



BNZ LTER Public and Agency Outreach



Outreach Functions

- Provide scientific expertise to resource managers, policy makers, industry, and local communities.
- Develop applied research to serve stakeholder needs.
- Engage in state and federal agency collaborations to leverage NSF LTER funding.
- Provide a national and international spotlight on BNZ LTER research.

Outreach Activities

- Outreach to agencies
- Outreach to communities
- Programmatic efforts to address stakeholders' needs
- Communication with media

Agency Collaborations

- Bureau of Land Management
- Alaska Fire Service
- Canadian Forest Service
- US Fish and Wildlife Service
- USDA Agricultural Research Service
- US Army Corps of Engineers
- National Park Service
- US Forest Service
- US Geological Survey
- State of Alaska
 - Department of Natural Resources
 - Department of Fish and Game

Engaging the Fire Management Community

- Alaska Fire Service/BLM, USFWS, NPS, State of Alaska Division of Forestry
- Rupp, Kasischke, Johnstone, T. Hollingsworth, Verbyla, Mack, Schuur
- Joint Fire Science Program, NASA, USDA



Engaging the Wildlife Management Community

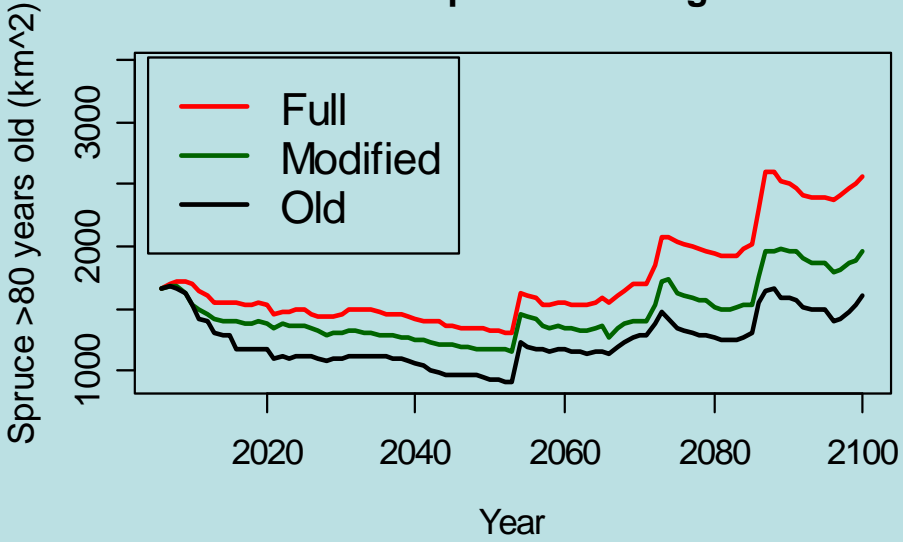
- US Forest Service, US Fish Wildlife Service, US Geological Survey-BRD, Alaska Department of Fish and Game

