



NOAA's National Weather Service

Evolving to Build a Weather-Ready Nation

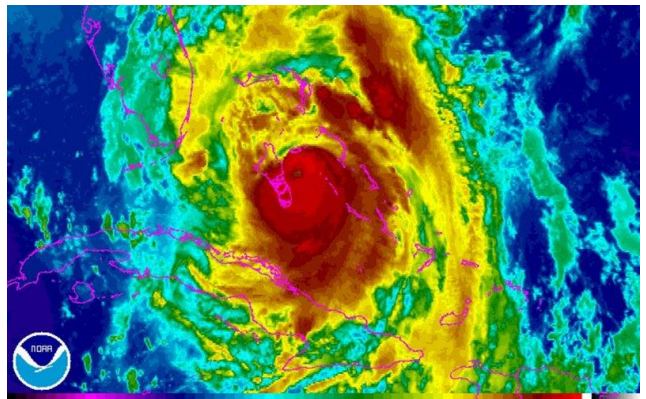
The National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) is the Nation's official source for weather, water, and climate forecasts and warnings to protect life and property and enhance the economy. From information accessed on smartphones to weather broadcasts provided by local television stations – the forecasts and warnings that people, businesses, and communities trust and rely on come from the NWS. All day and every day, the NWS is the first line of defense against extreme weather, water, and climate events – providing forecasts and warnings for hurricanes, tornadoes, wildfires and winter storms; and other hazards such as flash floods, dangerous heat and cold, droughts, and solar storms and geomagnetic activity.

NWS collects data using satellites, Doppler radars, data buoys, weather balloons, aircraft, and surface observing systems. These data feed sophisticated environmental prediction models running on powerful supercomputers. The dedicated and skilled NWS workforce uses advanced technology to understand the environment and produce timely and accurate life-saving weather and water forecasts and warnings. More than 4,000 employees around the country constitute a local, regional, and national weather prediction and service delivery capability unmatched anywhere in the world.



A Doppler radar at the National Severe Storms Laboratory in Norman, Oklahoma

Destructive and deadly hurricanes and tornadoes, devastating floods, droughts and wildfires, and powerful winter storms impact society more than ever. The NWS is evolving to build a Weather-Ready Nation – a Nation where communities are responsive and resilient to these extreme events.



An interred image of Hurricane Matthew as it approached the Florida coast.

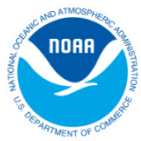
To continue building a Weather-Ready Nation, with the support of Congress, NWS requires

- A modernized observation, information technology, and facility infrastructure.
- A fully integrated forecast process to deliver consistent products and services.
- An organization that is nimble and adaptable to changing demands.
- Continued advancement in computer models to provide more accurate and reliable forecasts and warnings.
- A workforce trained and organized to meet the growing needs for impact-based decision support services and communications.
- An engaged partnership with emergency managers and the private and academic weather communities to leverage the nation's capacity to build a Weather Ready Nation.



For more information, please visit: www.nws.noaa.gov





Recent Mission Highlights

National Water Model Launched to Improve Flood Forecasting

On May 8th, 2017, NOAA implemented version 1.1 of the National Water Model (NWM) into operations. This upgrade contains several enhancements over Version 1.0, implemented in August, 2016, including extended short range forecasts and improved forecast skill. The NWM simulates conditions for 2.7 million stream reaches across the continental U.S. every hour and improves NOAA's ability to provide more frequent, accurate, and expanded water information used to save lives and protect property.

Increased Supercomputing Capacity Advances Weather, Water, and Climate Forecasting

NOAA's Weather and Climate Operational Supercomputer System is now running at record speed, with the capacity to process and analyze earth observations at quadrillions of calculations per second to support weather, water, and other forecast models. The supercomputers now can ingest vast amounts of newly available data -- such as that from the GOES-16 satellite -- which dramatically improves NOAA's environmental intelligence, giving the public faster and better environmental predictions and supporting the nation's physical safety and economic security.

New Satellite Products to be Harnessed to Improve Forecasting

In FY2016, the NOAA installed stations at 8 key locations around the country and territories to receive and process the massive amount of additional data from the new GOES-16 satellite. This new satellite scans the planet faster and expands current operational capabilities allowing for higher resolution views of weather events. All NWS forecasters are fully trained to use these enhanced capabilities to provide improved hurricane tracking and intensity forecasts, tornado and thunderstorm warnings, and the prediction and warning of extreme weather to better meet the needs of our partners in local, state, and Federal emergency management; the private-weather industry, and other decision-makers.

Operational Storm Surge Maps Improve Awareness of Flooding Threat

Storm surge is often the greatest threat to life and property and directly accounts for about half of the deaths associated with tropical cyclones. New potential storm surge flooding maps, produced by NOAA's National Hurricane Center (NHC), depict geographical areas where inundation from storm surge from specific cyclones could occur and the height above ground that water could reach. First disseminated in 2014 as an experimental product, the maps became operational in 2016. During Hurricane Matthew, the Potential Storm Surge Flooding Map provided a critical visual element to support the communication of storm surge risk that is critically important for evacuation and response decisions.



NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION

For more information, please visit: www.nws.noaa.gov