DOI Climate Science Centers—
Regional Science To Address Management Priorities

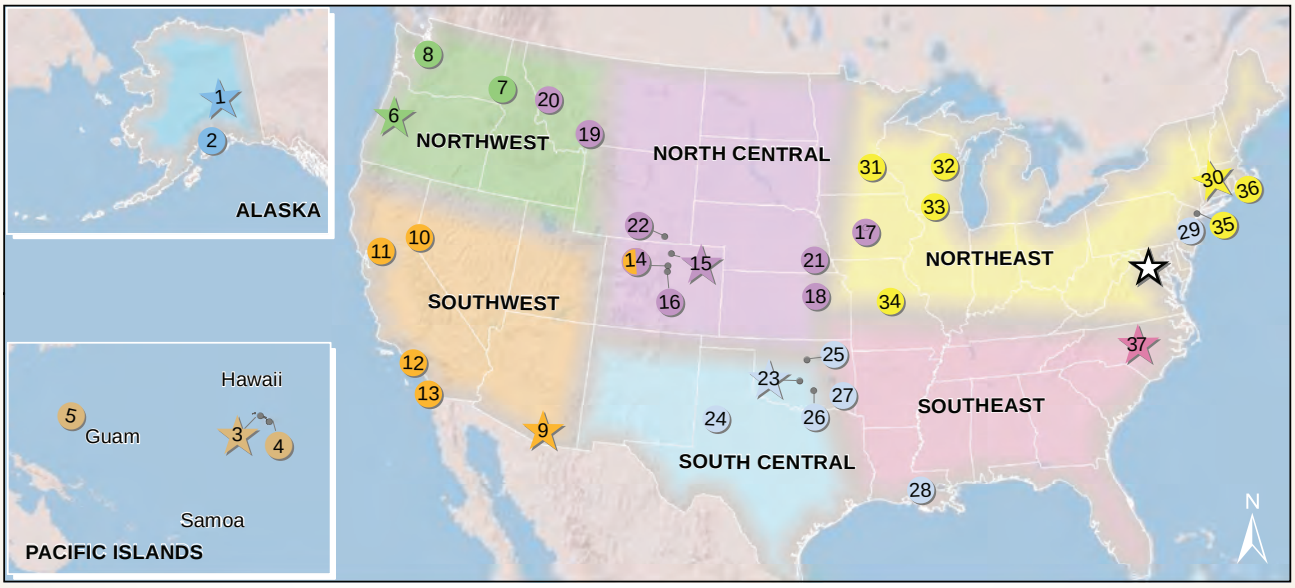
Our Nation's lands, waters, and ecosystems and the living and cultural resources they contain face myriad challenges from invasive species, the effects of changing land and water use, habitat fragmentation and degradation, and other influences. These challenges are compounded by increasing influences from a changing climate—higher temperatures, increasing droughts, floods, and wildfires, and overall increasing variability in weather and climate.

The Department of the Interior (DOI) has established eight regional ***Climate Science Centers (CSC)*** (fig. 1) that will provide scientific information and tools to natural and cultural resource managers as they plan for conserving these resources in a changing world. The U.S. Geological Survey (USGS) ***National Climate Change and Wildlife Science Center (NCCWSC)*** is managing the CSCs on behalf of the DOI.

The Right Science in the Right Place

Climate Science Centers will do research to determine the ***impacts of climate change on key natural and cultural resources*** in their regions. CSC scientists will

- predict how fish, wildlife, habitats, water, cultural, and other resources will change in response to climate change;
- assess the vulnerability of these resources to climate change;
- link projections of climate change (such as expected alterations in temperature and precipitation) with models that predict how climate will affect resources;
- work with partners to develop standardized approaches to monitoring and link existing monitoring efforts to models of climate and resource response; and
- ensure that data generated at NCCWSC and the CSCs are shared and can be combined with other data sets.



