



# Human Dimensions of climate Change (HDCC)

An Interagency  
Collaborative for  
Natural Resource  
Management

U.S. Department of the Interior  
U.S. Geological Survey



# Challenge to Natural Resource Management Agencies

- Natural resource agencies are challenged not only by climate change impacts on terrestrial and marine resources, but also by related effects on human communities that depend on these lands and waters.
- Effects include:
  - economic activity, subsistence practices, demographic trends, human health, recreation, infrastructure, and community resilience, and others

# Focus of HDCC 1

- We will approach the issues across federal agencies, disciplines, and non-federal institutions.
- Develop a framework for identifying human impacts of climate change and opportunities for adaptation
  - useful for resource management
  - sufficiently flexible to meet the needs of multiple federal agencies.



## Focus of HDCC 2

- The overall objective for the project is to focus on producing scientifically valid and consistent methods of analyzing human system *resilience and vulnerabilities* in an uncertain climate.
- A guiding principle of this project is to link social science and social systems with the natural science to understand the impacts of climate change.

# Structure of HDCC 1

- Scoped as a 3 year project
- Core Project Team
  - establish primary framework & guidance

	Affiliation
Karen Blakney	BLM
Trish Clay	NOAA
Tom Fish	NPS
Joel Larson	BLM
Jessica Montag	BLM
John Primo	BOEM
Rudy Schuster	USGS
Natalie Sexton	FWS
Ben Simon	DOI Office of Policy Analysis
Rob Winthrop	BLM
Kurt Johnson	FWS
Dan Williams	U.S. Forest Service





# Structure of HDCC 2

- **Primary Working group**
  - ~15 social science climate change experts from agencies and key partners
    - Mix of researchers and managers
  - Provide input in process, refine framework, create products
- **Extended Working Group**
  - Review, provide data etc., refine, provide input, disseminate products,

# Objective 1

- **Interagency Coordination:**
  - Sustain a community of practice on the human dimensions of climate change that facilitates sharing of information and experience among scientists, managers, and community members.
  - At a national scale



## Objective 2

- Provide an interagency forum to apply and evaluate practices, data sets, and indicators concerning the human dimensions of climate change



(AP Photo/Patrick Semansky)





## Objective 3

- Using this information, develop a common framework across agencies for assessing and responding to the human effects of climate change relevant to resource management.
  - Assessment protocols?



(photo: [www.boston.com](http://www.boston.com))



# Initial Activity 1

- Identify key questions on the human dimensions of climate change to prioritize information needs.

