Aware

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September 2013

From the Top

Always Prepared: How to Keep 36,000 Scouts Safe

Louis Uccellini, NWS Director

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As part of the Weather-Ready Roadmap 2.0 released this year, NWS is transforming to an Impact-Based Decision Support Services culture. This culture enables us to accomplish our strategic goal of improving weather decision services for events that threaten lives and livelihoods.

This past July, at the request of the West Virginia Director of Homeland Security and the West Virginia National Guard, NWS staff provided critical decision support for the 2013 National Boy Scout Jamboree held at the Summit Bechtel Family National Scout Reserve in Glen Jean, WV. The reserve is on a 10,600 acre plot of land near the New River Gorge, with minimal permanent shelter.

More than 36,000 scouts and staff were planning to stay onsite for the 10-day event, and an additional 16,000 day visitors were expected at the event for shorter periods. NWS responded to a critical need for key information related to forecasts and possible breaking weather.

NWS staff created specialized alerts for lightning and winds, presented via the NWSChat room along with local forecasts and observations, and a local one-stop shop webpage for Jamboree weather information.

To improve onsite support for the 10-day event, NWS Slidell, LA, sent the NWS Significant Weather Emergency Response Vehicle (SWERV). In addition to staffing the SWERV onsite from 6 a.m. to 10 p.m., NWS Charleston, WV, staffed a decision support desk for the Jamboree. NWS Charleston issued forecasts and products, while onsite meteorologists interpreted the information and presented routine and impromptu briefings.

Coordination became critical on the Saturday of the Jamboree when organizers expected more than 100,000 people for the big concert featuring high profile artists. Saturday also promised to be the most active weather day of the event. Excessive heat was a concern as well as the threat of thunderstorms and flash flooding.

Several days before the event, NWS emergency response specialists highlighted the potentially dangerous weather, especially the chance of lightning occurring during the concert. NWS meteorologists forecast within 15 minutes the time of the arrival of the storms. Based on this information, on the day before the concert, organizers moved the start time for the show from 7 p.m. to 4 p.m. to avoid impact of the severe weather on scouts, visitors and performers."

West Virginia Sen. Manchin is briefed by NWS Emergency Response Specialist Julia Ruthford.

At 6:45 p.m., lightning struck the scout camp. By then, the 60,000 scouts were back to their base camps and the 40,000 visitors were on buses back to their vehicles. No injuries were reported.

When an emergency operations center is spun-up for a large venue event with complex public safety concerns, NWS will provide expert assistance for critical risk management decisions that need to be made.

Our emergency response specialists will continue to be among the most visible NWS representatives. Together with our emergency management (EM) partners, we will continue building a Weather-Ready Nation.

Hackathon Integrates Emergency Alerts

NWS News Staff, Silver Spring, MD

On August 13, AddThis, a social infrastructure and analytics platform that helps companies weave a more personal, social web presence, added an Emergency Warning

AddThis CEO Ramsey McGrory helps inspire staff gathered for the hackathon kickoff. Photo courtesy of AddThis.

Layer as an opt-in feature for its new Smart Layers technology. The Warning Layer currently displays Amber Alerts, but will soon display critical NWS warnings.

ValueClick, an online marketing company, feeds the alerts to AddThis. As a public service, ValueClick geotargets Amber Alerts and tornado warnings banner ads to the general public through millions of web pages, using its online marketing technology. These messages automatically replace banner ads with details about local emergencies.

AddThis provides simple language about the Emergency Warning Layer on its website, with example banner ads and a tab providing instructions on how to add the code onto websites that use the AddThis technology.

AddThis developed the Emergency Warning Layer during a 24-hour hackathon on August 8. NWS Emerging Dissemination Technologies Meteorologist Mike Gerber kicked off the event. Gerber stressed the importance of integrating NWS warning information into consumer applications to better save lives, protect property and enhance the national economy.

"There were scores of people in the room who literally dropped everything for one day to develop the capability and ensure it was working by the following morning," said Gerber.

ValueClick is one of many companies now leveraging NWS alerts in Common Alerting Protocol (CAP) format, an XML-based industry standard for the exchange of emergency alert information.

"CAP has really leveled the playing field when it comes to integrating NWS warning information into consumer applications because CAP reduces the work required by programmers to parse and repackage NWS alerts," said Gerber.

Through technology innovation and integration of NWS warning information into its online marketing tools, AddThis and ValueClick are demonstrating how commercial partners are finding new and creative ways to help the NWS save lives and build a Weather-Ready Nation.

