

NATIONAL MESONET

Launched over a decade ago, the National Mesonet Program team will grow to more than 40 partners in 2018 and—with your help—continue increasing in scope and impact. Working closely with their NWS Regions and Weather Forecast Offices, team members work to ensure their data is incorporated into daily NWS operations and that opportunities for improved collaboration and new data are continuously explored.

NWS Eastern Region

NMP private sector partners: Earth Networks, WeatherFlow, Panasonic, Weather Telematics, Sonoma Technology, Harris, Synoptic

NM education partners: UMass, SUNY Albany, Penn State, Rutgers Univ., Univ. of Delaware, NC State Univ., Coastal Carolina Univ., W. Kentucky Univ.

Large concentrations of **transportation** and **economic activity**

Nation's most **densely-populated** region

Crippling **winter** storms

Very high **energy costs**

Intense **summer convection** impacting the nation's **busiest air corridors**

Large concentrations of **national security** assets

Major coastal & inland **flooding, hurricanes & nor'easters**

Additional support for NM will help us to:

- Identify **new partners** and assets
- **Fill sensing gaps** in rural areas
- **Reduce impacts** on agriculture, energy efficiency, and emergency response

NWS Southern Region

NM private sector partners: Earth Networks, WeatherFlow, Panasonic, Weather Telematics, Sonoma Technology, Harris, Synoptic

NM education partners: Univ. of Florida, Univ. of Georgia, Univ. of Alabama at Huntsville, Univ. of S. Alabama, Mississippi St. Univ., LSU, Texas Tech Univ., Univ. of Oklahoma, New Mexico St. Univ.

Region most affected by **tornadoes** and related **severe weather**

Mountain terrain and forests makes detection of localized severe weather difficult

Emerging "**Dixie Alley**" (Eastern TX to GA) has:

- Many strong and long-tracked **tornadoes**
- **63%** of the nation's overall tornado-related **fatalities**
- Many heavy **precipitation** events

Additional support for NMP will help us to:

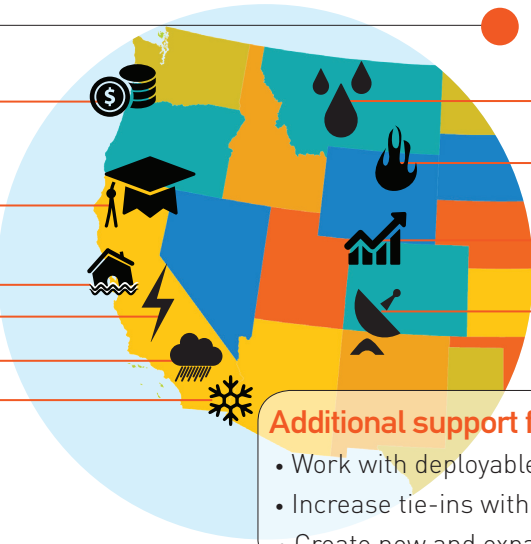
- Improve severe weather **detection** (e.g., better accuracy and lead time for warnings)
- Introduce **new technology**
- Identify **new partners**
- Support targeted **installations**

NWS Western Region

NM private sector partners: Earth Networks, WeatherFlow, Sonoma Technology, Harris, Synoptic

NM education partners: Washington St. Univ., Univ. of Utah, Utah St. Univ., Univ. of Montana

All manner of **weather extremes:**
 Coastal flooding
 Monsoons
 Droughts
 Intense thunderstorms
 Heavy snowfalls



Heavily **water-dependent**

Extremely susceptible to dangerous **wildfires**

Rapid (business and population) **growth**

Complicated terrain = large **gaps** in weather **radar coverage**

Additional support for NMP will help us to:

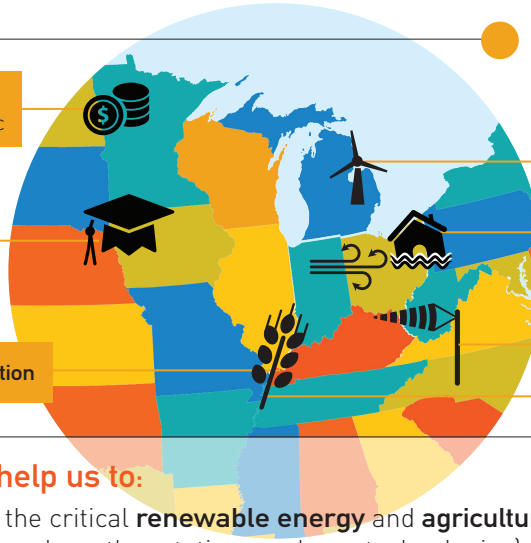
- Work with deployable radars to **fill coverage gaps**
- Increase tie-ins with regional **hydrological sensor** networks
- Create new and expanded **partnerships**

NWS Central Region

NMP private sector partners: Earth Networks, WeatherFlow, Sonoma Technology, Harris, Synoptic

NM education partners: North Dakota St. Univ., South Dakota St. Univ., Iowa St. Univ., Univ. of Nebraska, Colorado St. Univ., Kansas St. Univ., Univ. of Missouri, Univ. of Illinois, Michigan St. Univ., W. Kentucky Univ.

Home to major portion of U.S. **agricultural production**



Important & growing **renewable energy** sector

Subject to **extreme weather** conditions

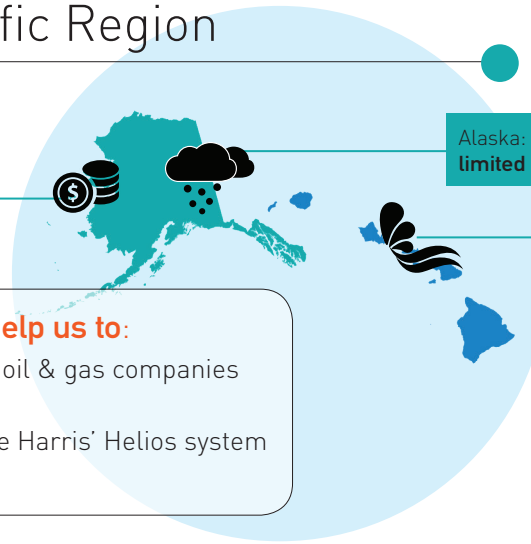
Sensing gaps remain:

- Monitoring boundary level conditions critical to **wind energy**
- Density and quantity of stations required to support **precision agriculture**

Additional support for NMP will help us to:
 Support **tailored sensing programs** for the critical **renewable energy** and **agricultural** sectors (including leveraging non-traditional weather stations and new technologies)

NWS Alaska and Pacific Region

NM private sector partners: Earth Networks, WeatherFlow, Sonoma Technology, Harris, Synoptic



Alaska: **extreme weather** conditions, **long distances**, and **limited infrastructure** make every observation precious

Hawaii: more moderate, but a **delicate balance** between atmosphere and the vast Pacific Ocean

Additional support for NMP will help us to:

- Identify **new local partners** (including oil & gas companies and other private sector providers)
- **Better integrate existing networks** like Harris' Helios system
- Introduce **new technologies**



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