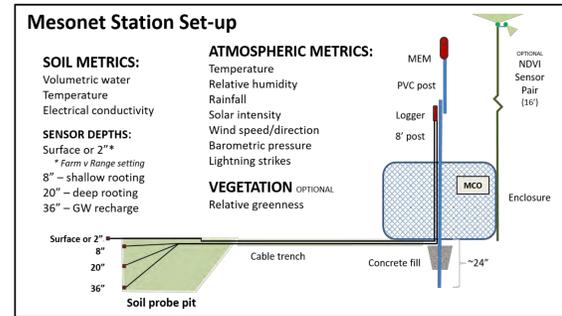




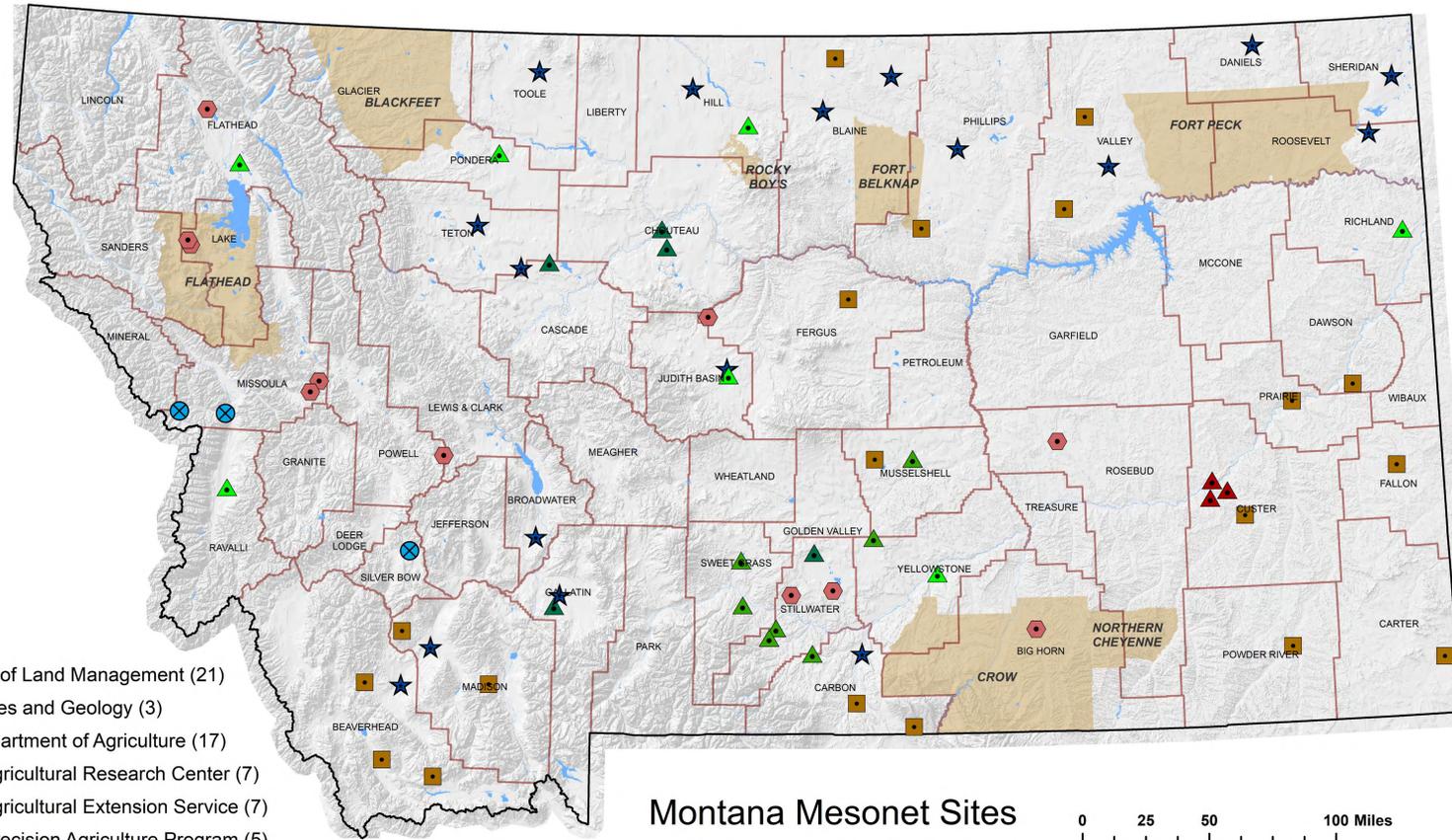
Kevin Hyde, Montana Climate Office  
Kelsey Jencso, Montana Climate Office  
Lee Schmelzer, MSU Extension Service  
Brett Heitshusen, Montana Dept. of Agriculture  
Camela Carstarphen, MT Bureau of Mines and Geology  
Kyle Bocinsky, Montana Climate Office  
Zach Hoylman, Montana Climate Office  
Bruce Maxwell, Montana State University



Station in sagebrush rangeland west of Dillon, MT with optional NDVI sensor pair measuring vegetation greenness, for tracking vegetation vigor and production.



Soil pit near Roundup, MT. The probes record changes in soil water content, temperature, and soil water quality.



