scientific data and insights these newly upgraded supercomputers will provide are essential to help emergency management (EM),

government officials, communities, and businesses better understand and manage the risks associated with extreme weather and water events.

These improvements are just the beginning. While building on our previous success, they lay the foundation for further computing enhancements and more accurate forecast models.

These upgrades are a game-changer for the NWS and the entire weather and climate enterprise. The upgrades will not only result in better NWS forecasts and models, they will also provide private sector partners with better information to serve their customers.

Through improved physics and a storm-tracking algorithm, the Hurricane Weather Research and Forecasting model (HWRF), for example, displays up to a 15 percent improvement in track and intensity accuracy compared to last year.

The upgraded HWRF can now process real-time data collected from a tropical system inner core by the tail Doppler radar attached to NOAA's P3 Hurricane Hunter aircraft. These data are expected to produce even greater forecast improvements.

Next comes what I've described as the quantum leap. Following this round of long-planned upgrades, funding requested in the FY 2014 President's Budget, in addition to funding provided by Congress as part of the Hurricane Sandy emergency supplemental appropriations bill, would increase computing power even further: to 1,950 TF by summer 2015.

That boost would give us the computer power to run an enhanced version of our primary forecast model, the Global Forecast System.

These investments in supercomputing power for weather prediction represent another step in our efforts to build a Weather-Ready Nation.

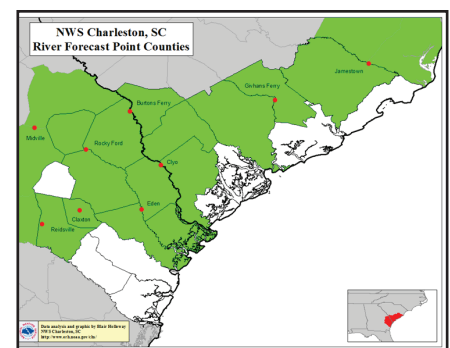
New Services

Reducing Flood Over-Warning with Polygons

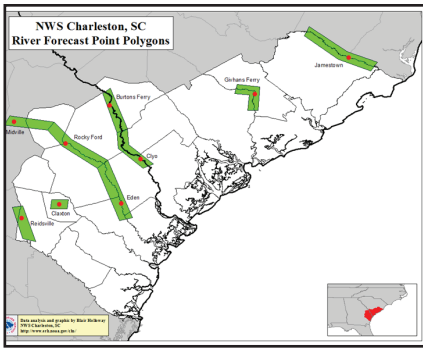
Blair Holloway, General Forecaster,
NWS Charleston, SC

River flood warnings are currently county-based products, alerting an entire county or group of counties, even though only a small area near the river will be impacted.

NWS Charleston, SC, has warning responsibility for nine river forecast points along six rivers in southeast South Carolina and Georgia. If all nine of NWS Charleston's forecast points are under active warnings, NWS Charleston is warning 19 counties, just over 14,000 square miles of area, vastly over warning its area.



NWS Charleston's river forecast points and the counties included under county-based warnings.



New river forecast point polygons

To provide a better, more detailed service, NWS Charleston, SC, is testing polygon-based warnings for river forecast points. Each polygon size and extent is determined by known flooding impacts and river reach analysis provided by the U.S. Geological Survey. The polygons highlight a much more precise area around each forecast point.

In the new polygon configuration, if all nine forecast points are under active warnings, the total warned area is just 1,000 square miles, reducing the warning area by as much as 92 percent. The transition to polygon warnings produces only a minor change to the flood warning text product and requires only minor changes to the format.

NWS Charleston will make the transition seamless by offering a webinar for its EMs and local media. Transition information will be on the web, Facebook, and Twitter.

Proposed Extended Tropical Weather Outlook

John Kuhn, Meteorologist, NWS Marine and Coastal Services Branch

The National Hurricane Center has enhanced the Tropical Weather Outlook (TWO) for the Atlantic and east Pacific basins on an experimental basis. The TWO now offers probabilistic information in 10-percent increments on a system's potential to become a tropical cyclone in

the next 120 hours, rather than the 48 hours currently available.

Help us improve the [Experimental TWO](#) by providing feedback through an [NWS User Survey](#).

