



NOAA | National Ocean Service | Office of Response and Restoration

Introduction to a Changing Arctic



Marine Protected Areas Federal Advisory Committee Meeting. Tacoma, WA. June 3, 2015

AK stretches from coast to coast...



Alaska Native Regional Corporations

Twelve Alaska Regional Corporations were formed under the 1971 Alaska Native Claims Settlement Act. A thirteenth region, not shown on map, was organized for those Natives residing outside Alaska.

- Ahtna, Inc.
- Aleut Corporation
- Arctic Slope Regional Corporation
- Bering Straits Native Corporation
- Bristol Bay Native Corporation
- Calista Corporation
- Chugach Alaska Corporation
- Cook Inlet Region, Inc.
- Doyon, Ltd.
- Koniag, Inc.
- NANA Regional Corporation

Source: Alaska Department of Natural Resources



Arctic Boundary as defined by the Arctic Research and Policy Act (ARPA)

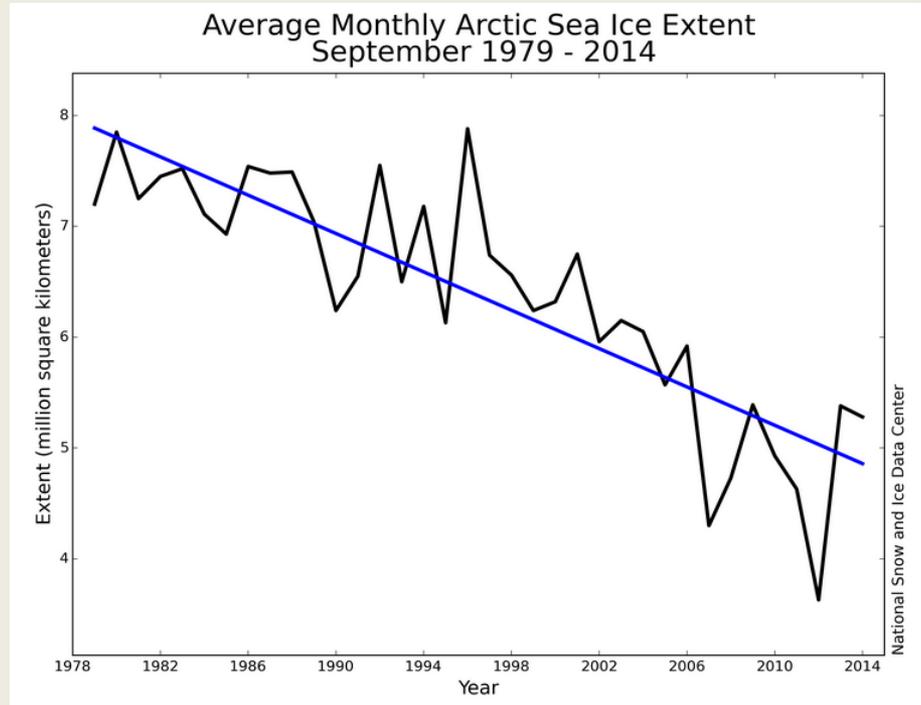
All United States and foreign territory north of the Arctic Circle and all United States territory north and west of the boundary formed by the Porcupine, Yukon, and Kuskokwim Rivers; all contiguous seas, including the Arctic Ocean and the Beaufort, Bering and Chukchi Seas, and the Aleutian chain.¹



