NOAA's Environmental Real-Time Observation Network (NERON)

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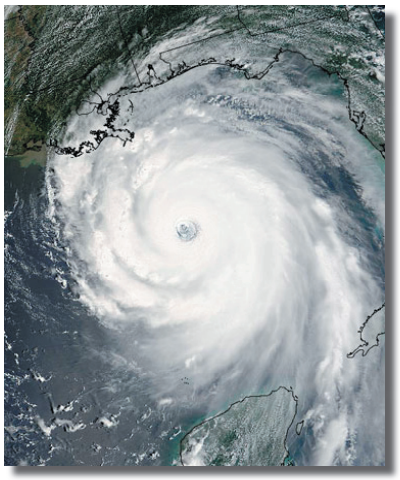
What is NERON?

NERON is an integrated U.S. observing system that supports NOAA's weather, climate, and hydrology operations. NERON integrates observations from familiar networks such as the Automated Surface Observing System (ASOS), the Climate Reference Network (CRN), the Historical Climate Network (HCN), the Cooperative Observer Network (COOP), as well as from newly installed observing platforms designed to serve NERON needs and partner networks. Temperature and precipitation observations will be available at high spatial density – one station per 400 square miles on average, and will be processed, quality controlled, archived, and available in near real-time. NERON is part of NOAA's contribution to the Integrated Surface Observation System and part of the U.S. contribution to the Global Earth Observation System of Systems.

Modernized COOP sites are an integral part of NERON. They feature a modular architecture and provide near real-time observations.

Why NERON?

NOAA maintains a myriad of surface environmental observing platforms to aid decision making for the weather, climate, hydrology, aviation, and ecosystems communities, just to name a few. Installing and maintaining these systems under the umbrella of a single multi-use network enables NOAA to provide high spatial and temporal-density information to meet additional user requirements while economizing and streamlining instrument procurement, maintenance, and installation. NERON features a modular architecture to allow future addition of sensors, such as soil moisture and wind, to meet future requirements.



NERON will provide critical information during natural disasters, such as hurricanes.

Benefits of NERON

- ✓ Up to 1.5º Fahrenheit improvement in temperature forecasts
- ✓ Estimated $1billion annual savings in improved electric power generation and distribution due to improved temperature forecasts
- ✓ Improved accuracy of flood forecasts by up to 23 percent
- ✓ Decrease summer precipitation bias error by up to 60 percent
- ✓ More timely and accurate disaster declarations due to improved monitoring of natural disasters such as hurricanes, severe weather, snow storms, and drought
- ✓ Improve monitoring of under-sampled areas of the United States such as the West

Partnerships

The success of NERON depends on the success of the partnerships developed to deploy and maintain environmental observing platforms. NOAA seeks partners with existing or planned observing systems and mesonets in other federal, state, and local agencies as well as private systems that meet NERON requirements. If you are interested in finding out more about a partnership or any other question about NERON, visit www.isos.noaa.gov or contact the NERON Office at 301-713-0454 x156.