Base from ESRI, 2009, Albers Equal Area Conic Projection, North American Datum of 1983

EXPLANATION

National Climate Change and Wildlife Science Center

CSC Lead Institutions

CSC Institutions

Alaska CSC
1. University of Alaska - Fairbanks
2. University of Alaska - Anchorage

Pacific Islands CSC
3. University of Hawaii at Manoa
4. University of Hawaii at Hilo
5. University of Guam

Northwest CSC
6. Oregon State University
7. University of Idaho
8. University of Washington

Southwest CSC
9. University of Arizona
10. Desert Research Institute (Nevada)
11. University of California - Davis
12. University of California - Los Angeles
13. Scripps Institute of Oceanography
14. University of Colorado

North Central CSC
14. University of Colorado
15. Colorado State University
16. Colorado School of Mines
17. Iowa State University
18. Kansas State University
19. Montana State University
20. University of Montana
21. University of Nebraska - Lincoln
22. University of Wyoming

South Central CSC
23. University of Oklahoma
24. Texas Tech University
25. Oklahoma State University
26. Chickasaw Nation
27. Choctaw Nation of Oklahoma
28. Louisiana State University
29. NOAA Geophysical Fluid Dynamics Laboratory

Northeast CSC
30. University of Massachusetts Amherst
31. University of Minnesota
32. College of Menominee Nation
33. University of Wisconsin - Madison
34. University of Missouri Columbia
35. Columbia University
36. Marine Biological Laboratory

Southeast CSC
37. North Carolina State University

Figure 1. Locations of the U.S. Geological Survey National Climate Change and Wildlife Science Center (NCCWSC) and Department of the Interior (DOI) Climate Science Center (CSC) lead institutions and consortia partners.

Frio River near Concan, Texas. Photograph taken by Erin Sewell, U.S. Geological Survey.

Natural and cultural resource managers will identify CSC science priorities. DOI Landscape Conservation Cooperatives are primary sources of science needs, along with other management entities and stakeholders in a CSC region. In turn, the scientists undertaking the research will work cooperatively with those managers who identified results that can be applied directly to real-world problems. CSCs also will disseminate the information gleaned from their research and assist in ensuring effective management and dissemination of the large amounts of data needed for regional climate science. Finally, CSCs will provide access, information, and guidance for using "downscaled" or localized projections of future climatic conditions. The National Climate Change and Wildlife Science Center can assist and foster partnerships with agencies such as the National Oceanic and Atmospheric Administration (NOAA) to provide services across multiple regions.

CSCs will be able to access a wide range of scientific capabilities, through the network of university partners (fig. 1), as well as through other USGS and Federal agency scientists. This leveraging of capabilities will ensure effective and efficient use of public funds.

Partners in Conservation: Climate Science Centers, Landscape Conservation Cooperatives, and Regional Stakeholders

Landscape Conservation Cooperatives (LCCs) are critical partners of CSCs and will help define the regional priorities of each CSC. LCCs are partnerships consisting of natural and cultural resource managers, from Federal, state, tribal, and other entities whose mandate is to work collectively to identify key resource issues and provide information and other support for integrated, landscape-scale conservation planning.

While CSCs specialize in *providing the fundamental science to support decision-making, LCCs apply that science to specific management challenges.*

CSCs and LCCs ensure strong communications between scientists and managers, and enable the creation of the necessary regional scale science to address climate change challenges. Through both formal committees and informal networking, CSCs and LCCs will expand the cross-agency, Federal-state, and public-private dialogue needed to respond effectively to these challenges.

In addition to the strong ties with LCCs, CSCs will seek input from a wide variety of regional partners. Each CSC will convene a *Stakeholder Advisory Committee* with representation from Federal, state, and tribal management agencies, in addition to formal membership from each LCC in the region. These advisory committees will include regional representation from agencies with scientific assets relevant to LCC and CSC science needs, such as NOAA and the Department of Agriculture's U.S. Forest Service, Natural Resources Conservation Service (NRCS) and Agricultural Research Service (ARS). Stakeholder Advisory Committees will provide a forum for the development of regional science priorities derived from individual LCC and management agency needs, and for coordination among science providers to address regional priorities. Coordination across CSC regions will ensure that issues are addressed on an ecological basis, and are not limited by regional or administrative boundaries.

