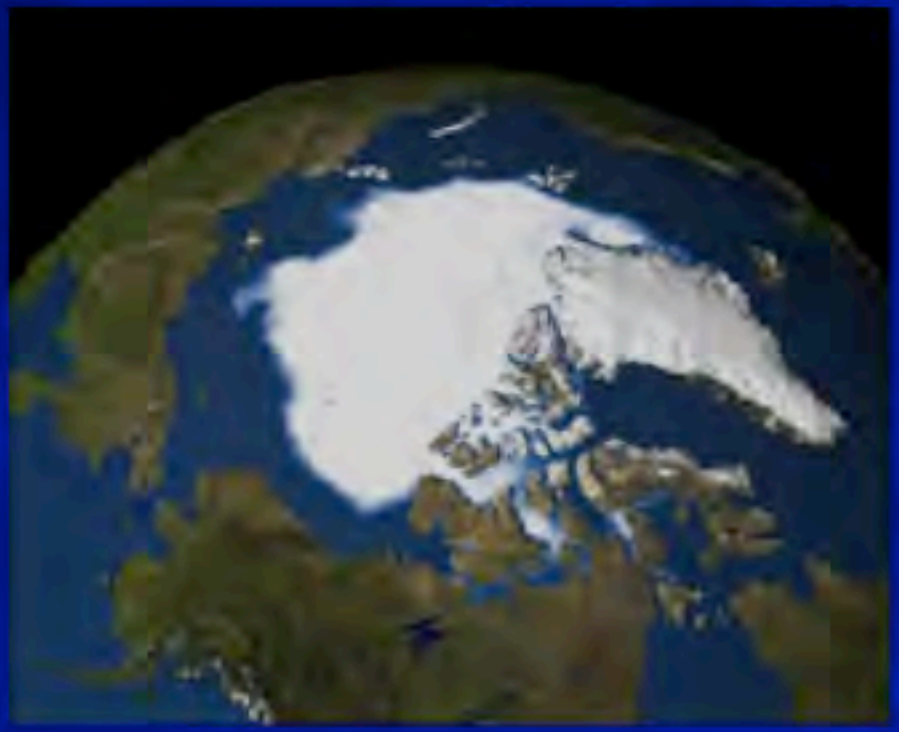
Collaborative Conservation at a Landscape Scale



Responding to climate change effects on our Land, Water and Wildlife Resources with Landscape Conservation Cooperatives (LCCs)