- Kielland, Hanley , Ruess, Rupp

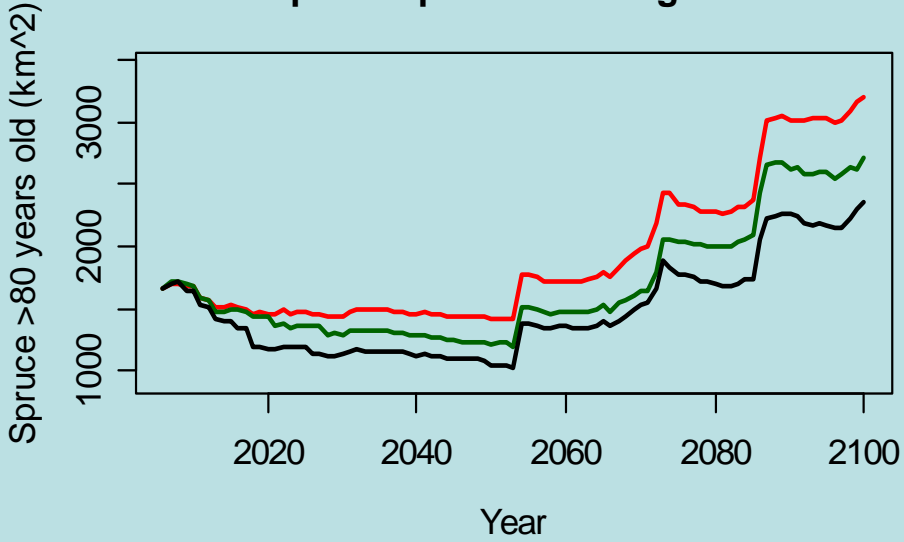


Estimated Available Winter Caribou Habitat in Kanuti NWR

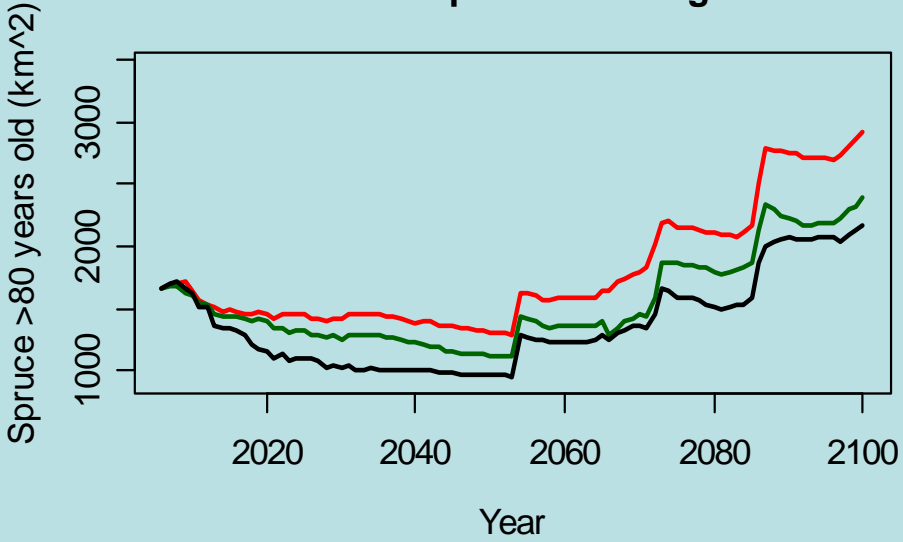
a2hadcm3: Spruce Stand Age > 80



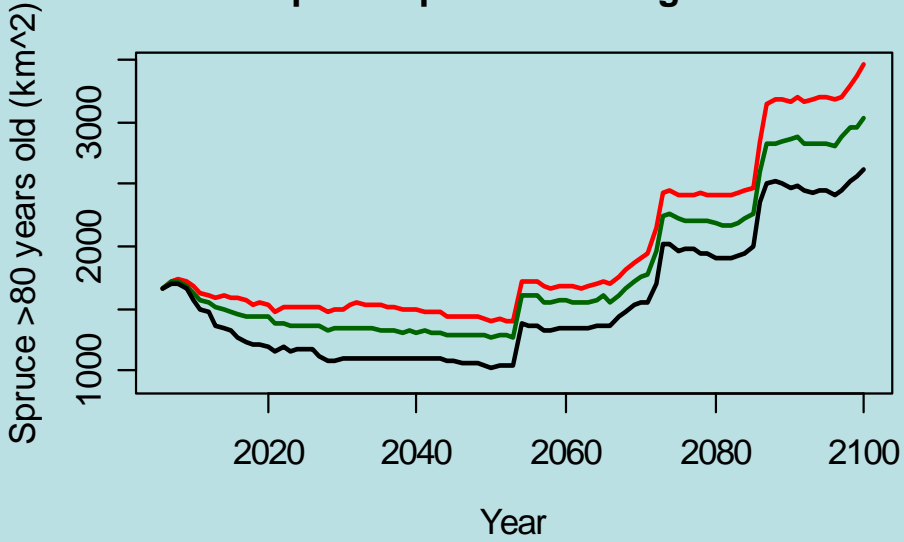
a2pcm: Spruce Stand Age > 80



b2hadcm3: Spruce Stand Age > 80



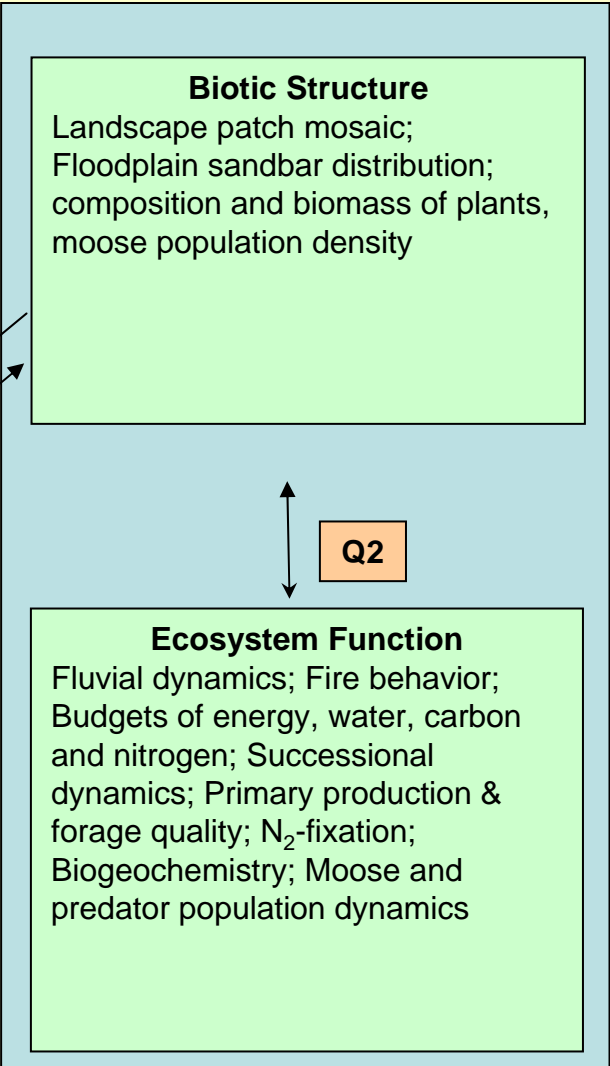
b2pcm: Spruce Stand Age > 80



Disturbance-Moose Socio-Ecological System

External Drivers
Global population & Resource use; Solar energy

Regional Drivers
Regional Climate; Glacier & snow melt; Summer & winter precipitation regimes; Regional economy; Federal fire policy; Human migration



Human Behavior
Harvest of moose and wild foods; fire ignitions and suppression; land settlement; wildlife management

Human Outcomes
Cultural fabric; demographic change; infrastructure development; state/federal regulation & management; land development /conservation ethic

Disturbance Regimes
Pulse: high pressure atmospheric systems; fire; thermokarst; floods, subsurface nutrient inputs; winter and summer precipitation;
Press: warming; drought; warming; precipitation; sediment loading; flood intensity and seasonality; sedimentation; sandbar formation; bank erosion

Ecosystem Services
Climate regulation; Fire regulation; Subsistence resources; Summer and winter access to landscape; Cultural services

Q5

Q1

Q4

Q3

