



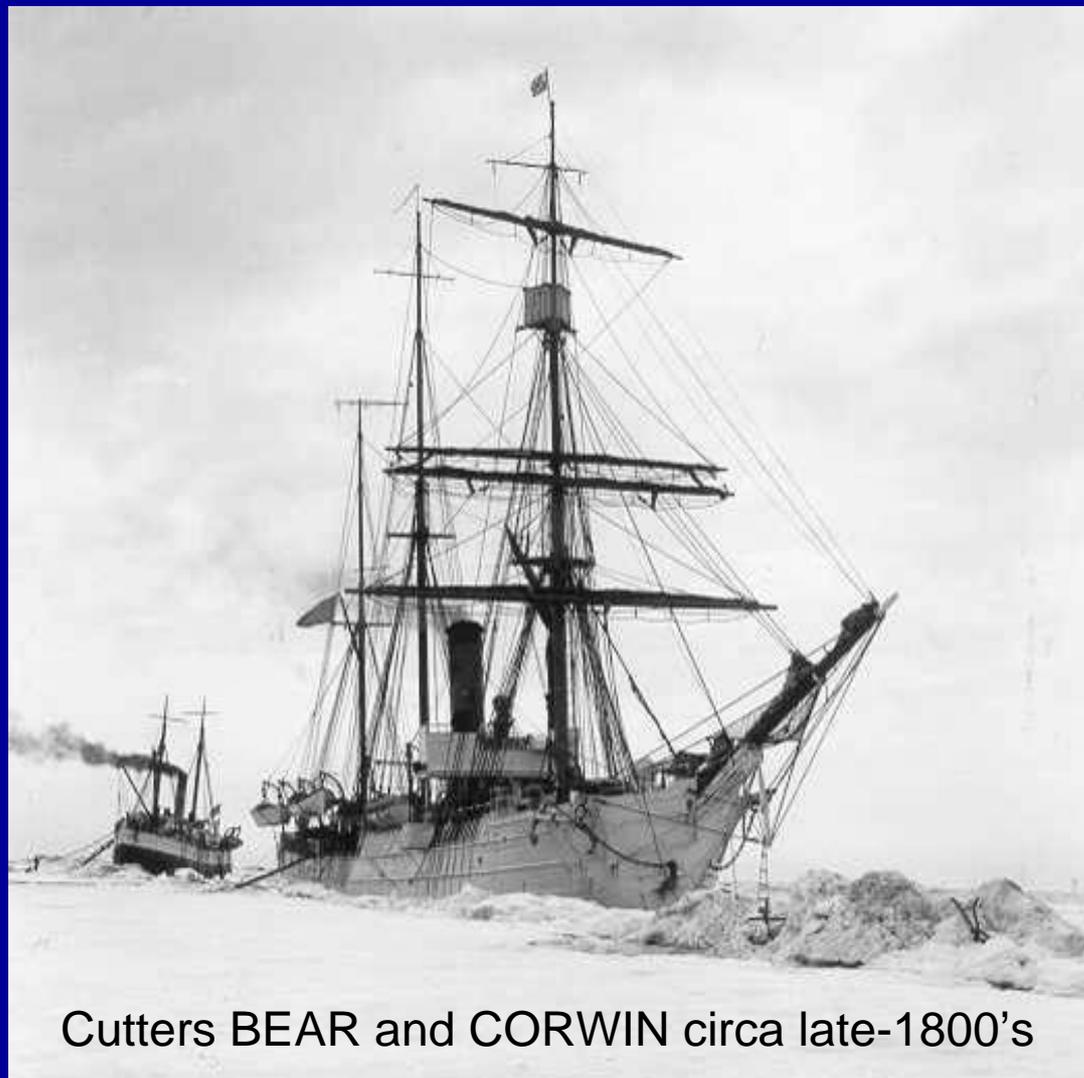
Arctic Maritime Transportation



25 February 2011

Pioneering Vessel Traffic System (VTS) Bering Strait?

Rear Admiral
Christopher C. Colvin
Commander
17th Coast Guard District
Coast Guard Forces Alaska



Cutters BEAR and CORWIN circa late-1800's



The Problem is...



*There's water where
there used to be ice*



Captain William Deal (Commanding Officer of Coast Guard station Kodiak) flying the HC-130 Hercules over the coast near Barrow on the last Arctic Domain Awareness flight of the year. Photo by Dennis Zaki

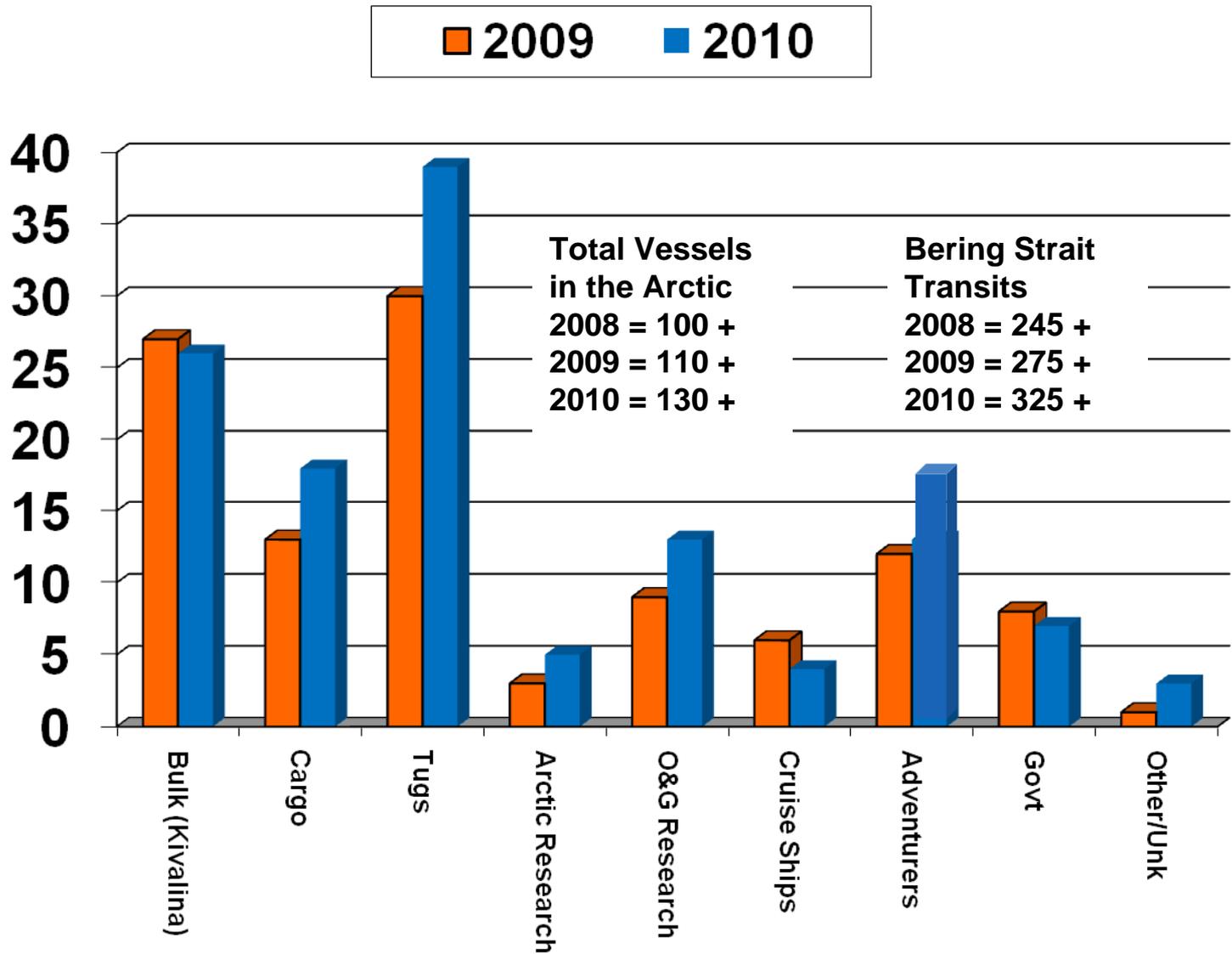
Lot's of water!



