

ESPON/NRF

Indigenous Peoples & Climate Change: Framing the Dialogue

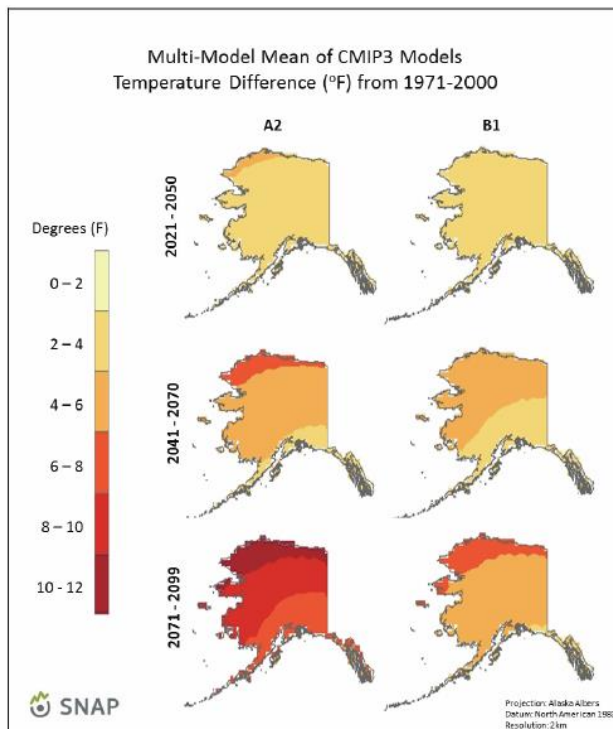


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Draft National Climate Assessment

Key Issues - Warming

- Alaska has already warmed an average of 3degreesF with more warming projected



Societal Consequences

- Human health
- Infrastructure damage
- Habitat for subsistence animals and fish
- Native food sources and way of life
- Ecosystem changes
- Invasive Species
- Tourism

Health Issues



- Damage and disruption to water and sanitation infrastructure
- Range change in wildlife that can cause disease
- Changes in marine conditions may be increasing the risk for food-borne illness
- Milder winter temperatures increasing risk of injury from insect stings



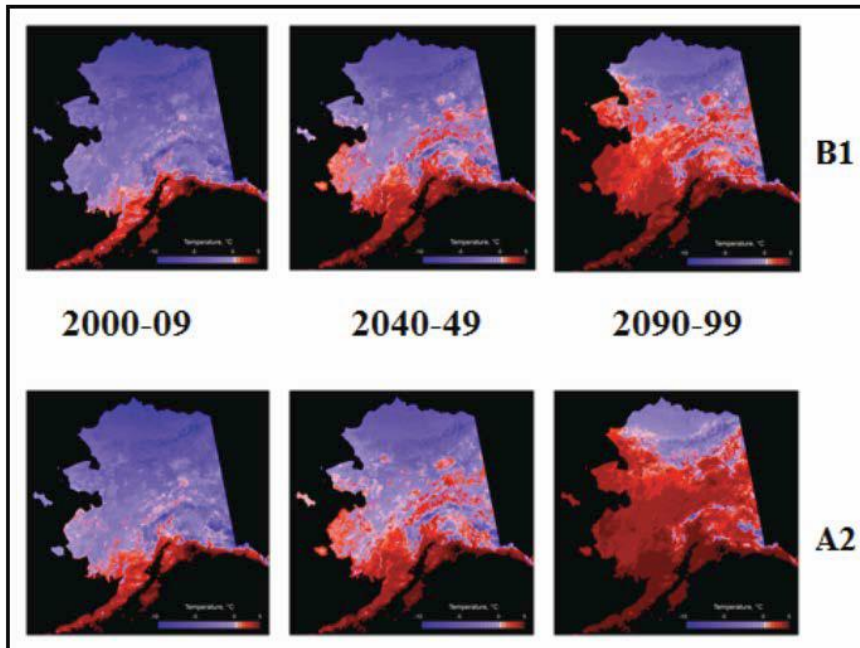
Erosion

- Declining sea ice has increased the erosion impacts of storms on coastal communities
- Threats to life and property
- Need for resources for relocation



Permafrost

- Permafrost in Alaska has warmed about 3 degrees C in the last 30 years & continued warming is projected

