

Water Resources & Climate Change Planning in Norton Bay Alaska

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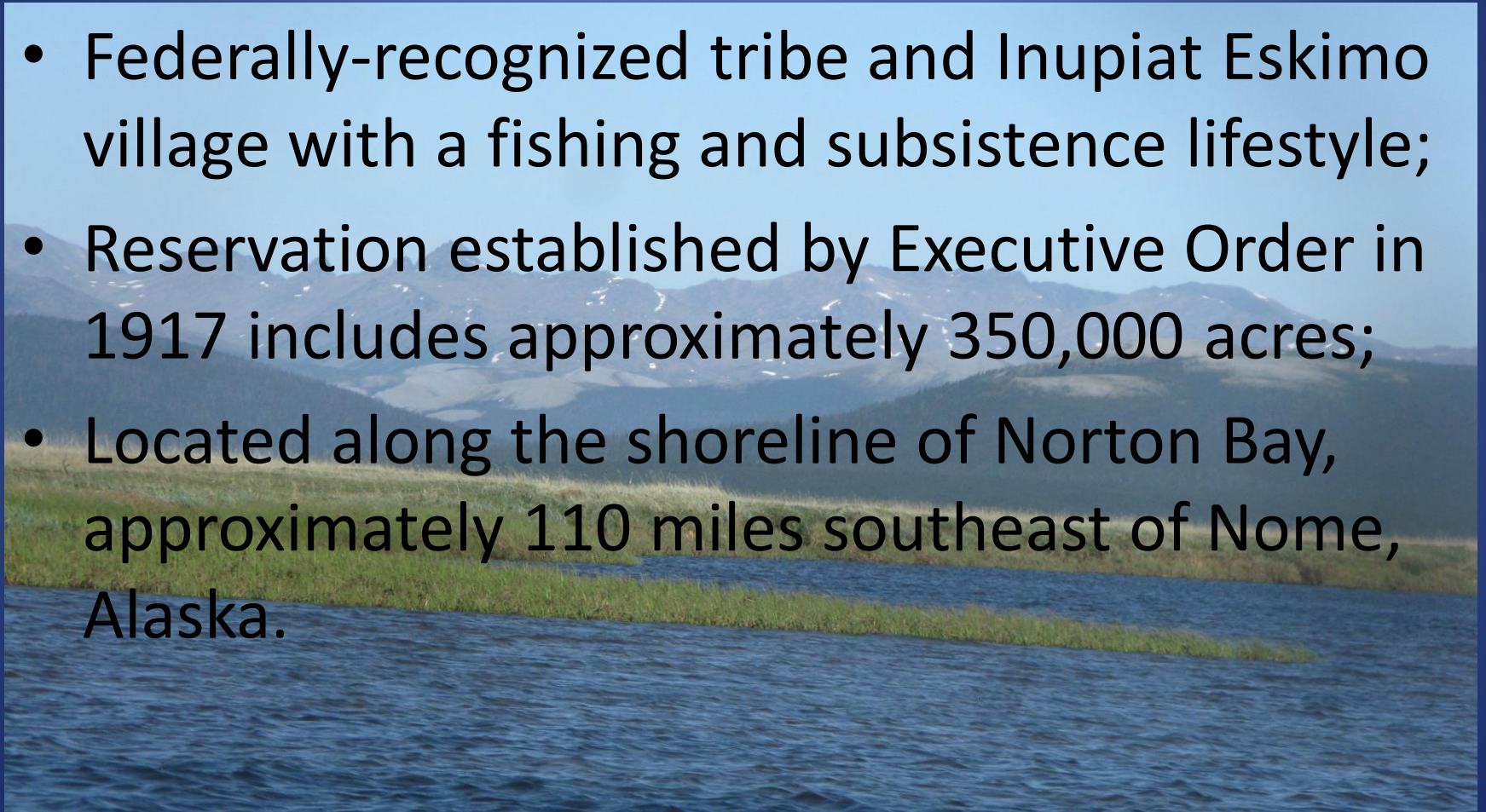
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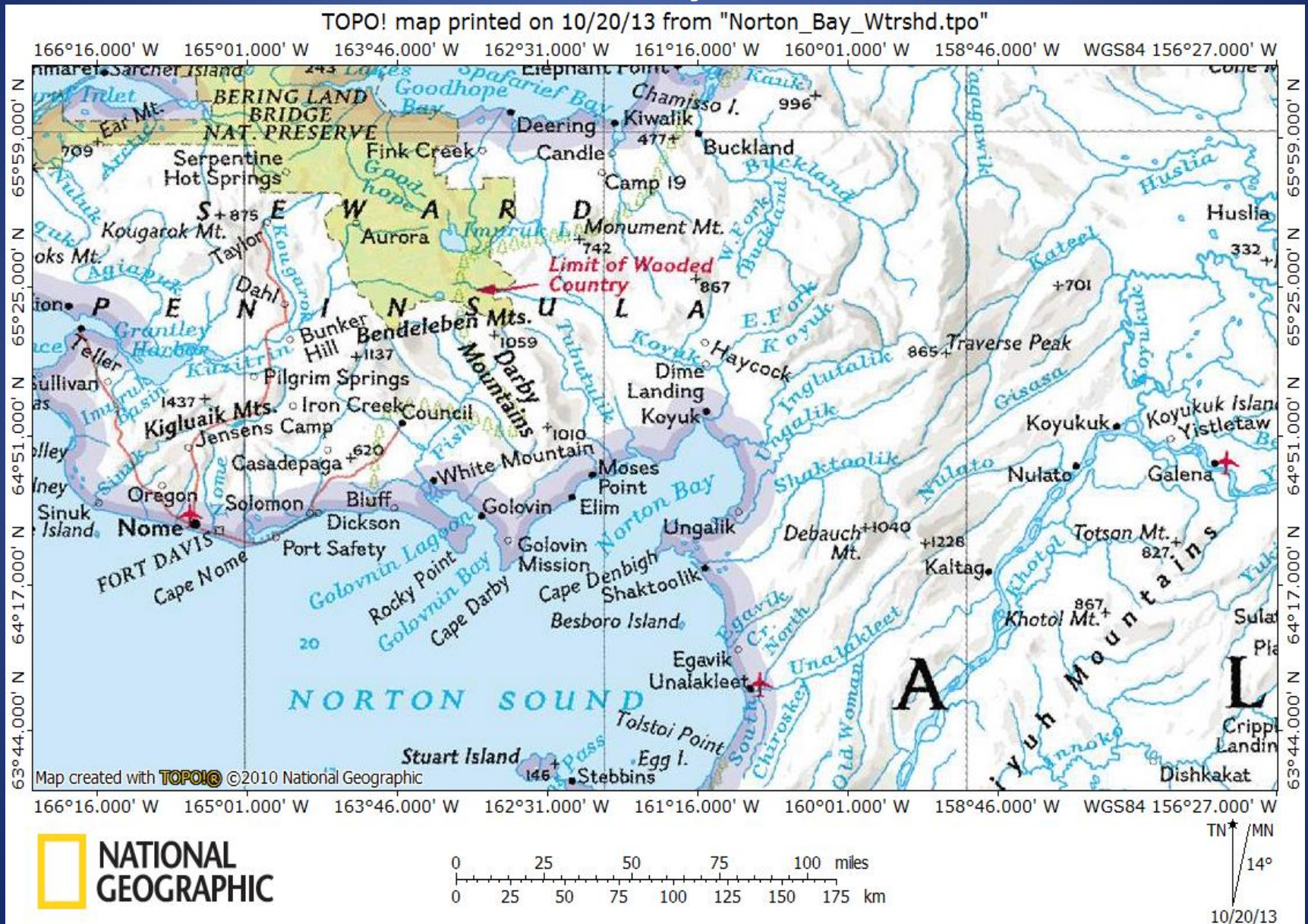