2014 Arctic Report Card: Scientists See No End to Rapid Warming

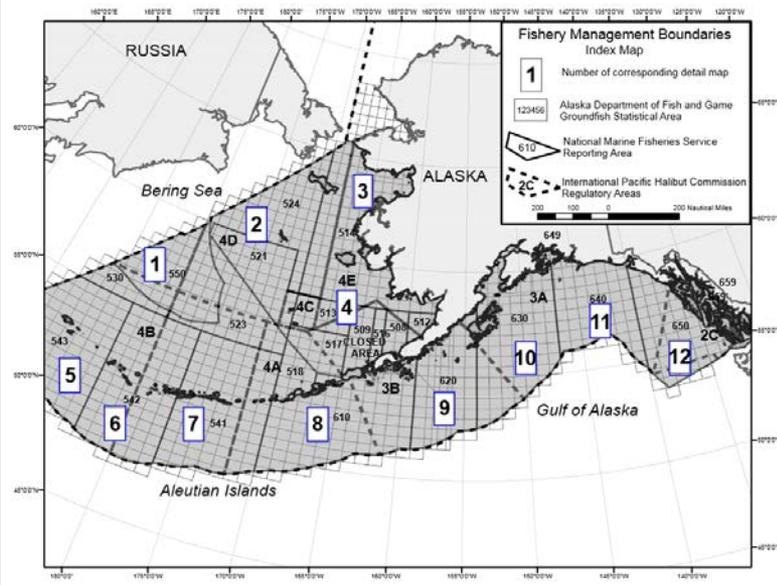


SEPTEMBER: 1979 2014



Alaskan Fisheries

- For past 16 years Dutch Harbor has ranked as the top U.S. fishing port
- Alaska lands over 50% of all U.S. seafood. Most comes from the Bering Sea.