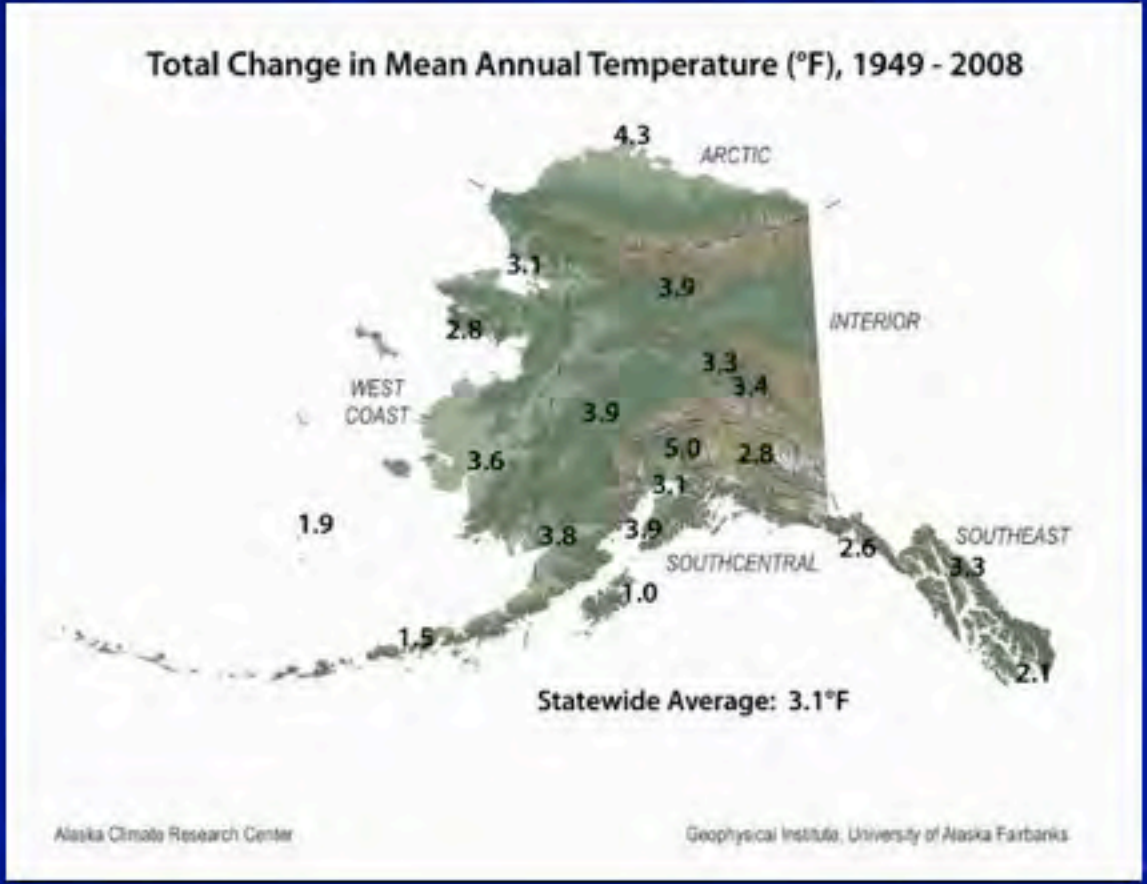
Climate Change: Conservation Challenge of the 21st Century

In unprecedented ways, far-reaching ecological process changes are reshaping Alaska's marine and terrestrial habitats and local communities

"Alaska is ground zero for climate change. We must put science to work to help us adjust to the impacts of climate change on Alaska's resources and peoples."
- DOI Secretary Ken Salazar

Historic Temperature

- Annual Increase
  3.1°F
- Winter Increase
  6.3°F
- Twice the global average



Observed Impacts

Front Street – Nome AK

"...A warming climate is having serious and broad-scale impacts in Alaska, including flooding of villages; increasingly strong coastal storms, eroding the beaches of coastal villages; subsidence from thawing of permafrost; and a record number of forest fires threatening communities, property, and air quality..."

The Alaska Climate Change Mitigation Advisory Group (MAG), convened by the Alaska Climate Change Sub-Cabinet – Draft final report.

Physical & Ecological Process Changes

- Melting permafrost
- Increased fire occurrence
- Advancing nesting phenology
- Record forest pest outbreaks
- Accelerated Invasive species
- Habitat changes (e.g. drying wetlands)

"Scientific research and economic exploration are set back by low quality, decades old mapping data…There is no accurate baseline to measure change, to identify trends and patterns, or predict potential outcomes."

AK Gov Sean Parnell: in testimony presented to the Homeland Security Subcommittee of the Senate Committee on Appropriations on August 20, 2009, in Anchorage, AK (The Arctic Sounder 2009)

Responding to Climate Change

"Begin by developing a collaborative organizational structure that can focus the combined capabilities of local, regional, state and federal stakeholders on the problems at hand."

