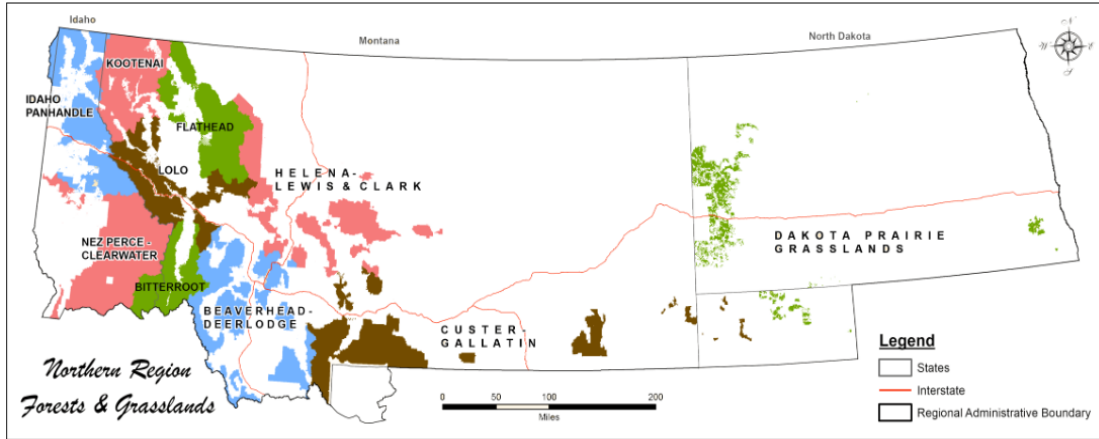


NSF Engines Type 1: Precision Forestry and Rangeland Management



Vision

Become a national model for use of PFRM to maximize the economic benefit of federal, tribal and private forests and rangelands while minimizing ecological impacts such as fire, drought and flood

Funding and Status

\$1M over 18 months

Passed Review Stage and Now with Working Group

Partners:

Mountains and Plains University Innovation Alliance (MPUIA)

American Indian Higher Education Consortium (AIHEC)

Cobell Institute of Land and Culture

Aaniih College Nic?-Mni Water Center

Rocky Mountain Research Station (USFS)

USFS Northern Region (Region 1)

BLM (Montana/Dakotas)

The Nature Conservancy

Montana Wood Products Association

NRNP Mesonet/State Climate Offices

UM Fire Center

Accelerate Montana (aMT)

Montana Innovation Alliance (MTIA)

Next Frontier Capital

Universities:

UM, U Wyoming, Idaho State University, South Dakota State,

Boise State, Aaniih College

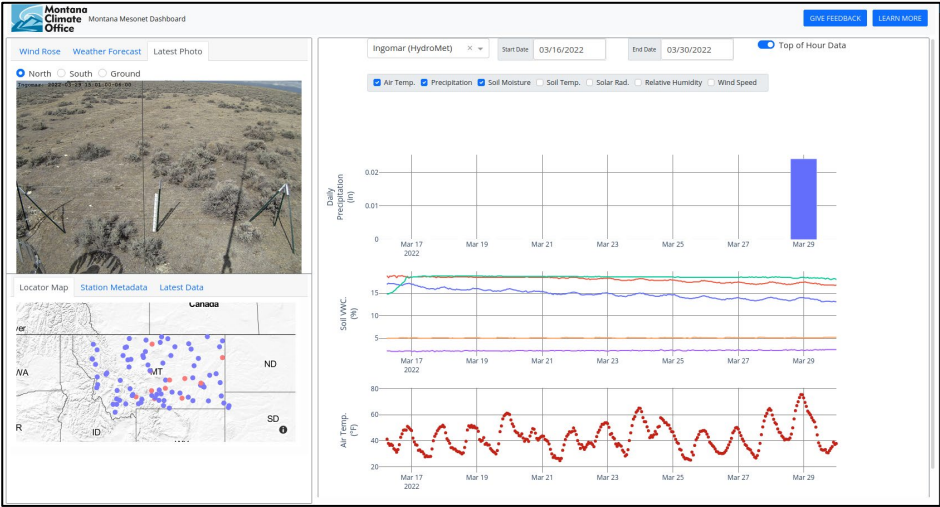
The Montana Climate Office: Navigating the Waters Ahead



1. Montana Mesonet

\$24,000,000 in funding for an unprecedented network of 289 weather and soil moisture stations by 2026.

