Aware

August 2017

NWS Uses Twitter to Help Prevent Child Heat Deaths

*By **Jody James**, WCM, NWS Lubbock, TX*

Every death of a child in a hot car can be prevented… every single one. In the United States in 2016, 39 children under the age of 5 died of heatstroke when they were left in a hot car. As of August 21, 2017, 33 babies and toddlers have been lost, with 7 of those in Texas.

In response, Texas NWS offices joined forces to spread the word: always "Look Before You Lock." The majority of these tragedies are unintentional. Many occur because a parent or caretaker was exhausted or distracted and forgot to take the child into daycare or the home, or they happen when the child wanders into an unlocked car at home and falls asleep or can't open the car door. NWS encourages caretakers to leave their purse, briefcase or other essential items in the back seat as an extra cue.

Infographic quickly conveys the danger of leaving a child or pet locked in a car even for a few minutes.

Through the use of a statewide TweetBlast from July 31 to August 5, NWS Texas offices reminded the public to "Look Before You Lock" and encouraged followers to retweet the information to further spread the message.

NWS developed targeted creative tweets and eye-catching graphics for social media platforms as part of this campaign. These messages were blasted out to the public, stakeholders, and the media for 6 days, during which typically hot July and August weather was forecast in the central and southern sections of the state.

The newly formed NWS Southern Region Spanish language team played a pivotal role in expanding the program by translating all graphics and tweets into Spanish, reaching another large audience in Texas and beyond. Some sample tweets included:

◆ By the numbers: "The numbers keep climbing and they're sobering. See a child in a hot car, call 911. Please retweet #lookbeforeyoulock #txwx"
◆ Car Seat: "It's the most important delivery/pick up you'll make...ever. Please retweet #lookbeforeyoulock #txwx"
◆ Morning Distraction: "Mornings are busy, new routines can be hectic. Keep them from becoming tragic. Please retweet #lookbeforeyoulock #txwx"

Onsite Decision Support Saves a Dam and the Communities Below

*By **Vern Preston**, WCM, NWS Pocatello, ID*

Many parts of southeast Idaho were hit hard with both sleet and early season river flooding during the spring of 2017. Residents along the Big Lost River witnessed near catastrophic flooding nearly became a reality. In fact, record high-elevation snowpack contained enough liquid-equivalent to completely fill MacKay Reservoir, an incredible

nine times over, just upriver from Mackay! NWS Pocatello staff took a proactive approach to help elected officials, emergency managers (EM) and dam operators try to reduce the threat.

Acting Service Hydrologist Travis Wyatt and Meteorologist Kevin Smith conducted an extensive flood survey along the Big Lost River, checking river levels to estimate when flooding would start. The team also mapped which roads, homes and businesses could potentially be impacted.
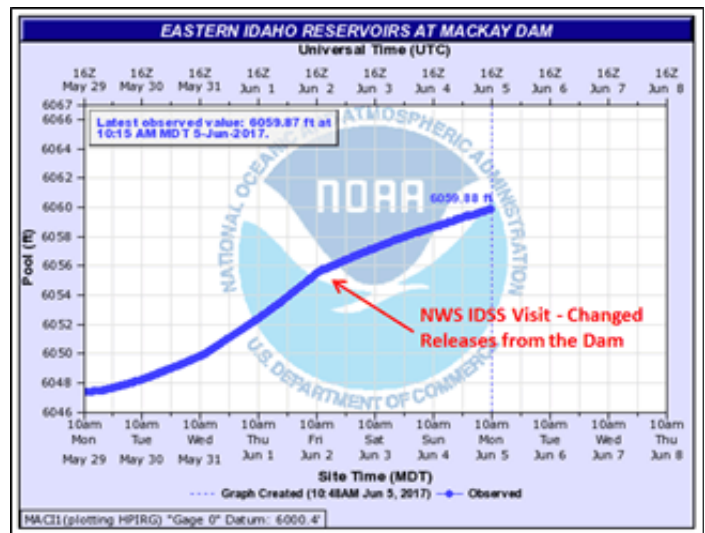
Smith went with Meteorologist Nicole Peterson on another flood survey across the same area one week later when water levels began to rise. Smith and Peterson returned to the same locations to compare water level rise and land erosion, identify where flooding had started, and estimated how soon water might create further impacts.

Combined with USGS river gauge information, the data compiled by these teams enabled NWS to coordinate with local officials and the Custer County EMs to set the office's first river action and flood stages plan and update impact statements used in NWS watch, warning and advisory products.

The NWS hydrograph for the USGS gauge just below the dam dramatically shows how real-time in-person assistance changed how fast the reservoir filled.