Community Introduction

- Federally-recognized tribe and Inupiat Eskimo village with a fishing and subsistence lifestyle;
- Reservation established by Executive Order in 1917 includes approximately 350,000 acres;
- Located along the shoreline of Norton Bay, approximately 110 miles southeast of Nome, Alaska.



The Norton Bay Watershed



Climate Change in Alaska

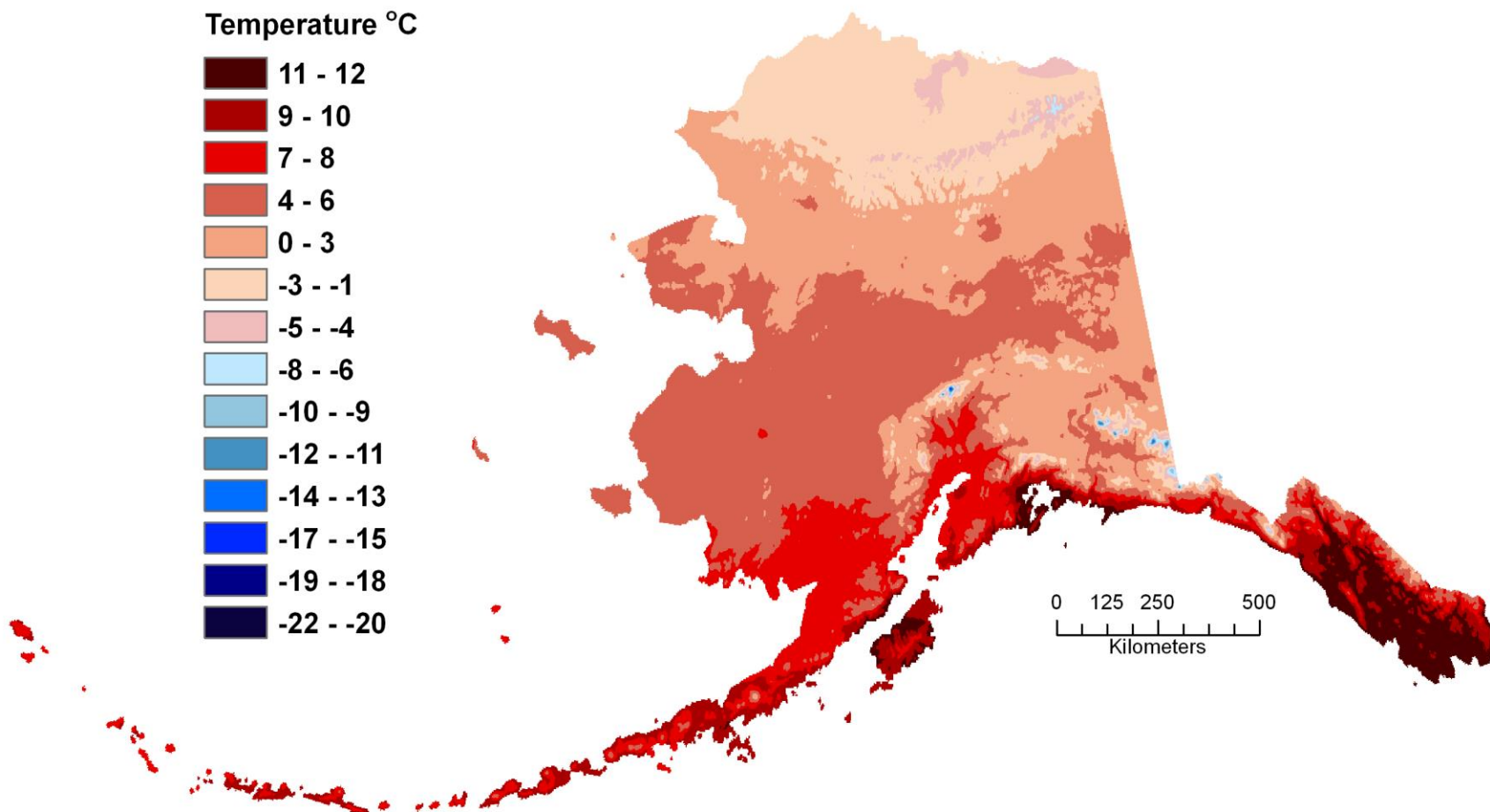
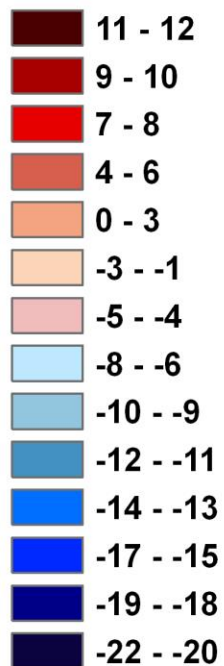
- Changing weather patterns in Alaska are, already, having substantial impacts on Native Alaskan village communities:
 - Coastal erosion, flooding, extreme fluctuations in hydro-geomorphology, early spring break-up;
 - Early melting of sea ice and altered weather patterns are disrupting access to traditional fishing and hunting sites;
 - Increased stream temperatures, high river flows, altered ice flows and stream bank erosion;
 - Exacerbated by Reduced water flows in the Watershed caused by potential water diversions from mining and other development activity.