Which Results In...

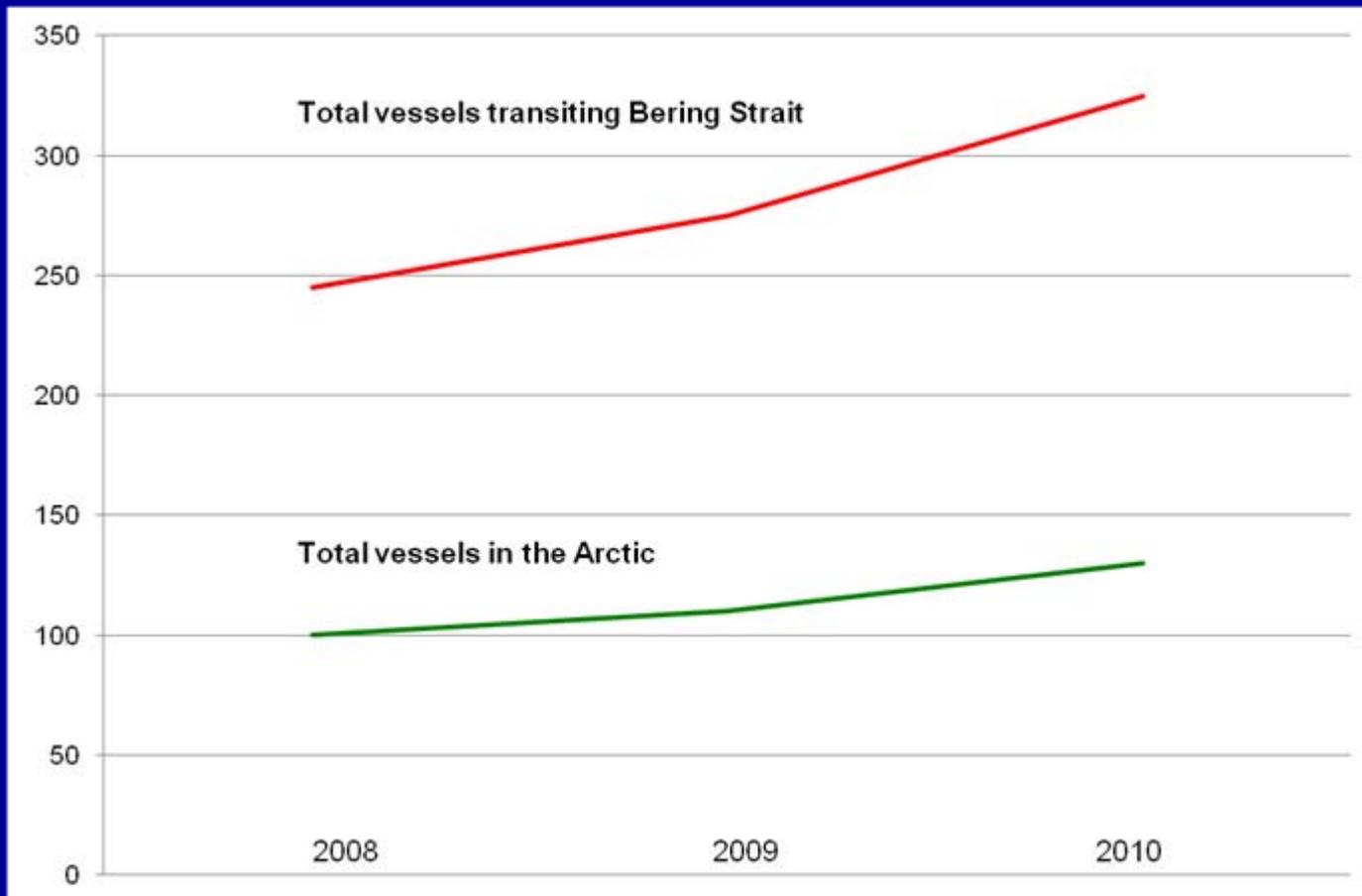


Increased Human Activity





Increased Vessel Activity





Adventurers NW Passage Transits



2010 Activity (17):

- S/V ARCTIC MARINER
- S/V CAPTAIN LEMUEL R BRIGMAN III
- RHIB FCP NORTHWEST PASSAGE
- S/V ISSUMA
- R/B MATHIEU BONNIER ET TICO
- S/V NORTHERN PASSAGE
- Y/V OCTOPUS
- S/V PETER 1
- S/V RXII
- S/V SAREMA
- S/V SOLANUS
- S/V YOUNG LARRY
- S/V ANNA
- S/V ARIEL 4
- S/V ALASKA
- S/V TELEPORT
- Y/V DIONE SKY

2009 Activity (12):

- M/V POLAR BOUND
- S/V GLORY OF THE SEA
- S/V PRITHIA
- S/V PRECIPICE
- S/V OCEAN WATCH
- S/V SILENT SOUND
- S/V BALOUM GWEN
- S/V FIONA
- M/V BAGAN
- S/V FLEUR AUSTRALE
- M/V APOISE
- S/V CAPT LEM



Capt Lem

OCTOPUS



Nordhavn 57 shoves off for the Northwest Passage
Bound for Arctic, Bagan closes in on first waypoint: Halifax, NS

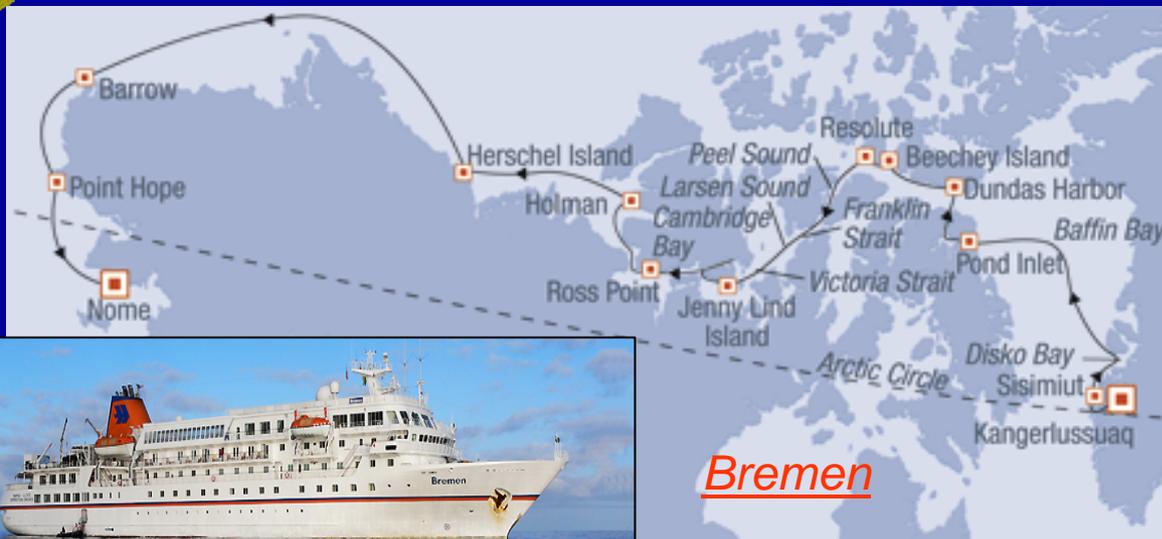


Ocean Watch



Cruise Ships in the Alaskan Arctic

BREMEN
164 passengers
15 Aug to 08 Sep 09
from Kangerlussuaq to
Greenland to Nome
with stops in Barrow
and Point Hope



HANSEATIC
184 passengers
13 Aug – 05 Sep 09
from Nome to
Reykjavik/Iceland with
stops in Point Hope
and Point Barrow





Cruise Ship Sinks

All 154 Aboard Saved



By Monte Reel
Washington Post Foreign Service
Saturday, November 24, 2007

BUENOS AIRES, Nov. 23 -- The first cruise ship ever built to ply the frigid waters off Antarctica became the first ever to sink there Friday. The red-hulled M/S Explorer struck ice, took on water as 154 passengers and crew members scrambled to safety aboard lifeboats and rafts, then went to the bottom.



