

The Arctic: Ocean Issues & Change



Presented to the
President's Council of Advisors on Science and Technology

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Introduction

1. Arctic Communities

2. Changing Conditions in the Marine Environment

3. Threats to Arctic Ocean Environment

Arctic Communities

1. Culture & Subsistence

2. Challenges

**3. Communities Exploring
Relocation**



CREDIT: Don Barletti

Culture & Subsistence



CREDIT: Chie Sakakibara

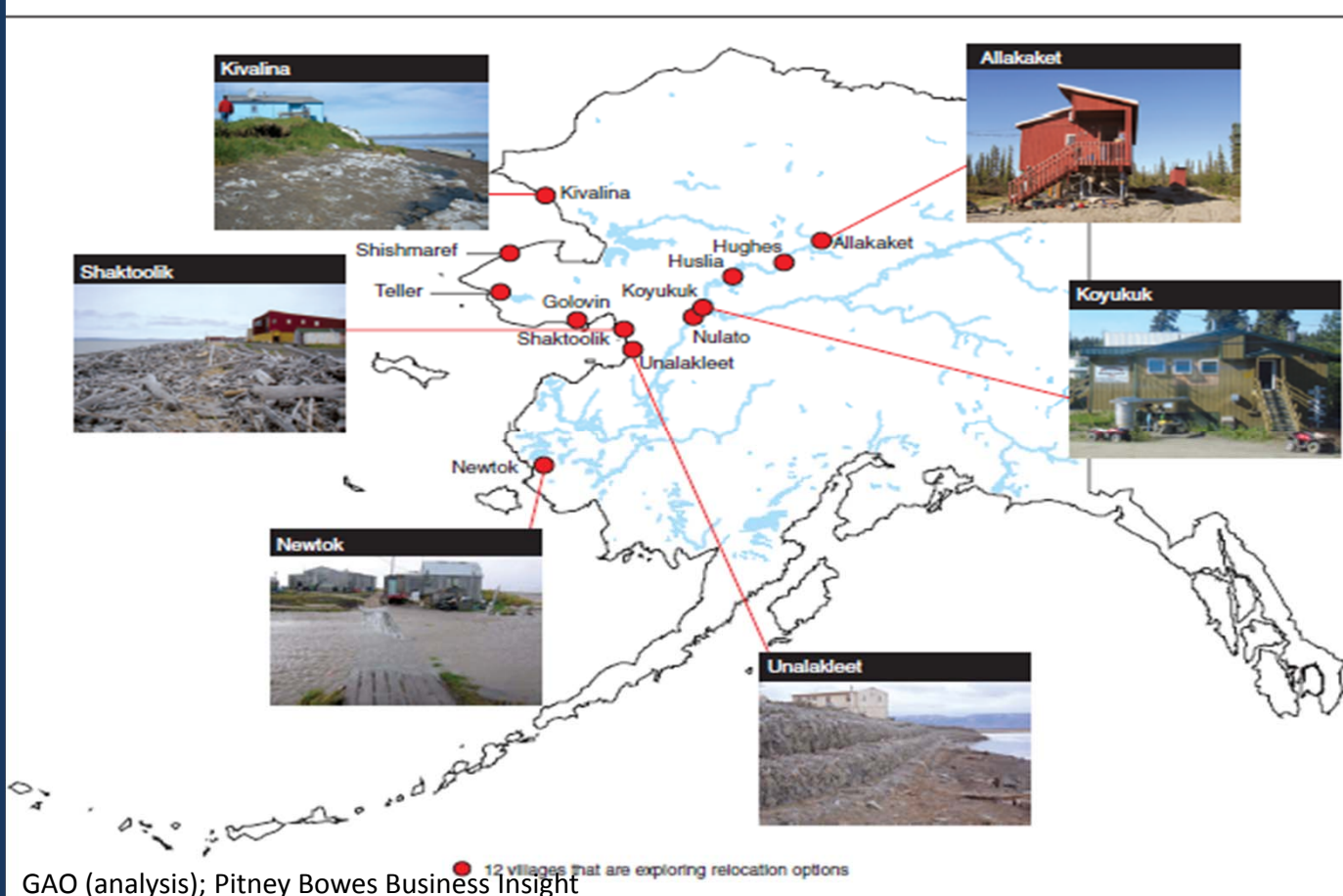
Challenges



CREDIT: US Coast Guard

12 Communities Exploring Relocation

Figure 5: Locations of 12 Alaska Native Villages That Are Exploring Relocation Options



Visit: Manystrongvoices.org

"We are about to lose our homes..."

