

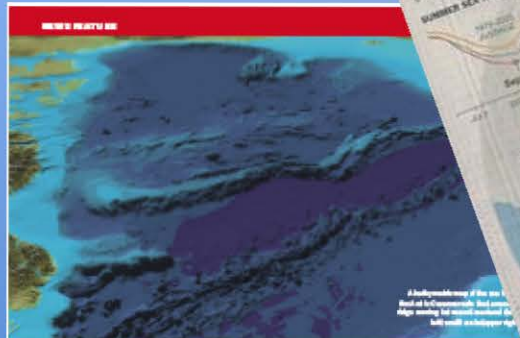
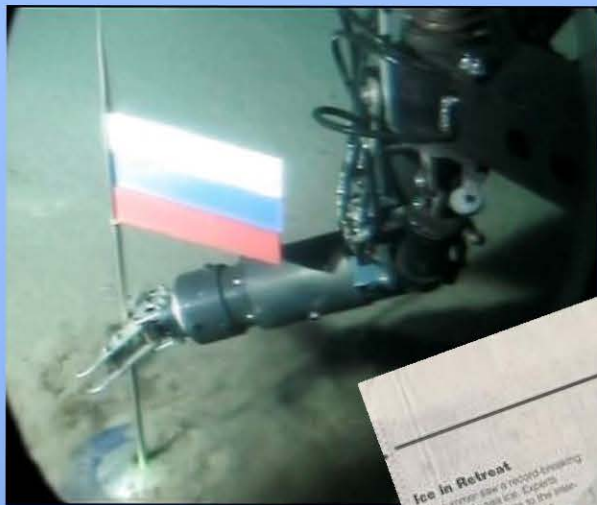
Alaska: America's Arctic Challenges and Opportunities

Fran Ulmer

Chair, US Arctic Research Commission

Duke Law School Symposium





The next land rush

As countries race to file claims in areas of the sea floor before a United Nations deadline, geo logists and geophysicists are getting caught up in the frenzy. *David Conway reports.*

Russia has been a latecomer to the Arctic, but now it's a major player. In the past few years, it has been expanding its military presence in the region, and now it's also looking to expand its economic influence. The Arctic is a vast, unexplored area, and Russia is determined to make the most of it. It has been investing heavily in infrastructure, including roads, railways, and ports, to facilitate access to the region. It has also been conducting extensive geological and geophysical surveys to map the area and identify potential resources. Russia's efforts have not gone unnoticed by other Arctic powers, and a new race to claim the region is well underway.

Therapist's Arctic will charge are at the office
—David Conway

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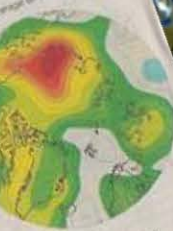
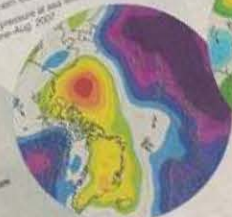
Science Times

The New York Times

TUESDAY, OCTOBER 2, 2007

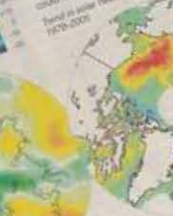


AIR TEMPERATURE
Warm air from the south and cold air from the north are colliding over the Arctic, bringing high temperatures to the region and pushing the cold air south.

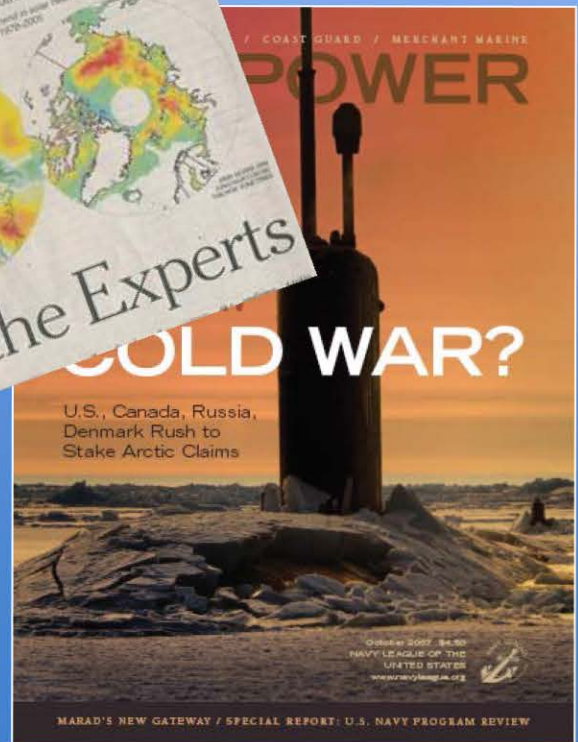


ATMOSPHERIC PRESSURE
High pressure over the Arctic and low pressure over Siberia are pushing cold air south and pushing warm air north.

SOLAR HEATING
Solar heating is pushing the Arctic south and pushing the cold air north.



Arctic Melt Unnerves the Experts



U.S., Canada, Russia, Denmark Rush to Stake Arctic Claims

MARAD'S NEW GATEWAY / SPECIAL REPORT: U.S. NAVY PROGRAM REVIEW



A 5 to 6-ton piece of drifting ice on the shore of Hudson Bay, near Baffin, Nunavut, Canada.

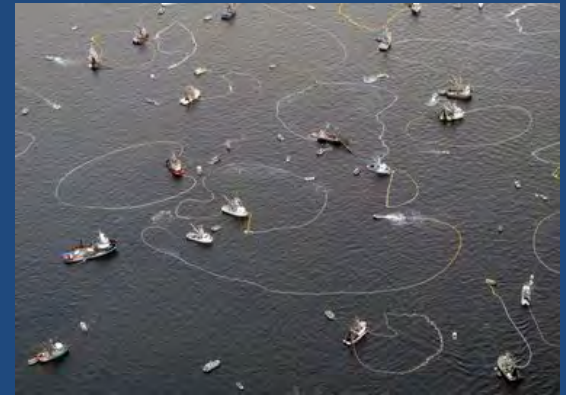
Arctic region defined in US law





“Climate Change is Driving the Transformation of the Arctic”