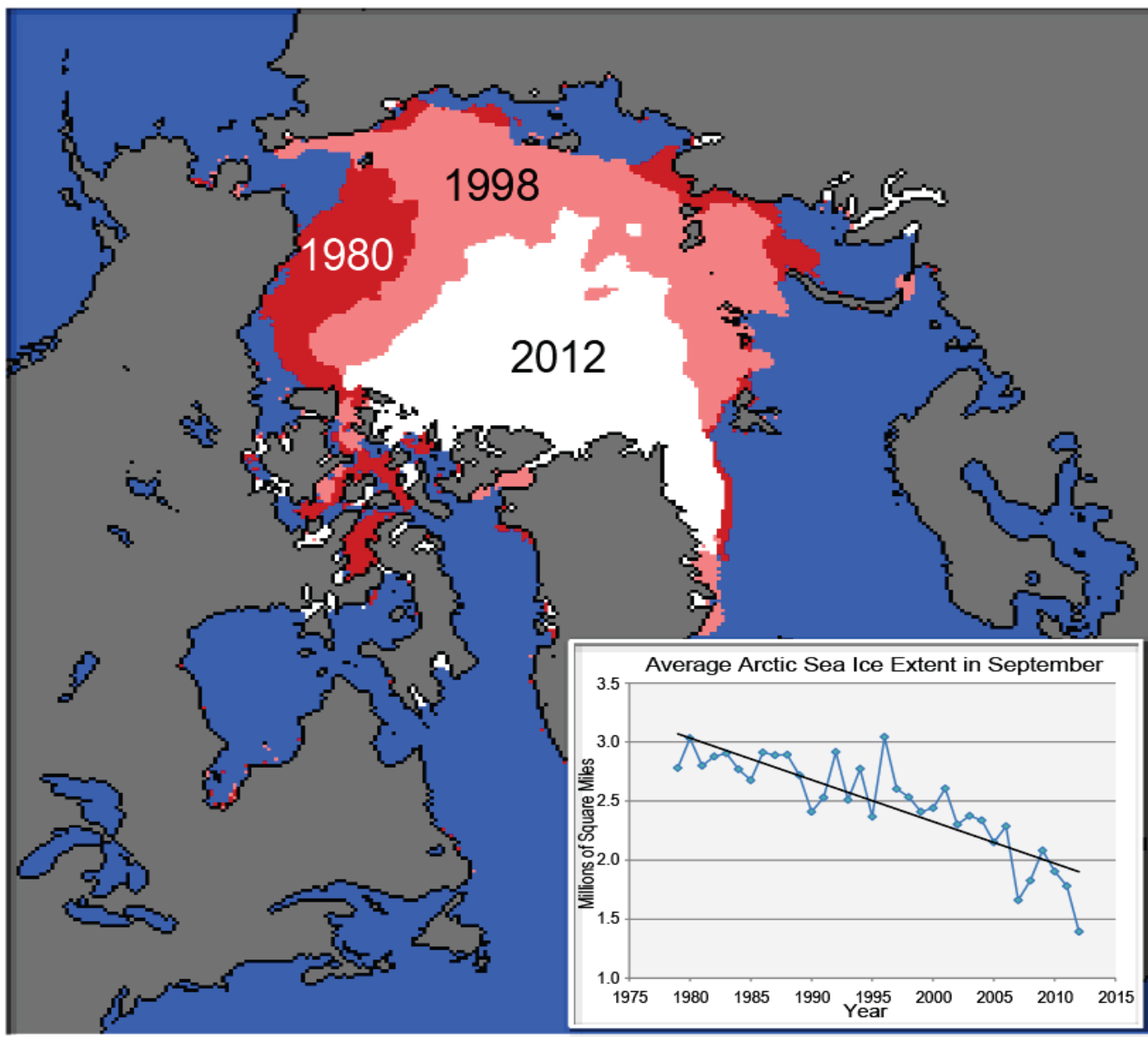
Mean Annual Temperature

Rapid Increase in Emission (A2)
2090 - 2099

Temperature °C

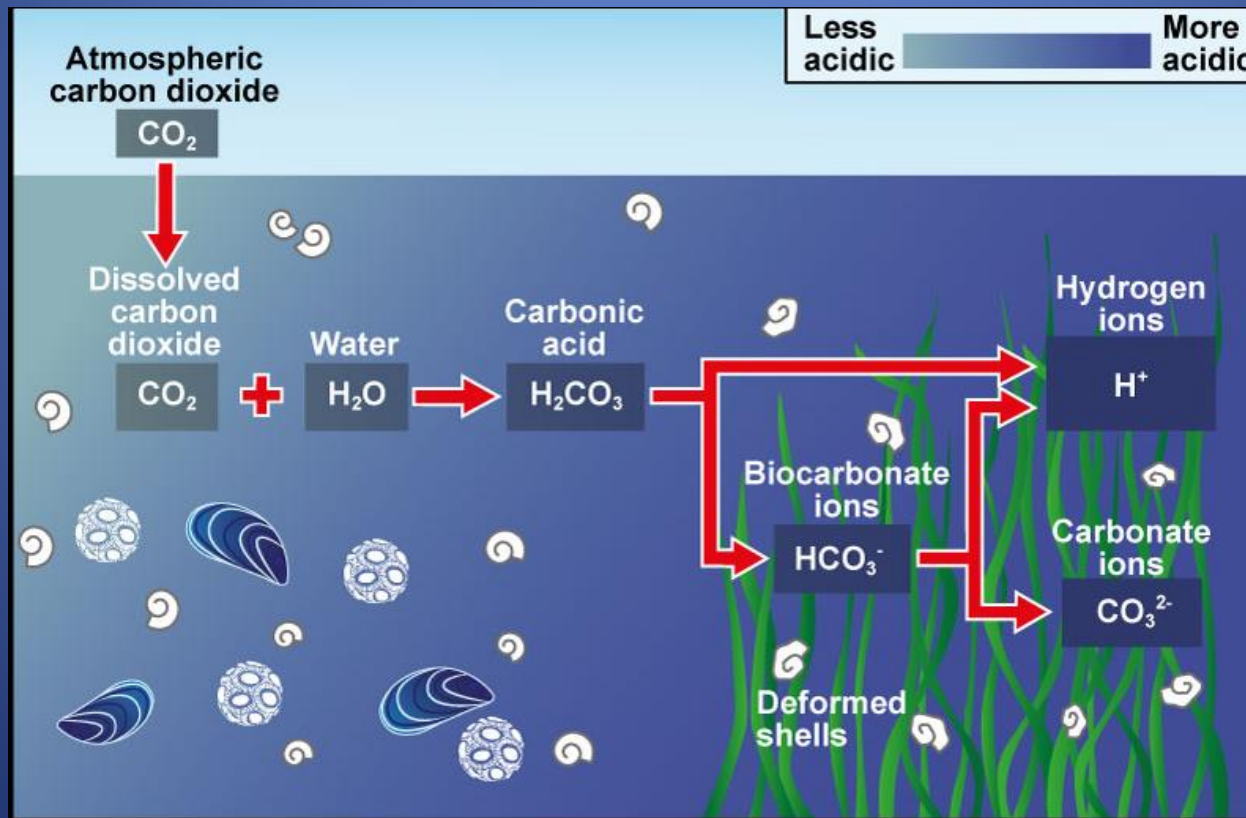


Declining Sea Ice Extent



Ocean Acidification

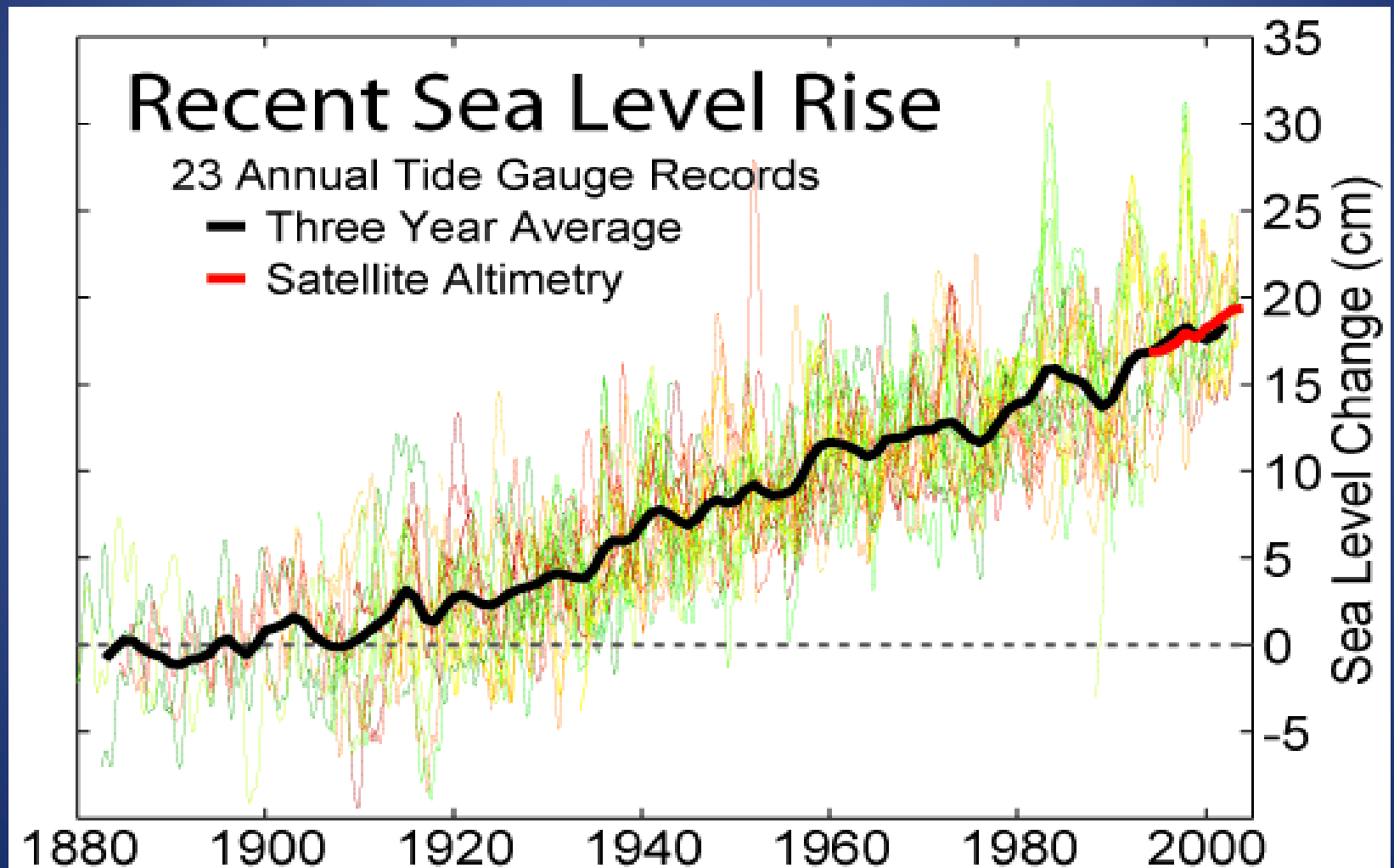
Atmospheric carbon dioxide naturally dissolves into our oceans. Now, however, the rate at which