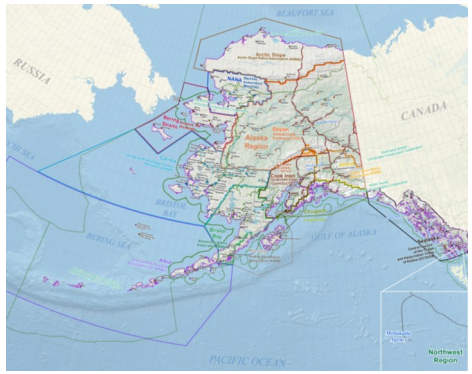
US Department Of The Interior
Indian Affairs

Tribal Climate Resilience Program — Alaska Region

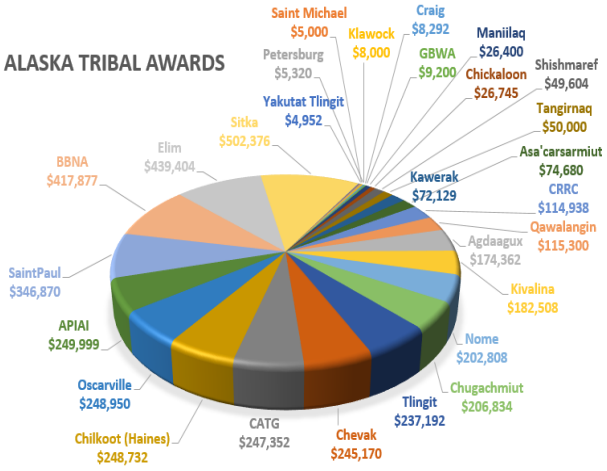
ALASKA REGION

The Alaska Region is warming at twice the rate of the national average. Sea ice no longer controls where marine mammals may be found close by under safe hunting conditions. Berries and large game may no longer found in their accustomed range, while fisheries are impacted by invasive species. Melting permafrost and erosion damage infrastructure.



CLIMATE IMPACTS

- Rising Sea Levels
- Melting Glaciers and Permafrost
- Coastal Erosion and Sea Ice Loss
- Extreme River Flooding
- Subsistence Food Scarcity



FUNDED STRATEGIES

The 229 federally-recognized Alaska Native communities often work jointly on similar climate concerns through regional and state-wide efforts to build resilience.

The Southeast Alaska Tribal Toxins (SEATT) partnership coordinated through the Sitka Tribe tests recreational and subsistence shellfisheries for toxins, monitors for harmful algae blooms, and seeks to increase local foods in the diet of SE Alaskans http://bit.ly/2loxGqM.

The Chugach Regional Resources Commission (CRRC) Climate Change Adaptation Project helped develop climate resources - https://on.doi.gov/2m0cL0F.

Bristol Bay Native Association (BBNA) provides region-wide training and climate adaptation planning support, while seeking to integrate Traditional Knowledges into a GIS for subsistence harvest of marine mammals.

The Norton Bay Inter-Tribal Watershed Council (NBITWC), Model Forest Policy Program, and Native Village of Elim have partnered on a climate action plan and training on a variety of adaptation strategies for area Tribes - http://bit.ly/2mkBfSV

The Alaska Native Tribal Health Consortium (ANTHC) has worked with EPA, CDC, and a variety of other partners, in addition to BIA and IHS, to provide assessments, observation networks, and community-based support services throughout the state - https://on.doi.gov/2lKiWVG. ANTHC and the Cold Climate Housing Research Center (http://cchrc.org) also hope to assist communitiest in the Association of Village Council Presidents (AVCP) Region by leveraging an Oscarville pilot for community-based planning.

EXAMPLE PROJECTS

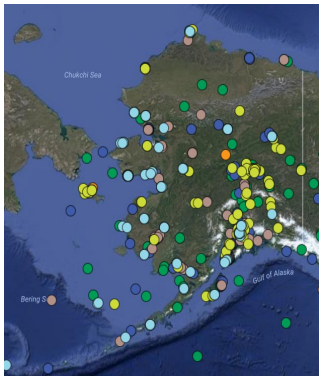
Monitoring Toxins & Harmful Algal Blooms

At workshops organized through the SEATT partnership, environmental staff from participating tribes learn to use phytoplankton nets, filtering apparatus, and identification tools. Together they investigate adaptation strategies that can increase their resilience and capacity to adapt practices to reduce health risks from shellfish toxins and direct exposure to harmful algae blooms, while building awareness within and among their communities of new, healthy food sources and preparation steps.

