WESTERN ALASKA LANDSCAPE CONSERVATION COOPERATIVE

Presentation for NASA ABoVE Science Team

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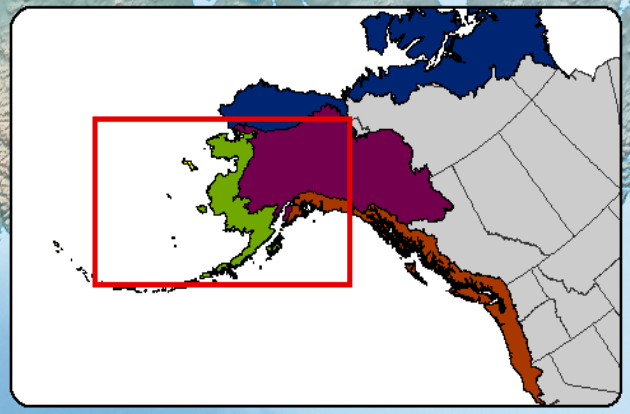
Western Alaska LCC



Mission:
The Western Alaska Landscape Conservation Cooperative promotes coordination, dissemination, and development of applied science to inform landscape level conservation, including terrestrial-marine linkages, in the face of a changing climate and related stressors.

Key Priorities
Western Alaska LCC

Using a collaborative, yet structured approach, identify activities where the LCC can best serve decision makers in western Alaska with regards to climate change impacts.

Strategically apply our small project funding as seed money to leverage activities among the diverse members of the cooperative.

Closely coordinate with Alaska Climate Science Center, cooperative members and others to

- **Improved understanding of changes in *Hydrologic* & *Coastal Processes* and *Terrestrial habitats;***
- **Integration of existing data to understand linkages between physical and biological processes**
- **Better Data Management and Sharing among organizations.**
- **Science/knowledge delivery**

2 Year, Integrated Programs

- **Single Topic of Focus**
  - (2012/13) *Impacts of changes in coastal storms;*
  - (2014/15) *Freshwater temperature change and its impacts (especially on salmon);*
  - (2016/17) *Impacts of changes in terrestrial habitat features for important resources*

- **Integrated Suite of Activities**
  linking projects on
  Human Communities, Biological Communities, and Landscape & Geophysical/Oceanographic processes

Science Strategy

- We focus our attention on three thematic system areas and the linkages between them:
  - Coastal
  - Freshwater
  - Terrestrial
- Co-sponsor work that includes the functional system levels of Humans, Biological, Landscape/Seascape, Geophysical/ Oceanographic
- Most activities focus at the lower levels because they address the most stakeholder objectives.

Science Strategy

- 2011 – first projects funded – variable topics
  - Permafrost, lake change, existing veg, integrated ecosystem model
- Changes in Coastal Storms and their Impacts
  - 17 projects funded, 2012-2013
- Changes in freshwater temperature and its impacts (on salmon)
  - 10 projects funded 2014-2015
  - Several developmental stages already completed.
- Informing decision makers about climate change effects on terrestrial habitat features and their impact on important resources/services