NWS Impact-based Decision Support Service (IDSS) tools prompted Custer County to map which residences could be affected by flooding and review evacuation plans. NWS staff presented flood preparation ideas to the Custer County Local Emergency Planning Committee before the start of flooding. A week before the reservoir was forecast to begin extensive flooding, WCM Vernon Preston and Wyatt updated officials and the water district at additional meetings.

On a follow-up flood survey in early June, Wyatt and Meteorologist Alex Desmet s spoke to the dam operations manager about flooding concerns because the reservoir was nearly full. Wyatt and Desmet conducted real-time coordination with NWRFC Hydrologist Kevin Berghoff and the dam operations manager to develop a water release plan that allowed some minor flooding, but saved the area below the dam from going into moderate to major flooding.

Onsite IDSS provided at least 10 days of preparation before the reservoir filled and caused extensive downstream flooding. NWS Pocatello received high praise from the dam manager and staff, along with local officials for its proactive approach to this potential record flood event.

NWS Takes Roles in Solar Eclipse Tabletop Exercise

By **Rick Shanklin**, WCM, Paducah KY

Weather plays a key role in a solar eclipse but an event as large as the August 21 total eclipse requires large scale EM response. To better prepare, NWS Paducah and Louisville, KY, field offices took part in a Solar Eclipse Tabletop Exercise on July 12. The 6-hour exercise addressed five specific objectives to help EMs and other agencies prepare for the eclipse. These objectives included communication procedures, systems, transportation, public health, and hazardous weather. The exercise—with 250 local, state and federal participants—was the largest ever conducted in Kentucky.

Scientists determined the August 21 Solar Eclipse would produce both the "greatest eclipse," instant when the axis of the moon's shadow passes closest to the center of Earth, and the "greatest duration," instant when the length of the total phase reaches a maximum along the central eclipse path, within the NWS Paducah County Warning Area, specifically near Hopkinsville, KY, and Marion, IL. As a result, estimates for eclipse attendance in western Kentucky and southern Illinois were well into the hundreds of thousands, presenting numerous weather-related challenges.

The 2017 Solar Eclipse Tabletop. Photo Courtesy of Kentucky Emergency Management.

To gear up for the eclipse, EMs and public service sectors, including the NWS, held numerous planning meetings over the last year.

The pinnacle of these meetings was the July 12 tabletop exercise. The tabletop revealed the extensive amount of planning and preparation already completed along with additional contingencies and planning needed.

NWS Paducah will provide onsite IDSS at the locations of the greatest eclipse, Hopkinsville, KY, the greatest duration, near Marion, IL, and midway between in Eddyville, KY. In addition, the NWS in Louisville will staff the state Emergency Management Office in Frankfort, KY.

Hurricane "Rhody" Exercise Helps Emergency Officials Prepare

By **Glenn Field**, WCM, NWS Boston/Taunton, MA

From June 19-22, an Integrated Emergency Management Course (IEMC) and functional exercise was conducted in Rhode Island, centered around hypothetical "Hurricane Rhody," which would strike Rhode Island as a Category 3 hurricane, then circle back for a second hit as a Category 2 hurricane. FEMA Region 1 worked in collaboration with the Rhode Island Emergency Management Agency, the University of Rhode Island, and NWS Taunton, MA, to develop this course and make the functional exercise a reality.

Dr. Isaac Ginis, professor at the Graduate School of Oceanography at the University of Rhode Island (URI), wrote a mathematical simulation that combined three hurricanes: a 1938 hurricane that made landfall in western New England; Hurricane Carol, which made landfall in eastern Connecticut in 1954; and Hurricane Esther, which did a wide loop around outer Cape Cod in 1961.

Based on data from URI, NWS Taunton staff put together simulated advisory packages that included location, strength, forward speed, and more. In addition, the office created briefing slides for EMs, as if it were a real situation.

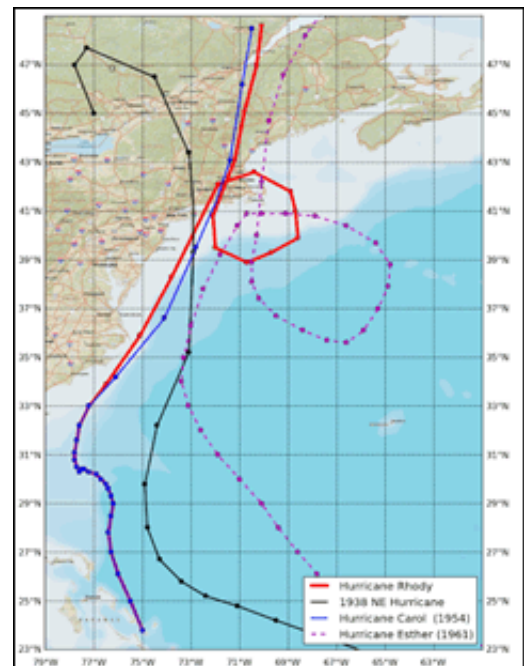*Red track shows fictional Hurricane Rhody Exercise track.*

On the first day of the course, Senior Forecaster Matthew Belk presented the 72-hour projection briefing to the crowd of several hundred EMs. On the next 2 days, Belk gave the 48-hour and 24-hour projections/briefings, respectively.