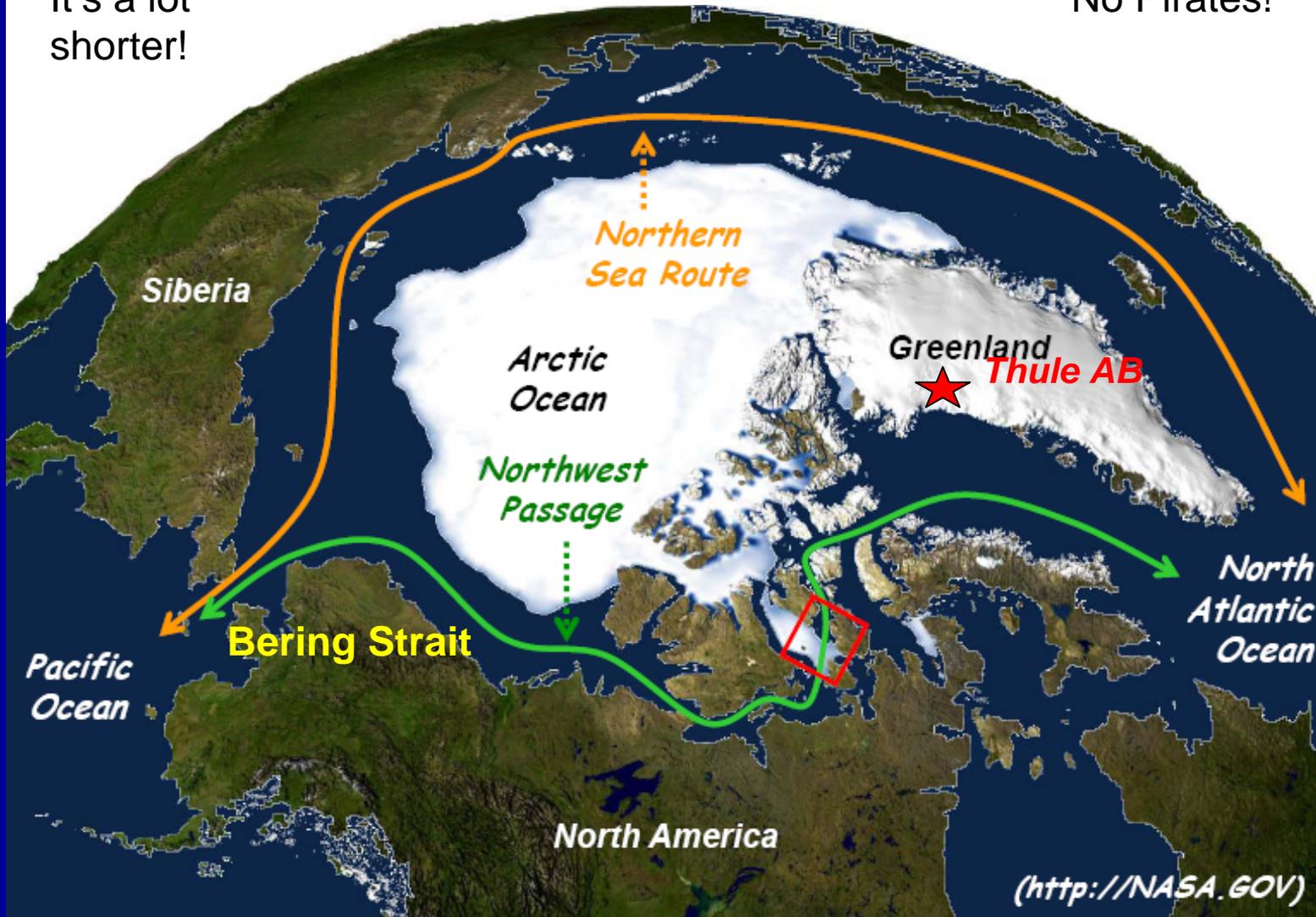
Why it matters...



Maritime Transportation System

It's a lot shorter!

No Pirates!



(<http://NASA.GOV>)



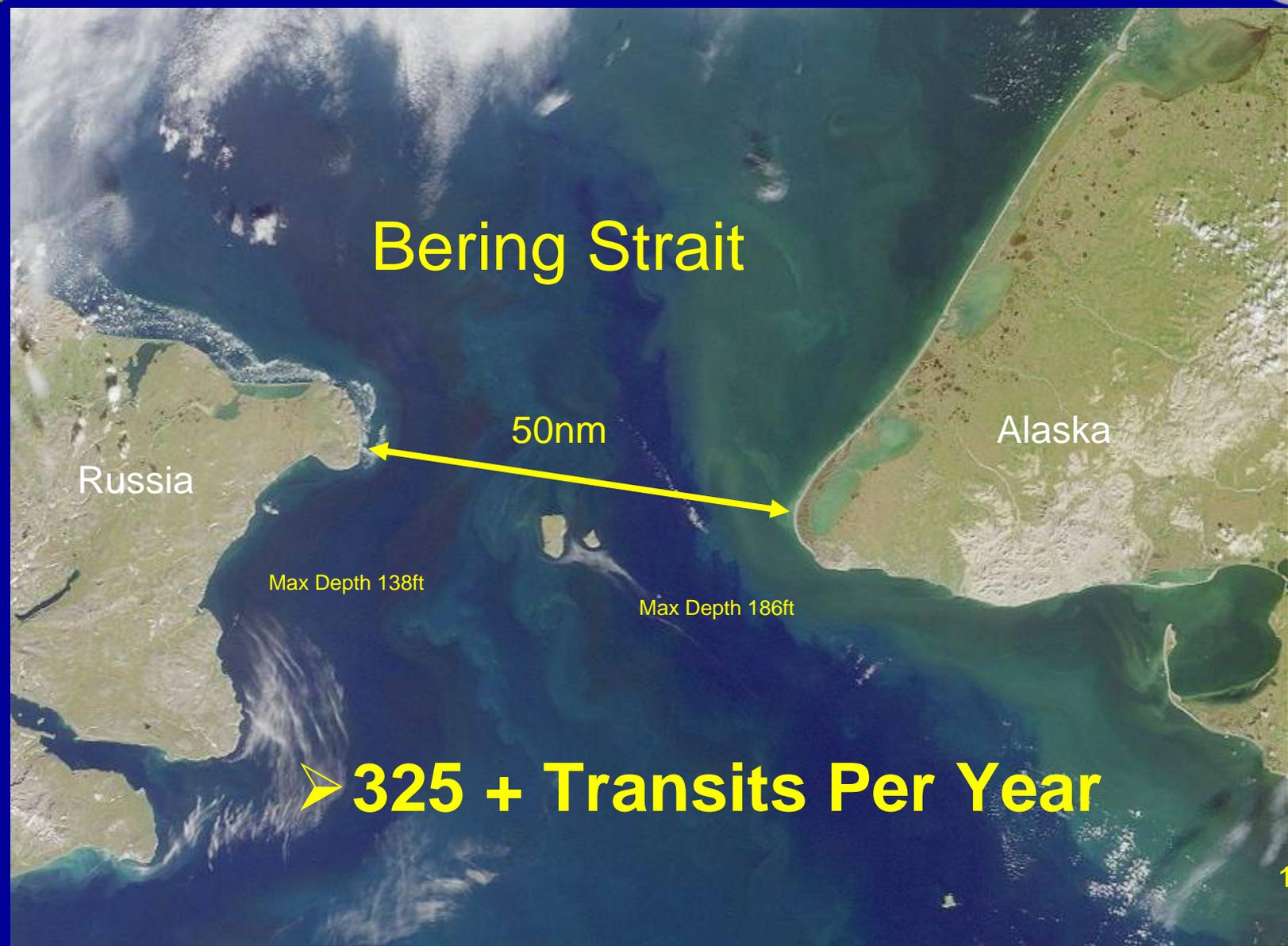
Only one way in or out of the Arctic...