Homeless?

Did you ever lose your home? Have you been homeless? We are about to lose our homes – from erosion. Most importantly, erosion eats our island and we have less land. Erosion happens from our ocean. The ocean takes away land from our island. It takes away our land by taking sand and moving it someplace else. And when storms come it takes lots of land.

We moved some of our homes from the west side of Shishmaref to the east side. We moved some of our homes because we live in them and if we hadn't moved they would've fallen into the ocean. The ocean takes more land on the west side of Shishmaref than the east side. And this is why we moved our homes.

Finally, workers put out a huge seawall along the beach. They put a huge seawall because the ocean was eating too much land, and they tried to stop it. If we hadn't put the huge seawall up the ocean would've eaten more land. And so it wouldn't catch up to our homes. There was an old seawall, but it sank into the ocean.

After having reviewed all the evidence it's obvious – my family is the most important thing in my life. And I think everybody in Shishmaref is a family. And I don't want to lose them.

— Renee Kutuguk

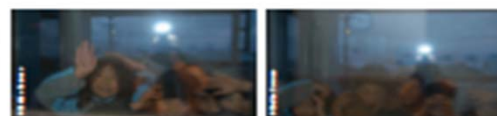


"The ocean was slowly eating away..."

The Monkey Bars

The monkey bars used to be behind our principal Joe Braach's house and in front of the ocean and seawall. A lot of kids used to play over there and have a good time. Now we don't have any more monkey bars because of global warming. The ocean was slowly eating away our monkey bars every year until the big storm hit our little island. Since we lost it, the school built us a new playground for us kids to play on with monkey bars.

— James Kgrook Bar "Kngatuaq"