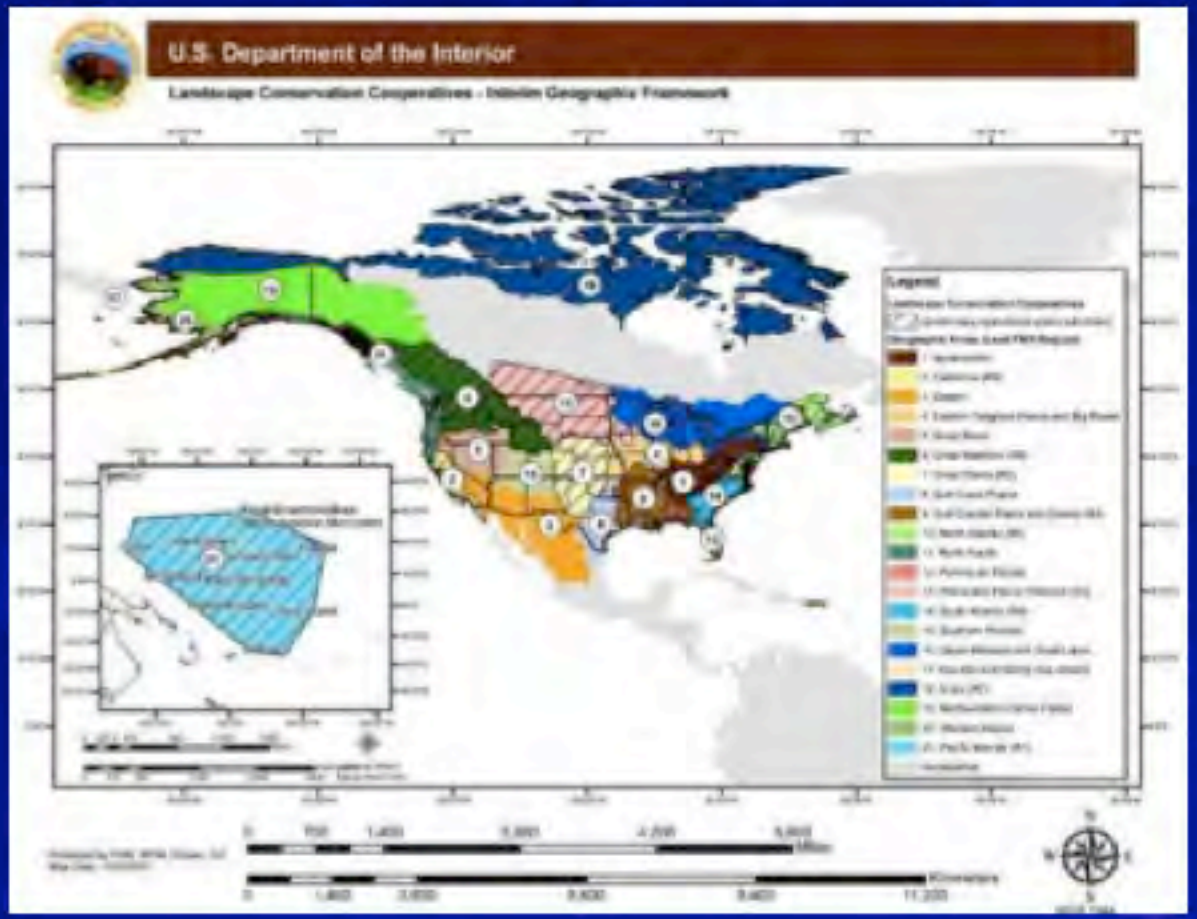
- Alaska State Climate Change Strategy Immediate Actions Workgroup's Recipe for Success

National Framework for Collaboration

- DOI Climate Change Strategy:
  - Landscape Conservation Cooperatives (LCCs)
  - Climate Science Centers (CSCs)
- NOAA Climate Service
- US Forest Service Regional Climate Change Strategic Framework
- State climate change plans and strategies
- Build upon existing conservation partnerships

LCCs: Benefits at Multiple Scales

- National Level: addresses conservation on a landscape basis across geopolitical boundaries



- Local Level: predict ecological and habitat changes and link science to on-the-ground conservation actions