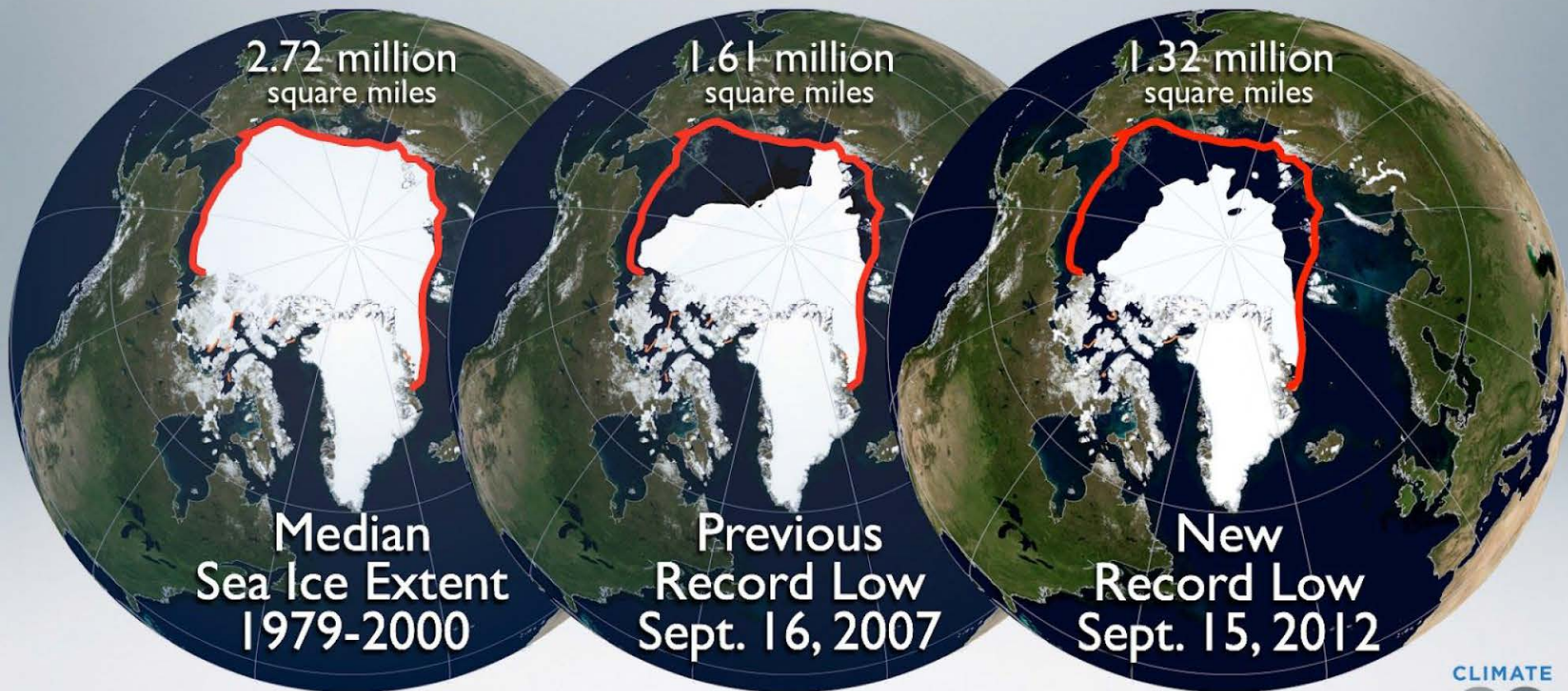
Not entirely



- Arctic *is* warming, rapidly (less ice, snow, permafrost)
- Global economics
- Natural resource development
- Marine tourism
- Fishing



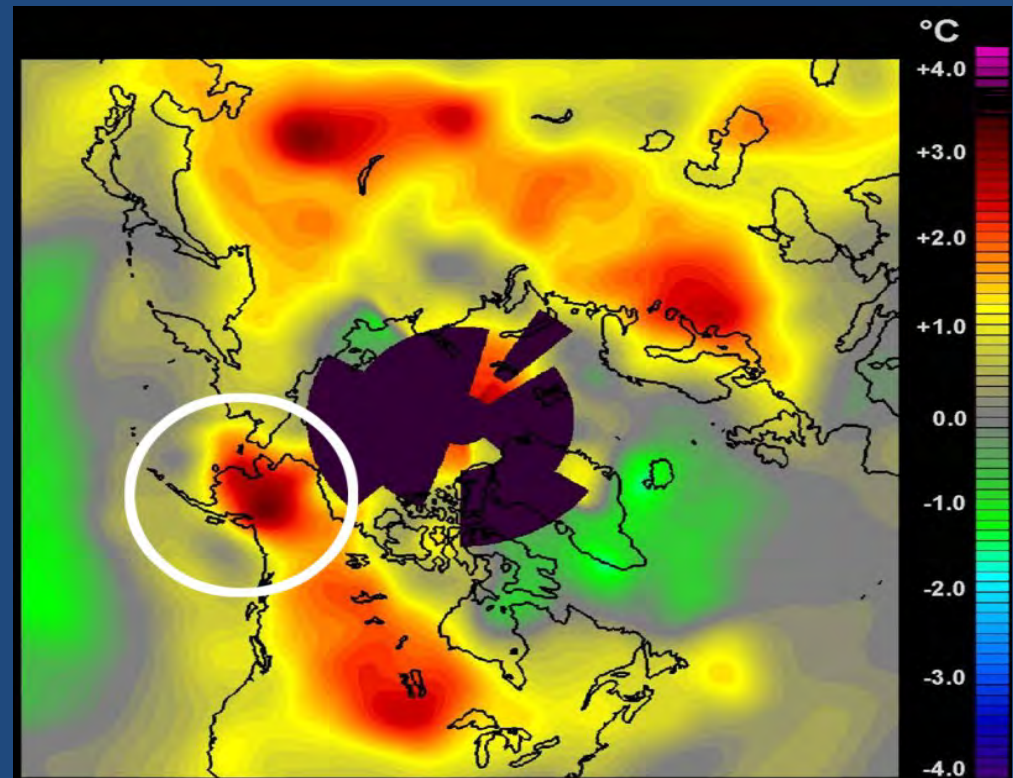
RECORD LOW ARCTIC SEA ICE



Source: The National Snow and Ice Data Center Sea Ice Index
Records are for 5 day running averages

How much has Alaska warmed since 1950?

About 4 degrees Fahrenheit on average, and about 7 degrees in winter



Source: U.S. Global Change Research Program.

<http://www.usgcrp.gov/usgcrp/Library/nationalassessment/overviewalaska.htm>

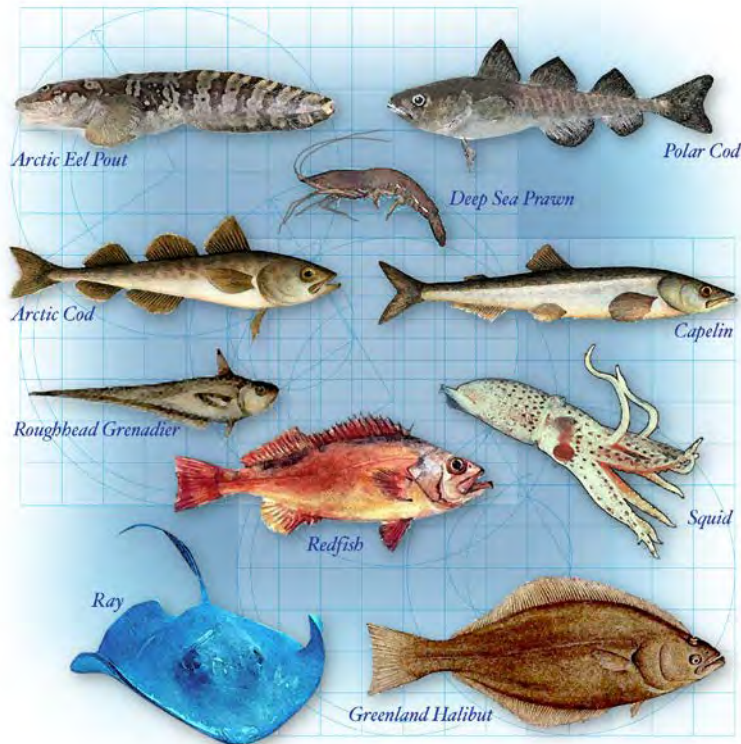
What does this mean to Arctic residents?