The Changing Marine Environment

1. Increased Vessel Activity

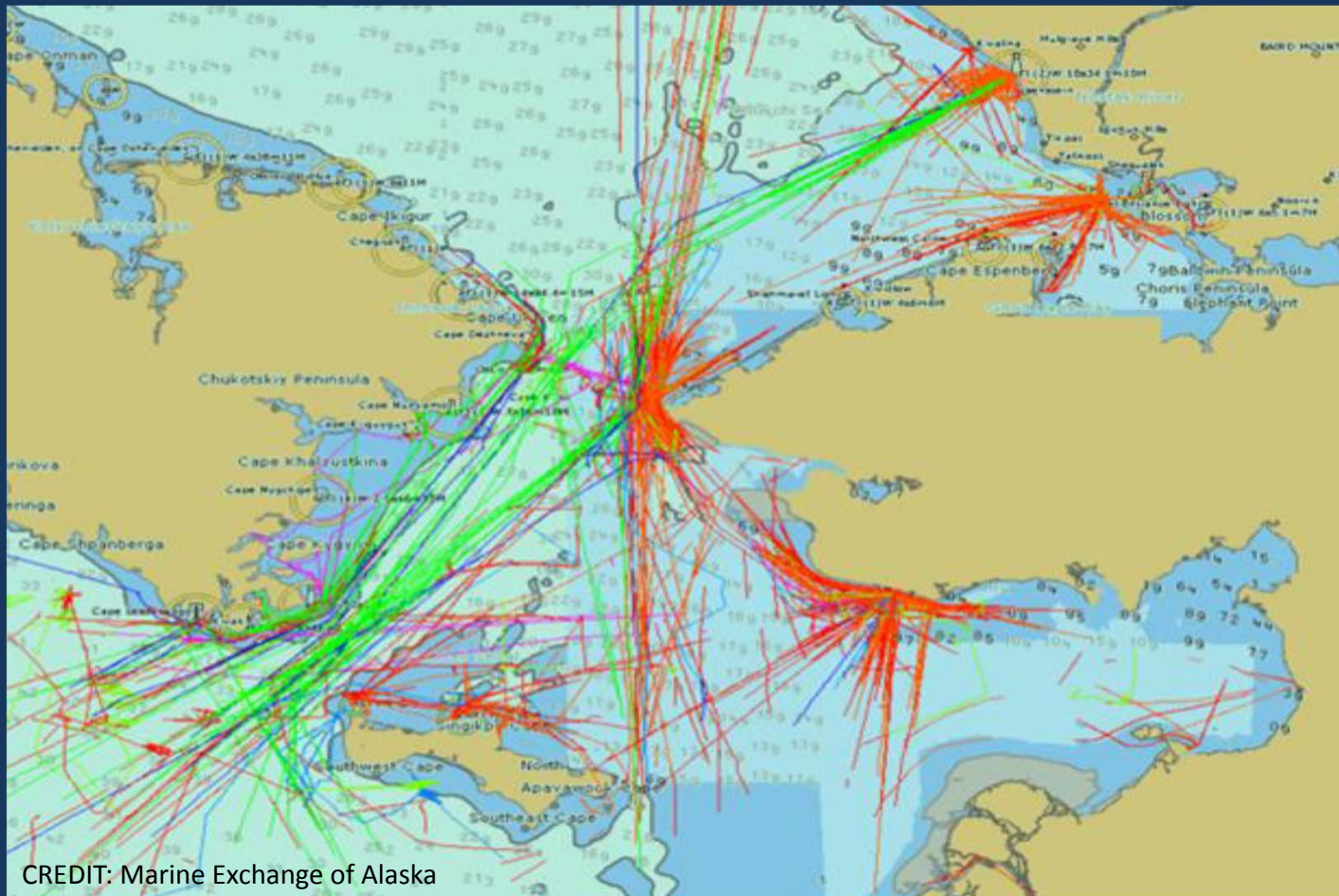
2. Oil, Gas and Mineral Development

3. Fisheries



CREDIT: US Coast Guard. 2013

Increased Vessel Activity