this is happening is increasing and the ocean is becoming more acidic.



- Ocean acidification threatens fisheries as they face the fastest shift in ocean chemistry in 65 million years (UN Report).

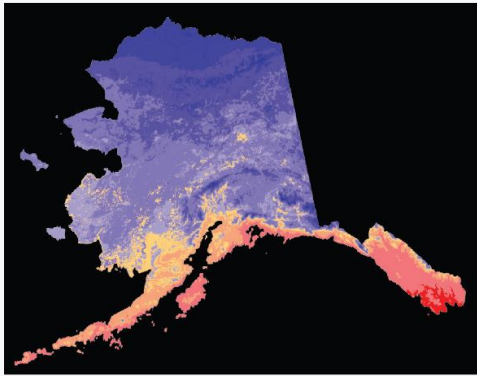
- Production of shellfish will be most at risk;
- Ocean acidification will damage coral reefs - vital nurseries for many fish stocks;
- About a billion people worldwide rely on fish as their main source of protein;
- The seafood industry provides 78,500 jobs in Alaska (ADF&G).

Sea level rise over the past 130 years

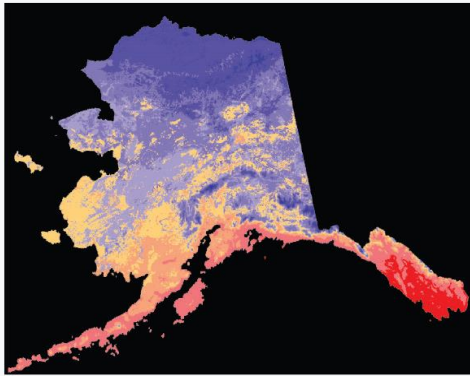


Thawing Permafrost in Alaska

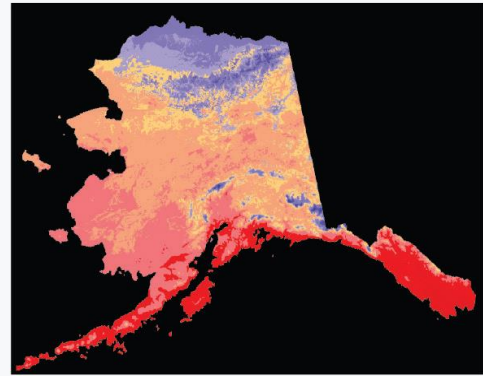
Higher Emissions Scenario (A2)