Impacts to subsistence foods and culture
Impacts to coastal villages and basic infrastructure
Possible regional/village economic opportunities



“The Arctic is Rich in Natural Resources”

True



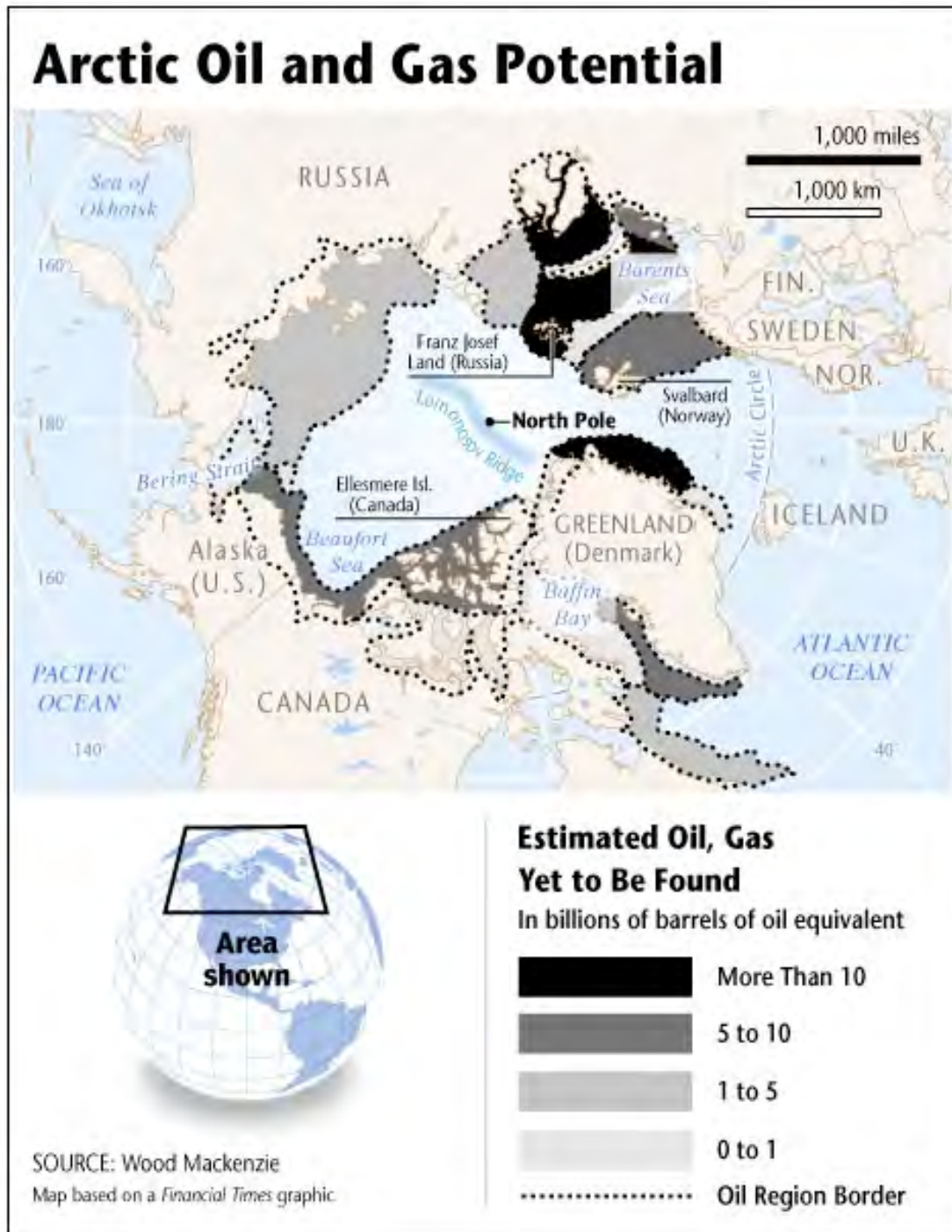
Arctic has much of
world's remaining
“undiscovered”
fossil fuel