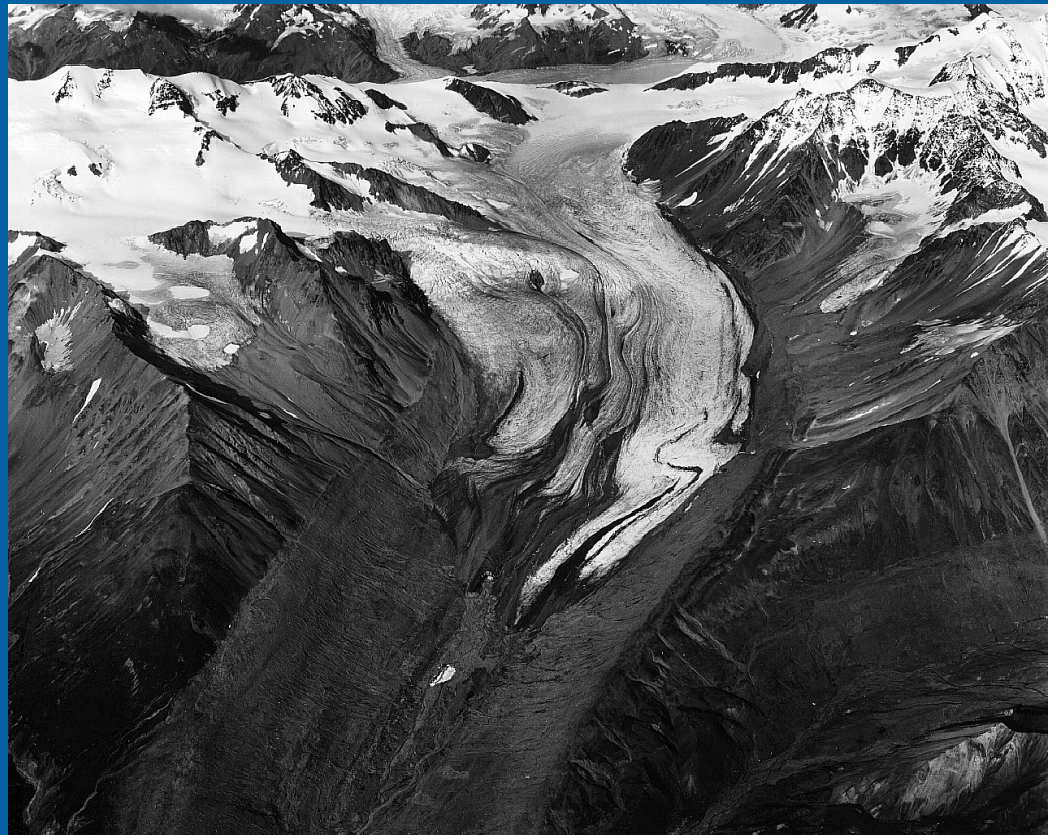


National Geographic photo



# Initial Activity 2

- **Climate Change Case Studies:**
  - Understand the suite of human systems impacts and relationships with natural resources in a specific context
  - First target area is open for discussion!
    - Will choose other areas to represent diversity
      - resources, agencies, human systems, etc.
  - Make relevant to other Climate Change response efforts



Photograph of Gulkana Glacier on August 31, 1967,  
USGS, #67L3-85.



## Initial Activity 3

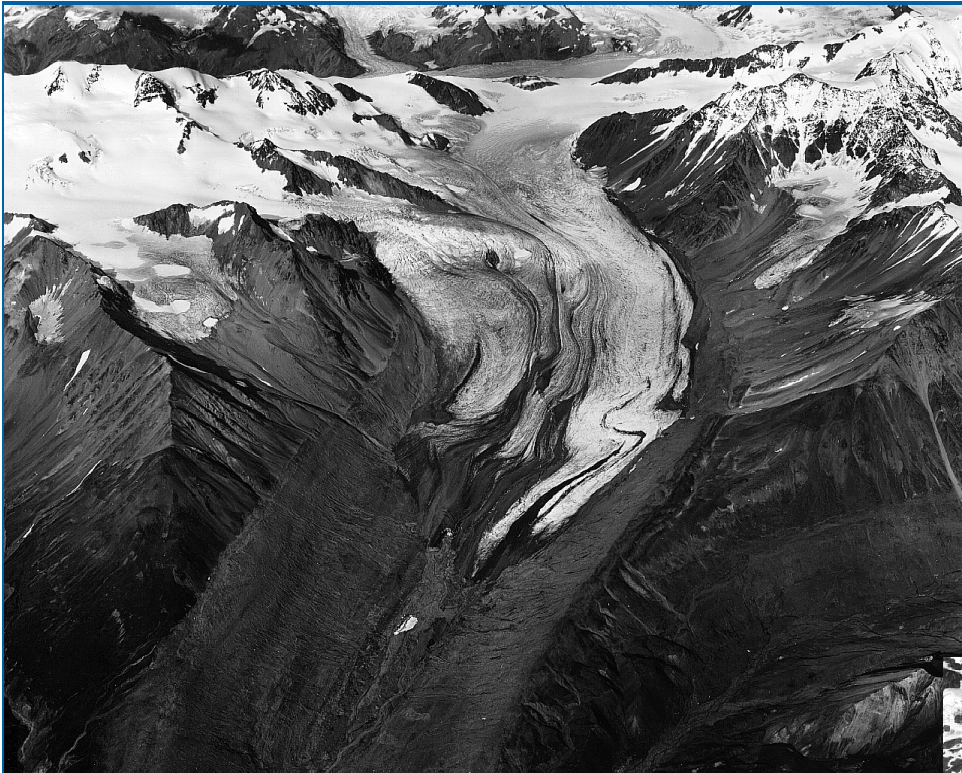
- **Social-Economic Project Database:**
  - Current and completed federal land management, domestic non-federal, and international social-economic climate change projects
  - Information will be used to feed a collaborative network (e.g. LCC & Climate Science Centers)
  - Allow researchers to interact, enter their data, and query the database