Dissemination News

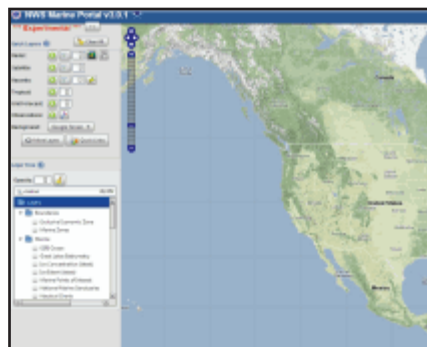
Marine Web Portal Simplifies Access

David Soroka, Meteorologist, NWS Marine and Coastal Services Branch

NWS is testing an [experimental national marine weather web portal](#). The portal displays hazards, forecasts, observations and other useful information for briefing mariners, coastal managers, EMs and first responders on marine weather.

You can configure the web page to display marine weather information pertinent to your local area. Observations are included across both land and sea, and include fixed and moving ship observations. The site also offers overlays such as satellite and radar data.

The portal provides information on tropical systems and access to the National Digital Forecast Database. Other datasets available include tides, sea surface temperatures and analysis, and forecasts of key marine variables such as wind, wind gusts, significant wave height and surface water currents.



New marine weather portal can be customized to meet your needs.

Can't find what you need? The site provides an extensive help menu, including video demonstrations on how to interact with the portal. You can find the web portal under "Items of Interest to Mariners" via the marine home page. The portal is also linked on many local NWS Office websites under the "marine" link.

Please provide feedback by July 31, 2014, on this experimental web page via our [short survey form](#) or the feedback on the portal.

WEA Saves Lives in Connecticut Tornado

Mike Gerber, NWS New and Emerging Technologies Meteorologist

A Wireless Emergency Alert (WEA) activated by a Tornado Warning from the NWS Taunton (Boston), MA office is credited with saving up to 35 lives on July 1, 2013 in East Windsor, CT. The alert was activated by NWS Boston on July 1, 2013 at 1:30 pm.



The Wireless Emergency Alert received on Connecticut cell phones.

Kathy Russotto, a manager at Sports World Complex, and five counselors were supervising 29 children in an inflatable soccer dome when she and another staff member received the WEA on their cell phones. The staff quickly led the children into an adjoining building.

Within a few minutes, the tornado hit the complex, ripped off the dome, and threw it high above Interstate 91. Thanks to the staff's quick reaction to the WEA, there were no injuries.

[A dramatic video on YouTube captures the dome being thrown above Interstate 91. The video contains extreme language.](#)

NWS Updates Fire Weather Program

Donald Dumont, Science and Operations Officer, NWS Elko, NV

What's the best way to quickly get fire weather info to EMs and other partners? NWS Elko, NV, thinks [iNWS](#) and Special Weather Statements (SWS) are the answer, not NOWcasts. That's why the WFO has proposed discontinuing its fire weather NOWcast product.

NOWcasts are not included in the iNWS suite of products, a key format for timely product messages, while the SWS is included.

Did you know that you can only access NOWcast information online or through a dispatch center while iNWS pushes information to your mobile device?

NWS Elko plans to discontinue its public NOWcasts. Switching fire weather NOWcast information to the SWS ensures uninterrupted service of fire weather information.

What does this mean for the fire weather user? Dispatch Centers will not see a service change. As with the old fire weather NOWcast, when NWS Elko issues an SWS, the office will call dispatch centers. Users in the field will receive fast breaking fire weather information via email or online via iNWS with more lead time than in the past.

Decision Support

Large Event Expands NWS Decision Support Reach

Vern Preston, WCM, NWS Pocatello, ID

NWS Pocatello, ID, staff was put to the test this summer developing and implementing a multi-phased decision support program for the



NWS Pocatello Lead Forecaster Dan Valle provides weather briefing support to Scout Camp Safety Team.

4-day, "100-years in Boy Scouts Outdoor Leadership Training and High Adventure Camp." NWS was asked to provide decision support services by Bingham County Emergency Services.

The event, held near Blackfoot, ID, drew more than 10,500 scouts and leaders from Idaho, Wyoming, Montana and Utah.

The Scout gathering was held on 400 acres of farm land with no permanent shelter and became the 18th largest city in Idaho for nearly a week. If severe weather struck, scouts would need to be sheltered in vehicles or evacuated to the nearby city of Blackfoot.

Events included BMX bike trails, zip-lines, rock-wall climbing, geocaching, archery, trap shooting, knife and hatchet throwing, and outdoor survival skills. Evenings featured gatherings at an outdoor amphitheater with live bands, laser shows and fireworks.