For over half the world!



Alaska's Strait of Gibraltar



Bering Strait

50nm

Russia

Alaska

Max Depth 138ft

Max Depth 186ft

➤ 325 + Transits Per Year



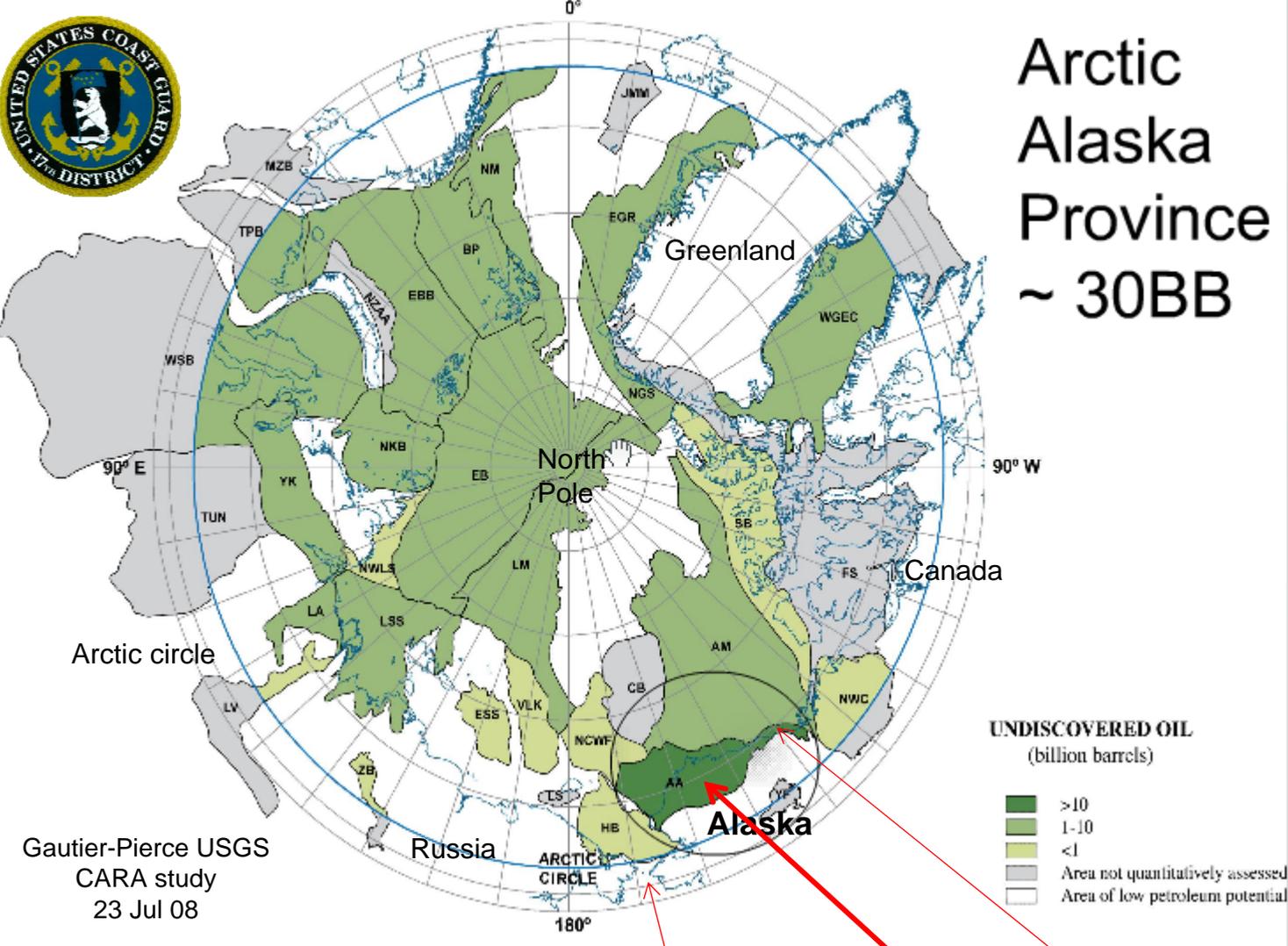
Why Maritime Transportation Will Increase...



Arctic Alaska Province ~ 30BB

Alaska's
North
Coast:

Potential
to be the
richest
oil field in
the Arctic



Oil

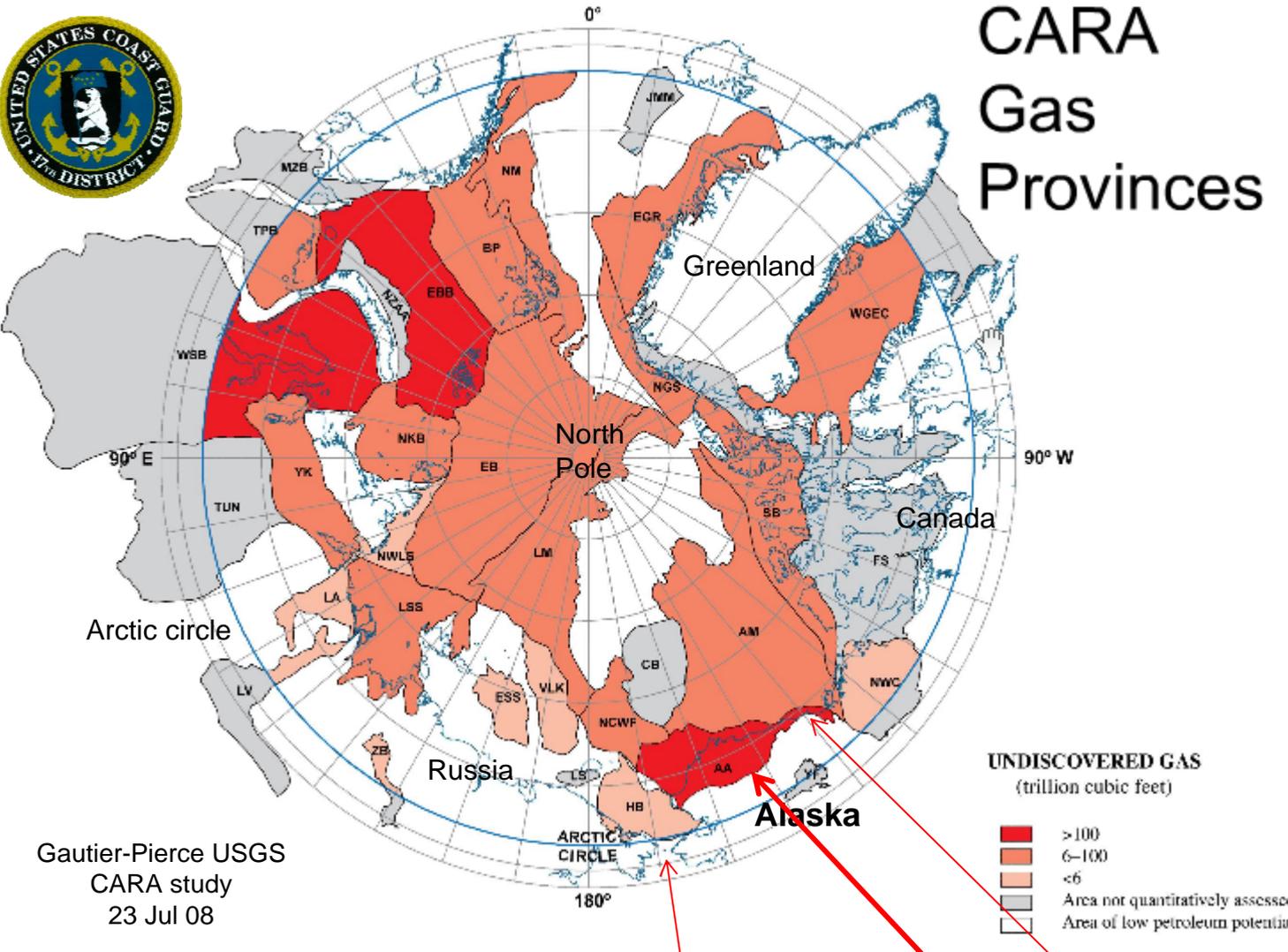
West boundary
of Alaska
(Bering Strait)