Photograph of Gulkana Glacier, Alaska on August 25, 1987. Photograph by Bob Krimmel, USGS, #87R3-218.







Photograph of Gulkana Glacier on August 31, 1967,  
USGS, #67L3-85.



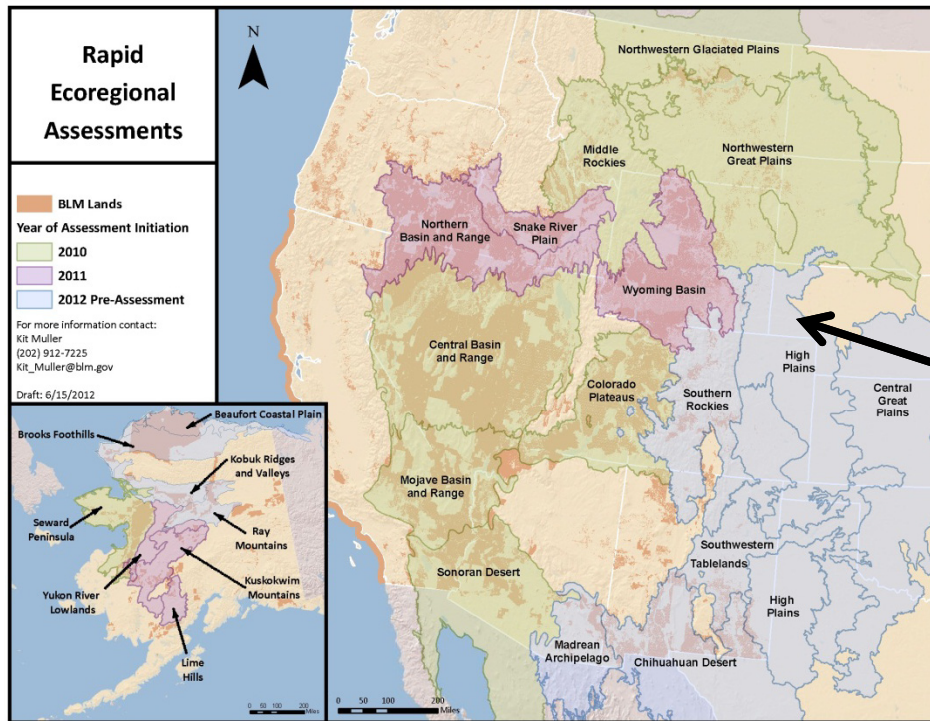
Photograph of Gulkana Glacier, Alaska on August 25,  
1987. Photograph by Bob Krimmel, USGS, #87R3-218.





# Initial Activity 4

- **Principles & Guidelines Document:**
  - on the use of social science methods to inform resource management decisions related to climate change
    - Modeled on the widely-used Principles and Guidelines for Social Impact Assessment (1994)
  - Accessible guide for both social scientists and resource managers.
  - This document will be a synthesis of results from the other tasks in this project as well as other sources