- Q1: How do long-term trends in climate and disturbance regime interact to alter the boreal forest of Interior Alaska and to feedback to the climate system?
 Q2: How are feedbacks between landscape and stand structure (biotic composition and soils) and functioning (ecosystem budgets, successional processes, and animal population dynamics) affected by climate warming and changing disturbance regimes?
 Q3: How do ecological changes caused by altered climate and disturbance regimes affect climate and fire regulation by landscapes and the supply of subsistence and cultural resources to local residents?
 Q4: How will the human population of Interior Alaska respond to recent and projected changes in disturbance regimes and subsistence and cultural services?
 Q5: How do humans decisions and actions affect the regimes of Interior Alaska?

Community Engagement

- We hate fire!
 - Learn the cultural context
 - Risk to life and property
 - Economic benefits of fire-fighting
- Fuel costs > \$6/gallon
 - Drives rural-urban migration
- Biofuel harvest to reduce fire risk
 - Ecologically sustainable (90% of communities)
 - Economically viable (>80% of communities)
 - 90% of costs retained locally as wages
 - Improved moose habitat near villages



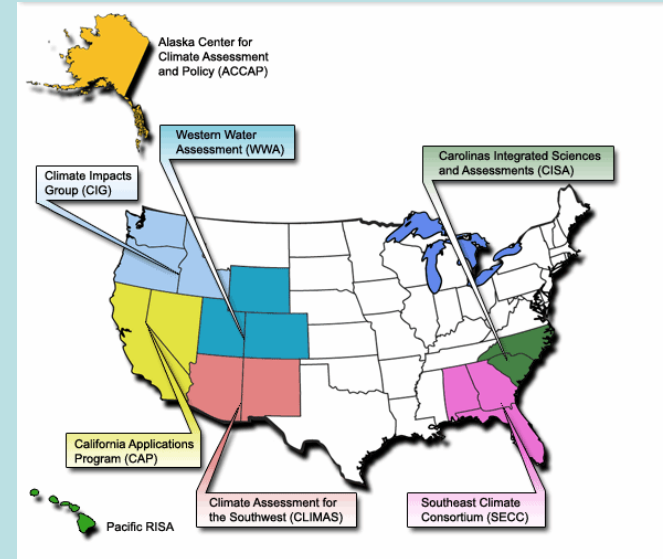
UA Programmatic Initiatives

- Alaska Center for Climate Assessment and Policy (ACCAP) – NOAA funded
- Scenarios Network for Alaska Planning (SNAP) – University of Alaska funded

