

MONTANA

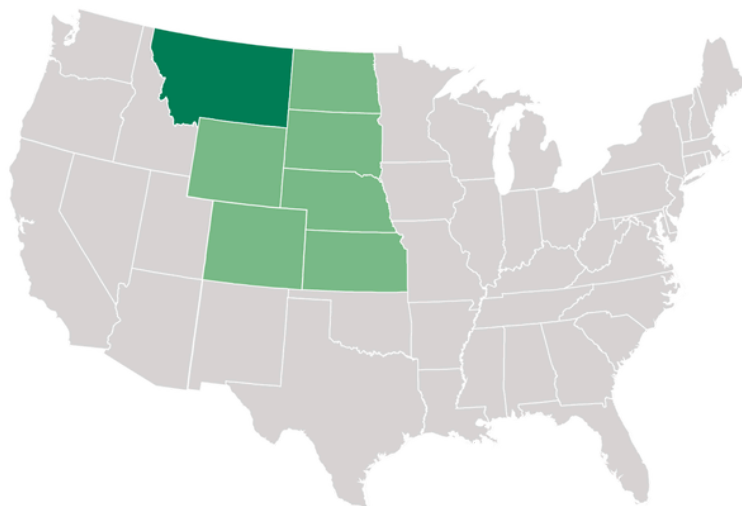


NORTH CENTRAL
Climate Adaptation
Science Center

North Central CASC Consortium Institutions

Host: University of Colorado Boulder

- Colorado State University
- Great Plains Tribal Water Alliance
- South Dakota State University
- The Nature Conservancy
- University of Montana
- University of Wyoming



Key Science Topics



Fish & Wildlife



Drought



Fire



Forests



Indigenous
Communities

Our Work in Montana



Learn More

North Central CASC



nccasc.colorado.edu



nccasc@colorado.edu

CASC Network



usgs.gov/casc



casc@usgs.gov

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Project Highlights



NORTH CENTRAL
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The Future of Native Trout in the Northern Rockies

Trout are one of the most culturally, economically, and ecologically important groups of freshwater fishes in the Rocky Mountain region. In Montana, trout contribute approximately \$750 million to the state's economy each year. However, human activities and climate change are significantly altering their freshwater habitat, and many of the region's trout populations are threatened, with some requiring immediate intervention to reverse their decline.

WHAT: The North Central CASC is using fisheries data collected by managers across the region to assess the status and vulnerability of native trout to climate change, invasive species, and habitat loss across the Greater Yellowstone and Crown of the Continent Ecosystems. The results will be integrated into decision-support tools that will help managers with different needs prioritize and implement the most cost-effective conservation actions based on the vulnerability of the local trout populations they manage.

IMPACT: These tools will allow managers to access data, forecast risk, identify potential mitigation strategies, and prioritize conservation efforts, information which can help improve the resiliency of the region's native trout populations.



Predicting Future Forage for Mule Deer

Maintaining healthy mule deer herds not only supports ecosystems, but also hunting and wildlife watching communities. For example, big game hunting contributes an estimated \$324 million to Montana's economy each year. Yet as climate conditions change, the quantity, quality, and timing of vegetation available to big game could shift.

WHAT: The North Central CASC mapped future changes in forage across the West to help managers prioritize areas for habitat treatments—actions taken to improve the abundance of desirable plants and reduce the abundance of undesirable plants, such as invasive cheatgrass.

RESULTS: Researchers found that in some parts of the West, growing season dates have shifted by 30 days and are projected to continue to occur earlier, particularly in drier years. Spring green-up along deer migration routes is projected to be shorter in duration, which could decrease the availability of high quality forage. This could reduce the number of deer that migrate and could reduce population numbers if forage availability decreases.

IMPACT: Substantial changes in vegetation timing can have outsized effects on wildlife that time migration to match spring green-up. Information on changes in future forage conditions will help managers with Montana FWP, the USFWS, BLM, and NPS implement more effective habitat treatments to support healthy mule deer populations into the future.