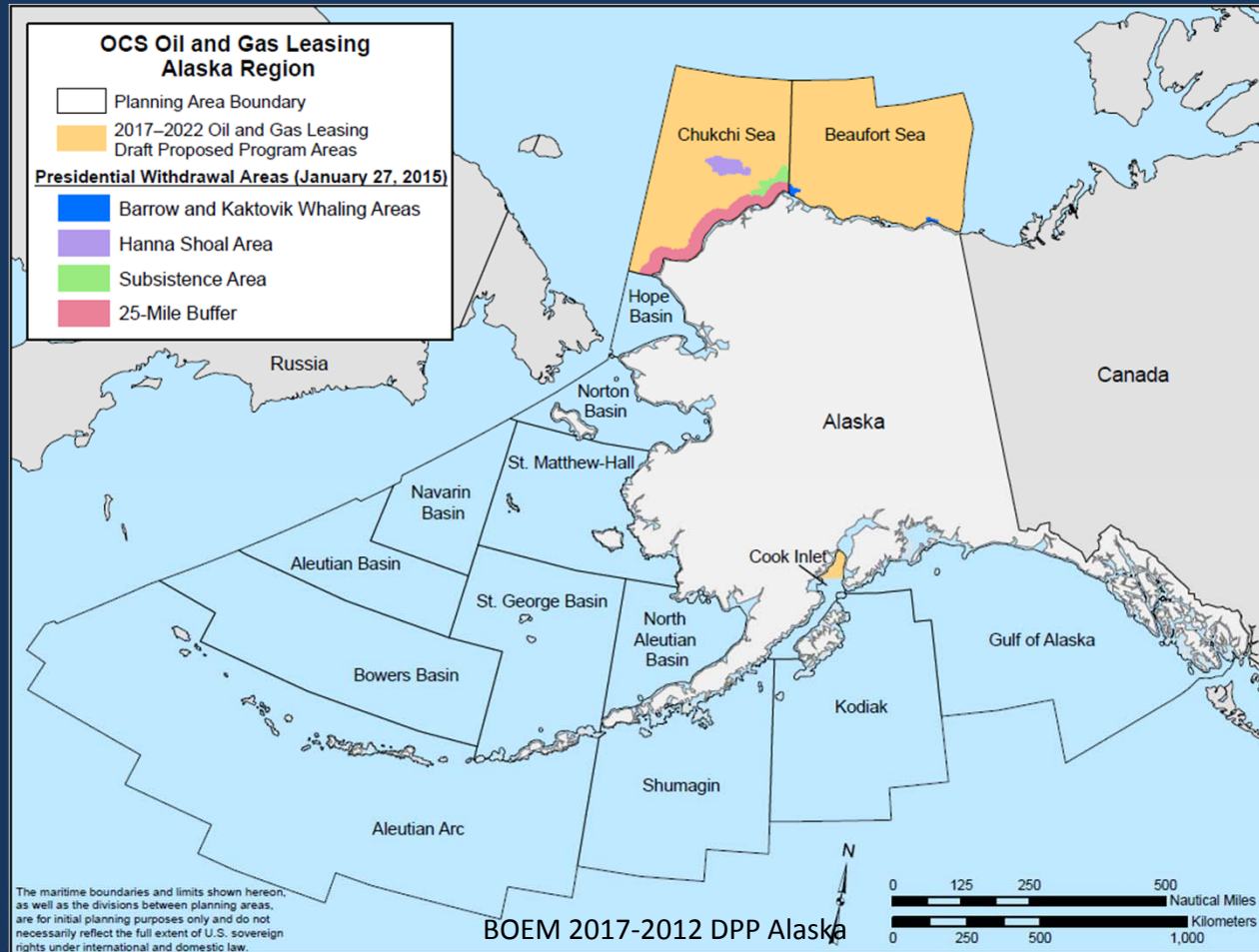


Oil & Gas Development



CREDIT: BOEM

Recent Oil, Gas & Mineral Development



Emergency Response & Preparedness

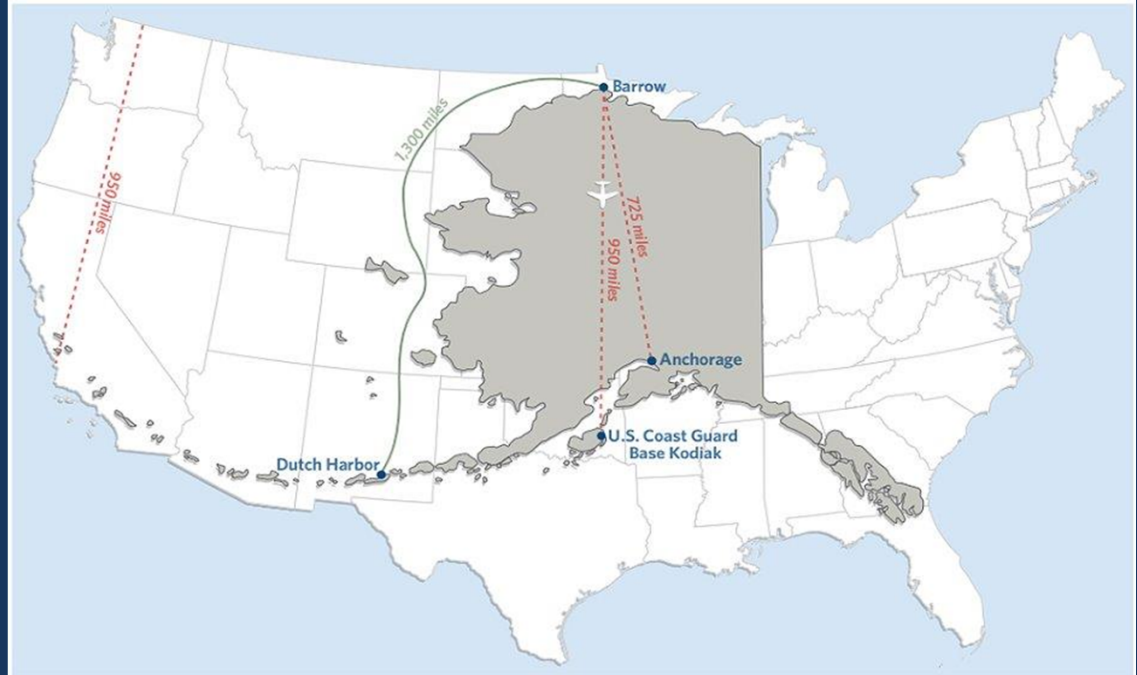
1. Challenges:

- Lack of deep water ports
- Lack of infrastructure
- Harsh environment
- Extensive distances

2. Impacts

- Oil Spill Pollution Response
- Search & Rescue
- Data & Information gathering

Alaska's Size, Compared With the Lower 48 States
Distances by sea and air between key southern Alaskan cities and Arctic shores

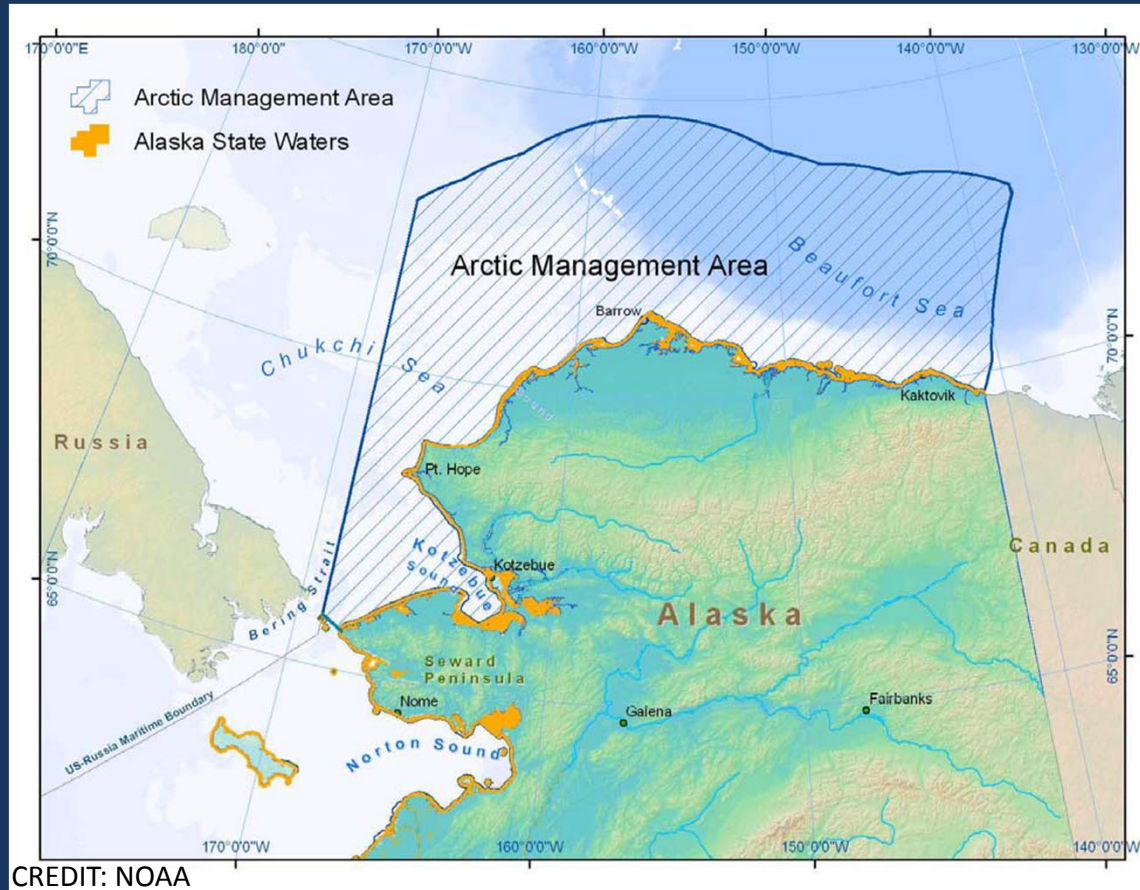


Source: Nuka Research and Planning Group
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Fisheries





Norbert Rosen

For additional information

National Ocean Council Website

whitehouse.gov/oceans

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