Bering Sea



ALASKA

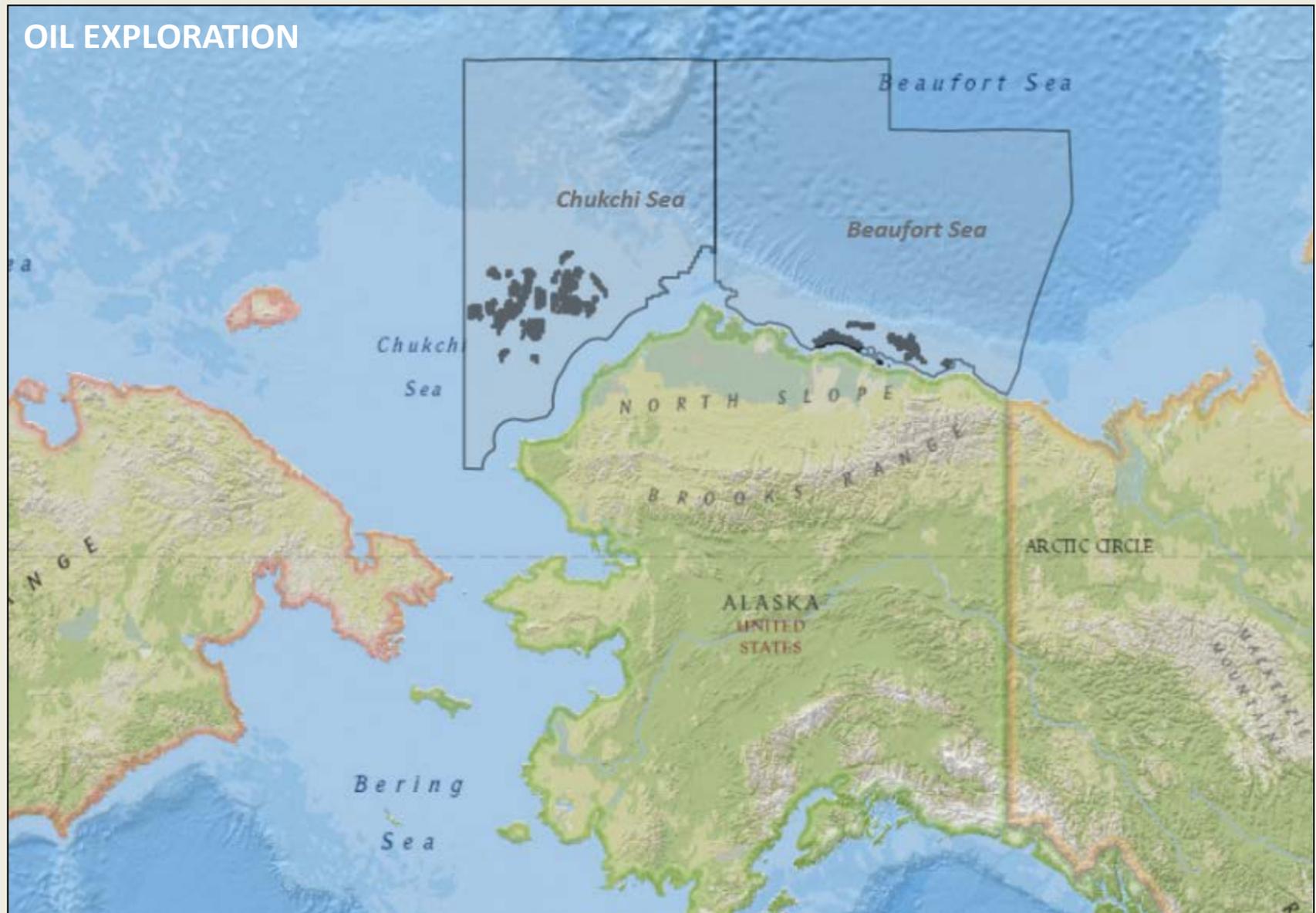
UKON

Gulf of Alaska

BR
COL



WHAT ARE THE RISKS?