NWS Pocatello served on the safety and security committee and provided live daily decision support for the Bingham County Sheriff, EMS staff, and other public safety officials.

Three weeks before the event, Meteorologist in Charge Rick Dittmann and Warning Coordination Meteorologist (WCM) Vernon Preston provided a long-range outlook. Highlights included discussions on preparing for:

- ◆ Thunderstorm safety, particularly lightning risk

- ◆ Potential temperature swings ranging from lows near freezing to highs near 100° F
- ◆ Gusty winds, in general, and specifically as it affects the fireworks show
- ◆ Potential fire starts due to rapidly drying conditions

About 2 weeks before the event, NWS staff did a site inspection, took photos and provided a weather briefing at the planning meeting. As the date drew closer, the biggest impact looming was a heat wave.

Each evening of the event, NWS staff offered a live Go-To-Meeting conference call as well as calls with updates on changing weather. Fortunately, thunderstorms did not impact the site until Saturday, after scouts had departed. NWS kept the extensive cleanup crew advised

This multi-part approach to decision support demonstrated NWS's capability for supporting the emergency management community and enhancing safety for large outdoor events.

Outreach Updates

NWS 2013 Customer Satisfaction Survey

Sal Romano, Meteorologist, NWS Performance Branch

NWS will launch its online 2013 Customer Satisfaction Survey on September 5. The survey's link will be listed on NWS web sites, Facebook, and Twitter. The survey requests your feedback on:

- ◆ Hazardous Weather Services
- ◆ Weather Ready Nation and Decision Support Services
- ◆ Dissemination Services
- ◆ Outreach and Weather Education

The survey includes four optional sections:

- ◆ Climate Services
- ◆ Fire Weather Services
- ◆ Hydrologic Services
- ◆ National Hurricane Center Program

NWS has conducted similar Customer Satisfaction Surveys for the past 3 years. The questions for the core areas are similar to allow us to measure change in satisfaction levels. The optional sections rotate annually between NWS service areas.

We value your input! Please take the time to complete the survey and make your voice heard. Check weather.gov on September 5 for the survey link.

Combining Health and Safety in Hospitals

Steve Wilkinson, WCM, NWS Jackson, MS

NWS Jackson, Memphis, Mobile, and Slidell, which all support Mississippi, collaborated with EMs at the University of Mississippi Medical Center (UMC), and the Mississippi Hospital Association to develop a StormReady® Supporter program designed specifically for hospitals. NWS has recognized four Mississippi hospitals as StormReady Supporters; several more are working with EMs and their local NWS office to achieve recognition.

The program is patterned after the StormReady program, with a focus on hospital preparedness. Hospitals provide critical services for a large number of people who need extensive support.

To gain the supporter status, the hospital was required to demonstrate multiple ways to receive and disseminate warnings within the facility. The hospital also was required to have sheltering plans within its preparedness documenta-



Forrest General Hospital in Hattiesburg, MS, proudly advertised its StormReady Supporter designation on August 1, 2013.

tion, conduct hazardous weather exercises, and have a strong working relationship with local EMs.

There are a few capabilities unique to hospitals that make this program different from other StormReady Supporter programs.

One method of warning reception in hospitals across the state includes a party-line phone that can be used to communicate between the Medcom Unit at UMC and individual hospitals.

The Medcom unit is a 24-hour dispatch center for helicopters traveling across the state to bring critical patients back to UMC. Medcom monitors NWS warnings and reports through the National Warning System (NAWAS), NWSChat, and commercial radar software. Medcom then relays the warnings and ground truth information to hospitals across the state when they are affected.

Ground truth information is critical to hospitals because the decision to move patients from their rooms can be dangerous to their health. Medical professionals don't want to move patients unless absolutely necessary.

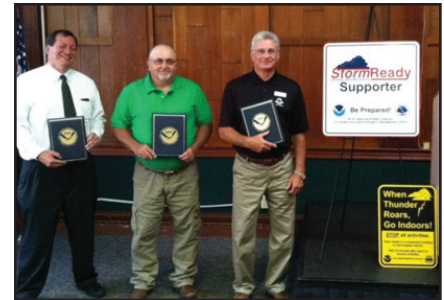
UMC has developed one response criterion for patients when a tornado warning is in effect for their hospital and a second, higher response criterion when a tornado is known to be close to the hospital. As part of the StormReady Supporter process,

hospitals are encouraged to adopt this response philosophy.