AddThis technology has already been integrated into millions of websites, including www.weather.gov, and is recognizable by the "plus sign/Share" icon. The NWS integrated the AddThis widget in its website so visitors can share a link to NWS forecasts and warnings over many different social media platforms with the click of a button.

Webinar Shows CAP-Based Alert Origination Tools for EMs

Matthew Straeb, Global Security Systems/ALERT FM

Several companies demonstrated their FEMA Integrated Public Alert and Warning System (IPAWS) alert origination tools during a recent FEMA webinar. The webinar, primarily for EMs and other IPAWS stakeholders, offered insights into the IPAWS system, its purpose, use and capabilities. The webinar also offered strategies and tools to more effectively use IPAWS in conjunction with existing emergency notification solutions.

One of the tools, Alert Studio by Global Security Systems/ALERT FM, provides IPAWS access to authorized Collaborative Operating Groups (COG) to send or receive federal messages such as the Presidential Alerts, Imminent Danger Alerts and Wireless Emergency Alerts, and Non-Weather Emergency Alerts and to broadcast those alerts across local, county or state emergency notification contact systems to the public.

FEMA's website lists authorized altering authorities. This interface is one of several CAP options to be shown during a series of webinars. You can download the webinars you miss from the FEMA IPAWS website. You can also view the webinar online.

In 2011, many of these tools were successfully tested at the National Incident Management Test and Evaluation Laboratory through the FEMA P-TAC Center in support of the Supporting Technology Evaluation Project (STEP). The list of IPAWS FEMA developers is online.

New Services

NWS Testing Rip Current Forecast Model

Wayne Presnell, Meteorologist, NWS Marine and Coastal Services Branch

Rip currents are the leading cause of fatalities and rescues in the U.S. surf zone. The U.S. Lifesaving Association (USLA) estimates nearly 100 U.S. fatalities per year are due to rip currents, and about 80 percent of rescues in the surf zone are related to rip currents.

Recent advances in near-shore wave monitoring and modeling have enabled NWS to help develop a probabilistic rip current forecast model. The model predicts the likelihood of a hazardous rip current occurring given wave and water level information.

Dr. Gregory Dusek, an oceanographer working for the National Ocean Service, created the model as part of his doctoral dissertation at the University of North Carolina at Chapel Hill. WFO Morehead, NC,

is testing the model on the popular beaches along the North Carolina Outer Banks, including Emerald Isle and Kill Devil Hills.

The forecast model uses wave and tide observations with inputs from the NWS Nearshore Wave Prediction System (NWPS). The NWPS is a real-time wave and current prediction system NWS coastal offices use across the country. The rip current model uses information from the NWPS to forecast the percent likelihood of hazardous rip currents at a particular beach area, with a resolution of approximately 1 km. Output of the rip current model is used by NWS forecasters to help improve rip current forecasting.

WFO Morehead City is working with lifeguards at Emerald Isle and Kill Devil Hills to obtain their observations of rip current intensity and frequency. NWS is collecting the lifeguards' observations concurrently with the model output to help determine the accuracy of the model. Preliminary evaluations indicate the model outperforms the present index-based methods typically used by the NWS.

NWS plans to test the model at additional beaches on the North Carolina coast and at other beaches during the 2014 beach season. NWS hopes improved rip current forecasts will reduce the number of rip current related rescues and fatalities.

Outreach Updates

Marking Mega-Thrust Earthquake and Tsunami

Rocky Lopes, Mitigation Specialist, NWS Tsunami Program

The 50th anniversary of the Great Alaskan mega-thrust earthquake will be marked in 2014 by the biggest-ever Tsunami Preparedness Week.

NWS Alaska Region Headquarters, NWS offices in Alaska and the West Coast, the Alaska Division of Homeland Security and Emergency Management, and participants from the National Tsunami Hazard Mitigation Program (NTHMP) are collaborating to make Tsunami Preparedness Week 2014 a robust recognition and outreach effort, with plans to have the week formally recognized by a Presidential Proclamation.

Tsunami Damage in Anchorage, AK. Courtesy of Univ. Corp. for Atmospheric Research.

The week will promote safety and tsunami awareness through activities conducted by internal and external partners.

The Great Alaskan mega-thrust earthquake was a magnitude 9.2 quake that struck on March 27, 1964. The shock generated a tsunami that devastated towns along the Gulf of Alaska, and left damage in Canada, along the West Coast of the United States and in Hawaii.