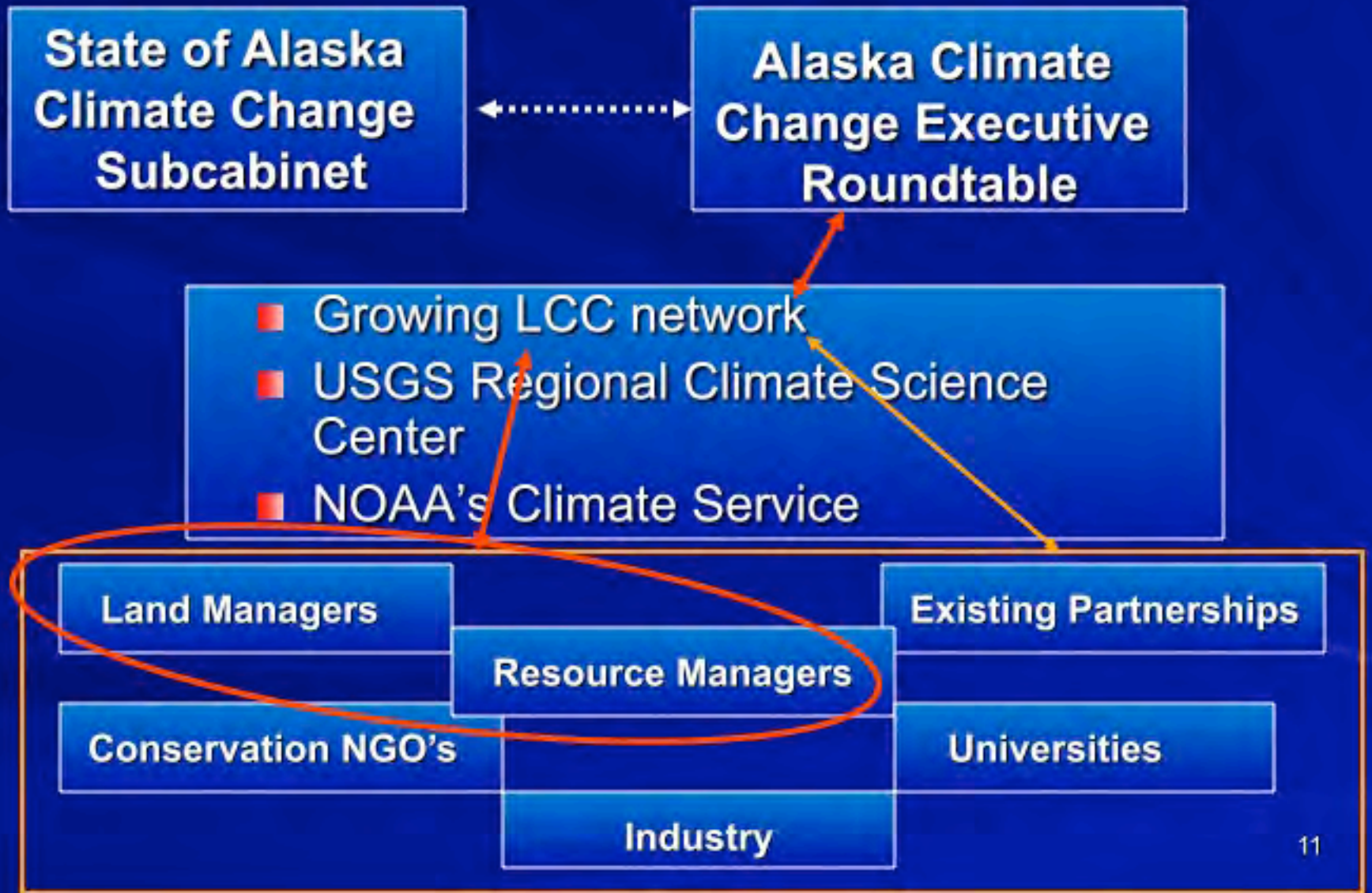
LCC Geographic Framework

Boundaries are porous and may be subdivided based on ecological or threat assessments

LCC boundaries informed by plans such as: Bird Conservation Regions (BCR) and Freshwater Eco-regions

- 9 LCCs in 2010 22 LCCs anticipated

Strengthening the Framework for Alaska



What are LCCs? What will they Do?