On the last day, the functional exercise began. The Rhode Island Emergency Operations Center was fully activated and the local communities of Providence, Westerly, Central Falls/Pawtucket, and Coventry joined the exercise.

The group used WebEOC, with planned and unplanned injects of incidents. NWS Taunton Meteorologist in Charge Robert Thompson gave updates on the weather situation at the state EOC. Warning Coordination Meteorologist Glenn Field played an ad hoc role.

With such an ominous storm, each Emergency Support Function considered many factors: power shutdowns, overtopping of the protective Providence Hurricane Barrier, ensuing HazMat incidents, and much more.

The exercise was productive and hopefully southern New England will not see this scenario in an actual event in the foreseeable future. But if it does, at least Rhode Island will now be more "Rhody Ready."

Enhanced LAMP Guidance for Aviation Forecasting

By *Adam Schnapp, MDL Scientific Software Developer, Silver Spring, MD*

To help improve digital aviation forecasts and NWS impact-based decision support services, the NWS Meteorological Development Laboratory (MDL) made upgrades to the Localized Aviation MOS Program (LAMP) model in April 2017. The LAMP system now incorporates High Resolution Rapid Refresh (HRRR) model predictors for ceiling height and visibility forecast elements.

The addition of the HRRR rounds out the suite of LAMP inputs to include information from both a global model and an hourly-updating, cloud-resolving model.

The HRRR model complements the real-time observations applied in LAMP to improve the overall skill of ceiling height and visibility forecast guidance and to add high-resolution spatial detail to the gridded guidance.

The rapid postprocessing of the latest GFS-MOS guidance, HRRR model output, and observation data into guidance enables aviation forecasters and users to quickly use LAMP guidance for making tactical decisions and strategic plans.

LAMP is now also producing probability forecast grids for the main flight category thresholds for both ceiling height and visibility individually.

The inclusion of HRRR model data in the LAMP system currently is limited to the ceiling height and visibility forecast elements, but a similar upgrade to convection and lightning guidance will be implemented in the fall of 2017. The Aviation Weather Center, numerous Weather Forecast Offices and private aviation forecast interests have provided positive feedback on the upgrades. This work supports NWS efforts to establish a common operating picture through the National Blend of Models. Visit LAMP on the web for more information.
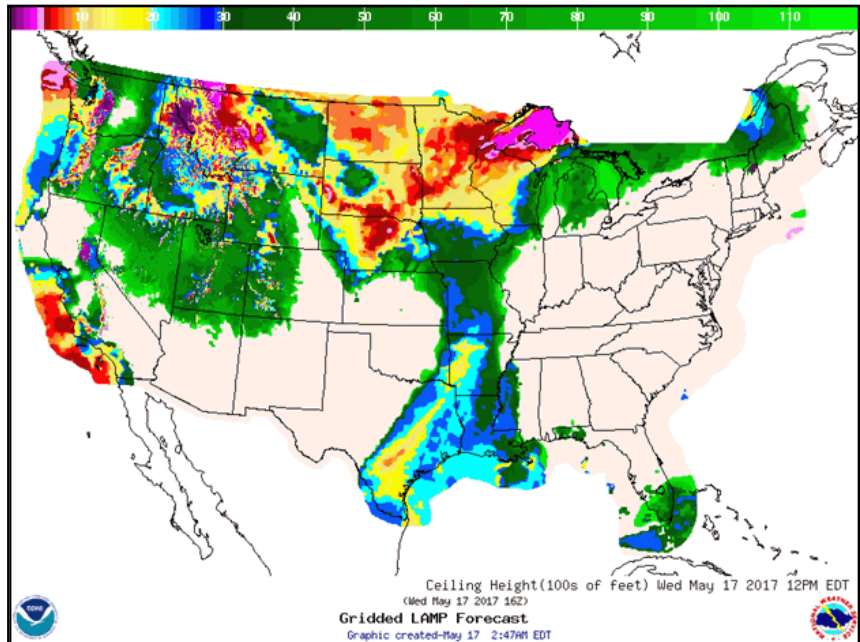
New Gridded LAMP 10-hour ceiling height forecast valid 16 UTC on May 17, 2017