Climate Science Center Locations, Partners, and Key Personnel

Photograph taken by Ed Josberger, U.S. Geological Survey

Alaska Climate Science Center

USGS Director: Dr. Steven Gray
University Principal Investigator (PI): Dr. Scott Rupp
Host: University of Alaska Fairbanks (in Anchorage)

http://www.doi.gov/csc/alaska

Photograph taken Brian Tangen, U.S. Geological Survey

North Central Climate Science Center

USGS Director: Dr. Jeffrey Morisette
University PI: Dr. Dennis Ojima, Colorado State University
Host: Colorado State University, with University of Colorado, Colorado School of Mines, Iowa State University, University of Montana, University of Nebraska – Lincoln, Kansas State University, Montana State University, and University of Wyoming

http://www.doi.gov/csc/northcentral

Photograph taken by John Tracey, U.S. Geological Survey

Northeast Climate Science Center

USGS Director: To be determined
University PI: Dr. Richard Palmer
Host: University of Massachusetts, with College of Menominee Nation, Columbia University, Marine Biological Laboratory, University of Minnesota, University of Missouri – Columbia, and University of Wisconsin – Madison

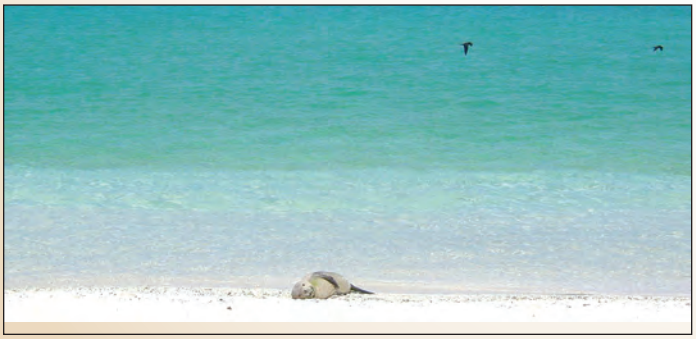
http://www.doi.gov/csc/northeast

Photograph taken by U.S. Geological Survey

Northwest Climate Science Center

USGS Director: Dr. Gustavo Bisbal
University PI: Dr. Phil Mote, Oregon State University
Host: Oregon State University, with University of Washington, and University of Idaho

http://www.doi.gov/csc/northwest



Photograph taken by Melissa Roth, U.S. Geological Survey

Pacific Islands Climate Science Center

USGS Director: To be determined
University PI: Dr. Kevin Hamilton
Host: University of Hawaii – Manoa, with University of Hawaii – Hilo, University of Guam

http://www.doi.gov/csc/pacific

Photograph taken by U.S. Geological Survey

Photograph taken by U.S. Geological Survey

Photograph taken by Kristin Pitts, U.S. Geological Survey

Bald eagle chicks. Photograph taken by Dave Menke, U.S. Fish and Wildlife Service.

South Central Climate Science Center

USGS Director: To be determined
University PI: Dr. Berrien Moore
Host: University of Oklahoma, with Texas Tech University, Louisiana State University, The Chickasaw Nation, The Choctaw Nation of Oklahoma, Oklahoma State University, and National Oceanic and Atmospheric Administration's Geophysical Fluid Dynamics Laboratory

http://www.doi.gov/csc/southcentral

Southeast Climate Science Center

USGS Director: Dr. Gerard McMahon
University PI: Dr. Damian Shea
Host: North Carolina State University

http://www.doi.gov/csc/southeast

Southwest Climate Science Center

USGS Director: To be determined
University PI: Dr. Jonathan Overpeck, University of Arizona
Host: University of Arizona, with University of Colorado, University of California – Davis, University of California – Los Angeles, Desert Research Institute, and Scripps Institute of Oceanography

http://www.doi.gov/csc/southwest

For additional Information contact:

Director
National Climate Change and Wildlife Science Center
U.S. Geological Survey
12201 Sunrise Valley Drive
Reston, VA 20192
703-648-6016
http://nccwsc.usgs.gov

Author: Robin O'Malley

Publishing support provided by the
U.S. Geological Survey
Tacoma Publishing Service Center