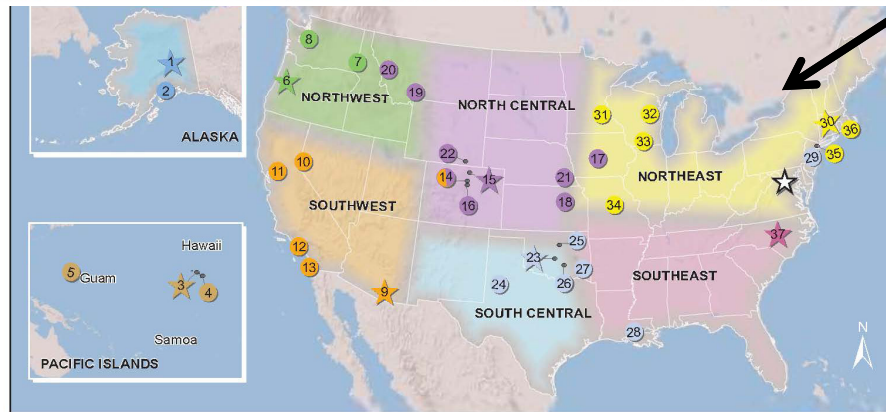


Make relevant to other  
Climate Change  
response efforts

Rapid Ecoregional  
Assessments

Climate Science  
Centers

Landscape  
Conservation  
Cooperatives



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

★ National Climate Change  
and Wildlife Science Center

★ CSC Lead Institutions

② 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 Institution of Oceanography
- 14. University of Colorado

EXPLANATION

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

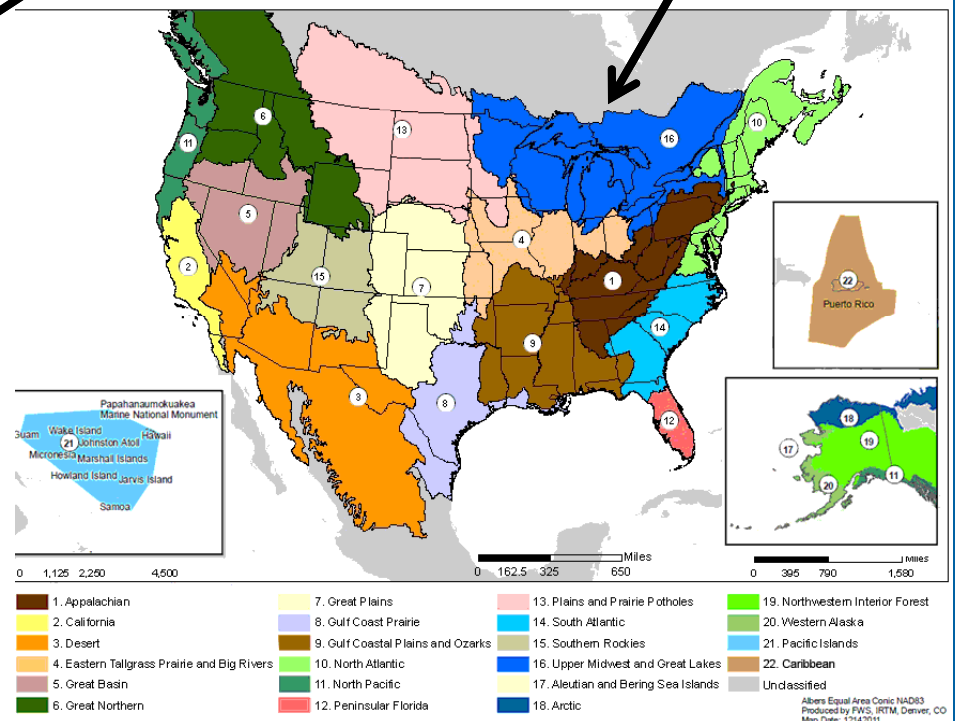
- 23. University of Oklahoma
- 24. Texas Tech University
- 25. Oklahoma State University
- 26. Chickasaw Nation
- 27. Choctaw Nation of Oklahoma
- 28. Louisiana State University
- 29. NOAA Geophysical Fluid Dynamics Laboratory