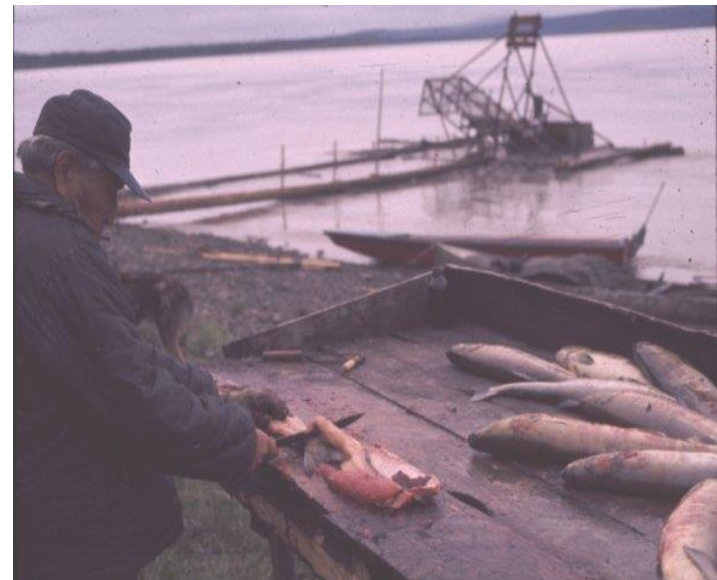


- Impacts on rural fresh water and sanitation
- Infrastructure impacts
- Ecosystem impacts on surface water availability
- Associated methane release and feedbacks



Ocean Acidification

- Ocean acidification is occurring more rapidly in cold northern waters
- Impacts on ecosystems
- Commercial and subsistence fisheries yet to be determined



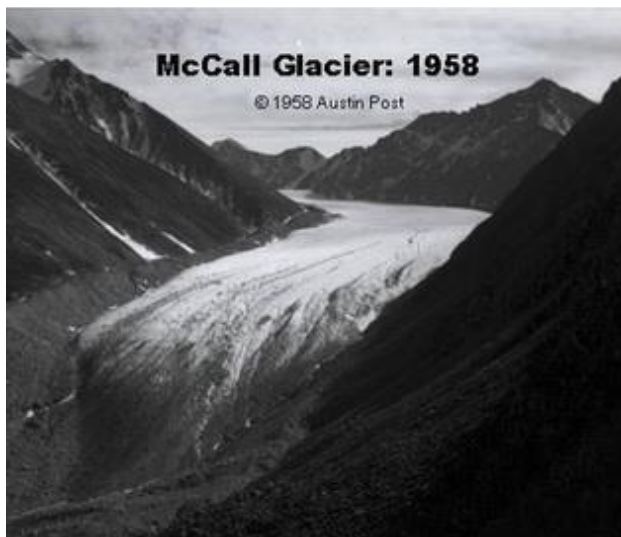
Wildfires

- Wildfire extent is increasing
- Threats to life and property
- Smoke impacts on human health and air traffic



Glaciers

- Alaska's glaciers are losing mass
- Fresh water discharge to the ocean is approx. similar to that from Greenland Ice Sheet
- Implications for global sea level rise
- Implications for salinity, temperature & sedimentation related to salmon habitat, fisheries and marine ecosystems
- Implications for ocean currents



Sea Ice

- Sea Ice is declining more rapidly than projected
- Some models project total loss of Arctic Sea Ice between 2030-2050
- Opportunities for trans-Arctic shipping
 - Need for infrastructure
 - Need for oil spill response
- Impacts on subsistence hunting and whaling
- Impacts on marine mammals
- Warming feedbacks



Opportunities



- **Increased Tourism Season**
- **Increased Research Opportunities**
- **Arctic Marine Transport**
- **Longer seasons for Resource Development – Mining, Offshore Oil & Gas Exploration & Development,**
- **Longer growing season for Farms**
- **Employment & Educational Opportunities**

Challenges

Ice Free Arctic Ocean = increased:

- **Transportation- shipping**
- **Tourism**
- **Fishing**
- **Industry – development**
- **Potential spills, air pollution, noise, discharges**
- **Species/habitat disturbance**
- **Search & rescue**



Arctic TRANSFORM – IP Working Group

Key Policy Options

- **We recommend** that viable policy options begin by recognizing the needs, perspectives and perceptions of local people and local communities, and of the importance of families and households, and other forms of close social association, as foundations for sustainable livelihoods and sustainable communities.
- **We recommend that** discussions on policy options should be informed of the diversity understandings and misunderstandings of adaptation.