Jennifer Hanlon, Environmental Coordinator for the Central Council Tlingit and Haida Indian Tribes of Alaska, uses a microscope to identify phytoplankton and algal species.

Local Environmental Observer (LEO) Network

ANTHC LEOs are a network of local experts who collect unusual observations about environmental events. They apply local and traditional knowledge, which is coupled with support of western scientists and modern technology to raise awareness about changing environmental conditions - http://www.leonetwork.org



Regional Climate Dashboards (top-right sidebar) and other federal-wide resources for Tribes & Climate are available at: **bia.gov > select Category: Climate**

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CLIMATE SCENARIOS

2035 and 2060 CMIP5 Climate Projections

From EPA CREAT Projection Map - http://arcg.is/2cEzv2p

Success at emissions controls over time, as well as development and population trends, will determine the degree of climate change we can anticipate. Managers should test the robustness of decisions over a range of potential futures to reduce overall risks and costs.

Temperature Scenarios


Hot 2035


Hot 2060


Central 2035


Central 2060


Warm 2035


Warm 2060

Precipitation Scenarios


Dry 2035


Dry 2060


Central 2035


Central 2060


Wet 2035

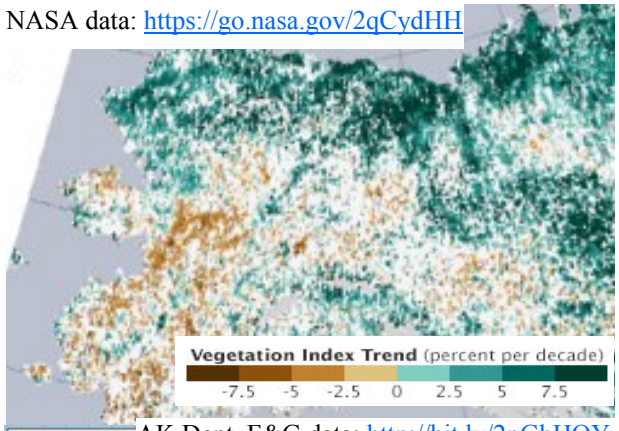

Wet 2060

DATA ANALYSIS EXAMPLE

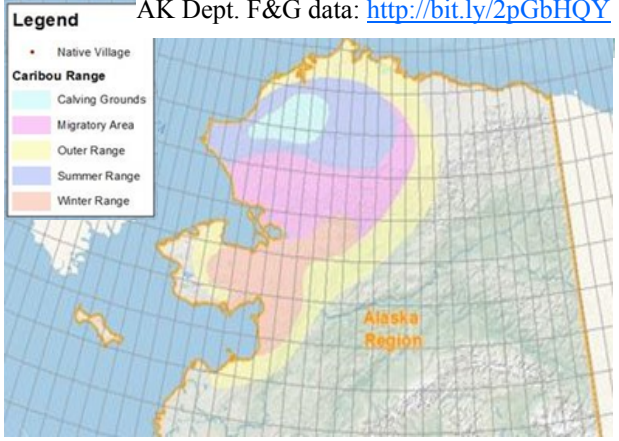
Caribou not Benefiting from Arctic Greening

In the past, caribou herds, an important subsistence species for Alaska Natives in the Arctic region would have population increases during especially good fodder seasons. However, though the Arctic is greening due to warming, tundra species that make nutritious, accessible food for caribou are being outcompeted by shrubs with strong antibrowsing defenses that are relatively non-edible - http://bit.ly/2pG7Q6w. Young are also stressed by extreme temperature and weather shifts, so fewer survive.

NASA data: https://go.nasa.gov/2qCydHH



AK Dept. F&G data: http://bit.ly/2pGbHQY



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