2001-2010

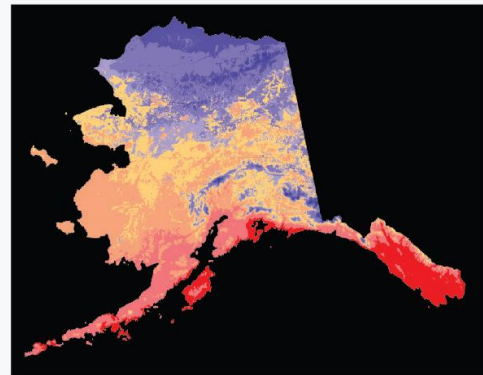
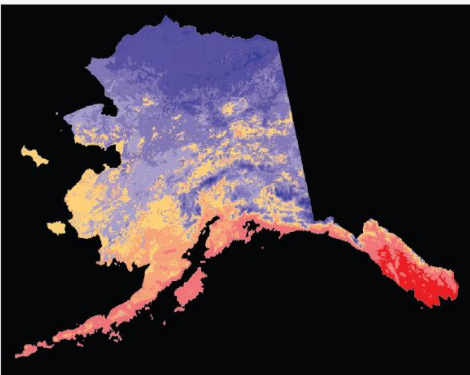
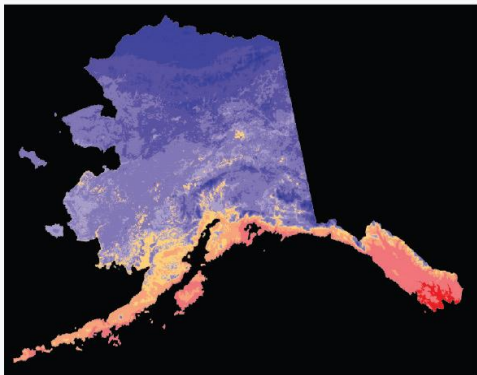


2041-2050

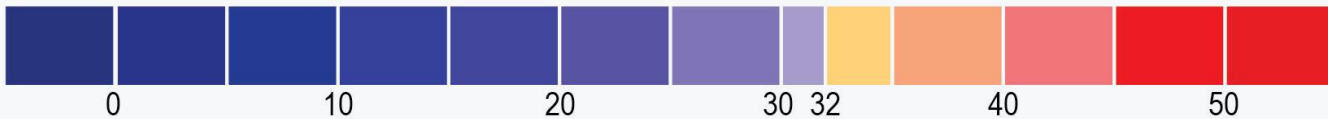


2091-2100

Lower Emissions Scenario (B1)



Soil Temperature, °F



- Coastal erosion will impact coastal communities as permafrost melts and fall storms pound shores lacking protective sea ice.



Shishmaref, Alaska. Jan 22nd 2008

Sea Ice Decline & Marine Mammals



Seining Tubutulik River



Tribes as Environmental Managers

- Tribes possess power unlike the federal government or state governments
 - extra-constitutional entities deriving their authority not from the federal government but from their own inherent tribal sovereignty;
 - Demonstrated ability to adapt, as proven by persistence in the face of federal policies of removal, assimilation and termination;
 - significant connection to the land and Traditional Ecological Knowledge;
 - Capacity for innovation within the realm of environmental law.

Native Village of Shaktoolik Local Management Plan



Setting Precedent for Data Collection

- Few watershed scale climate change adaptation/mitigation plans currently under way in Alaska;
- Limited efforts to gather existing TEK or information about the impacts of climate change on traditional subsistence based economies;
- Set precedent for incorporating such knowledge and data into a comprehensive Plan that will apply tribal expertise, knowledge and vision for mitigation and adaption.

FOREST & WATER RESOURCE ASSESSMENTS

- The Tubutulik River Watershed is approximately NE 31 miles from Elim;
- Rises out of the southern flank of and generally parallels the Bendeleben Mountains;
- Fish species include: King , Pink, Chum, and Silver Salmon as well as Whitefish, Arctic Greyling and Dolly Varden.

Assessment of Mining Impacts on Subsistence Ecosystems of the Tubutulik River Watershed

- Developed to mitigate and assist the NVE to adapt to climate change as exacerbated by mining development in the Watershed;
- Applies both Traditional Environmental Knowledge (TEK) and contemporary science from community leader and legal and scientific experts;
- Applies innovative strategies to analyze climate change, food security, sustainable economies, holistic wellness and energy issues related to water quality and quantity.

Norton Bay Climate Change Adaption Plan

Goal 1: Obtain funding for emergency preparedness and/or relocation of native villages in the Norton Bay Watershed most critically impacted by coastal erosion and flooding.