13% oil

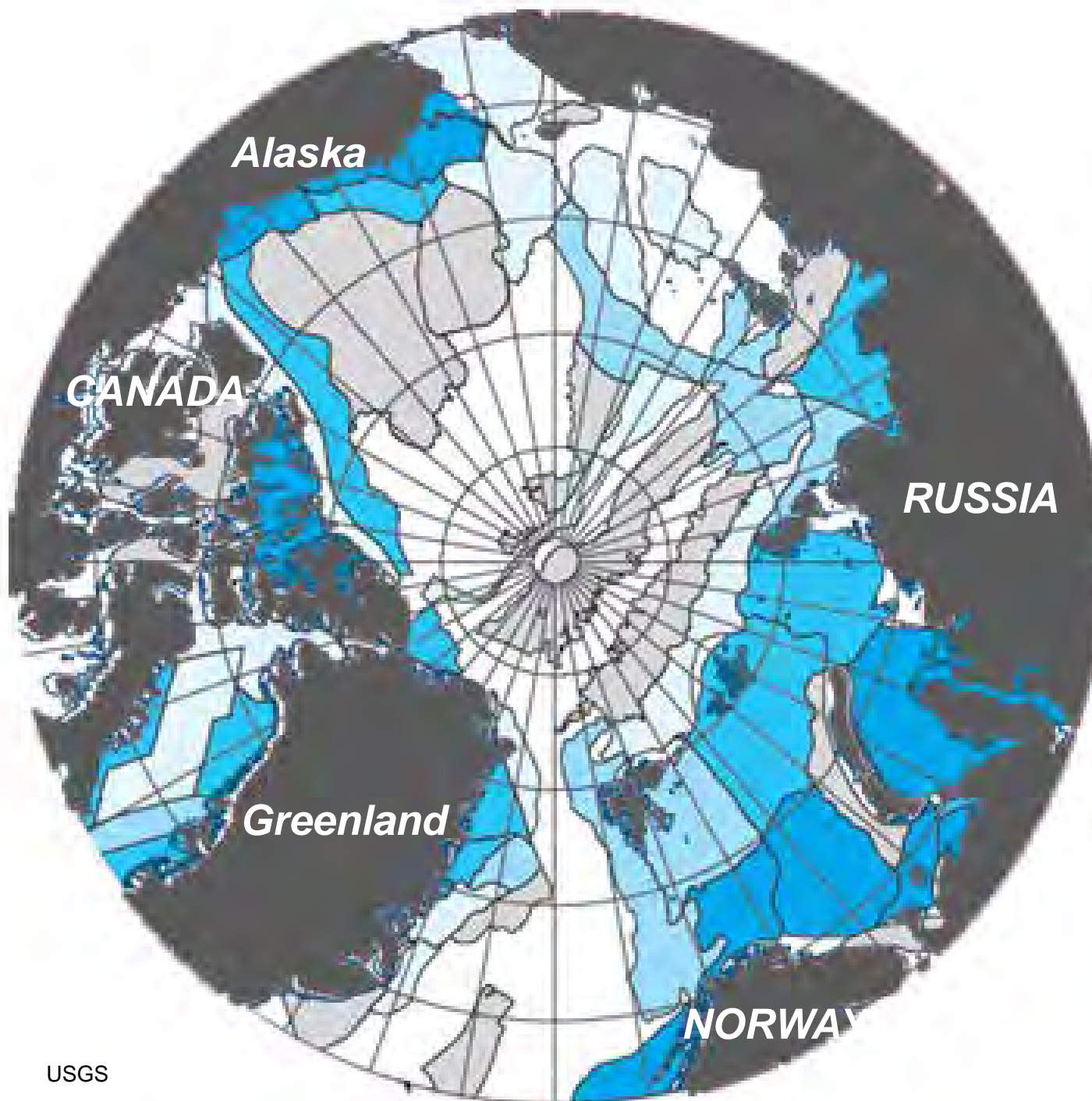
30% natural gas

20% natural gas liquids

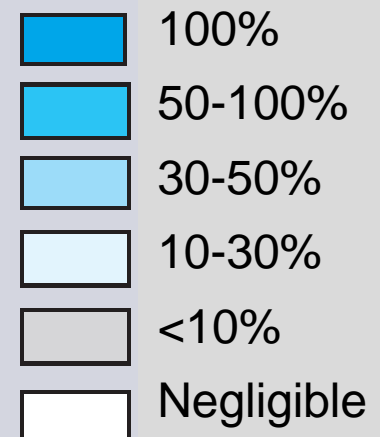
2009 USGS CARA report



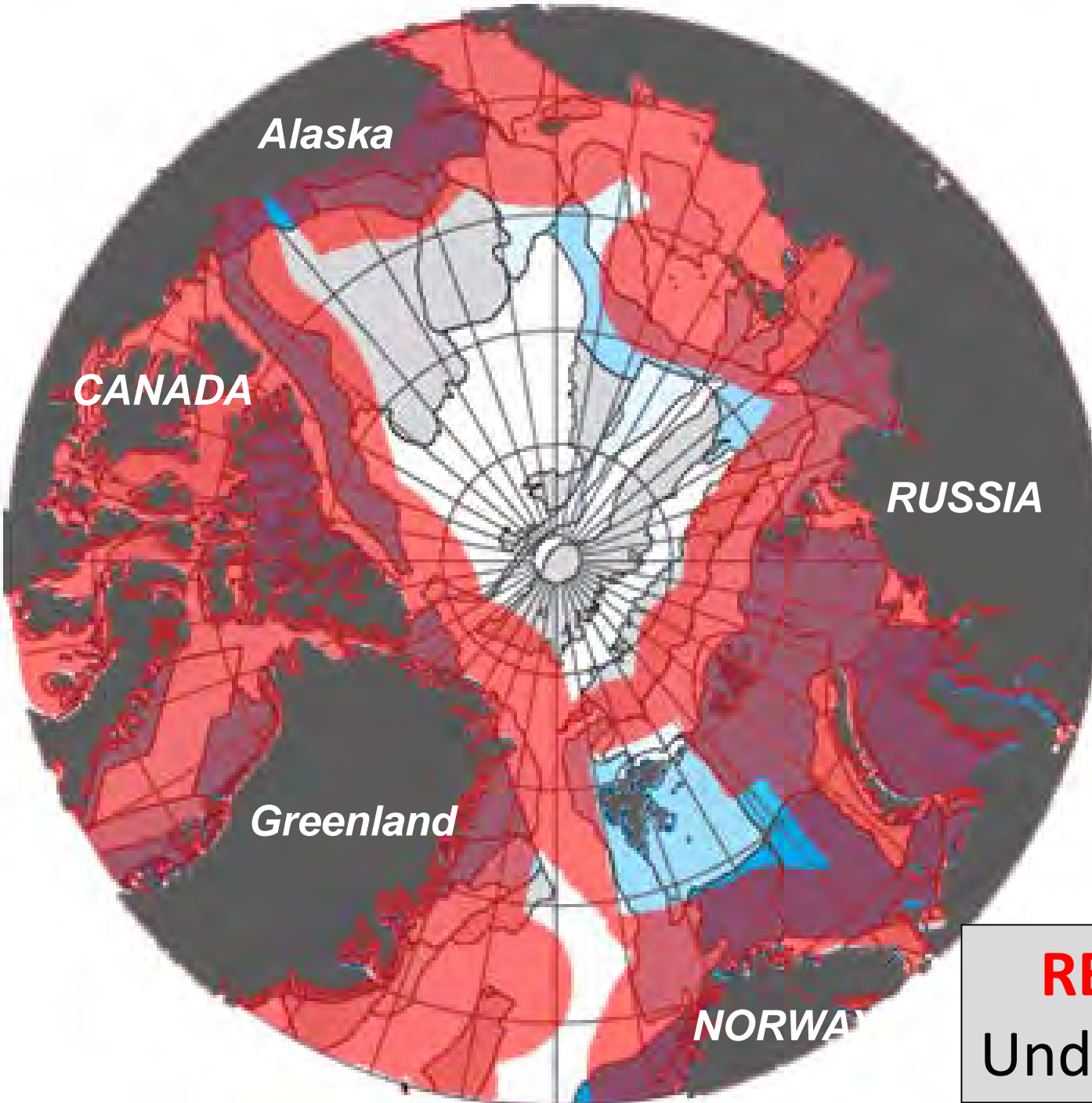
Where's the oil?



Probability of at least one 50 million barrel equivalent field



Who
owns it?

