Weather-Ready Nation
National Oceanic and Atmospheric Administration
Aware

July 2022

NWS Paducah Honors Three Organizations as Part of "Weather-Ready Community" Demonstration

By: NWS Staff

*NWS Paducah meteorologist **Derrick Snyder** and team present Henderson County Public Library Director Shannon Sandefur (third from right) with a certificate of recognition on July 8, 2022*

In the wake of the devastating western Kentucky tornado outbreak of December 10-11, 2021, NWS Paducah and local community leaders began to brainstorm ways to build resilience and preparedness ahead of dangerous weather.

Early this year, NWS Paducah was approached by Kenny Garrett, director of the Henderson County, KY Office of Emergency Management (HCOEM), about collaborating on a project that would combine the outreach resources of the NOAA Weather-Ready Nation Ambassador program with a needs-based weather safety assessment and recommendation model for interested organizations.

With that goal in mind, HCOEM **Director Garrett**, along with Deputy Director of Weather Preparedness (and former NWS Riverton WCM) **Tim Troutman**, HCOEM Assistant **Jill Ward**, Preparedness and Resilience Program Lead at NWS Headquarters **Doug Hilderbrand**, and NWS Paducah meteorologist **Derrick Snyder** devised the Henderson County Weather-Ready Community demonstration.

On July 8, Derrick Snyder joined HCOEM staff to present certificates recognizing the first three organizations in Henderson County to become "Weather-Ready Community" Ambassadors: AMG Aluminum North America, the Henderson County Public Library, and Pittsburg Tank and Tower Group. An additional 17 organizations in Henderson County are currently participating in the program.

The Henderson County Weather-Ready Community demonstration is currently designed with three core elements:

1. **Needs assessment checklist:** Conducted by the HCOEM, the needs assessment checklist is intended as a tool to provide an organization with an external review of existing safety procedures, employee behaviors, and a summary of any potential hazards that may have been observed within the building or department.

2. **Safety walkthrough:** The HCOEM-led safety walkthrough aids in identifying existing sheltering options that utilize the American Red Cross, FEMA-361, and IC-500 sheltering recommendations. From this safety walkthrough, a recommendations document is prepared that includes numerous deliverables, including photographs of recommended sheltering locations, an analysis of the existing emergency action and safety plans, and a commitment to make follow-up visits to provide annual all-hazards safety training and safety plan updates and recommendations.

3. **Force-multiplier:** Ensuring the participating organization stays aware of the latest NWS forecasts and distributes NWS hazardous weather information, forecasts, and safety information to their staff members and community partners.

Moving forward, HCOEM and NWS staff will finish a preliminary roadmap that could potentially assist other communities and NWS offices in future weather safety and preparedness efforts!

NWS El Paso Hosts White Sands Missile Range for First Science Sharing Meetup

By: NWS Staff

Staff from both the National Weather Service and White Sands Missile Range meet for science sharing and inter-office collaboration.

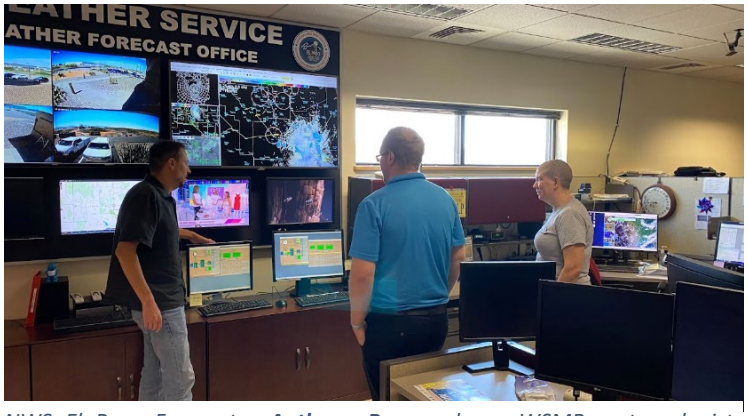
On July 13, 2022, staff from both NWS El Paso and the White Sands Missile Range (WSMR) Meteorology Branch met at the Weather Forecast Office (WFO) in Santa Teresa, NM for a meet-and-greet and science sharing presentation.

The first such meeting of its kind, the event was held with a goal of integrating scientific techniques, forecasting skills, and equipment maintenance. The meeting was organized by NWS forecaster **Anthony Brown**, who previously worked as a meteorologist at WSMR. Discussion was focused on how both offices can interact with each other to better serve their customers while utilizing all observation data available to make more accurate forecasts. Presentations included the latest research on dust storm analogs and forecasting, WSMR's mission and latest operations, and the current equipment status of weather data on range. The meeting allowed forecasters and technical staff to share their expertise on the job. A tour of the WFO also gave WSMR staff a closer look at NWS operations in action.

