

# Changing Maritime Shipping Patterns: focus on Arctic

## Unlocking an Ocean

The Arctic ice cap is shrinking in summers and thinning, opening shipping lanes and access to valuable natural resources.

### SHIPPING

Melting ice could soon open three polar passages historically clogged by ice, allowing shipping companies to greatly reduce the time it takes to cross the globe and deliver goods.

- Northwest Passage
- Northern Sea Route
- Arctic Bridge

### Northwest Passage

The Northwest Passage would be the first of the three main routes to thaw, partly because it passes through straits that got blocked more easily by ice. But some Canadian officials estimate it will open within 20 years.

### APPROXIMATE ESTIMATES OF SHIPPING ROUTES

**Northwest Passage**  
6,000 miles



**Panama Canal route**  
15,000 miles

Sources: NOAA, U.S. Arctic Research Commission; Arctic Council; United Nations Environment Program; Arctic Climate Impact Assessment; International Atomic Energy Agency



**Arctic Bridge**  
The route connecting Murmansk and Churchill is already open four months a year. But Hudson Bay is frozen over the remainder of the year, making it an impractical route. A warming climate would make it usable for longer periods.

**Northern Sea Route**  
During the Soviet era, millions of tons of cargo passed along this route with the help of nuclear-powered icebreakers. Transport plunged after the Soviet Union collapsed. If ice pulls back from the coast as many scientists project, ships moving between northern Europe and Asia could cut transit time by 10 to 15 days.

### NATURAL RESOURCES

Perhaps the biggest Arctic prize is oil and natural gas. The melting of the ice cap will allow energy companies to reach numerous petroleum deposits believed to exist under the Arctic seabed.

— Areas of known and prospective oil and gas reserves



Equidistant area from New York and Montreal  
Equidistant area from London via Panama and the Northern Sea Route  
Equidistant area from Odessa  
Equidistant area from London via Suez and the Northern Sea Route



**Northern Sea Route**  
8,000 miles



**Suez Canal route**  
13,000 miles

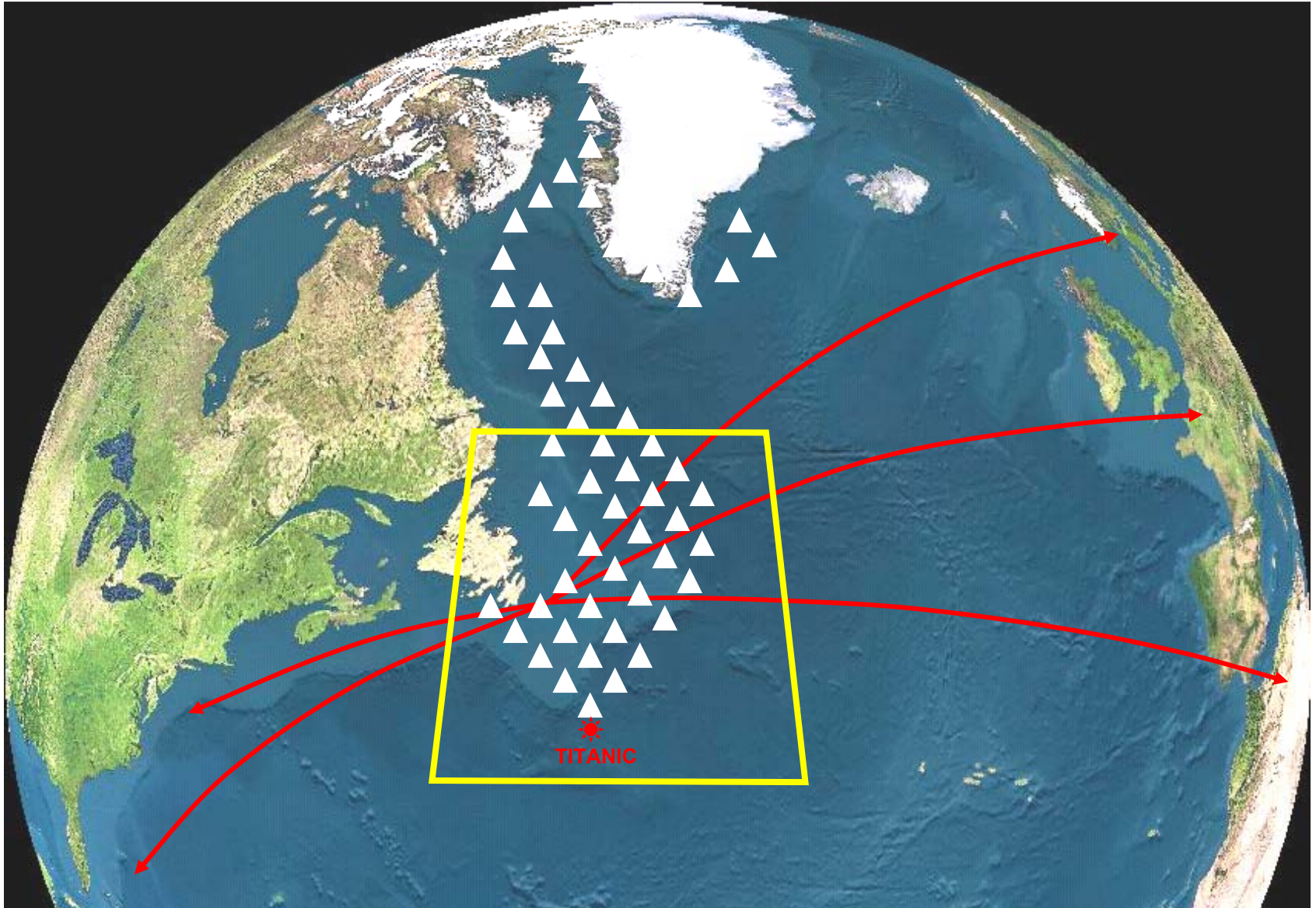
Eric Lipton and David Coombe/The New York Times