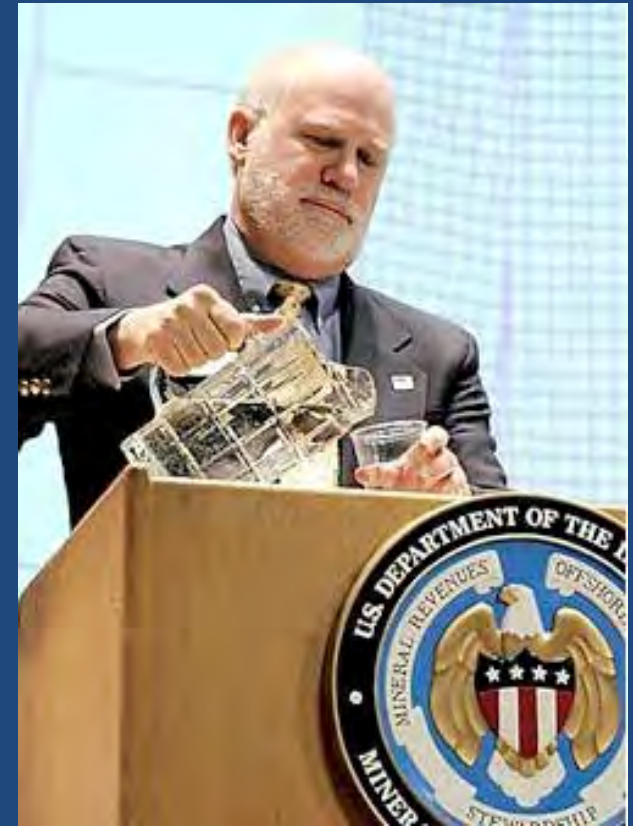


RED overlay
Undisputed EEZs

Record \$2.7 billion bid for Alaska oil and gas leases



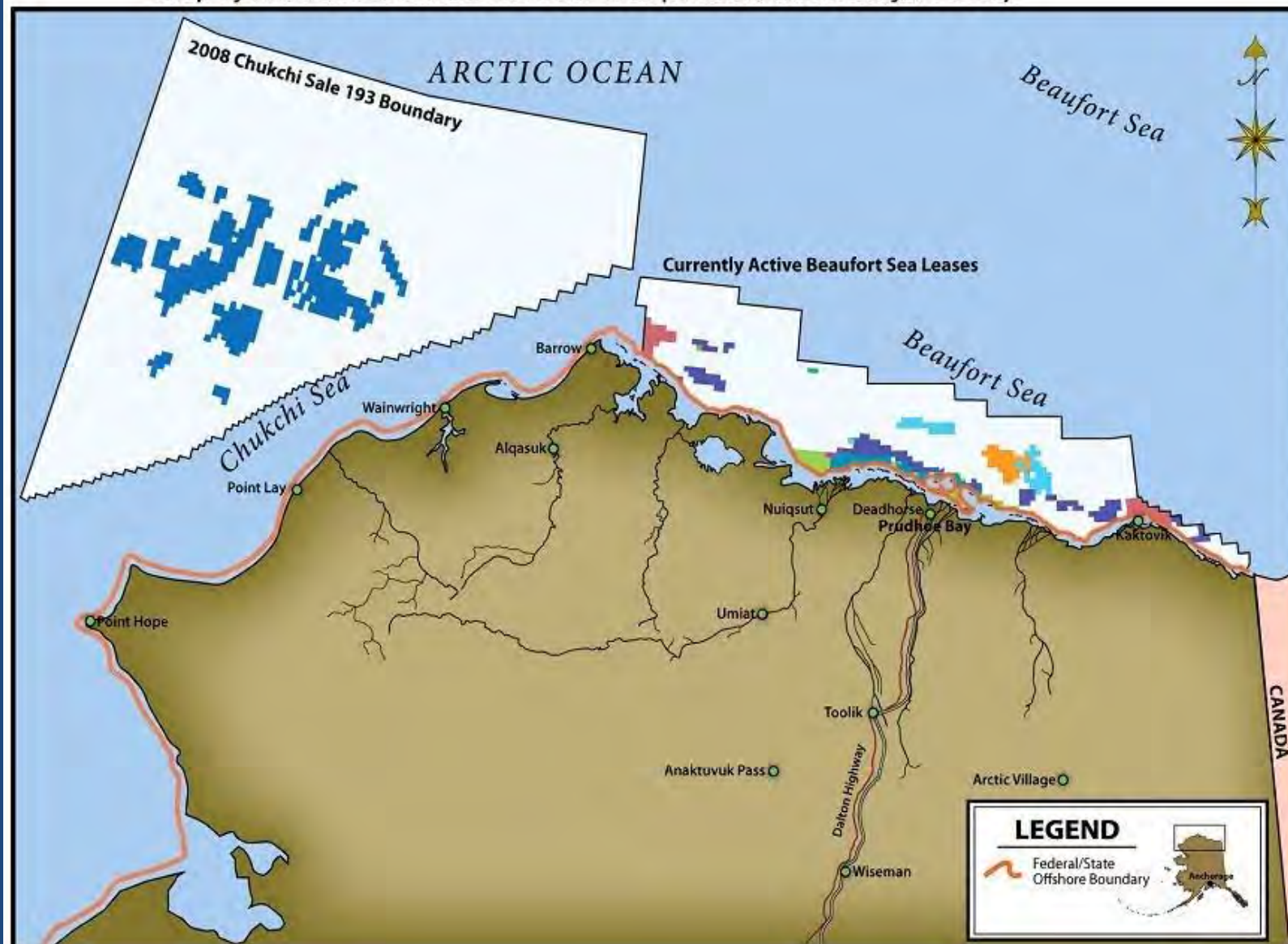
RON ENGSTROM / Anchorage Daily News



Minerals Management Service's John Goll announces the 667 lease sale bids for the Chukchi Sea totaling \$2.7B, the largest in Alaska's history.

Photo/Rob Stapleton/AJOC 2/7/08

Map of Active Lease Areas in Arctic OCS (Chukchi and Beaufort Seas)





...oil spills in
ice-covered
waters...



OIL SPILLS IN ARCTIC WATERS

An Introduction and Inventory of Research Activities
and USARC Recommendations



WRITTEN BY THE US ARCTIC RESEARCH COMMISSION
AND THE US ARMY CORPS OF ENGINEERS
COLD REGIONS RESEARCH AND ENGINEERING LABORATORY

Oil-spill-in-ice research

- Interagency Coordinating Committee on Oil Pollution Research (ICCOPR). USCG chair
- National Research Council Report (May 2014)