One of the more unique aspects of this meeting was the high involvement of electronic technicians from both NWS El Paso and WSMR, allowing both offices to share ideas and best practices for maintaining the vast network of surface observations and remote sensing equipment in southern New Mexico.

Strengthening relationships between the offices has greatly improved interactions between staff members. Greater collaboration of weather warnings and significant reports has occurred in recent years, thanks in part to science sharing. Continued discussions involving best practices of local meteorology, decision support services, and partner connections work to accomplish the shared goal of protecting life and property. Regular meetings of this type have been planned in the near future, with a focus on the shared focal points and forecasting needs.

White Sands Missile Range is the largest military installation in the United States, encompassing almost 3,200 square miles that includes parts of five counties in southern New Mexico. Operations frequently include manned aircraft testing and missile launches. The weather office operates primarily for missions on range, but has also assisted the U.S. military and its allies across the globe.



*NWS El Paso Forecaster **Anthony Brown** shows WSMR meteorologists Doppler radar displays and equipment on the operations floor.*

Weather Forecast Office San Juan Collaborates to Reduce Rip Current Fatalities

By: NWS Staff

Carlos Anselmi participating in the scientist and expert panel during CariCOOS 2022 General Assembly

Rip currents are one of the leading causes of weather fatalities nationwide.

A study by the Puerto Rico Sea Grant in 2010 found that around 30 people died yearly along the Puerto Rico coastline. For that reason, since 2011, the San Juan Weather Forecast Office (WFO-SJU) has been working with the University of Puerto Rico (UPR), Sea Grant Puerto Rico, the Caribbean Coastal Ocean Observing System (CariCOOS), the local government, and the private sector to reduce the number of deaths associated with this hazard.

These efforts reduced rip current-associated death tolls through 2020. However, since the COVID-19 pandemic started, the number of fatalities has increased considerably. Jointly with partners, WFO SJU has looked for new ways to create awareness about this issue, including continued outreach activities across the island to inform about coastal hazards and how to reduce/eradicate rip current fatalities. The WFO is also collaborating to identify possible efforts to move forward with new policies and initiatives to reduce and educate about the hazard.

The Caribbean Coastal Ocean Observing System (CariCOOS) released outreach material about waves to assist educators and create awareness at schools called "Manual Educativo: Olas" (Educational Manual: Waves). They explained the science behind wind waves and tsunamis, how we observe and forecast them, and their impacts along the coast. WFO SJU collaborated with them to include a section on rip currents to help explain local coastal and marine products and create awareness in our young population. Hispanic communities can use this manual in their school curriculum around the nation.

*Science and Operations Officer, **Ernesto Rodriguez**, addressing the public during CariCOOS 2022 General Assembly*

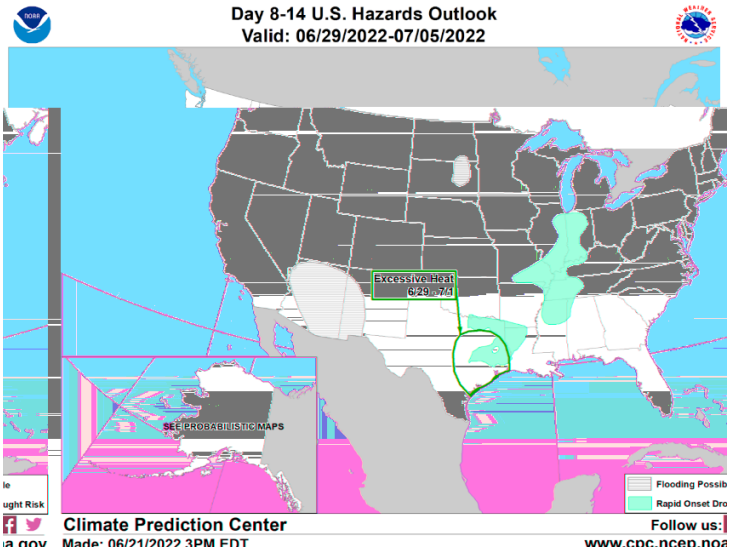
WFO-SJU did another fantastic collaboration with the Coastal Research and Planning Institute of Puerto Rico, located in the UPR, Río Piedras Campus. Our Science and Operations Officer, **Ernesto Rodríguez,** and **Carlos M. Anselmi-Molina** (Lead Meteorologist and Marine Team Leader) participated in the "Hablemos en Playa y Arenas" Town Hall Internet Show. They got “to the meat and potatoes” of the science of swells and their coastal impacts to make the residents in Puerto Rico aware of their risks.