Arctic Ice Coverage

Sea Routes



Northern Sea Route

2025: 6 weeks open
41' controlling draft



Transpolar Route

2025: 2 weeks open
Deep ocean transit

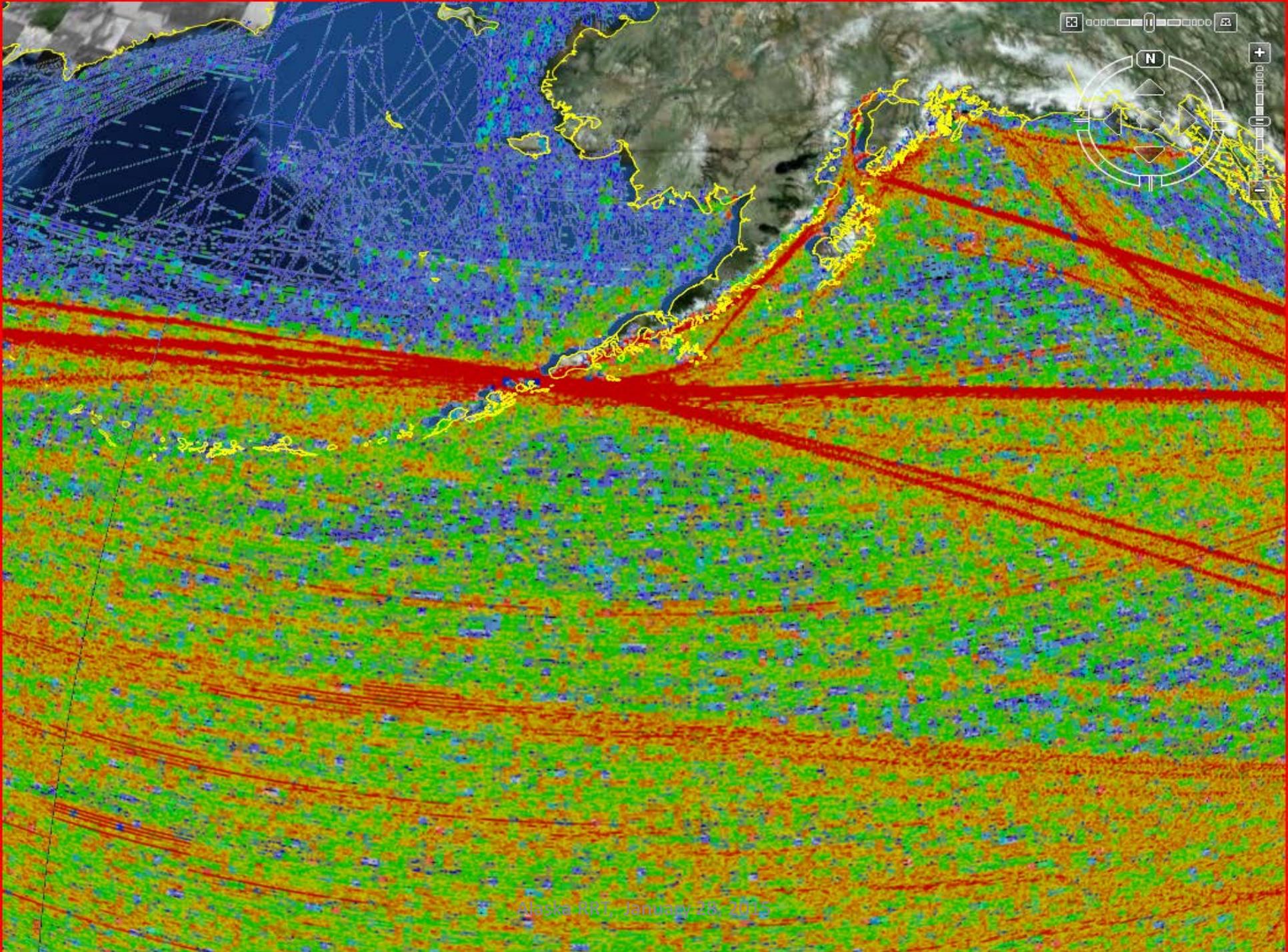