Northeast CSC

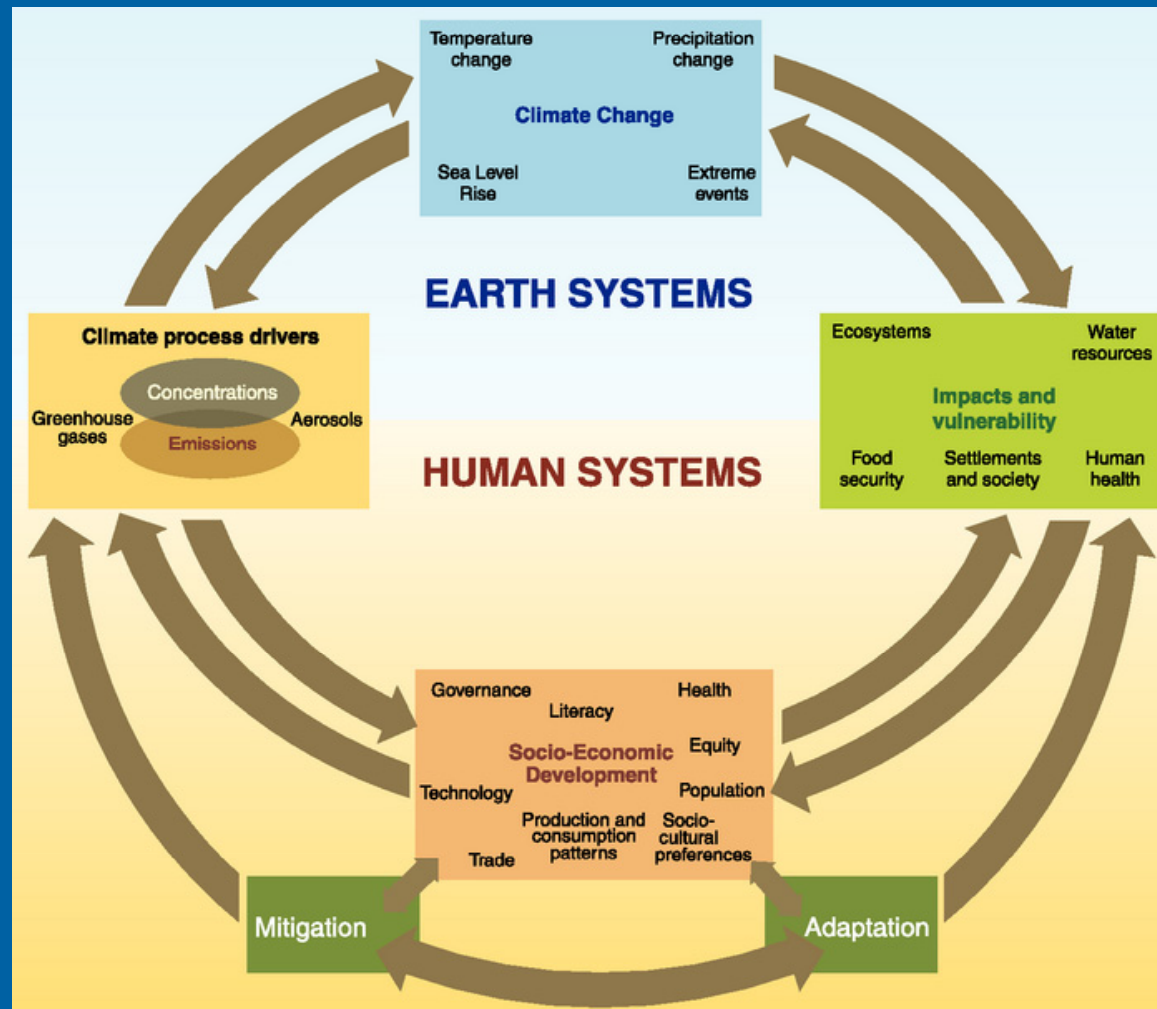
- 30. University of Massachusetts Amherst
- 31. University of Minnesota
- 32. College of Menominee Nation
- 33. University of Wisconsin - Madison
- 34. University of Missouri - Columbia
- 35. Columbia University
- 36. Marine Biological Laboratory

Southeast CSC

- 37. North Carolina State University



# Schematic framework of anthropogenic climate change drivers, impacts and responses in the Social-Ecological System (adopted from IPCC 2007)





# Current Status

- Many Committee meetings
- Term Hire
- PhD Student Hire



# Questions