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Figure 14: Major Shipping Routes from East to West<sup>51</sup>

# International Ice Patrol – NW Atlantic shipping safety



# Future U.S. Arctic Mission Needs

## Energy Security:

- **25% of energy reserves** (oil, gas, gas hydrates) estimated to be in the Arctic region.

## U.S. Sovereignty (Security):

- Arctic - primarily a maritime domain.
- **Maritime presence** to reinforce U.S. jurisdictional claims

## Defense & Homeland Security Readiness (Security):

- Emerging nuclear threats (DEW, Ballistic Missile Defense program support)
- Other nations: European Union, China, Russia, Japan, and Canada.
- Maritime Domain Awareness (1,300 nm of U.S. coast line north of Arctic circle)
- Thule AB resupply
- Protect people & infrastructure
- Enforce Laws & Treaties (fisheries, border security etc)

## Global Mobility (Safety, Security)

- **Increased shipping in Arctic – global economy**

## Safeguarding our oceans & resources (Safety & Stewardship):

- Maritime Prevention & Response (Environment, Commercial vessel safety)
- Search & Rescue (more shipping, more people)

Polar research support – demand continue to increase (Stewardship)

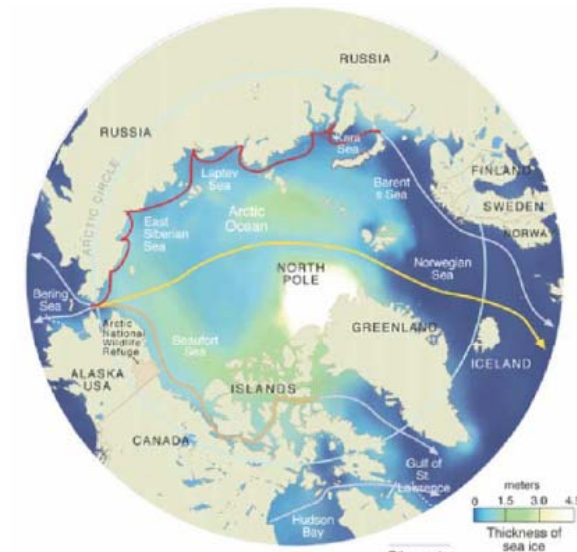
## ARCTIC OIL BONANZA

Twenty-five percent of the world's reserves could lie buried under these areas.



### Assessed Arctic Provinces

1. North Slope
2. East Siberia
3. West Siberia
4. Timan-Pechora
5. South/North Barents
6. Vestford Helgeland
7. East Greenland



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# Why the USCG in the Arctic?

- U.S. is an Arctic Nation
- Arctic is primarily a maritime domain – needs a maritime national surface presence.
  - USCG ice capable vessels, including polar icebreakers, aircraft?, shore infrastructure.
- USCG has broad responsibilities – many are projected to increase in the Arctic
- USCG can enforce all aspects of U.S. sovereignty
  - Enforce laws & treaties
  - National security
  - Homeland security/defense (energy security, critical infrastructure)
  - Safeguard our oceans (environment, fisheries etc)
  - Global mobility
- Multi-mission nature:
  - Support polar research
  - Search & Rescue
- National Research Council report



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# Questions



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