Enjoying the Outdoors Safely with StormReady®

Tony Edwards, WCM, NWS Jackson, KY

Severe weather affects all of us from time to time, and those spending time outdoors enjoying natural beauty are especially at risk. NWS Jackson, KY, and the Kentucky State Parks teamed up to strengthen the weather defenses of all state parks in eastern Kentucky.



From left: Visiting east Kentucky state parks is a little safer thanks to Julian Slone, Jenny Wiley State Resort Park Manager (representing Paintsville Lake State Park), Dave Richardson, Carr Creek Lake State Park Manager, and Mike Sullivan, Yatesville Lake State Park Manager.

On June 30, 2013, NWS recognized eastern Kentucky's three state parks—Paintsville Lake, Carr Creek and Yatesville Lake—as StormReady® Supporters. Lake Cumberland State Resort Park was the first state park in the nation to earn the StormReady® Supporter designation in April 2010. Since then, 16 state parks in eastern Kentucky have earned the designation.

The NWS Kentucky's goal is to recognize all 34 state parks with overnight accommodations as StormReady® Supporters by the end of 2013.

To become a StormReady® State Park, NWS and Kentucky State Park officials developed a severe weather safety plan specifically tailored to each park.

NWS educated park personnel about the weather hazards they may face and how to respond in the event of a weather emergency. The parks identified storm shelters and implemented procedures to allow park officials to pass along severe weather alerts and information to park patrons and staff in a timely manner.

For more information about the StormReady® program, please visit www.weather.gov/stormready.

Local Hurricane Guide Maximizes Resources

Robert Bright, Tropical Program Leader, NWS Charleston, SC

To improve tropical outreach in an era of limited budgets the NWS Charleston, SC, area, staff developed a [comprehensive local hurricane guide](#).



NWS Charleston's Local Hurricane Guide 2013

NWS Charleston posted the guide on the office's website and advertised via social media to the public and via email to core partners such as EMs and the media. Charleston County EM Cathy Haynes, stated "I like the guide, very informative." and Pat Prokop, Chief Meteorologist

at WTOC in Savannah, Georgia noted "Wow, that Hurricane Guide 2013 is a total package...very well done."

The guide is intended to help the public better understand the significant tropical cyclone risk that exists across southeast South Carolina and Georgia. Numerous aspects of tropical cyclones were covered, including hurricane preparation/safety, NWS tropical products, how to stay informed during an event, and tropical cyclone basics, including climatology and local history.

Given the recent changes to how the NWS relays storm surge information, there was a description of what storm surge and inundation are as well as worst case scenario maps showing areas that could be inundated during a hurricane. Lastly, examples of several NWS products were provided, such as NHC's wind speed probabilities and WFO Tropical Cyclone Impact Graphics, along with explanations of how each product should be interpreted and used.

Protecting Prisons: Another Part of a Weather-Ready Nation

Todd Krause, WCM, NWS Twin Cities, MN

Federal Correctional Institution (FCI), Waseca, 65 miles south of Minneapolis, MN, is the first correctional institution on a local, state, or federal level to become StormReady®. FCI Waseca houses around 1,075 inmates and employs 200 staff. Waseca, MN is about 65 miles south of Minneapolis.

To earn the StormReady recognition, FCI Waseca developed procedures to obtain severe weather warnings in a number of ways, including a local lightning detection system to secure inmates and staff in a timely manner before severe weather strikes. These actions – and the individual actions taken by those



From left, William Hess, Captain; Bill Borghoff, Senior Forecaster NWS Twin Cities; Todd Krause, Warning Coordination Meteorologist NWS Twin Cities; Julie A. Nicklin, Warden; Larry Gannon, Environmental and Safety Compliance Administrator; Dennis Dinneen, Waseca County Emergency Manager; and Russell Heisner, Associate Warden.

in the institution— are part of NWS's vision of building a Weather-Ready Nation.

StormReady® is a nationwide community preparedness program that uses a grassroots approach to help communities develop plans to handle local severe weather and flooding threats. The program is voluntary and provides communities with clear-cut advice from the local NWS forecast office and state and local emergency managers. The program began in 1999, with seven communities in the Tulsa, Oklahoma area. Today, there are over 2,000 StormReady® sites.

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