- **We recommend** that policy options at all times include the recognition and respect for the rights of indigenous peoples and integrate their social, cultural and economic aspirations.
- **We recommend** the setting up of a Climate Change Impact Assessment Working Group under the Arctic Council to investigate the present and future social, cultural and economic consequences of proposed adaptation strategies.
- **We recommend** the setting up of a Indigenous Rights Review Working Group under the Arctic Council to analyse the legal and institutional barriers to adaptation as an urgent requirement.

Indigenous Frameworks for Observing & Responding to Climate Change

1. Engage communities in designing climate change solutions.
2. Create an environment of mutual respect for multiple ways of knowing.
3. Directly assist communities in achieving their adaptation goals.
4. Promote partnerships that foster effective climate solutions from both western and indigenous perspectives.
5. Foster regional and international networking to share climate solutions.

ALASKA NATIVE PERSPECTIVES ON EARTH AND CLIMATE

TRADITIONAL WAYS OF KNOWING

[Spirit](#)

[Air](#)

[Fire](#)

[Water](#)

[Earth](#)



EARTH AS A SYSTEM

[Atmosphere](#)

[Biosphere](#)

[Cryosphere](#)

[Hydrosphere](#)

[Lithosphere](#)

[Lesson Plans and Student Activities](#)

As the environmental, economic, and political consequences of climate change are felt in Alaska, the Arctic, and throughout the world, we have much to learn from both the traditional knowledge of Native peoples and ongoing scientific research. These two methods of observing nature and solving the challenges of survival can provide complementary perspectives on these issues. This collection looks at Alaska's unique geology and the impact of development and climate change using both of these tools, and features Alaska Native scientists who are working toward solutions.

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National Science Foundation

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Alaska Native Science Commission & University of Alaska Fairbanks Community Partners – Igiugig, Koyukuk, Newtok, Nikolai



The Voice of the Real People

North Slope Communities on NPR-A Social Science Plan



Report prepared by the Alaska Native Science Commission
for the Bureau of Land Management
September 2009

International Indigenous Initiatives

- Indigenous Peoples Global Network on Climate Change and Sustainability



- Many Strong Voices

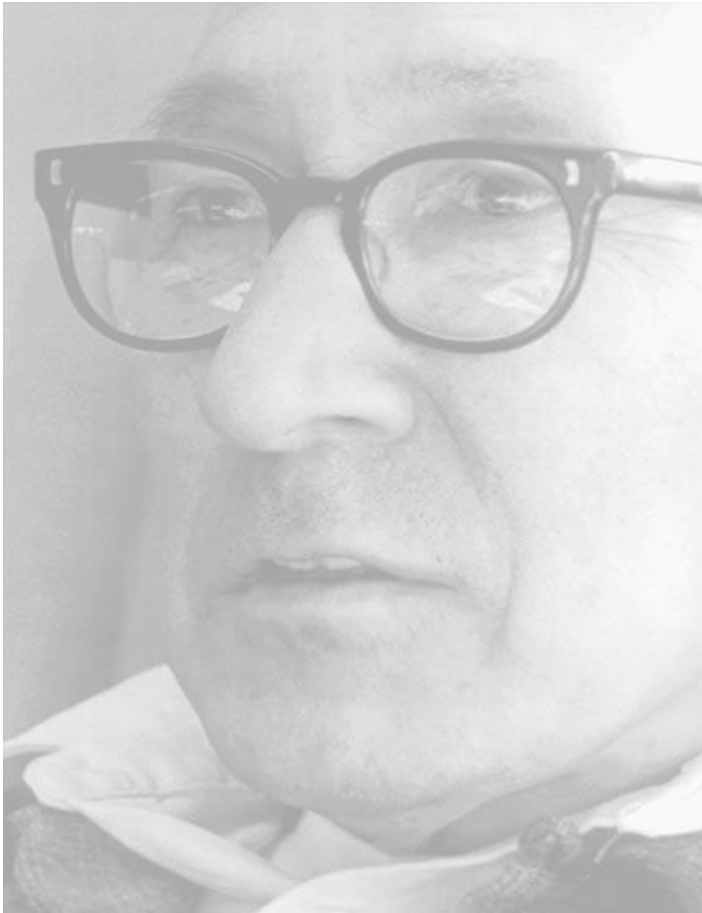
www.manystrongvoices.org

- Arctic Alliance/Arctic Monitor

www.arcticmonitor.net



Eben Hopson



“We are riding the crest of a high economic wave, and I fear about where it will deposit us, and how hard we will land.”