The show was well-received, and the group decided to continue collaborations to inform the islanders about the marine weather hazards and their implications for their lives. In addition, Maritza Barreto, Ph.D., led a team of students to produce a short film about the dangers of the winter swells on our coasts. The short film was produced by Joseph Pérez Rosario and Sebastian Díaz (assistant-producer) with the cast of Samiris Suleiman, Britanny M. Ubinas, Gabriela N Márquez and Michael Vázquez Feliciano, all of them students from the Graduate School of Planning (GSP) at the UPR.

All these efforts are continuously being made to reduce the surf zone fatalities and make residents of the islands aware of beach hazards.

Comments Accepted on New Rapid Onset Drought Product Until July 31

By: NWS Staff



In May, the Climate Prediction Center (CPC) began issuing an experimental Rapid Onset Drought risk product within the CPC's Day 8-14 ("Week-2") U.S. Hazards Outlook.

This product highlights areas where rapid drought development (sometimes known as "flash drought") may occur in the coming 2-3 weeks as depicted by the U.S. Drought Monitor. This experimental variable uses initial conditions, such as antecedent dryness, and skillful temperature and precipitation outlooks during the next two weeks to communicate the risk of rapidly-developing drought. The primary tools used to define areas at risk for rapid onset drought development include:

- Abnormal dryness (D0) in the current U.S. Drought Monitor
- Soil moisture below the 30th percentile
- 7-day positive temperature anomalies from the National Digital Forecast Database (NDFD), especially if a period of extreme heat is possible
- No precipitation forecast or forecast negative precipitation anomalies from the Weather Prediction Center (WPC) and the CPC's 8-14 day outlooks.

Rapid onset drought risk areas will give end users, particularly farmers making decisions about planting and supplemental irrigation, an early warning of the potential for hot and dry conditions.

This product is meant to supplement CPC's Monthly Drought Outlook and is an important step toward comprehensive flash drought monitoring and prediction.

NWS staff and end users can provide feedback about this new product here until July 31, 2022.

To read more about the experimental Rapid Onset Drought risk product, see the original Public Information Statement.

New and Existing NWS On-Premise GIS Web Services Hosted on the AWS Cloud Will Be Operationally Supported

By: Nipa Parikh, Office of Dissemination GIS Technical Lead

In 2014, NOAA's National Weather Service (NWS) completed the project within the Integrated Dissemination Program (IDP), moving the Geographic Information Systems (GIS) web services from a research/proof-of-concept posture to fully operational status. The goals of the project were to implement GIS systems, establish standards, and allow for consistent dissemination formats and protocols across several NOAA datasets and products. Currently, there are two operational GIS stacks on IDP. One stack runs the Environmental Systems Research Institute (ESRI) ArcGIS server and the other stack runs the open-source GeoServer. Both stacks disseminate GIS services using standards outlined by the Open Geospatial Consortium (OGC). The IDP-GIS web services provide users with access to the new products as web mapping services. The IDP-GIS web services are served out of NOAA's IDP operational center, which provides a scalable, robust, secure, and 7x24x365 operational dissemination infrastructure at College Park, MD, and Boulder, CO.

The services currently hosted on-premise have been operational since March, 2016. As technology has evolved, the NWS has recognized that some information systems are well-suited for hosting in the public cloud. The on-premise GIS services were identified as an excellent candidate to be hosted in the public cloud. The Office of

Dissemination GIS Team developed the new public cloud base GIS Web services from June 2021 through January 2022 and have been running experimentally since then.

On or about June 21, 2022, new and existing NWS GIS web-services hosted on Amazon Web Services (AWS) public cloud (https://www.weather.gov/gis/cloudgiswebservices) will be operationally supported Monday - Friday 7:00am to 5:00pm Eastern Time.

The GIS web services currently available at https://idpgis.ncep.noaa.gov will continue to be available from this location. The public cloud hosted services are an additional or parallel offering of these services.

The technical functionality is the same between two systems, but the organizational presentation, the look and feel, is different. GIS web service users may begin to use the cloud hosted services by adding new or updating calls to their applications. The specific changes users will need to make depend on the type of protocol or endpoints utilized.

The mapping of on-premise services to the AWS GIS web services can be found here:
https://www.weather.gov/media/notification/pdf2/on-premise_mapping_to_aws_cloud_gis_services_links.pdf

The full SCN can be viewed here:
https://www.weather.gov/media/notification/pdf2/scn22-56_cloudgis_golive.pdf

For any questions about the GIS content, please contact:

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