East boundary of Alaska
(Canadian Border)

Undiscovered oil in arctic



CARA Gas Provinces



Alaska's North Coast:

Potential to be the richest natural gas field in the Arctic ... Only Russia has similar potential for natural gas

Gautier-Pierce USGS
CARA study
23 Jul 08

West boundary of Alaska

East boundary of Alaska

Gas

Undiscovered natural gas in arctic ¹⁸



Minerals



Red Dog Port - 15 March 08



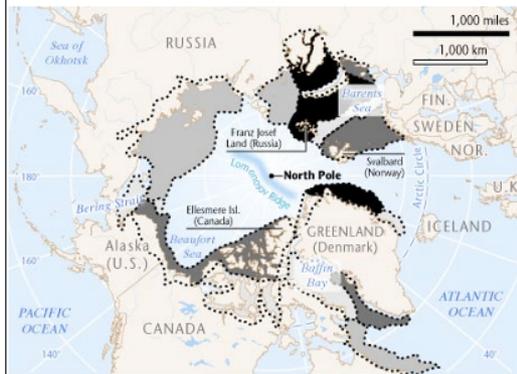
19
ore carrier receiving a tender
boat offshore



Expanding Resource Development

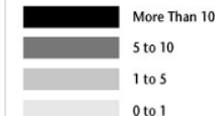
- Hydrocarbons (Oil & Gas) & minerals (Manganese, Copper, Nickel, Cobalt)
- Oil companies bid nearly \$2.7 billion for Chukchi Sea rights.

Arctic Oil and Gas Potential



Estimated Oil, Gas Yet to Be Found

In billions of barrels of oil equivalent



SOURCE: Wood Mackenzie
Map based on a Financial Times graphic

Open for development

The federal government gave final approval Wednesday for oil and natural gas development off Alaska's northwest shore.

Chukchi Sea

• Cape Lisburne

Chukchi Sea Sale

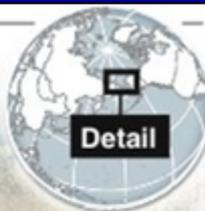
ALASKA

RUSSIA

Bering Strait
Bering Sea

• Nome

0 100 mi.
0 100 km.



BP Northstar





Our Arctic Neighbors

Russia is actively promoting the Northern Route above Russia

Canada is requiring vessels to register before transiting Northwest Passage

China?



Russia promoting Arctic shipping route



1000' long Aframax ice-reinforced oil tanker carrying 70,000 metric tons of gas condensate from Europe to Asia above Russia through the Bering Strait... 5,000 less miles than Suez.



Escorted by three Russian nuclear icebreakers

Russia expects an increase to six or more similar transits in 2011...



Russian Gas Shipments



Novatek, Atomflot strike deal on Northern Sea Route

2011-02-02

Russia's second biggest gas producer Novatek has signed a cooperation agreement with icebreaker operator Atomflot on shipping along the Northern Sea Route.

The agreement lays down both companies' intent to engage in strategic cooperation in the field of safe shipping, a [press release](#) from Novatek reads. It includes both shipping of equipment for the development of the South Tambey field in the Yamal Peninsula and of LNG from the same field.

Novatek is the license holder to the South Tambey field, a project which is planned to be developed as LNG together with Gazprom. The project is planned developed in three phases, the first covering the period 2012-2016.

Several companies have shown interest in the project, among them Total, GDF Suez, Shell, Exxon, ConocoPhillips, Mitsui, Mitsubishi, Repsol, ONGC and Qatar Petroleum , [Oilru.com](#) reports with reference to RIA Novosti.

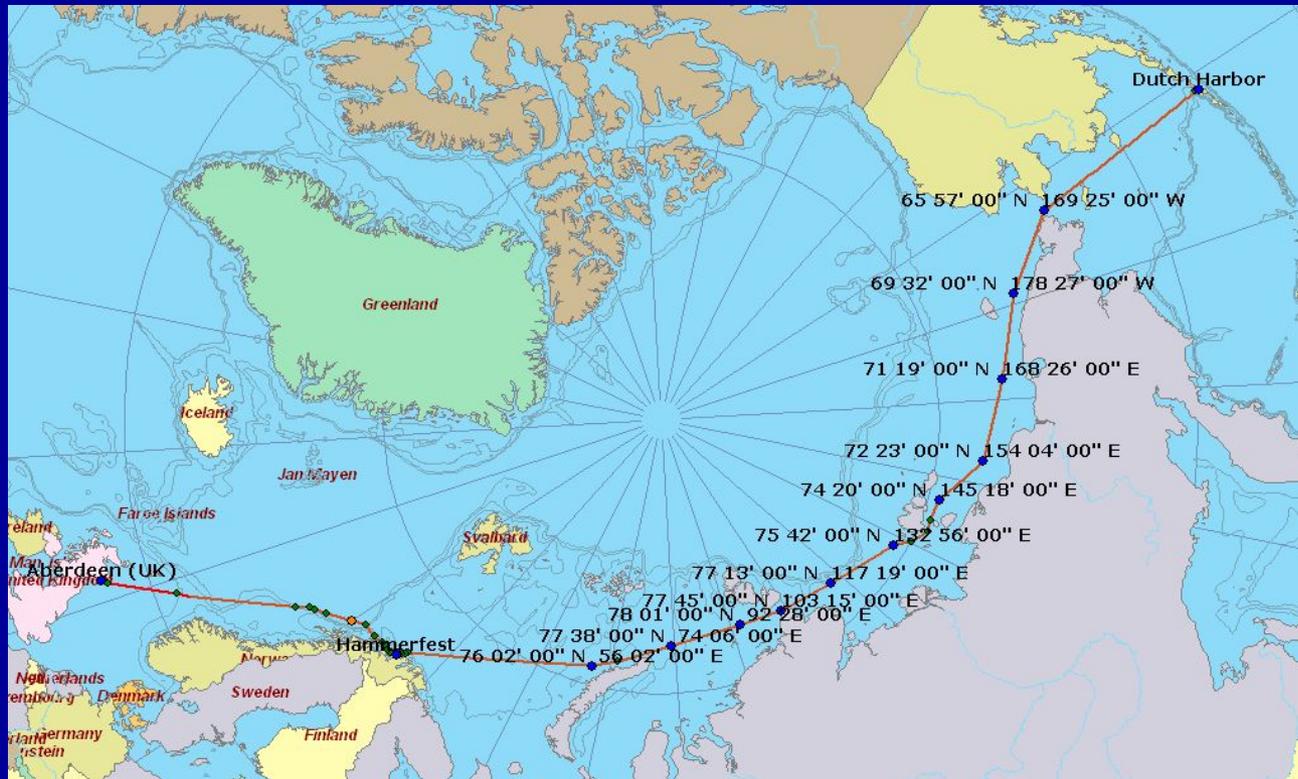
As reported by BarentsObserver, also the Finnish oil industry has [expressed interest](#) in the South Tambey project.