Northwest Passage

2025: intermittently open
33' controlling draft

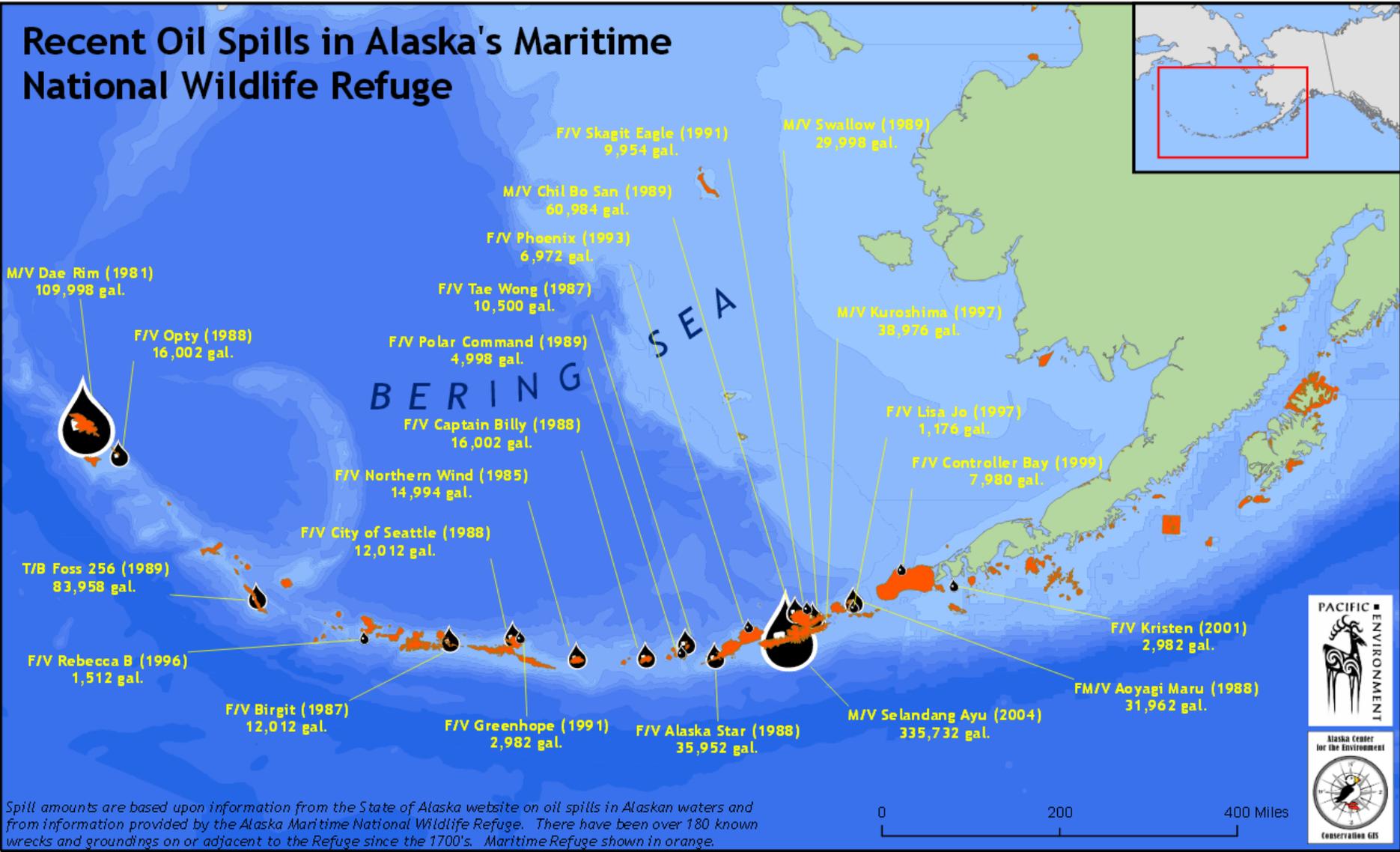
Sea route distances:
Distance from the
Bering Strait to
Rotterdam





