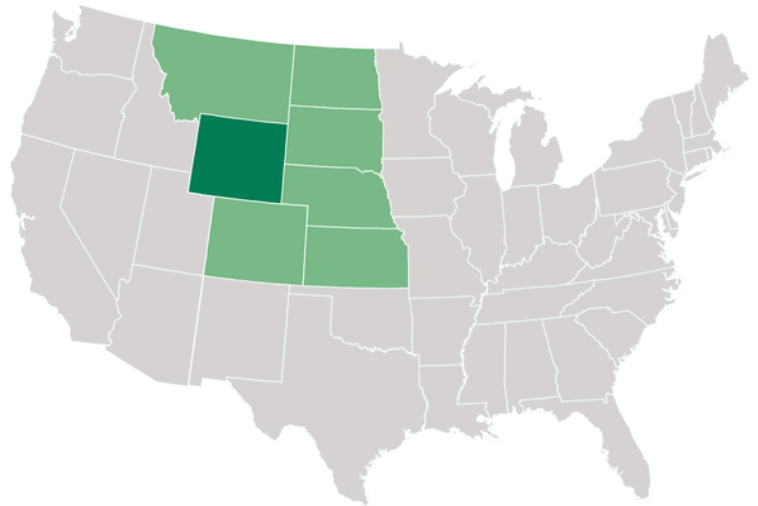




## North Central CASC Consortium Institutions

**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 Wyoming

**60+**  
Projects

since  
**2011**

## Learn More

### North Central CASC



[nccasc.colorado.edu](http://nccasc.colorado.edu)



[nccasc@colorado.edu](mailto:nccasc@colorado.edu)

### CASC Network



[usgs.gov/casc](http://usgs.gov/casc)



[casc@usgs.gov](mailto:casc@usgs.gov)

# WYOMING

## Project Highlights



**NORTH CENTRAL**  
Climate Adaptation  
Science Center



### Preparing for Drought on the Wind River Indian Reservation

*The Wind River Indian Reservation, home to the Eastern Shoshone and Northern Arapaho tribes, has experienced frequent severe droughts which have impacted tribal livelihoods and cultural activities. Balancing water resources among competing demands is challenging, particularly given a lack of available data to monitor changing climate conditions on tribal lands.*

**WHAT:** The North Central CASC worked closely with tribal water managers to assess how drought affects the reservation, improve drought preparedness, and develop a reservation-wide drought management plan.

**RESULTS:** This project forged the development of an online drought decision dashboard for the reservation, a place for easy-to-access, tailored climate information describing current temperature, precipitation, and drought intensity in the Wind River region, as well as future climate outlooks.

**IMPACT:** Prior to this work, the Wind River Indian Reservation did not have a process for collecting drought-related data or managing for drought conditions. The drought dashboard is helping the reservation make informed water allocation decisions across diverse sectors, ultimately helping to reduce the negative impacts of drought on the reservation's communities.



### Predicting Forage Conditions for Mule Deer

*Maintaining healthy mule deer herds not only supports ecosystems, but also hunting and wildlife watching communities. For example, big game hunting contributed over \$300 million to Wyoming's economy in 2015. 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 the WY Game & Fish Dept., USFWS, BLM, and NPS implement more effective habitat treatments to support healthy mule deer populations into the future.