Fairbanks North Star Borough Climate Change Planning Group

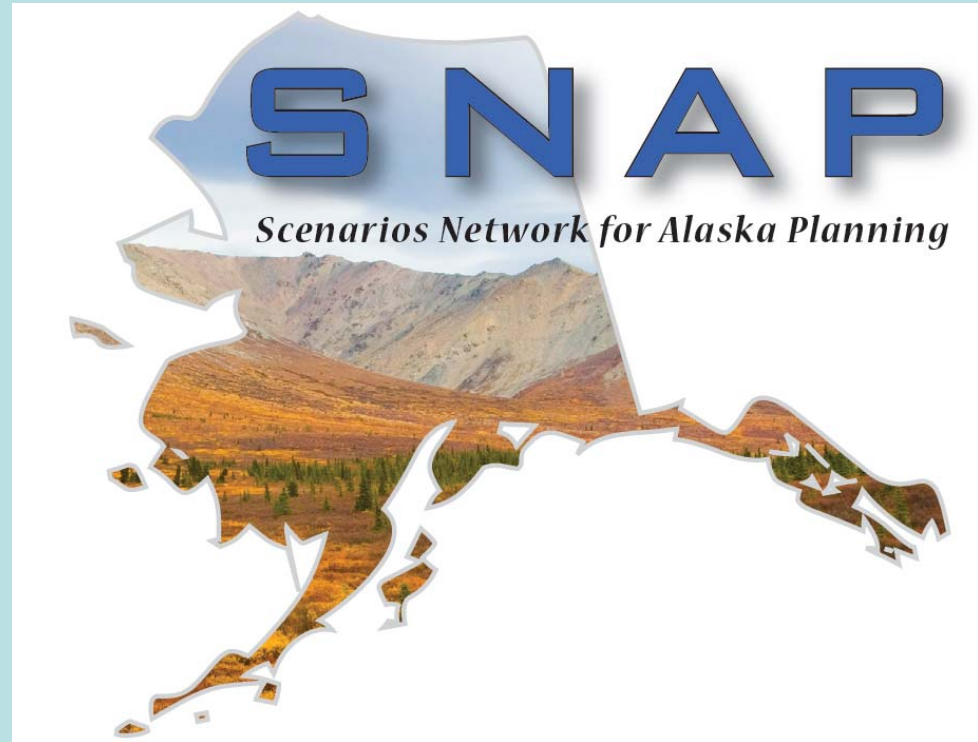
Alaska Center for Climate Assessment and Policy

- NOAA Regional Integrated Sciences and Assessment Program
- ACCAP's Mission - Engage Alaskan Stakeholders



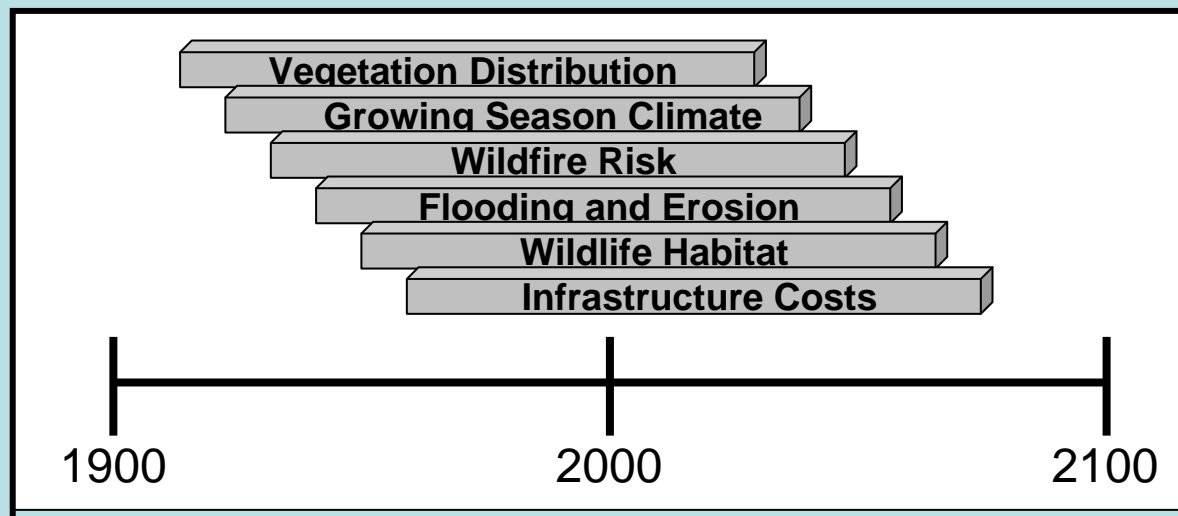
Scenarios Network for Alaska Planning

- **SNAP** is a collaborative network of the University of Alaska, state, federal, and local agencies, NGO's, and industry partners.
- **SNAP** will provide timely access to scenarios of future conditions in Alaska for more effective planning by decision-makers, communities, and industry.



SNAP Primary Products:

1. Geographically defined time series (e.g., maps; downscaled projections) of future conditions that are linked to present and past conditions.
2. Objective interpretations of scenarios.
3. Detailed explanations of the rules and models that describe controls over projected changes including metadata that clearly describe the methods and assumptions underlying the projections.



Communicating the Science

- Local, national, and International media coverage in newspapers, magazines, radio, and television



NPR Science Friday – June 8, 2007