The nuclear powered icebreaker "50 years since Victory" (rosatomflot.ru)



December 2010 Tugboat Transit



Tor Viking 16 Dec - 26 Dec... Russia charged \$650,000... cheaper than Canal



Russia's Northern Sea Route

Preparing for next year's Northern Sea Route season

2010-10-20

The last convoys of vessels are soon ending this year's season along the Northern Sea Route, but the different shipping companies have already started to prepare for next year.



Courtesy of
Barents Observer

The ice-classed bulk
carrier across the Arctic with
China. Photo: Nordic

"MV Nordic Barents" was the first foreign flag bulk-carrier to sail the Northern Sea Route in transit.

**Shipping companies
have already started to
prepare for next year...**

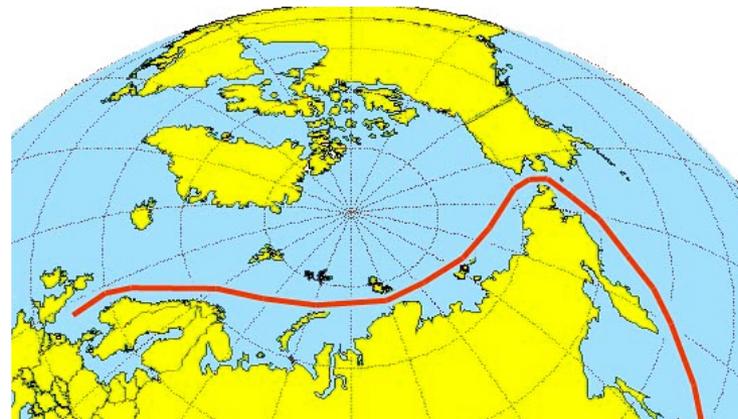
2011 Shipping Season Preparations

At least six convoys with oil tankers will sail the Northern Sea Route from the Barents Sea to the Far East next year, according to the head of [Rosatomflot](#), Russia's nuclear ice-breaker fleet, Vyacheslav Ruksha. Also cargo vessels and likely some bulk carriers will sail the route with assistance from nuclear powered icebreakers. The icebreaker fleet has so far got [15 orders](#) for assistance in 2011.

While 2009 was a kind of test year for vessels sailing the entire route from Asia to Europe via the Arctic, this year has been the breakthrough for commercial shipping along the Northern Sea Route.

The rapid ongoing climate change is bringing vast change to the Arctic, and previous ice-covered areas are becoming more accessible for shipping. September 2010 was the first time in modern history that the Northern Sea Route was totally ice-free, with only some few places with drift ice that could be seen from the bridges of the vessels that sailed the route.

Sailing from Europe to Asia along the top of Russia's Arctic coast takes only two thirds of the time it takes to go through the Suez Canal to the south. The Arctic lane also has the advantage of not being frequented by the sorts of pirates that lurk off the coast of Somalia.





Canada building Arctic military bases

“Use it or lose it”

BBC NEWS [Watch](#) One-Minute World News

Last Updated: Friday, 10 August 2007, 22:36 GMT 23:36 UK

[E-mail this to a friend](#) [Printable version](#)

Canada to strengthen Arctic claim

Canada has said it will build two military facilities in the far north in a bid to assert its sovereignty over the contested Arctic region.



Prime Minister Stephen Harper made the announcement during a tour of Canada's northern territories.

Mr Harper said Canada has a "real, growing" Arctic presence

It comes as a Danish mission prepares to sail to the North Pole to map the seabed under the ice.

Last week, a Russian expedition planted the country's flag on the floor of the Arctic Ocean under the North Pole.

'Use it or lose it'

Mr Harper said a cold-weather army training base would be set up at Resolute Bay and an existing port at a former mine at Nanisivik would be refurbished to supply Arctic patrol vessels.

[See a detailed map of the region](#)

He said the facilities would bolster Canada's claims to disputed portions of the Arctic.

"Canada's new government understands that the first principle of Arctic sovereignty is use it or lose it," Mr Harper said from Resolute, a small Inuit community about 600km (372 miles) south of the North Pole.

News services
Your news when you want it

VIDEO AND AUDIO NEWS
Canada's prime minister visits the Arctic
[Watch](#)

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- Canada PM asserts Arctic claims 10 Aug 07 | Americas
- Russia plants flag under N Pole 02 Aug 07 | Europe
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Chinese Claims

TORONTO SUN, January 17th, 2011

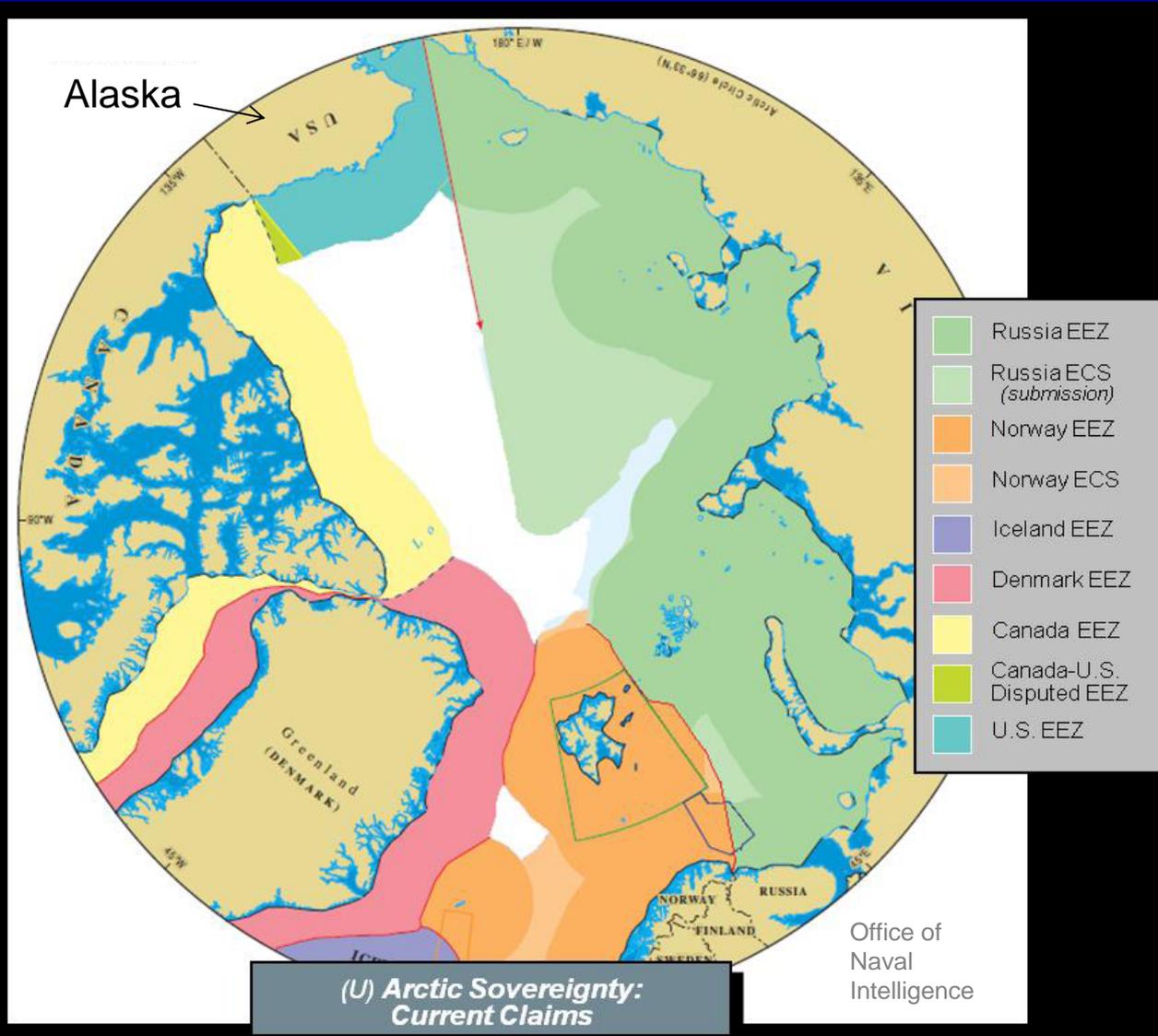
A top Chinese admiral said that because 1/5 of the world's population lives in China, China was entitled to 1/5 of the resources that lie in the Arctic's international waters.