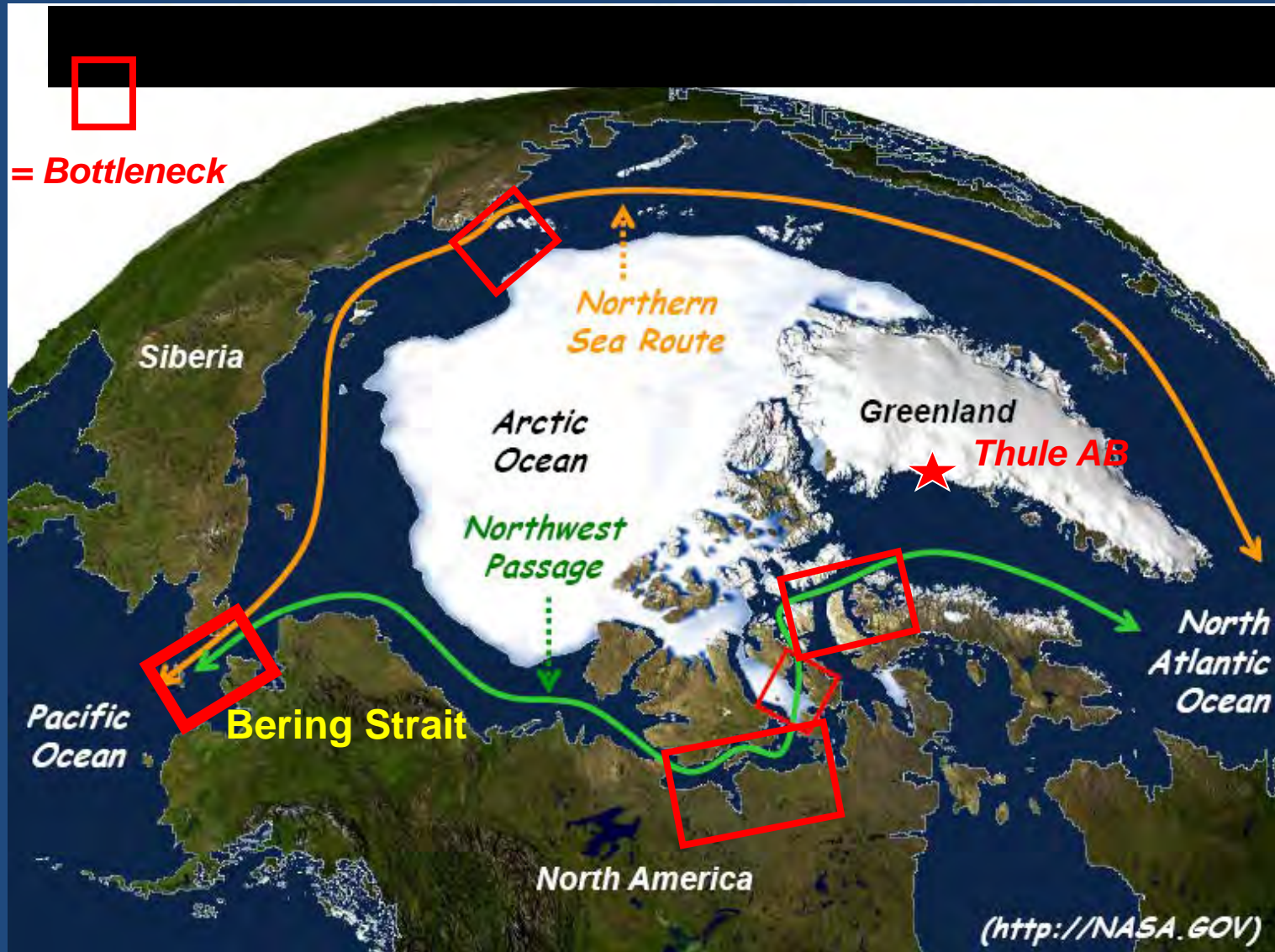


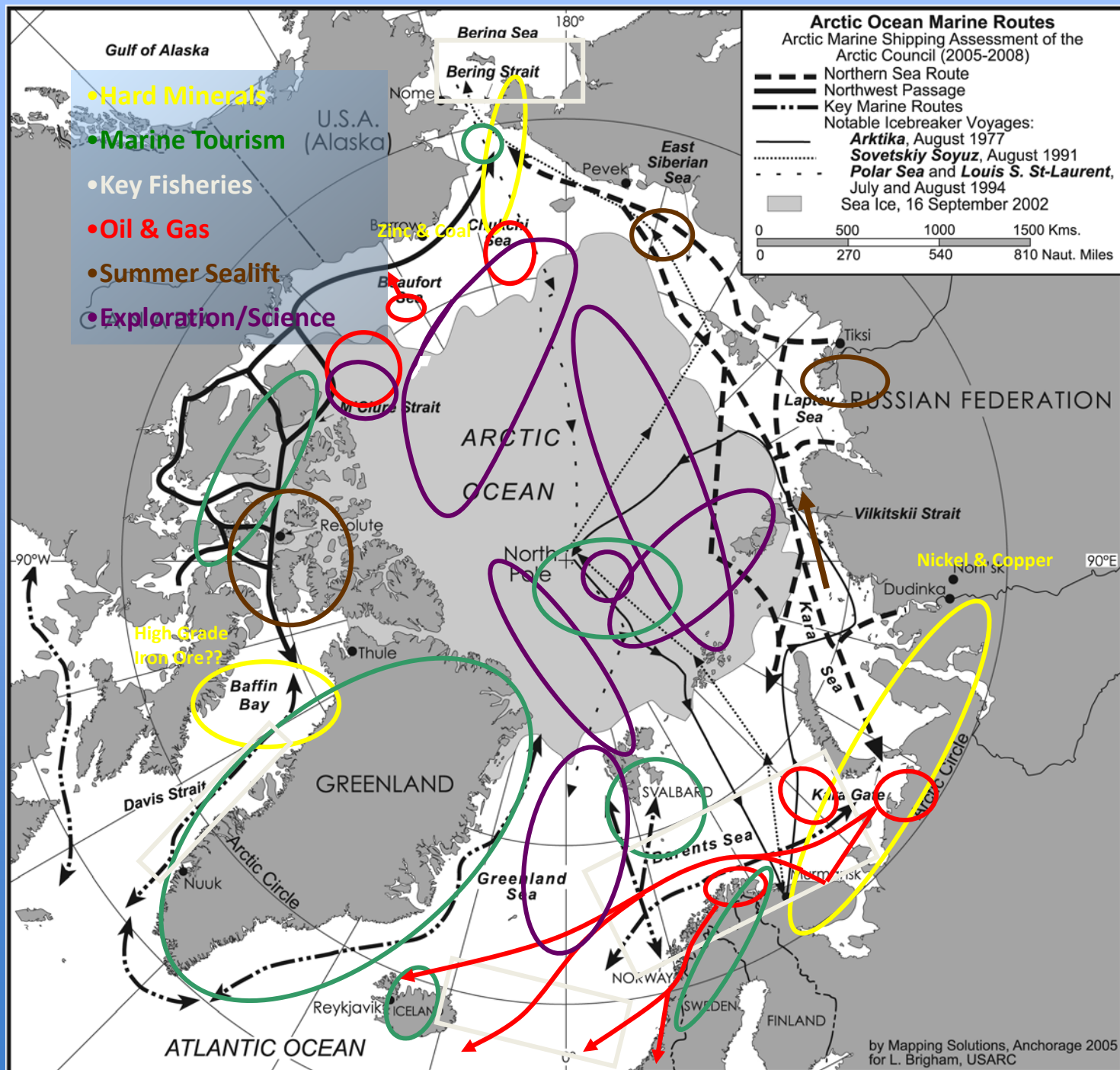
“The Arctic Will Become a Major Shipping Route”

Not so fast

- Shorter route, no pirates (but Russian tariff)
- Short navigable season, but ice roars back each winter
- Poor hydrography, charting
- Limited infrastructure
- Insurance industry caution
- MIT study: containers not economical below 10 kts

Potential Arctic Shipping Routes







Making shipping safer requires:

- Infrastructure
- USCG resources
- Training
- Specialized equipment
- Mapping and charting
- Navigation aids
- Communication
- IMO Polar Code
- Law of the Sea
- International cooperation

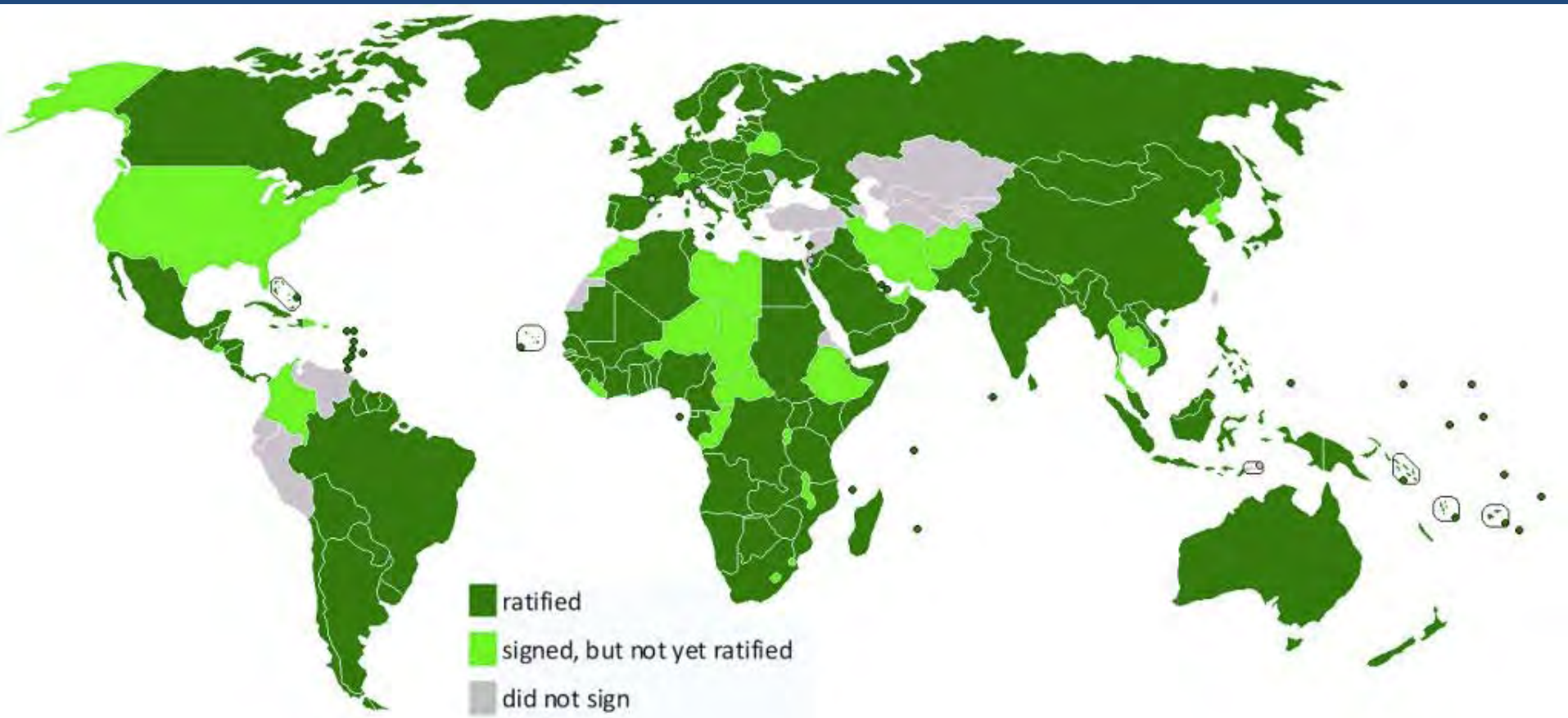


“There’s a Land Rush in the Arctic”

Wrong



UNCLOS



Libya, North Korea, US, Iran...