The quake and ensuing tsunami resulted in about $311 million in property losses and caused about 128 deaths, with the majority, about 113, attributed to the tsunami. Effects of the tsunami were felt as far away as Louisiana, where a number of fishing boats sank and in South Africa, where oscillations in the height of well water were reported.

NWS formed a collaborative working group to plan for Tsunami Preparedness Week 2014. If you wish to participate or want to get updates as the planning progresses, please contact Rocky Lopes, NWS Tsunami Program, at Rocky.Lopes@noaa.gov.

For more information about the 1964 earthquake and tsunami visit the links below:

- U.S. Geologic Service Historic Earthquakes
- Alaska Earthquake Information Center

How Much of a Threat Are Caribbean Tsunamis?

Christa G. von Hillebrandt-Andrade, Manager. U.S. NWS Caribbean Tsunami Warning Program

In the past 500 years, more than 75 tsunamis have been documented in the Caribbean and adjacent regions. Since 1842, these deadly waves have claimed 3,446 lives. The tsunami generated by the 2010 Haiti earthquake claimed several lives, but the 1946 tsunamis of the Dominican Republic, claimed at least 1,800 victims. Since then, the Caribbean coastlines have experienced an explosive increase in residents, visitors, infrastructure and economic activity, increasing the potential for human and economic loss.

On any day, more than 500,000 people could be at risk along the beaches, with hundreds of thousands more working and living in the tsunami hazard zones.

In the Caribbean, most tsunami events happen fast: the waves can reach the shores within minutes of an earthquake, volcanic eruption or submarine landslide. Addressing this threat requires an effective monitoring and warning system, and a public that is acutely aware of the signs of an impending tsunami.

Since the mid-1990s, the United Nations Intergovernmental Oceanographic Commission has advocated developing a Caribbean tsunami warning system. In the wake of the 2004 Indian Ocean tsunami, the commission established an intergovernmental coordination group to develop a tsunami and other coastal hazards warning system

for the Caribbean and adjacent regions (CARIBE EWS). The CARIBE EWS includes 32 member states and 16 territories and commonwealths (see the figure), including Puerto Rico and the US Virgin Islands.

To date, the island of Anguilla is fully TsunamiReady and Puerto Rico has recognized 35 communities as TsunamiReady.

Lego Robots Help Youth Prepare for Nature's Fury

Steve Storck, NOAA Office of Education

FIRST® LEGO® League (FLL®), an international robotics and engineering youth program, takes on the challenge of natural disaster preparedness, response and restoration.

The 2013 theme for FLL competition is Nature's Fury℠. FLL challenges teams of 9-16 year olds to develop autonomous LEGO® Mindstorm® robots that can solve challenges related to natural disasters. Teams operate robots in a timed competition. The teams also present an original research project that demonstrates an innovative solution to a natural disaster.

Teams are researching such topics as avalanches, hurricanes, tornadoes, severe storms, tsunamis, wildfires, earthquakes and volcanic eruptions. *FIRST*® Founder Dean Kamen comments: "Coming up with their own ideas to prepare for, stay safe during, and rebuild after natural disasters empowers kids to make a difference and to feel ready if they learn about or face a natural disaster in the future."

FEMA, NWS and the American Red Cross among other groups serve as advisors for the Nature's Fury challenge. The FLL team missions include having robots position an evacuation sign, clear an airplane's runway of debris, rescue disaster victims and their pets, and deliver emergency supplies. The cornerstones of the experience are the FLL Core Values, which emphasize

Kids and mentors learn about robotics and natural disaster preparation at the National Severe Storms Lab FLL Nature's Fury kickoff event.

contributions of others, friendly competition, learning and community involvement.

Many teams are contacting NWS offices for information on natural disasters, historical events, technology used and the warning process. Already teams are exploring ideas for new forecast sensors, wearable devices to improve survival, new construction techniques, and alternative community warning systems.

This year's challenge has garnered the largest participation since the FLL program started in 1998: more than 230,000 youth forming over 12,000 teams from 80 countries. This event is a strong outreach opportunity to improve disaster preparedness for communities and future generations. For more information, visit the FLL Website.

Whooo Says We Can't Make Safety Fun?

Katie Collins Garrett, Outreach Meteorologist, NWS Hydrologic Services

Educating the public about weather safety is an important part of what we do and a major component of building a Weather-Ready Nation. Over the past year, NWS's Owlie Skywarn character has been getting increased attention through public appearances at events across the U.S. and also through the Young Meteorologist Program safety game.