"The Arctic belongs to all the people around the world as no nation has sovereignty over it," Rear Admiral Yin Zhuo said in the spring. "China must play an indispensable role in Arctic exploration as we have one-fifth of the world's population."





Remaining White Space

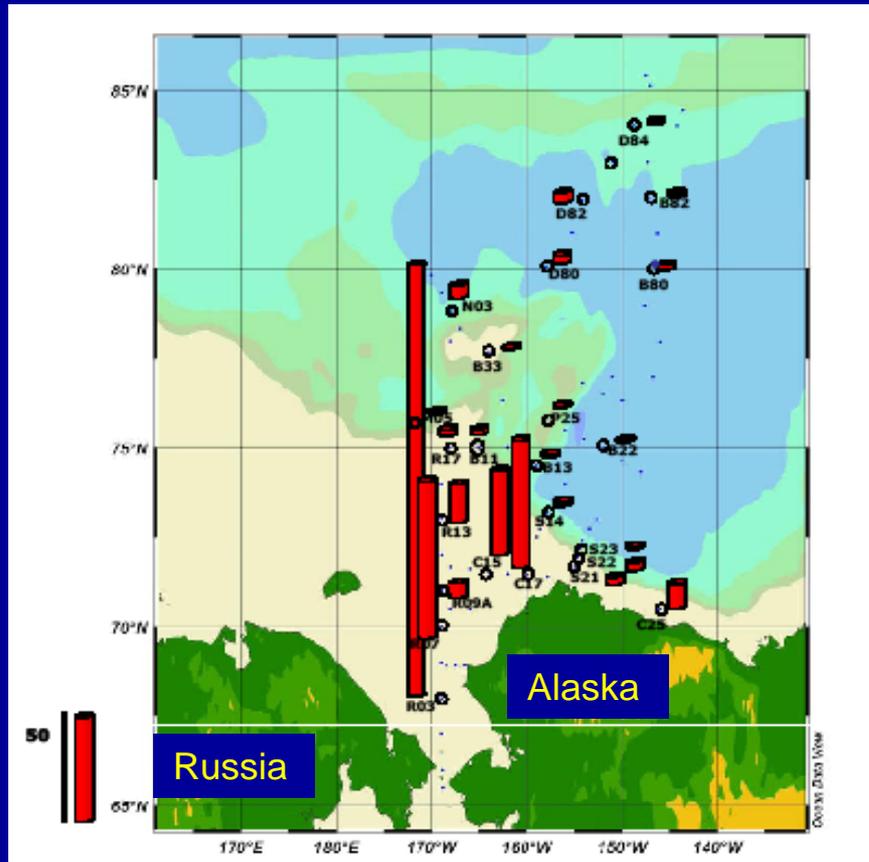


Note: The United States can make an Extended Continental Shelf Claim north of the U.S. EEZ when UNCLOS is ratified by the U.S. Senate.



CHINESE IN THE ARCTIC

XUE LONG Arctic Deployment summer 2009
operating in the white space above Alaska



100 stations... 1 mooring system... 1 ice camp on Chukchi Plateau



Icebreakers Required

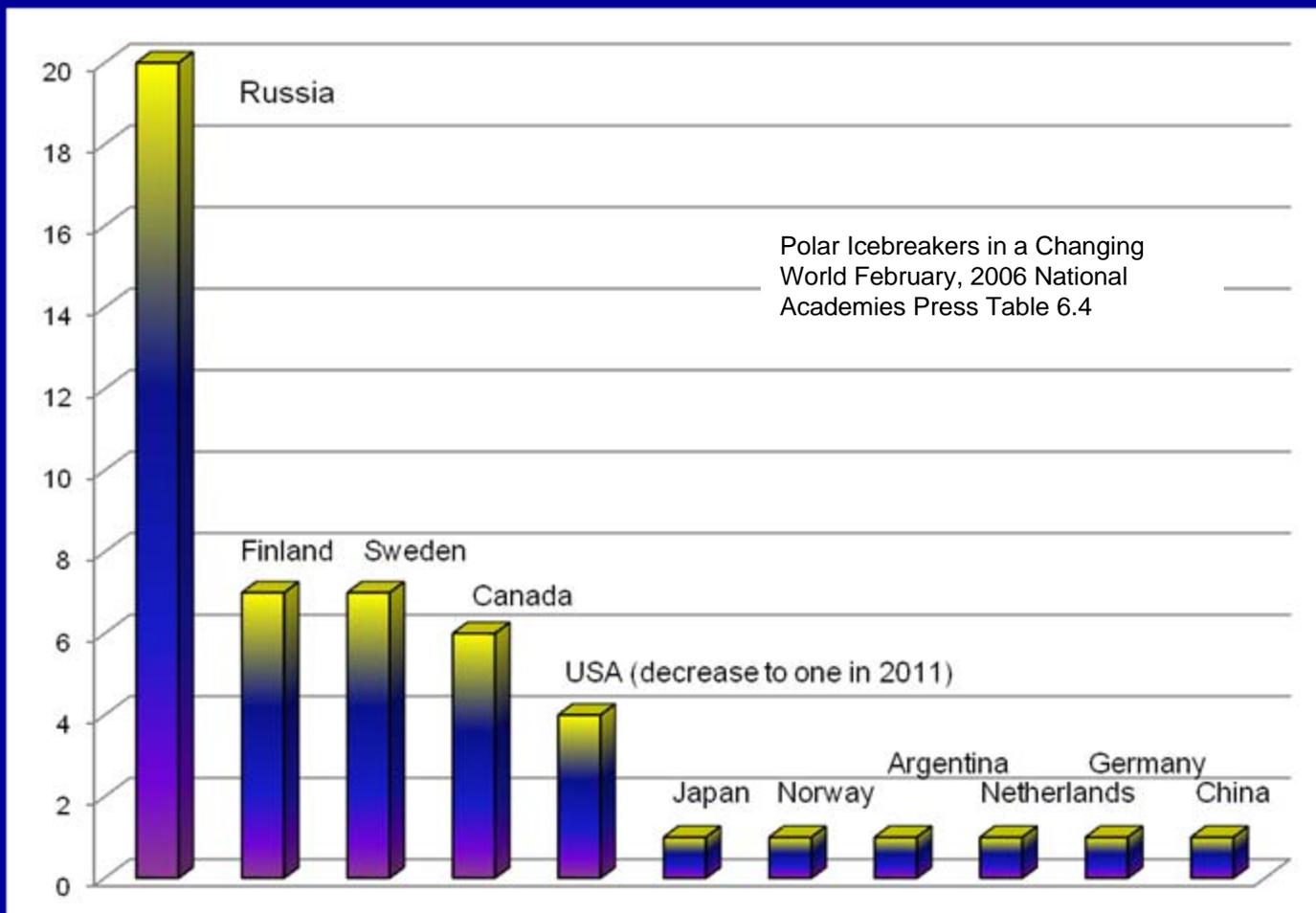


To ensure safe maritime transportation in the Arctic

- Russia has a big headstart... and is building more icebreakers
- Canada and other Arctic Nations are holding their own
- China, a Non-Arctic Nation is coming on fast building the world's most powerful non-nuclear icebreaker
- USA, formerly a major force in the Arctic, is rapidly falling behind with only one medium icebreaker for 2011-2013



Polar Icebreakers of the World





U.S. Icebreakers



Currently the United States has one operational Arctic icebreaker... the medium icebreaker and scientific research ship USCGC HEALY.