Goal 2: Mitigate and/or adapt to impact of rising water temperature/stream bank erosion on aquatic habitat.

Goal 3: Increase safe access to subsistence resources watershed.

Goal 4: Protect subsistence resources in Watershed.

Goal 5: Increase education and outreach opportunities for local communities to learn about climate change impacts with a focus on local issues and adaptation strategies.

Goal 6: Set precedent in Norton Sound Region for data collection, watershed assessments and management and adaption planning.

Goal 7: Improve economic conditions of Native Villages

What about TAS? Tribal Environmental Law Developed Under Delegated Authority

- Vast majority of tribal environmental law is not being developed under delegated federal authority;
- There appears to be more interest in utilizing TAS status for the protection of water resources;
- At most (assuming no overlap), 76 tribes or 13% of federally recognized tribes are utilizing TAS status – suggesting that a substantial amount of tribal environmental law is developed under tribal inherent sovereignty;
- Example: Tribal Climate Change Adaptation Plans.

Federal Trust Duty

- *Alaska Natives and ANSCA/ANILCA*
 - ANILCA - subsistence uses "first priority consumptive use of all such (renewable) resources on the public lands.";
 - ANCSA promotes Native self-reliance and self-sufficiency;
 - Native Water Rights on Native-Selected Lands
 - Aboriginal Title
 - Native lands not part of the public domain
 - ANSCA does not expressly waive native water rights
 - Ambiguities resolved in favor of tribes.

ANILCA & Water

Subsistence uses have "first priority consumptive use of all such (renewable) resources on the public lands."

For purposes of Title VIII the United States holds title to an interest in the navigable waters of Alaska as an element of the federal navigational servitude and the reserved water rights doctrine. Therefore:

Navigable waters , fall under ANILCA's definition of public lands ; Secretary of the Interior is charged with the management of subsistence fishing in the navigable waters of the U.S.

Federal agencies that administer the ANILCA subsistence priority are charged with the responsibility for identifying the waters which fall under their jurisdiction.



Winter's Water Rights in Alaska?

- Elim opted to acquire surface and subsurface title not subject to ANSCA;
- Entitled to the same rights and privileges tribes occupying reservations in the Lower 48;
- Should not be interpreted to diminish federally recognized rights, including those of previously established reserves and reservations;
- Winters Doctrine water rights include waters arising on, flowing through, or bordering on Indian reservations.

Water Resources Code

Native Village of Chickaloon

- Protect the water resources of the Reservation and traditional territories of the Village from over appropriation, pollution, contamination, degradation;
- Insure that the water rights of the Reservation and traditional territories of the Village receive the highest priority in use and appropriation,
- Tribal government retains full management authority over all reserved water rights sufficient to satisfy the purpose and extent of it's water rights, to provide a homeland for it's members.

Why Enact Tribal Environmental Laws?

- Tribal Sovereignty and Tribal Environmental Ethics;
- Past Environmental Contamination and Emerging Environmental Challenges
 - Past Contamination
 - Natural Resource Extraction
 - Climate Change.

Existing Tribal Environmental Laws

- Nationwide
 - Reviewed the tribal codes of 74 tribes in four different geographical regions: Arizona, Montana, New York and Oklahoma;
 - Looked for four categories of environmental laws: water, air, solid waste and environmental quality.

Existing Tribal Environmental Laws

- Result of Nationwide Survey
 - 4 tribes, 5% of the survey group, enacted air pollution regulations
 - 23 tribes, 31% of the survey group, enacted water pollution regulations
 - 27 tribes, 36% of the survey group, enacted solid waste regulations
 - 9 tribes, 12% of the survey group, enacted environmental quality provisions
- Overall:
 - Only one tribal nation enacted laws in all four categories studied (possibly two)
 - 38 tribes, 51% of the survey group, do not have any publically available tribal environmental laws
 - 86% (24 out of 28) of the tribes located within the Mountain West (Montana) and Southwest (Arizona) have enacted some tribal environmental law

Instream Flow Water Rights

- State Instream Flow Reservations
 - Adjudication of application before any legal effect;
 - Complex process allowing potentially injured parties to protest application;
 - Can get political - especially when the approval of a particular application could impact resource extraction interests;
 - Backlog - 350 applications pending
 - None processed in 2008, and only 2 in 2009;
 - Temporary water use permits TWU – up to 30,000 g/day
 - No environmental or public review;
- HB 77 – would have prevented tribal and citizen applications.

Water Flow Measurements Tubutulik River



Any Questions?