5 minute data from stations is used by the USACE, NOAA NWS, Tribal Nations and the MCO for flood predictions, drought monitoring, fire weather, precision agriculture and predictive model development – in protection of lives and property in the Missouri and Columbia River Basins

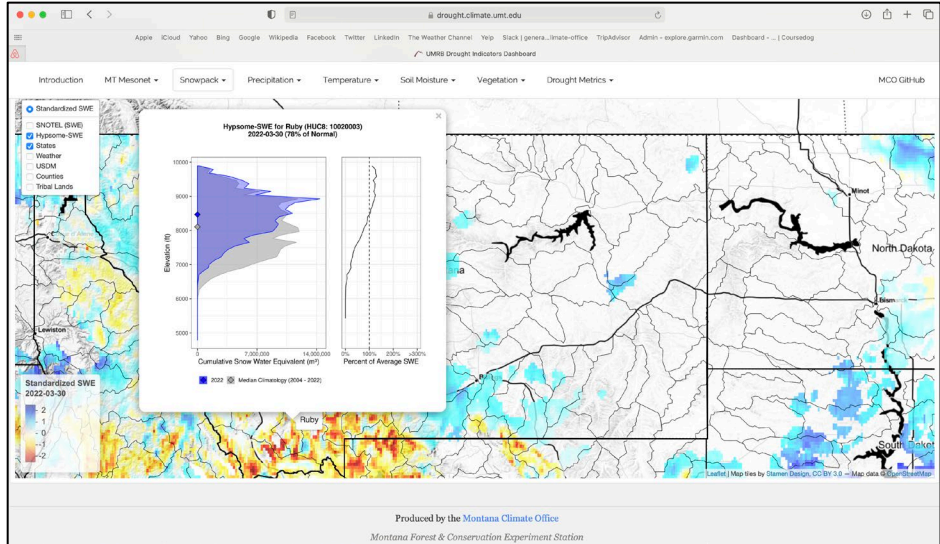


climate.umt.edu/mesonet/

2. Upper Missouri River Basin Drought Dashboard

Daily modeling of drought and water supply conditions in support of the MT Governor’s Drought and Water Supply Committee and State Drought Task Forces in Wyoming, Oregon and Washington

Weekly statewide assessments “trigger” emergency declarations and insurance programs that provide *millions of \$\$\$ in state and federal support* to communities, tribes and producers



drought.climate.umt.edu

The Montana Climate Office: Navigating the Waters Ahead



AGRICULTURE

CLIMATE DATA

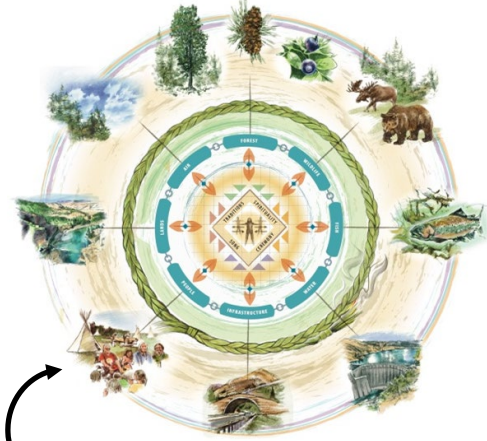
EDUCATION

Identifies climate needs of Native American farmers and ranchers

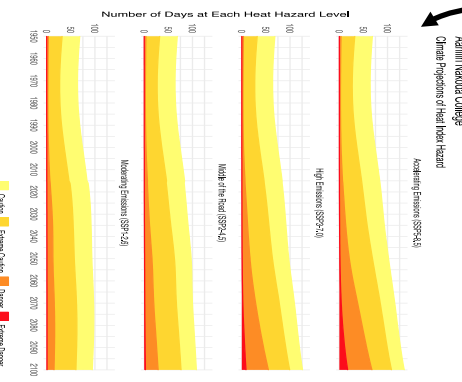
Enhance climate monitoring and data services on tribal lands