Alaska RRT - January 28, 2015

Recent Oil Spills in Alaska's Maritime National Wildlife Refuge



Spill amounts are based upon information from the State of Alaska website on oil spills in Alaskan waters and from information provided by the Alaska Maritime National Wildlife Refuge. There have been over 180 known wrecks and groundings on or adjacent to the Refuge since the 1700's. Maritime Refuge shown in orange.



Extreme Weather
Conditions
Ability to deploy and
effectively use spill
response challenged by
weather

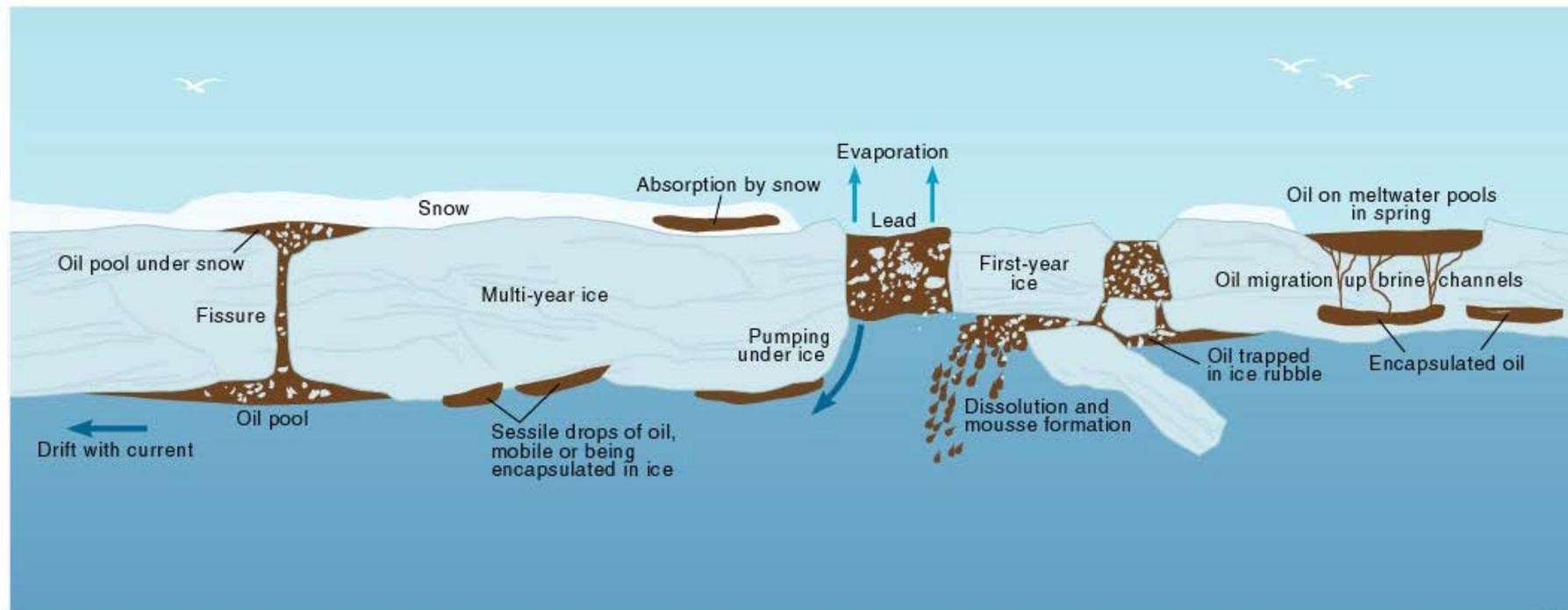


Response: Oil In Ice



Arctic Monitoring and Assessment Programme

AMAP Assessment Report: Arctic Pollution Issues, Figure 10.5



An aerial photograph showing a large-scale cleanup operation on a frozen river. The ice is broken into large, irregular floes. Several small motorized boats are positioned across the ice, with people on board. A large, dark, irregular spill of oil or a similar substance is visible on the ice. A long, thin boom or barrier extends across the ice, likely used to contain the spill. The overall scene depicts a challenging environmental remediation effort in a winter setting.

Response Effectiveness in Ice

2015 Yellowstone River Spill, Montana.



Arctic Chukchi Sea shoal newly closed to oil leasing is well known as biological hot spot

Yereth Rosen | Alaska Dispatch News | February 2, 2015

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Text Size

Hanna Shoal, a region of shallow water in the remote Chukchi Sea that President Barack Obama last week put off limits to oil leasing, has long been known as a biological hot spot in the icy Arctic Ocean.

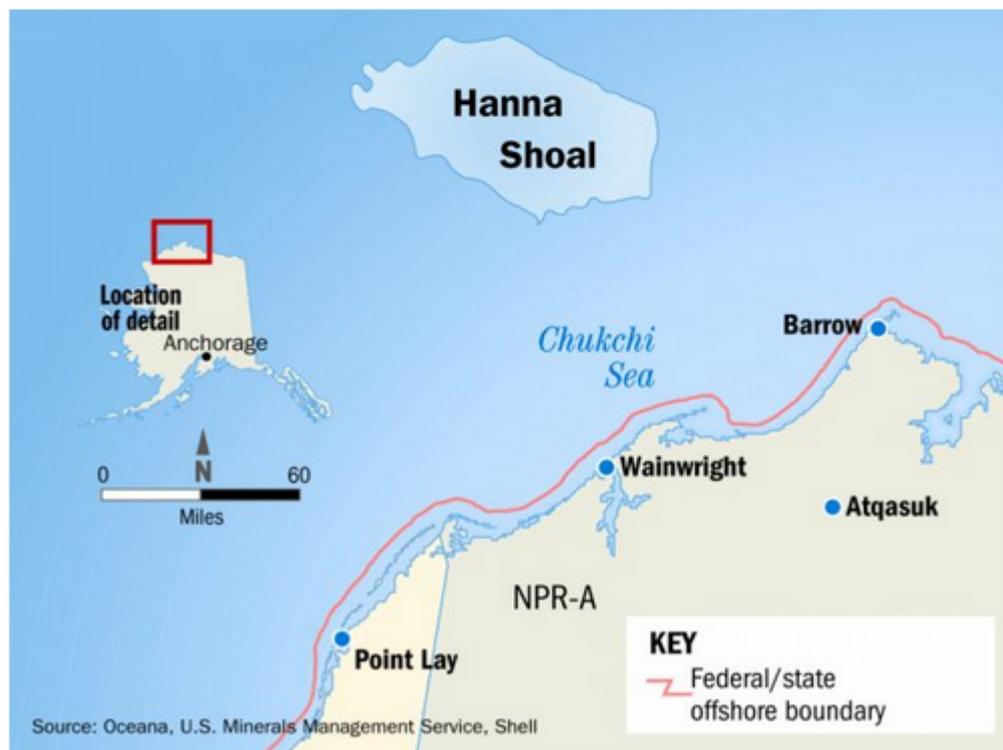
The area is so teeming with marine life that walrus, even when forced onto land by a lack of floating sea ice, are known to make the nearly 300-mile round-trip swim to Hanna Shoal to feast on its abundant clams, snails and worms.