U.S. Polar Icebreakers POLAR SEA and POLAR STAR



POLAR SEA to be decommissioned in 2011 due to years of neglect caused by transferring operational and maintenance funding away from U.S. Coast Guard.



Congress has directed and funded the **POLAR STAR** to be placed back in commission in 2013 after years of neglect caused by transferring operational and maintenance funding away from U.S. Coast Guard.



U.S. Arctic Policy



US Arctic Policy Goals



- Meet National & homeland security needs
- Protect the Arctic environment & conserve it's biological resources
- Ensure that natural resource mgmt & economic development in the region is environmentally sustainable
- Strengthen cooperation among Arctic nations
- Involve indigenous communities in decisions that affect them
- Enhance scientific monitoring & research

THE WHITE HOUSE
Office of the Press Secretary

For Immediate Release January 12, 2009

January 9, 2009

NATIONAL SECURITY PRESIDENTIAL DIRECTIVE/NSPD -- 66
HOMELAND SECURITY PRESIDENTIAL DIRECTIVE/HSPD -- 25

MEMORANDUM FOR THE VICE PRESIDENT
THE SECRETARY OF STATE
THE SECRETARY OF THE TREASURY
THE SECRETARY OF DEFENSE
THE ATTORNEY GENERAL
THE SECRETARY OF THE INTERIOR
THE SECRETARY OF COMMERCE
THE SECRETARY OF HEALTH AND HUMAN SERVICES
THE SECRETARY OF TRANSPORTATION
THE SECRETARY OF ENERGY
THE SECRETARY OF HOMELAND SECURITY
ASSISTANT TO THE PRESIDENT AND
CHIEF OF STAFF
ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION
AGENCY
DIRECTOR OF THE OFFICE OF MANAGEMENT AND BUDGET
DIRECTOR OF NATIONAL INTELLIGENCE
ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY
AFFAIRS
COUNSEL TO THE PRESIDENT
ASSISTANT TO THE PRESIDENT AND DEPUTY NATIONAL
SECURITY ADVISOR FOR INTERNATIONAL ECONOMIC
AFFAIRS
ASSISTANT TO THE PRESIDENT FOR HOMELAND SECURITY
AND COUNTERTERRORISM
CHAIRMAN, COUNCIL ON ENVIRONMENTAL QUALITY
DIRECTOR OF THE OFFICE OF SCIENCE AND TECHNOLOGY
POLICY
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
COMMANDANT, U.S. COAST GUARD
DIRECTOR, NATIONAL SCIENCE FOUNDATION

SUBJECT: Arctic Region Policy

I. PURPOSE

A. This directive establishes the policy of the United States with respect to the Arctic region and directs related implementation actions. This directive supersedes Presidential Decision Directive/NSC-26 (PDD-26; issued 1994) with respect to Arctic policy but not Antarctic policy; PDD-26 remains in effect for Antarctic policy only.

B. This directive shall be implemented in a manner consistent with the Constitution and laws of the United States, with the obligations of the United States under the treaties and other international agreements to which the United States is a party, and with customary international law as recognized by the United States, including with respect to the law of the sea.



NSPD66/HSPD 25



In carrying out this policy as it relates to national security and homeland security interests in the Arctic, **the President has directed** the Secretaries of State, Defense, and Homeland Security, in coordination with heads of other relevant executive departments and agencies, to:

- *Develop greater capabilities and capacity*, as necessary, to protect United States air, land, and sea borders in the Arctic region;
- *Increase Arctic maritime domain awareness* in order to protect maritime commerce, critical infrastructure, and key resources;
- *Preserve the global mobility* of United States military and civilian vessels and aircraft throughout the Arctic region
- *Project a sovereign United States maritime presence in the Arctic* in support of essential United States interests; and
- *Encourage the peaceful resolution of disputes* in the Arctic region.



USCG Authorities in the Arctic

No other federal agency has a more expansive set of authorities in the Arctic Ocean than the Coast Guard

The United States Coast Guard carries out three basic roles:

- 1) Maritime safety
- 2) Maritime security
- 3) Maritime stewardship

...which are further subdivided into the adjacent eleven statutory missions:

- Defense readiness
- Coastal security, ports and waterways
- Search and rescue
- Marine environmental protection
- Living marine resources (fisheries, etc)
- Ice operations
- Aids to navigation
- Marine safety
- Other law enforcement (interagency support)
- Migrant interdiction
- Drug interdiction

The Coast Guard's responsibilities in the Arctic Ocean are no different than in the Atlantic Ocean, Gulf of Mexico, Great Lakes or any other location that might fall under Congressionally mandated Coast Guard jurisdiction.



Coast Guard Operations in the Arctic



Typical Summer Ops (Arctic Crossroads)



- Arctic Domain Awareness
- Cutter Operations
 - Icebreakers, Buoy Tenders, Cutters
- Tailored Force Package Deployments to Arctic Ocean Villages
- Community Engagement
- SAR Exercises





North Pole C-130 Flight Oct 2007

Arctic Domain Awareness (ADA) C-130 flights twice monthly (Mar-Dec).



2008-2010 Surveys: Joint Canadian/US



US Coast Guard Cutter HEALY:
breaking ice

**Canadian Coast Guard Cutter
LOUIS S. ST. LAURENT:**
following with scientific equipment





ARCTIC 2010



- Initiated Port Access Routing Study (PARS) study Bering Strait
- installed only U.S. navigational beacon in the Arctic at Point Hope

➤ Conducted first CANUS tabletop exercise to clean up oil spills in the Arctic

➤ Commandant of the U.S. Coast Guard Admiral Robert Papp, Senator Lisa Murkowski and Senator Mark Begich continue to inform Nation about the changes in the Arctic after summer visits





Port Access Routing Study (PARS)



- Initial stages of long process attempting to increase safety of vessel traffic transiting the Bering Strait
- Currently out for public comment
- Socializing with local communities and First Nation
- Eventually would have to coordinate with Russia
- Then seek IMO approval
- Result would be vessel fairways (safe vessel routes) listed on charts of the Bering Strait similar to already existing vessel fairway in Unimak Pass



Arctic MTS Challenges



Long Distance Search And Rescue

Kodiak to Point Barrow is 940 miles across three mountain ranges



About the same distance as LA to Seattle!



Limited Coast Guard Oil Spill Response For Non-RP





Lessons Learned



- **Infrastructure Insufficient**
- **Lack of effective communication**
- **Small boats & short range helos ineffective**
- **Require icebreakers or ice hardened vessels with embarked helos**
- **Expensive!**
- **Input from indigenous people important**





Final Problem



Americans Don't Care Very Much About The Arctic



January 25th 2011

✓ In Canada, more than 40 per cent said the country should “pursue a firm line in defending its sections” of the Arctic.

✓ In the U.S., only 10 per cent of those polled expressed the “firm line” view,

✓ A quarter of Americans approved of creating an Antarctica-like international territory. (no extraction of oil & minerals)

✓ Just eight per cent of Canadians said the Arctic should be governed as “an international territory like Antarctica.”

88% of Canadians had an opinion on the Arctic compared to only 65% of Americans

The screenshot shows a news article on the website canada.com. The article title is "Tory focus on Arctic sovereignty buoys poll results" by Randy Roswell, dated January 25, 2011. The main image shows several people standing on a small ice floe in the Arctic. To the right of the article, there are sections for "MORE ON THIS STORY" with links to articles about the Liberal government's stance on Arctic radar tender and the need for more 'statesmanship' on Arctic issues. Below that is a "STORY TOOLS" section with options to email, print, or share the article. At the bottom right, there is a "MOST POPULAR" section listing various news items.

Russia and Finland echo Canadian responses



Questions?

The Arctic Is Increasingly Important to the future Economic Security of the United States of America... maintaining and enhancing our sovereignty today will benefit future generations of Americans.