Create place-based climate modules for Native teachers

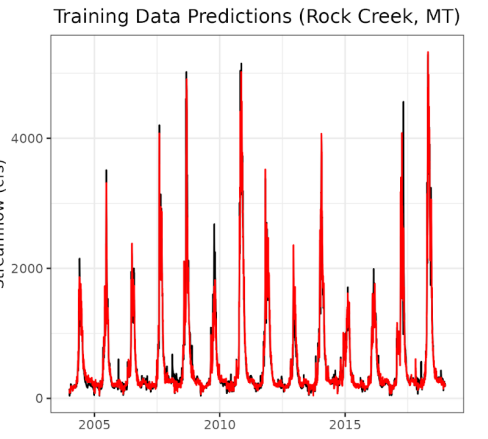
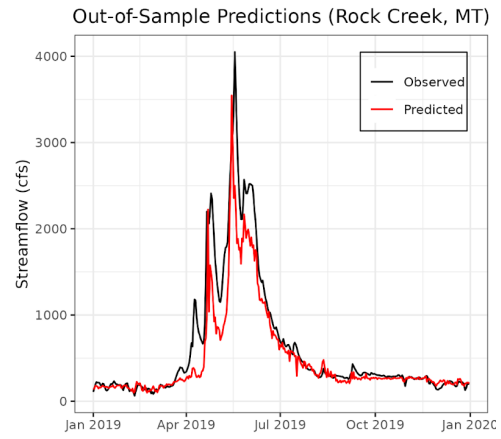
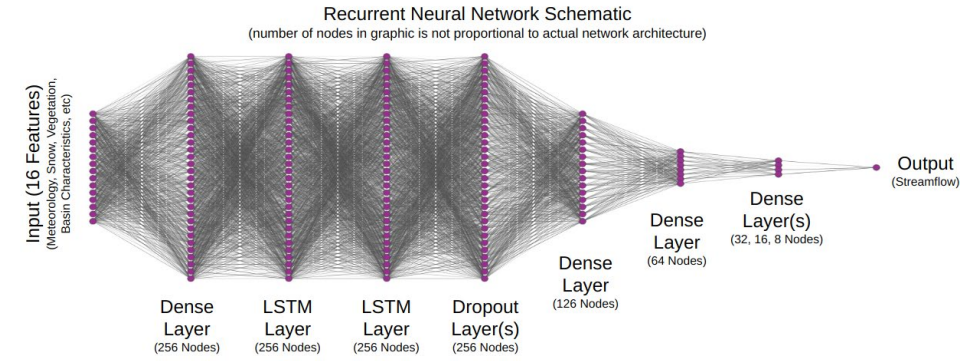
The **Native Climate Project** is partnering with Tribes, Tribal Extension and the USDA Climate Hubs to **improve climate services in Indian Country** and strengthen the role of Traditional Ecological Knowledge in adaptation programs.



The **Native Drought Project** is a collaboration with the Confederated Salish and Kootenai Tribes to implement several actions in their recent Climate Adaptation Plan, including **adding weather and air quality monitoring capacity on the Flathead Reservation.**



The MCO is working with **Tribal Colleges and Universities** to leverage climate projection information to support **human health, hazard mitigation, and economic development goals.**



3. Climate Extension activities include community co-development of dashboards and data tools to support community adaptation and significant engagement with Native American Tribes, Tribal Colleges, and regional and local organizations.

4. AI approaches for drought and flood prediction. New research to produce the most accurate characterizations of flood and drought potential and early warning (e.g. Yellowstone flood) across Montana's un-gauged basins.