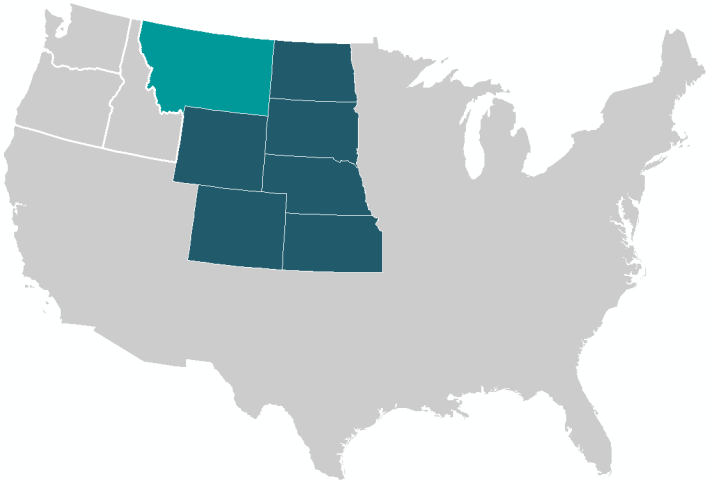
MONTANA

Montana falls within the domain of the North Central Climate Adaptation Science Center (CASC)



*To leverage relationships and shared resource interests, the **Northwest CASC** also funds projects in the state, primarily in western Montana. Both CASCs also share the University of Montana as a consortium member.*

OUR WORK IN MONTANA

40+
Projects

since **2011**

Key Science Topics

- Wildlife & Plants
- Forests
- Freshwater
- Fire
- Native Communities

PROJECT HIGHLIGHTS

Projecting the Future of Aspen Forests

Aspen forests draw tourists, provide food for cattle and elk, and create rich habitat for wildlife. Yet rising temperatures, increased fire frequency, and changes in rainfall and snowmelt are causing aspen declines across the Western U.S.

WHAT: The Northwest CASC projected how future changes in temperature, moisture, and fires could impact aspen forests in the central Rockies and northern Great Basin.

RESULTS: They found that aspen mortality could increase in lower elevations as climate conditions change, while aspen regeneration following fires could decrease if winter precipitation continues to decline, resulting in fewer aspen forests in the future.

IMPACT: Communicated with partners including the Montana BLM, Gallatin National Forest, and Helena National Forest, about how to identify aspen forests best suited for active management. A follow-up study will explore the effects of fire, drought, and other stressors on the most high-risk aspen populations identified by this research: low-elevation forests.

Predicting the Spread of Invasive Trout in the Northern Rockies

Healthy aquatic ecosystems, and the native trout that live in them, contribute to Montana's booming outdoor recreation economy, which generates $7.1 billion in consumer spending each year and creates more than 70,000 jobs. Yet warming waterways may welcome invasive fish species, potentially devastating these ecosystems.

WHAT: After finding that many aquatic invasive species expand their ranges as temperatures rise, the Northwest CASC is using existing data to predict the future range expansions of five invasive fish species across the northern Rocky Mountains.

IMPACT: Researchers will summarize their results in an interactive web visualization tool, informing Rocky Mountain fisheries managers and conservation groups about the risk of invasive species spread to native fish and providing potential adaptation strategies.

FUTURE: In a related effort, the North Central CASC is further partnering with Montana Fish, Wildlife & Parks and others to study the effects of multiple stressors, including invasive fish, on native salmonids and to deliver decision-support tools to help resource managers prioritize conservation actions.