Changes in Coastal Storms and their Impacts: Priorities

Habitat maps
Vulnerability
Predictive models

Vulnerability
Local Observers
Inform models

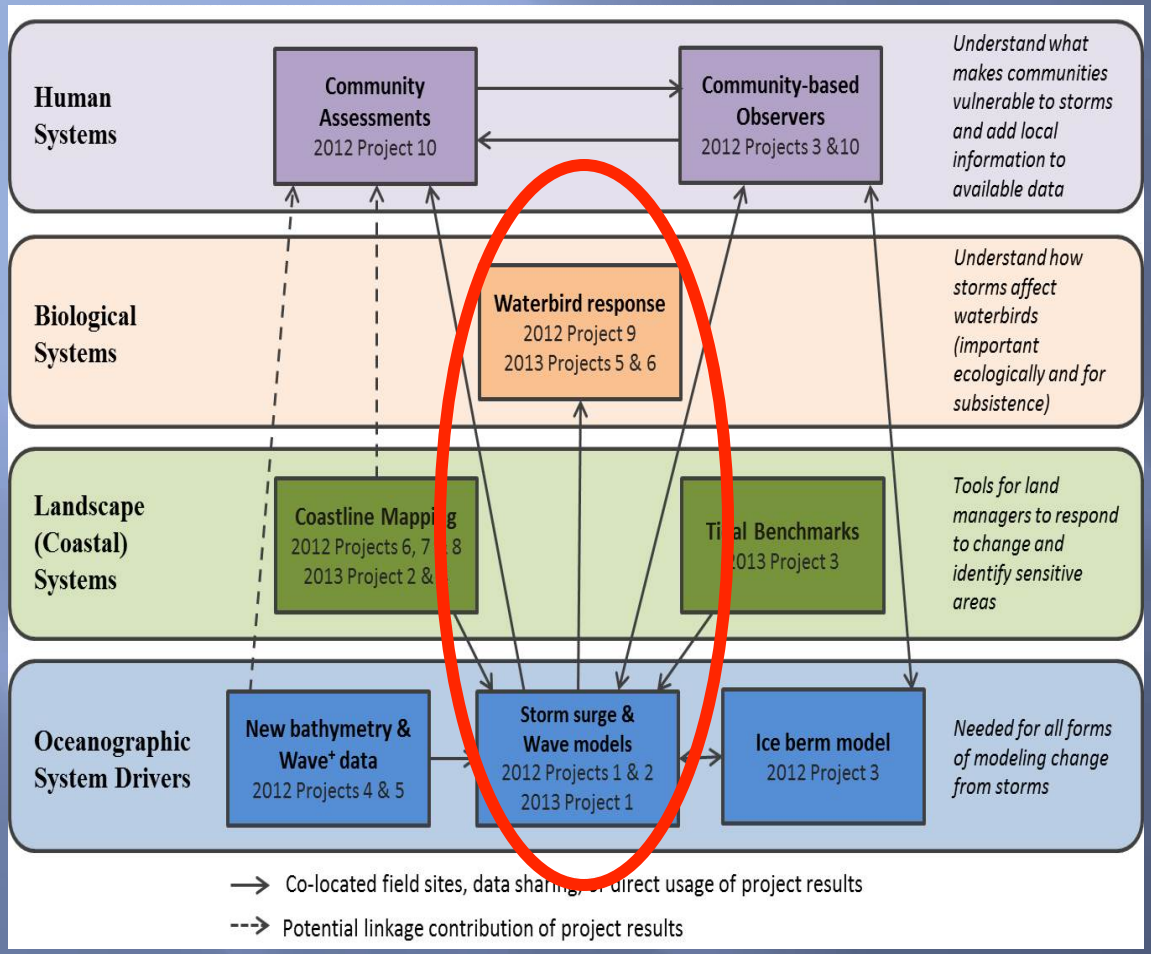
New in 2015:
Synthesis of coastal projects throughout the LCC

Planning for Science Delivery sessions in 2015/16 with other LCCs and key coastal partners (State of AK, NOAA, ACSC, Native Associations…)

Coastal mapping
Nearshore bathymetry
Tidal benchmarks
Storm surge models
Coastal erosion mapping

Ocean circulation models
Wave buoy data
Storm surge models
Sea ice berm formation