Montana Mesonet Sites  
74 as of 6 Oct 2019  
69 with automatic reporting

- Partners**
- Bureau of Land Management (21)
  - ⊗ MT Mines and Geology (3)
  - ★ MT Department of Agriculture (17)
  - ▲ MSU Agricultural Research Center (7)
  - ▲ MSU Agricultural Extension Service (7)
  - ▲ MSU Precision Agriculture Program (5)
  - Other Partners (11)
  - ▲ USDA Agricultural Research Service (3)

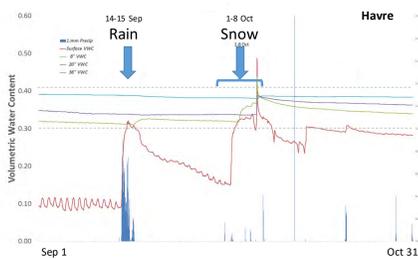


- Active Partnerships**
- MT Department of Agriculture
  - Bureau of Land Management
  - Montana Institute on Ecosystems
  - Private Ranches and Farms through MSU
  - MSU Agricultural Extension Service
  - MT Dept. Natural Resources & Conservation
  - The Blackfoot Challenge
  - Stillwater County
  - National Weather Service
  - Crow Tribe of MT
  - National Mesonet System
  - USDA Forest Service
  - Governor's Water Supply & Drought Committee
  - Montana Bureau of Mines and Geology
  - Montana Space Grant Consortium
  - National Integrated Drought Information System
  - MBMG Groundwater Information Center
  - MSU Agricultural Research Centers
  - USDA Agricultural Research Service
  - DOI US Geological Survey
  - US Army Corps of Engineers
  - National Weather Service

Climate.umont.edu

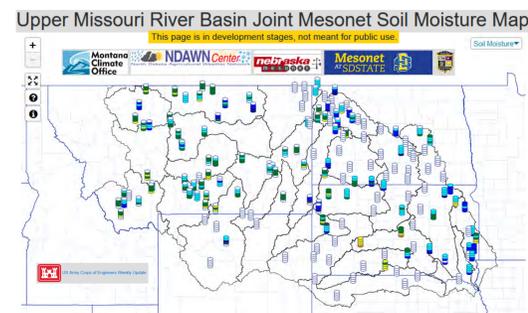
## Soil Moisture Education

MCO conducted and continues to develop Soil Moisture Education Workshops training farmers, ranchers, and land managers to interpret soil water data to support agricultural decisions.



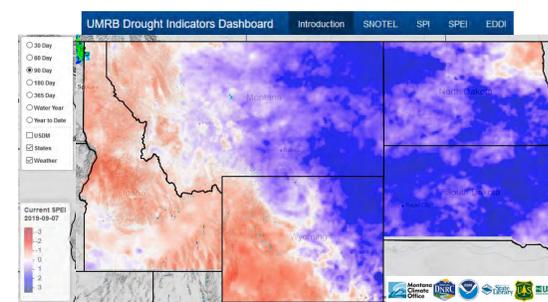
## Flood Forecasting

MCO collaborates across the Upper Missouri River Basin to support flood forecasting with the US Army Corps of Engineers.



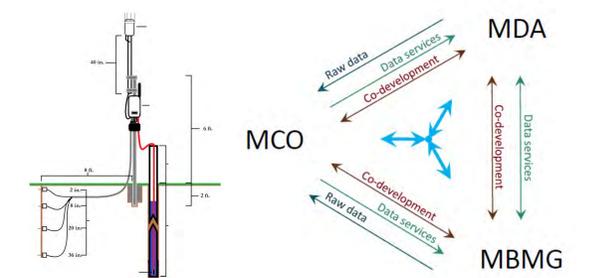
## Drought Early Warning

MT Mesonet provides data to develop drought early warning tools supporting the Governor's Water Supply and Drought Committee.



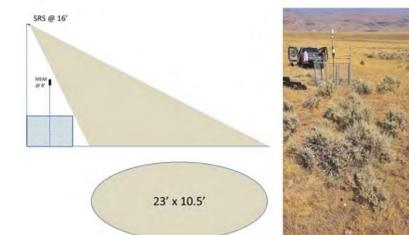
## Real-time Well Monitoring

Partnership with the MT Department of Agriculture moves real-time well data directly to the Ground Water information System.



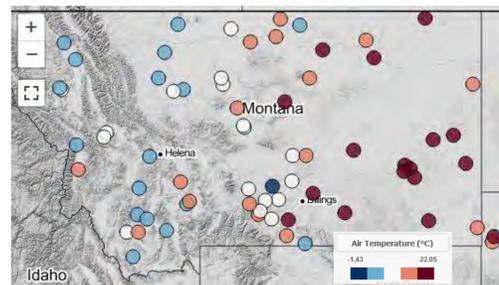
## Rangeland Health

Collaboration between MCO, BLM, USGS, IoE, and MSU Extension develops methods to monitor vegetation response to assess rangeland health and for predicting forage production.



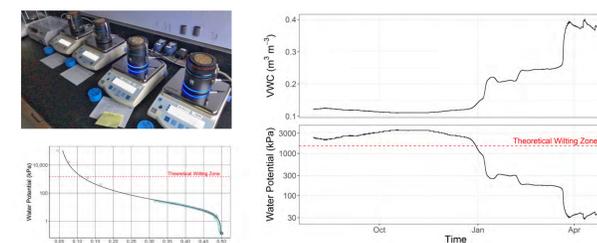
## Public Access to Data

The MCO website provides public access to current weather. MesoWest.Utah.edu integrates MT Mesonet data for public use.



## Plant Available Water

In collaboration with MSU Extension, the MCO Soil Lab analyzes samples from each station to generate water retention curves and models of plant available water.



## Data Dashboards

Under development: MCO actively plans data visualization and analysis dashboard to support land management decisions across sectors.