As part of National Preparedness Month in September, the NWS Headquarters Outreach Team launched the Owlie Skywarn Facebook and Twitter pages on September 3. The new outreach sites offer safety messaging as well as educational posts featuring weather facts and fun activities.

The target audience for the Facebook and Twitter sites is students from pre-school through high school. NWS hopes to reach younger students via teachers, parents, and siblings. The Outreach Team also wants to engage broad-

Owlie Skywarn reaches out to kids for lifelong safety.

casters, EMs and other NWS partners with these posts.

The Owlie Skywarn Team will also focus on safety for major weather events as they are forecast to occur and will share posts from local WFOs, National Centers and NWS partners focusing on weather safety. If you have a particular safety post that you would like to see posted, contact the team at Owlie.skywarn@noaa.gov.

Please share and retweet these posts from your professional and personal accounts. We really appreciate your help spreading the word about Owlie's social media presence.

- Facebook: https://www.facebook.com/Owlie.Skywarn.NWS
- Twitter: https://twitter.com/OwlieSkywarnNWS You can also tag Owlie in a post using @OwlieSkywarnNWS

Insurance Council Helps Preparedness Tour

Barry Goldsmith, WCM, WFO Brownsville
John Metz, WCM, WFO Corpus Christi

From August 26-30, 2013, the Insurance Council of Texas and NWS offices on the Texas coast joined together for the 8th annual hurricane preparedness week. The tour and its theme—*Hurricanes Mess with Texas*—reached about 1 million Texas coastal residents.

The preparedness week message included reminders for residents to have or refresh an evacuation plan, create or update an inventory of property, and ensure those at most risk have three types of insurance:

NWS Forecaster Maria Torres offers a Spanish interview on the hurricane preparedness tour.

- Homeowner's policy to protect from fire and burglary
- Windstorm policy to cover damage from wind and hail
- Flood policy to cover damage from inundation

NWS staff reminded residents despite the slow start to the hurricane season, plenty of time remains for the next Ike (2008), Carla (1961) or Beulah (1967) to ravage Texas in September or later.

WCMs and bilingual forecasters from NWS Brownsville and Corpus Christi conducted 31 English and 6 Spanish radio, television and newspaper interviews across the Corpus Christi and Rio Grande Valley.

Survey Finds Better Ways to Serve EMs

Bill Parker, WCM, NWS Shreveport, LA

NWS is going through a transformation in the way it serves our nation. NWS partners, such as EMs, are calling for Impact-Based Decision Support Services. To better understand and meet the needs of this growing demand from EMs, WCM Bill Parker invited Casey Randolph, an Emergency Management Student at Jackson State University, to intern in his office this summer as a project for her Jackson State University summer internship course.

Casey's summer experience began with a rare chance to see and understand how the NWS performs storm damage surveys. She traveled with Bill to survey a May tornado event. Bill's plan for her summer nternship was to have her experience Emergency Management at the local, state and federal levels.

Casey was able to spend a day shadowing one of Shreveport's closest EM partners, Mary Beth Rudel, Homeland Security Manager of the Ark-Tex Council of Governments. During this visit, Casey got an inside view of what goes on in the EM world, as Mary Beth dealt with issues relating to weather and other natural and man-made hazards.

Casey's summer university research included a survey on how well the Shreveport WFO meets the IDSS needs of the ArkLaTex EMs. As a new WCM, Bill was particularly interested in the results of Casey's research because he wanted to better understand how he could improve on the service NWS Shreveport already provides its EM partners.

Below is one of the questions the Shreveport staff found to be particularly interesting.

NWS Intern Casey Randolph shadows Mary Beth Rudel, EM Homeland Security Manager, Ark-Tex Council of Governments.

"If given an opportunity, would you take advantage of a 1-2 day shadowing experience at the National Weather Service in Shreveport to enhance your knowledge and weather coordination skills." The response: 84% said yes.

Casey presented the findings of her survey to the NWS Shreveport staff and members of Southern Region Headquarters and received positive feedback on her research. Steven Cooper, Acting Regional Director for the Southern Region, also sat in on the survey presentation.

He encouraged Bill to continue building on the relationship and partnership the NWS has with Jackson State University, and to seek more opportunities to bring other students in Science Technology Engineering and Math fields to NWS for similar summer experiences.

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