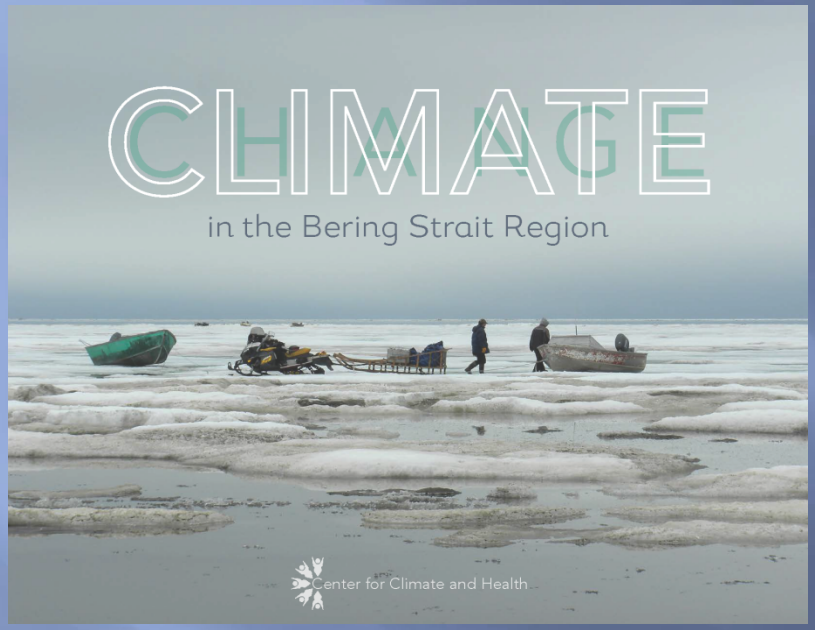
Integrated Suite of Activities

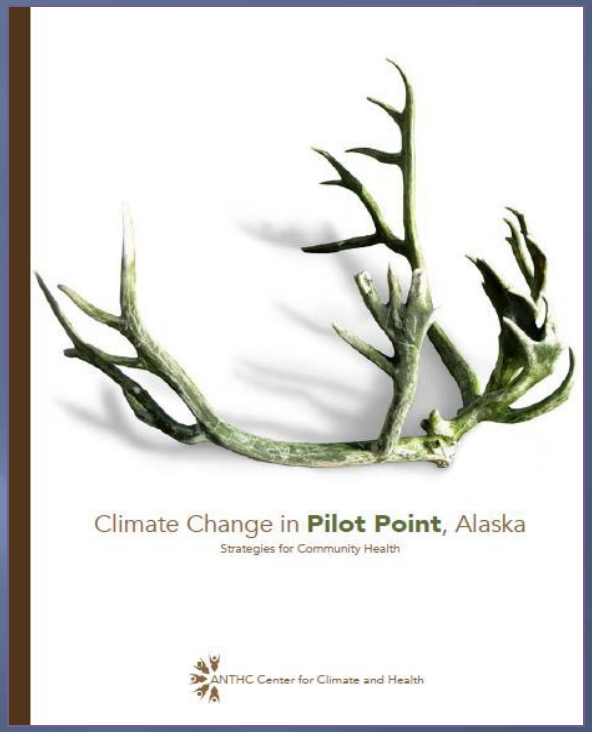


w/ attention to:

- Data Collection Coordination
- Synthesis Existing Data
- Integration (Impacts)
- Data Sharing/Curation

Community Health Assessments





- Residents identify concerns and opportunities
- Linking residents with others
  - Network among communities
  - Links to research/management communities

