



The University of
Montana

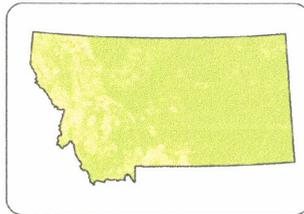
MONTANA CLIMATE OFFICE

EXHIBIT NO. 7
DATE 2.18.13
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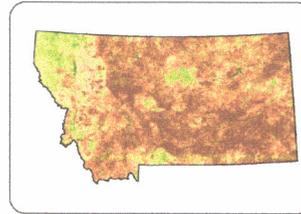
Montana is known for its clean, available water. Water powers everything from mining to tourism in this state. Recent and prolonged droughts have hampered water availability, creating new challenges for many businesses, industries, and producers. Altered weather patterns will drastically affect precipitation and mountain snow pack. Montana has nearly 30,000 farmers who need a wide range of information to decide how much wheat to plant or railcars to reserve. A fishing guide on the Madison River wants to know how the river's going to flow next year so she can start booking clients. Industries in every corner of the state need consistent access to information on groundwater and surface water to supply their mills and refineries. Montanans need good predictive tools on water availability.



2010: % Above/Below Average



2012: % Above/Below Normal



% Above/Below



ABOUT THE MONTANA CLIMATE OFFICE

Montana State University's Joe Caprio served as the first State Climatologist, from 1979-1993. After his retirement, Montana had no official climatologist. Beginning in the late 1990s, UM faculty members and staff provided climate information to Montana, through a web site and research. They were funded through indirect cost recovery from other research projects. Unlike in most other states, Montana's climate office has never received state funding support.

In 2006, Governor Schweitzer designated the Montana Climate Office at The University of Montana as Montana's official climate office. UM President George Dennison accepted the invitation to house the office at UM. In 2012, Professor Kelsey Jencso was hired in the College of Forestry and Conservation to serve as Acting State Climatologist after the retirement of the UM faculty member who previously held the position.

More information at
www.cfc.umt.edu/mco

The Montana Climate Office (MCO), at The University of Montana, provides accurate information on weather and water availability to every Montana family and business. The MCO is a hub for scientific data from key sources like the National Oceanic and Atmospheric Administration.

The State Climatologist and other research scientists at UM monitor and measure Montana's atmospheric water, as well as the vulnerability and resiliency of the state's fresh water system. They can translate data from long-range weather forecasts, satellite-derived precipitation maps, groundwater levels, and other sources to provide a variety of important tools to Montanans. With sufficient support, they will engage with Montana landowners in their own communities. Communities could then access accurate, timely information from the MCO web site, in reports, and through data applications.

The tools MCO could provide include:

- Searchable, customizable daily weather data, including temperature and precipitation, at a scale as small as an individual field.
- Interactive maps that show water availability and temperature for irrigated and dry-land agricultural rotation, degree growing days, winter and spring crop.
- Online maps that utilize NASA satellite-based remote sensing products at 1 km² resolution. Those interactive maps will that show vegetation productivity and evapotranspiration (water loss) across the state. A user could zoom in on individual fields and forests. This data can also be used for drought advisory assessments, agricultural forecasts, and fire hazard mapping.
- Guidelines to assist communities and agriculture on how to adapt to climatic and hydrologic extremes.

Once established, the Montana Climate Office can provide customized, complex weather, temperature, and water measurements for Montana. With better predictive tools, the farmer can decide when to plant, the river guide can book her clients, industries can plan for drought — Montanans can know more about their water.