“Only 7% (8%) of the Arctic Ocean has been mapped to modern (multibeam) standards”

*-Larry Mayer (10/11)
Univ. of New Hampshire*



“Conflict is Inevitable in the Arctic”

No, it isn't



US



Canada



China

"The Arctic belongs to all the people around the world as no nation has sovereignty over it."

Rear Admiral Yin Zhuo

March 5, 2010

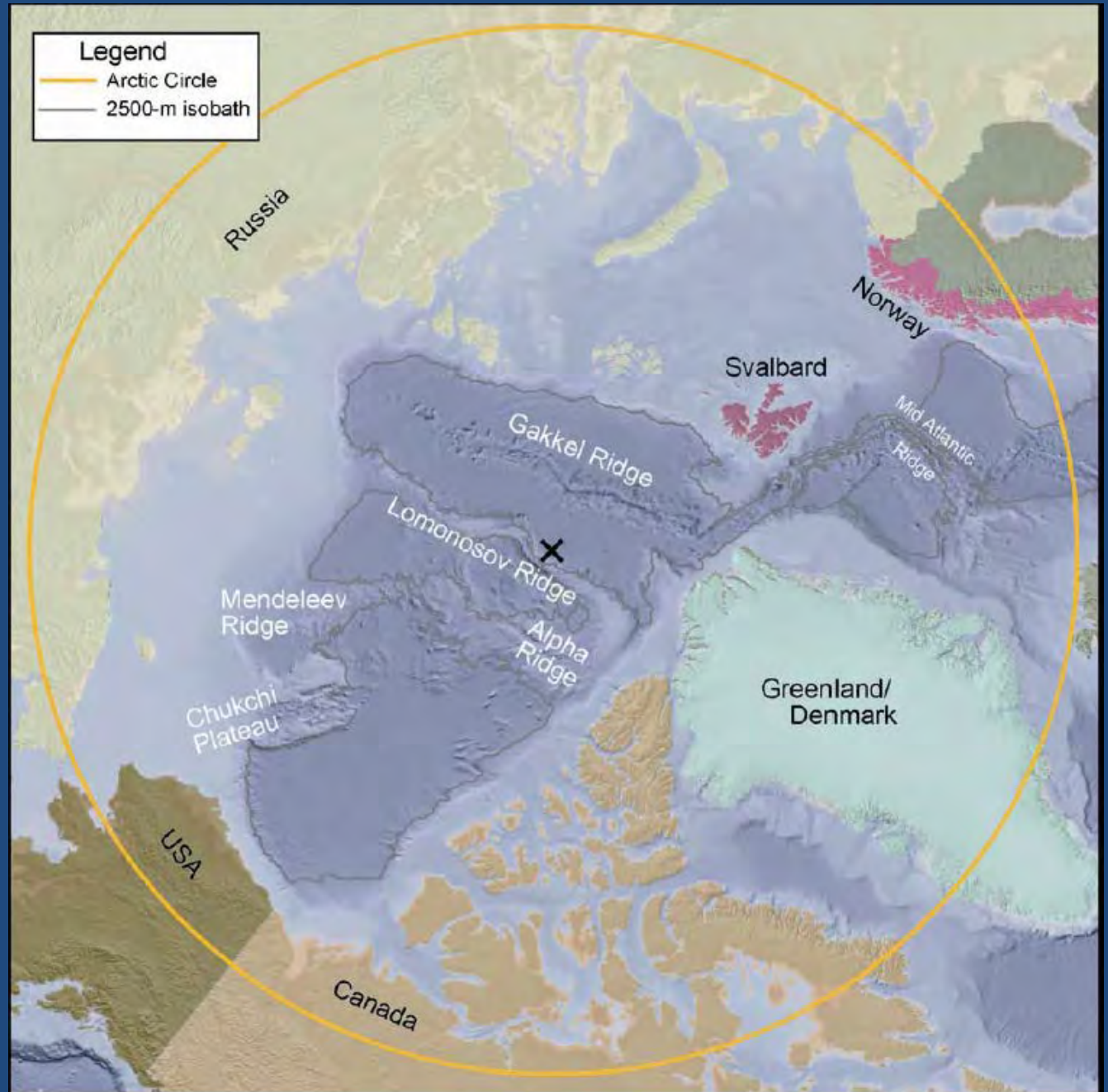


Xuelong (Snow Dragon)
5 Arctic expeditions.
One in progress now...



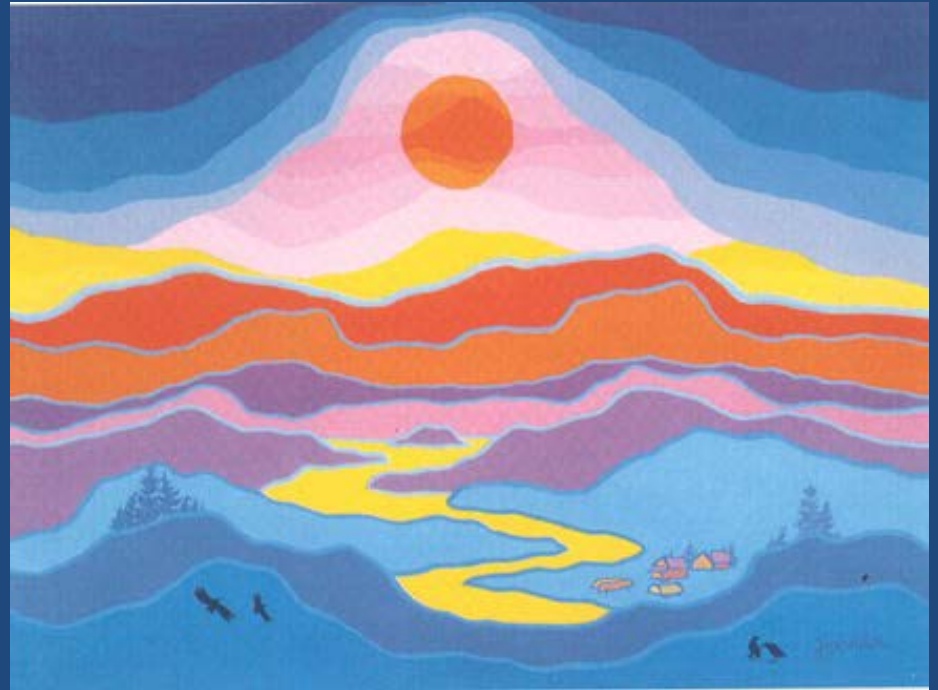
U.S.
Russia
Canada
Denmark
(Greenland)
Norway

Finland
Iceland
Sweden



The Arctic Council

- Forum to provide cooperation, coordination and interaction among the 8 Arctic States
- Canada Chair, next USA
- Arctic Indigenous communities are involved
- Projects on sustainable development and environmental protection in the Arctic