RELATED:

Obama moves to block development in 9.8 million acres of Arctic Ocean

President Obama declares waters in and

“That behavior means to us that there’s something that’s important to them,” said Chad Jay, a U.S. Geological Survey biologist who is part of a team studying walrus by tracking the movements of radio-tagged animals and

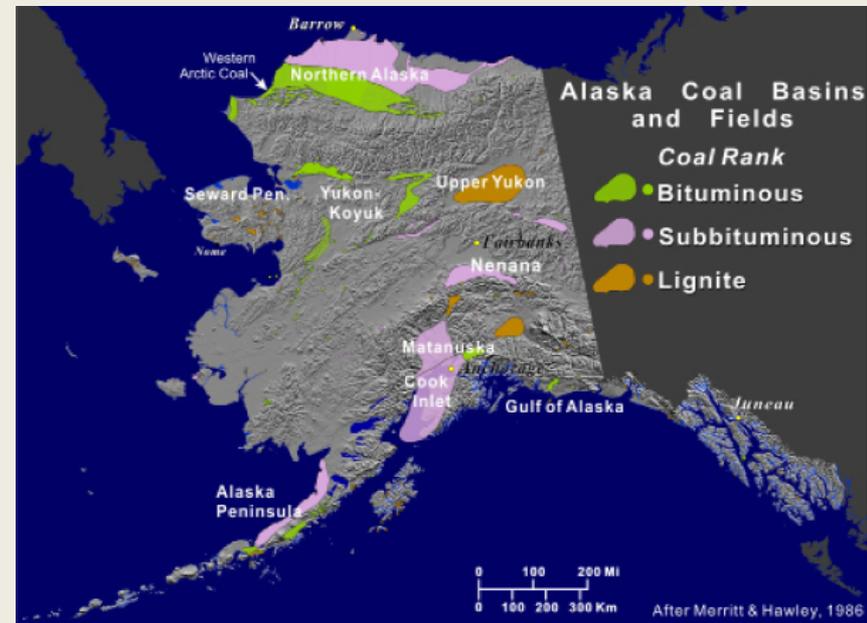
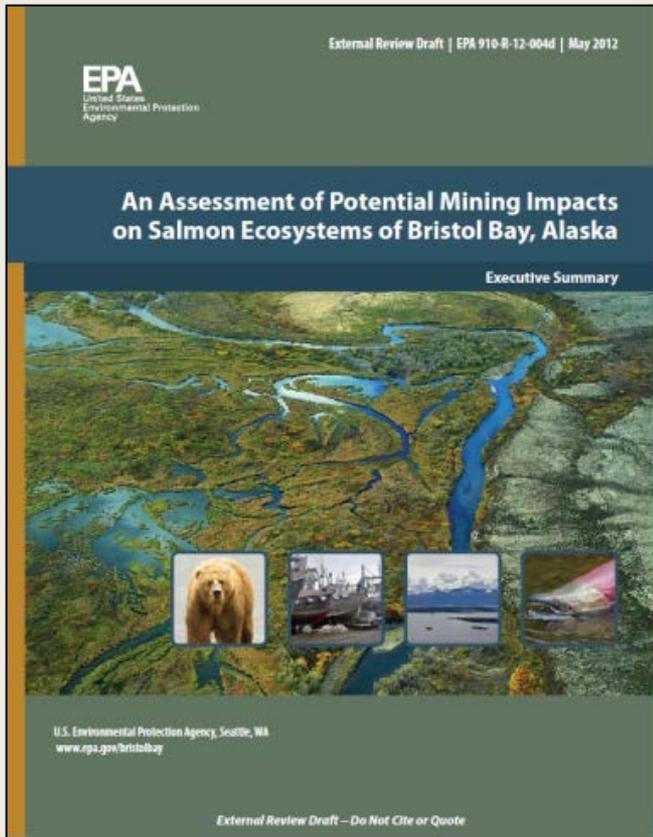


