



North Central Climate Adaptation Science Center

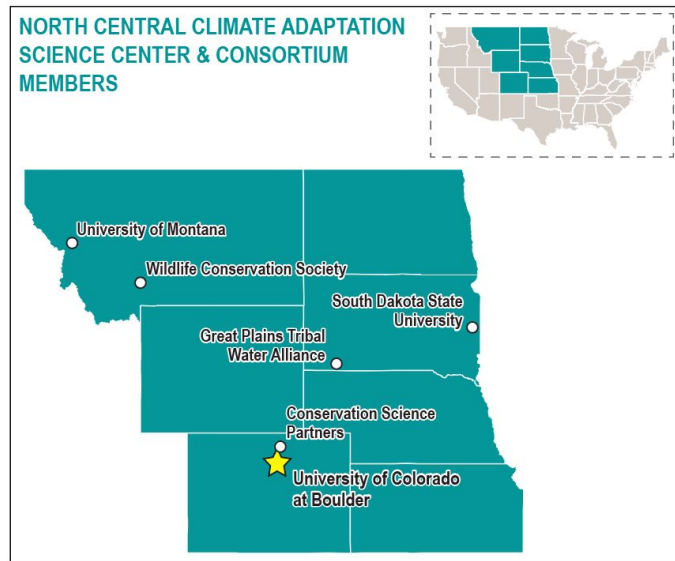
*Generating the science to help
resource managers adapt to a
changing world*

Image: Fernando Martin

The North Central Climate Adaptation Science Center (NC CASC) brings together the latest data, tools, and knowledge on climate change impacts and adaptation, working directly with resource managers to promote climate-informed conservation.

The NC CASC is committed to collaborative and actionable science, creating open science resources, and building capacity via training and education.

The NC CASC seeks to deliver actionable climate and adaptation science for key natural and cultural resource management needs in the region. Our approach represents a balance between customization to individual manager needs and synthesis that scales knowledge application across regional ecosystems. The NC CASC primarily serves bureaus of the Department of the Interior and state fish and game agencies. Tribal nations are also key partners at the NC CASC, and we seek to foster a continuing dialogue with tribal nations and inter-tribal organizations to identify resource challenges that might benefit from climate-related science, capacity building, and convening.



The NC CASC is one of eight regional centers created by the US Department of Interior to help meet the changing needs of land and resource managers. The North Central region includes North Dakota, South Dakota, Nebraska, Kansas, Montana, Wyoming, and Colorado. The NC CASC is hosted by the University of Colorado in Boulder, Colorado and comprised of five consortium partners: the Great Plains Tribal Water Alliance, Conservation Science Partners, the University of Montana, the Wildlife Conservation Society, and South Dakota State University.

**For additional information, visit:
<https://nccasc.colorado.edu>**

Aparna Bamzai-Dodson
USGS Director (acting), NC CASC
U.S. Geological Survey
abamzai@usgs.gov

William Travis
University Director, NC CASC
University of Colorado Boulder
william.travis@colorado.edu





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Image: Carol Highsmith

What can the NC CASC do to support you?

The **Climate Science Support Platform (CSSP)** is a group of climate and data scientists, ecologists, and social scientists serving as a “go-to” resource to provide climate service and expertise for NC CASC stakeholders, including:

- Guidance on the application of climate science and data for specific use cases
- Provision of data, synthesis, and customized climate change information for adaptation planning
- Developing open source tools for managers to access climate data
- Assess science, data, and training needs for stakeholders to create useful, accessible information to support resource managers

Tools and Resources:

- **Climate Scenarios Toolbox** will allow a user to select future climate scenarios using a wide array of climate variables. It will provide high resolution (4km), spatially explicit, downscaled climate information for a user-defined region. <https://www.earthdatascience.org/cst/index.html>
- **R packages** which simplify discovery of and access to two experimental drought products: EDDI (Evaporative Demand Drought Index) and LERI (Landscape Evaporative Response Index). These packages include examples that cover common use cases such as clipping a drought dataset to a region of interest, and saving a GeoTIFF output file.

Ongoing Research and Projects:

- CSSP work to supply climate change information to inform Federal and State Fish and Wildlife agency projects, including: (1) Mountain Goat in Montana; (2) White-tailed Ptarmigan in Colorado; and (3) Skiff milkvetch in southwestern Colorado.
- Information needs assessments to support state wildlife managers
- New research on ecological transformation

Collaborating with Earth Lab to harness the data revolution:

- Earth Lab harnesses, synthesizes, and applies earth science data from multiple sources to address environmental problems. <https://www.colorado.edu/earthlab/>
- Earth Lab is committed to open science, and maintains an active archive on GitHub of ongoing projects. <https://github.com/earthlab>
- Earth Lab's Education Team has created an education portal with over 260 free, online, self-paced training modules to help resource managers find, manage, and use available earth science data. <https://www.colorado.edu/earthlab/earth-analytics-education>

Questions?

For specific requests or collaboration ideas, contact the directors (listed on other side). For general inquiries please email : nccasc@colorado.edu or call 303-735-8447.