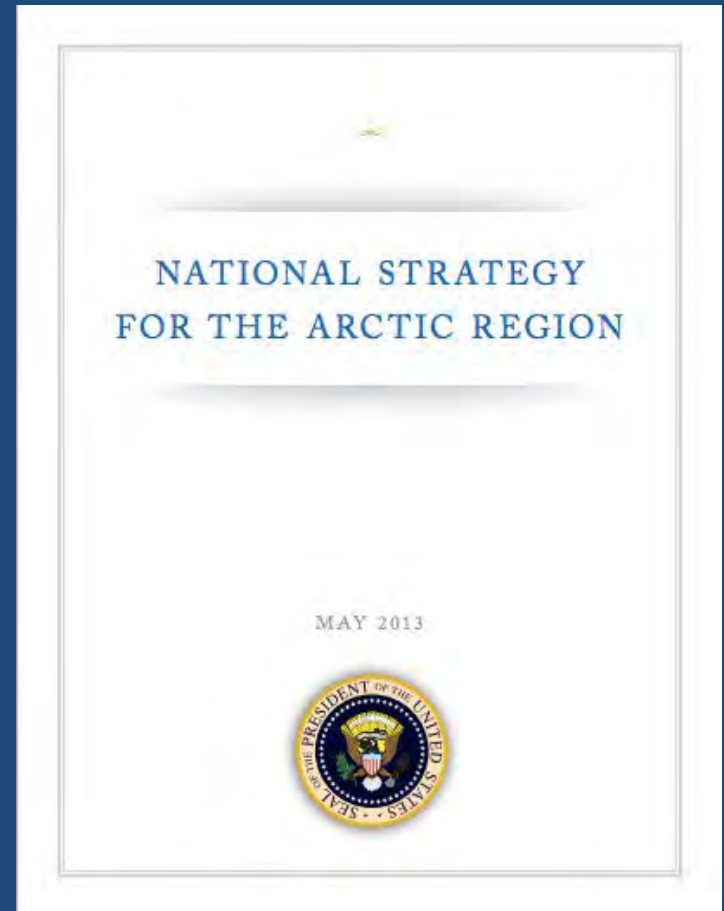
Arctic Council Initiatives (examples)

- Marine Oil Pollution Response Agreement
- Search and Rescue Agreement
- Arctic Ocean Review
- Arctic Ocean Acidification Report
- Spill Prevention and Safety Culture Task Forces
- Arctic Marine Shipping Assessment
- Arctic Council Task Force on Scientific Cooperation
- Creation of Arctic Economic Forum

US National Strategy for the Arctic

Three Lines of Effort:

- 1) Advance United States Security Interests
- 2) Pursue Responsible Arctic Region Stewardship
- 3) Strengthen International Cooperation





US Arctic Policy (NSPD-66/HSPD-25)

- National/Homeland Security Interests
- International Governance
- Extended Continental Shelf and Maritime Boundaries
- Promoting International Scientific Cooperation
- Maritime Transport
- Economic/Energy
- Environmental Protection

Seven policy areas – one overarching legal dynamic – relationship between international law, mainly the law of the sea and national sovereignty

National Ocean Policy

(EO 13547)

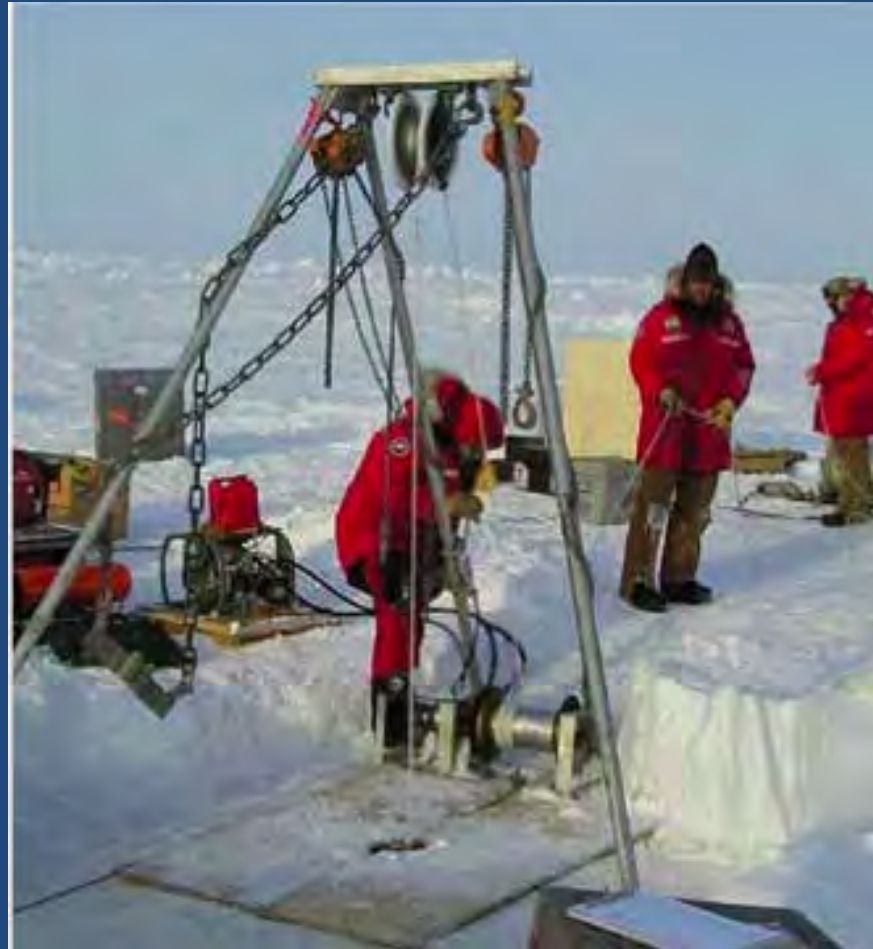




1. Improve Arctic environmental response management
2. Observe and forecast Arctic sea ice
3. Implement a distributed biological observatory
4. Enhance communication systems in the Arctic
5. Advance Arctic mapping and charting

Improve coordination on Arctic Ocean issues

Increasing Research is essential



Research related to concerns of Arctic residents

- Survey of indigenous marine use: current and future
(who is using what areas during what time of the year and *how this is changing*)
- Impacts on marine mammals and other marine wildlife
- Analysis of important ecological areas (high productivity)
- Clean air/water & safety of subsistence foods





U.S. Arctic Research Commission

- Develop, recommend, and assist in implementing a national Arctic research policy
- Facilitate Arctic research cooperation among Federal, State and local governments
- Recommend improvements for data sharing among Arctic research entities
- Facilitate international scientific cooperation in the Arctic



2013-14 Goals Report Research Themes

- Environmental Change
- Arctic Human Health
- Civil Infrastructure
- Natural Resource Assessment & Earth Science
- Indigenous Languages, Identities, Cultures



ARCTIC UPDATE

THE US ARCTIC RESEARCH COMMISSION DAILY EMAIL NEWSLETTER



February 15, 2013

Today's Events

The House is expected to complete consideration federal pay legislation and consider a resolution condemning North Korea for testing a nuclear device. The Senate is not in session.

Media



Murkowski Urges Secretary of State Kerry to Maintain American Leadership, Momentum in Arctic. Senator Lisa Murkowski reached out to new Secretary of State John Kerry, asking him to prioritize America's Arctic engagement as his predecessor did, with Murkowski becoming the [first U.S. Senator to participate](#) in the Arctic Parliamentarians' conference in 2011 with former Secretary of State Clinton - making a high-profile national commitment to Arctic issues. In a letter to the Department of State, Senator Murkowski call upon expanded U.S. leadership in a region currently at a crossroads - with Arctic waters opening and international policies being created. [Alaska Business Monthly](#)

Aberdeen Scientists Trawl Arctic Seabed for Antibiotics as World Faces 'Apocalypse.'

The desperate search for new life-saving [antibiotics](#) has reached new lows, as scientists dredge the Arctic and Antarctic seabed to try to find new medications. Dame Sally Davies, England's [chief medical](#) officer, recently warned that the world is facing an "apocalyptic scenario" as we are fast running out of antibiotics. The over-use and reliance on antibiotics has meant that many diseases are now resistant to them. [International Business Times](#)

Arctic Ice Loss Causing Big Changes.

Last year's record loss of Arctic sea ice is already causing big changes for plants and animals that scientists are just starting to understand, according to newly published research. "It takes only one season to change how a deepsea system functions," said Antje Boetius, who was the head scientist aboard a German research vessel that sailed through the High Arctic last summer. That voyage of the Polar-stern, owned by



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Thank you