Obama protects Alaska's Bristol Bay from oil and gas drilling

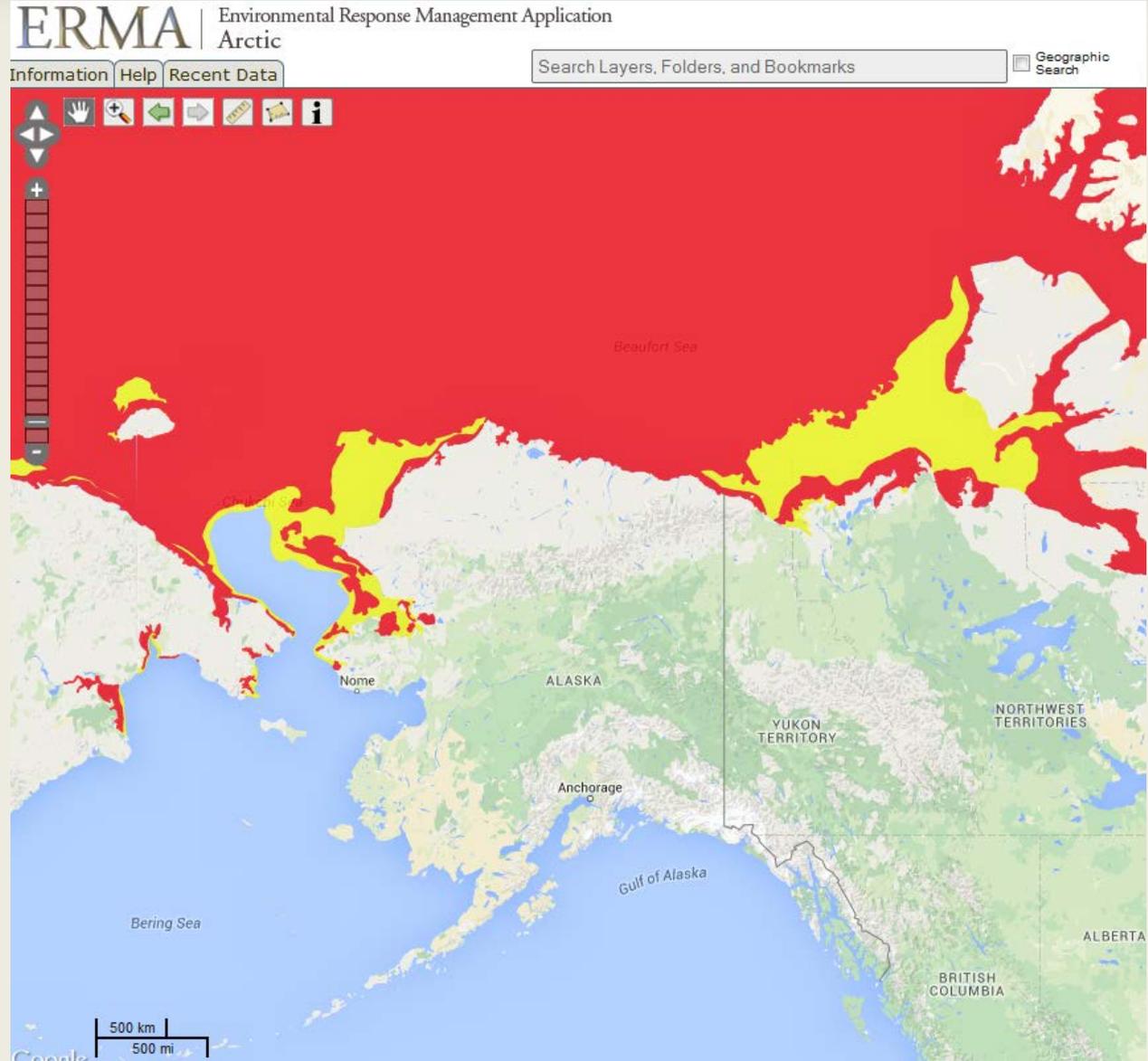


NOT JUST ABOUT OIL SPILLS

Other Industrial activities,
particularly mining and port
development



Arctic ERMA[®]



<https://www.erma.unh.edu/arctic>

Key Arctic Considerations

- rapidly changing environment,
- challenging weather and oceanographic conditions,
- increasing industrial activities,
- sensitive natural resources,
- vulnerable human communities,
- High costs of operations,
- limited logistics,
- Limited SAR/response infrastructure,
- Limited science and baselines, incomplete charting,
- Political visibility and sensitivity

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