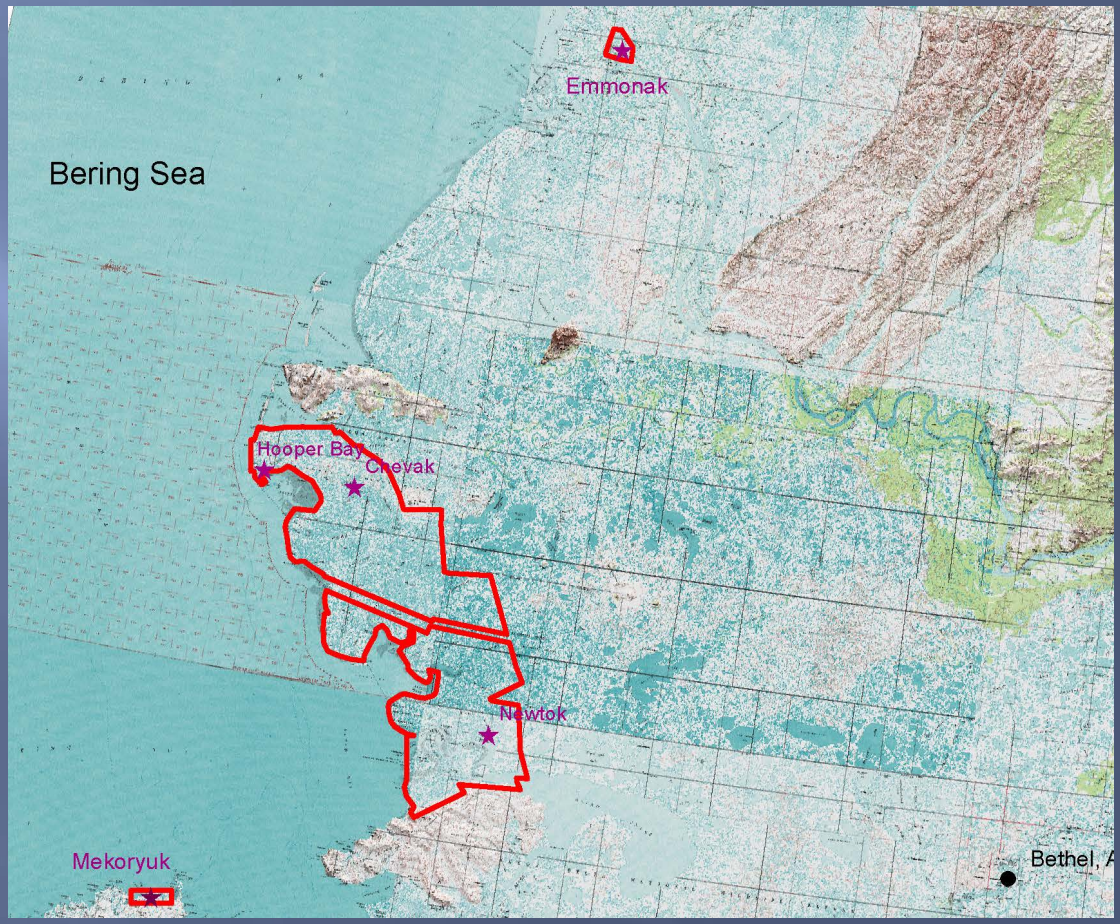
- Online Project Catalog (Inventory)
- Implementation strategies for regional networks
- Predictive Scenarios demo project
- Minimum standards for data collection
- Data Manag. Architecture Share / Curate
- Spatial Design Assessment & Strategy

Regional Water Temp. Monitoring & Analysis

- Vuln. Assessments: Sockeye embryo-> fry Chinook juv. Growth

2016-2017

- LIDAR on YK Delta
- TWS workshop on moose surveys/ no snow
- Promoting Coastal Resiliency/ Adaptation workshops



2016-2017 New Starts

- **Select from 10 proposals on terrestrial topics March 3rd.**
  - **Drivers of change: fire, thermokarst, permafrost, human use**
  - **waterbirds, caribou, moose, predators, berries**
  - **Moose and management studies**
  - **Geospatial library**

Summary

- Networks across stakeholders
- Networks among project leads
- Co-development of "road maps" to address needs

Some progress on:

- Thaw & refreeze
- New permafrost network sites
- Integrated ecosystem model(s)
- Coastal change analysis
- Community assessments
- Collaborative monitoring
- Stream temp & salmon

Opportunities

- Platforms for data sharing esp. with non-agency partners
- Remote sensing tools to assess change
  - Climate to hydrology
  - Extreme events
- Geospatial layers that are seamless
- Local engagement in data collection and distribution
- Science delivery

Contact Information

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