- Solution-oriented science partnerships
- Identify and address cross-cutting scientific information needs
- Better understand habitat impacts and species response to ecological process changes
- Inform landscape-scale conservation and management decisions

What Will LCCs **Not** Do?

- Replace agency responsibilities
- Supersede agency decision making authority
- Initiate Regulatory actions
- Negate value/role of existing partnerships and cooperatives
  - (e.g. Pacific Joint Ventures, National Fish Habitat Partnership, BLM Ecological Assessments, North Slope Science Initiative, NPS Vital Signs)

Alaska Regional Climate Science Center (CSC) and the LCCs

Alaska CSC- The first of 8 Regional CSCs in the Nation.

- **Funded and staffed primarily by USGS, and hosted by University of Alaska-Fairbanks in Anchorage .**
- **Provide basic climate change impact science to Alaska LCCs**
  - **including physical and biological research,**
  - **ecological forecasting,**
  - **and multi-scale modeling.**
- **Provide scientific information, tools and techniques to Alaska LCCs, and other land, water, wildlife and cultural resource managers**

LCC relationship to Existing Partnerships

- Identify shared climate research and information needs and data gaps
- Foster development of common databases to track research and compile geospatial data
- Help strengthen link between science and conservation actions

Approach to Forming an Alaska LCC Network

- Communicate with agencies
- Outreach to stakeholders
- Create Interagency governance committee (State & Federal Co-Chairs)
- Hire Core LCC staff – Coordinators in Fairbanks & Anchorage
- Identify shared science information needs
- Establish shared conservation goals



Arctic LCC

- First operational LCC in Alaska

Arctic LCC – Progress to date

- Established initial Steering Committee
- Hiring LCC coordinator and key staff
- Drafted *Development and Operation Plan*
- Initiating actions to:
  - Identify shared science needs
  - Define conservation strategies
- Engaging existing partnerships and cooperatives to leverage efforts and maximize results (e.g. North Slope Science Initiative, Sea Duck Joint Venture, NPS Vital Signs, BLM Ecoregional Assessments…)

Western Alaska and Aleutians/Bering Sea Islands LCCs– Progress to Date

- Created Initiation Team
- Upcoming 2010 steps:
  - Agency and NGO outreach
  - Discuss boundaries
  - Developing operations plan
  - Hiring coordinator
- Implementation Goal: 2011

Northern Pacific LCC – Progress to Date

- Initiated Outreach
  - Dialog w/State & Federal Agencies
  - Partner meetings
- Next Steps
  - Identifying science needs
  - Planning Information gap analysis
- Implementation goal: 2011

Northwestern Interior Forest LCC

- Slated for 2012
- Initial concept planning in 2011

What can LCCs do for you?

- Provide opportunity to inform and collaborate on research
- Make sure science is asking the right questions and agencies are working on the right issues
- Increase data sharing and integration
- Strengthen understanding of impacts on your work, agency, business and/or community

Expected Initial Products focus on Baseline Science Needs

Using Arctic LCC as an example:

- Increased spatial data for species
- Development of a hydrological database
- Increased access to existing spatial data (through interagency, university, GINA and NSSI collaboration)
- Initial steps towards integrating permafrost, vegetation and disturbance models

Next Steps

- Outreach to partners
- Stand up Arctic and Western LCCs
- Assist in initiating the North Pacific LCC
- Hire core staff
- Initiate dialogue on data integration
- Develop communication tools
- Identify research needs with State of Alaska and other agencies and NGOs

Participate in Alaska LCC Network

- Help Identify Research Needs and Conservation Goals
- Contact us: AlaskaLCCs@fws.gov
- Additional questions?

Learn more –

- www.climatechange.alaska.gov
- http://www.doi.gov/whatwedo/climate/strategy/LCC-Map.cfm