Race to the Arctic: Opportunities and Challenges

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Oklahoma Alliance for Geographic Education

NATIONAL GEOGRAPHIC
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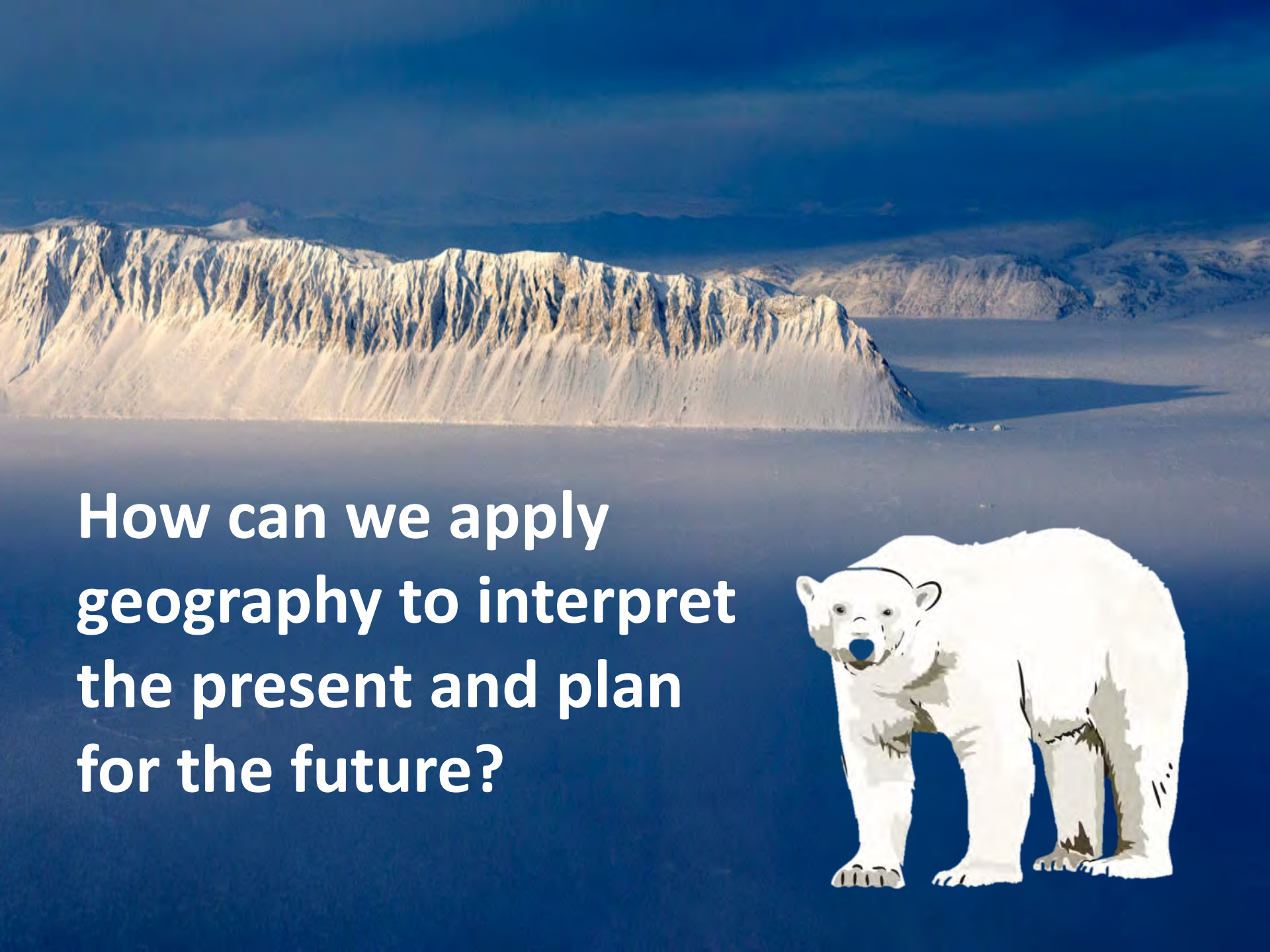
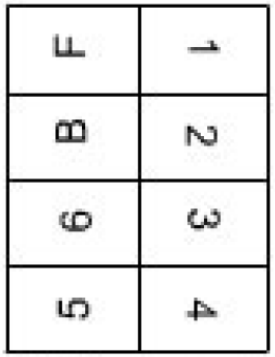


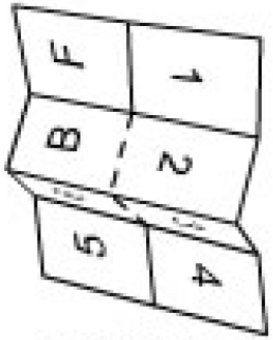
How can we apply geography to interpret the present and plan for the future?

Folding Instructions

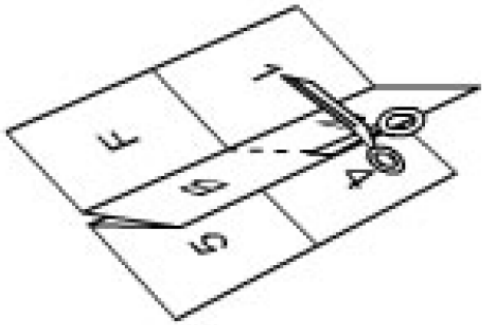
Note: All folds should be to the lines printed on the paper, and not to the actual edges of the page.



1. Start with front page at top left

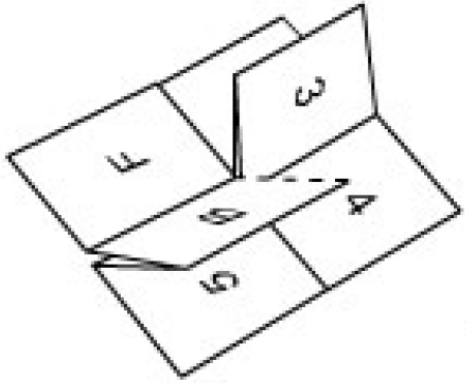


2. Fold in halves

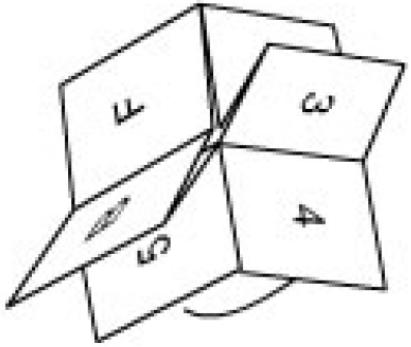


3. Cut at dotted line in center

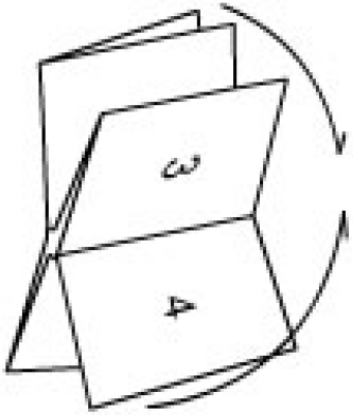
4. Fold to opposite ends.



5. Fold in half vertically



6. Fold in half horizontally



done. enjoy!

As the world becomes more interconnected …
AND as we witness changes in physical systems,
increased cooperation increases among the world's people.
This is especially true in the Arctic…

That’s why we can and should analyze the OPPORTUNITIES a region’s physical geography offers in meeting future needs…

That’s why the views of different stakeholders are important to the well-being of the region…

What do you think?

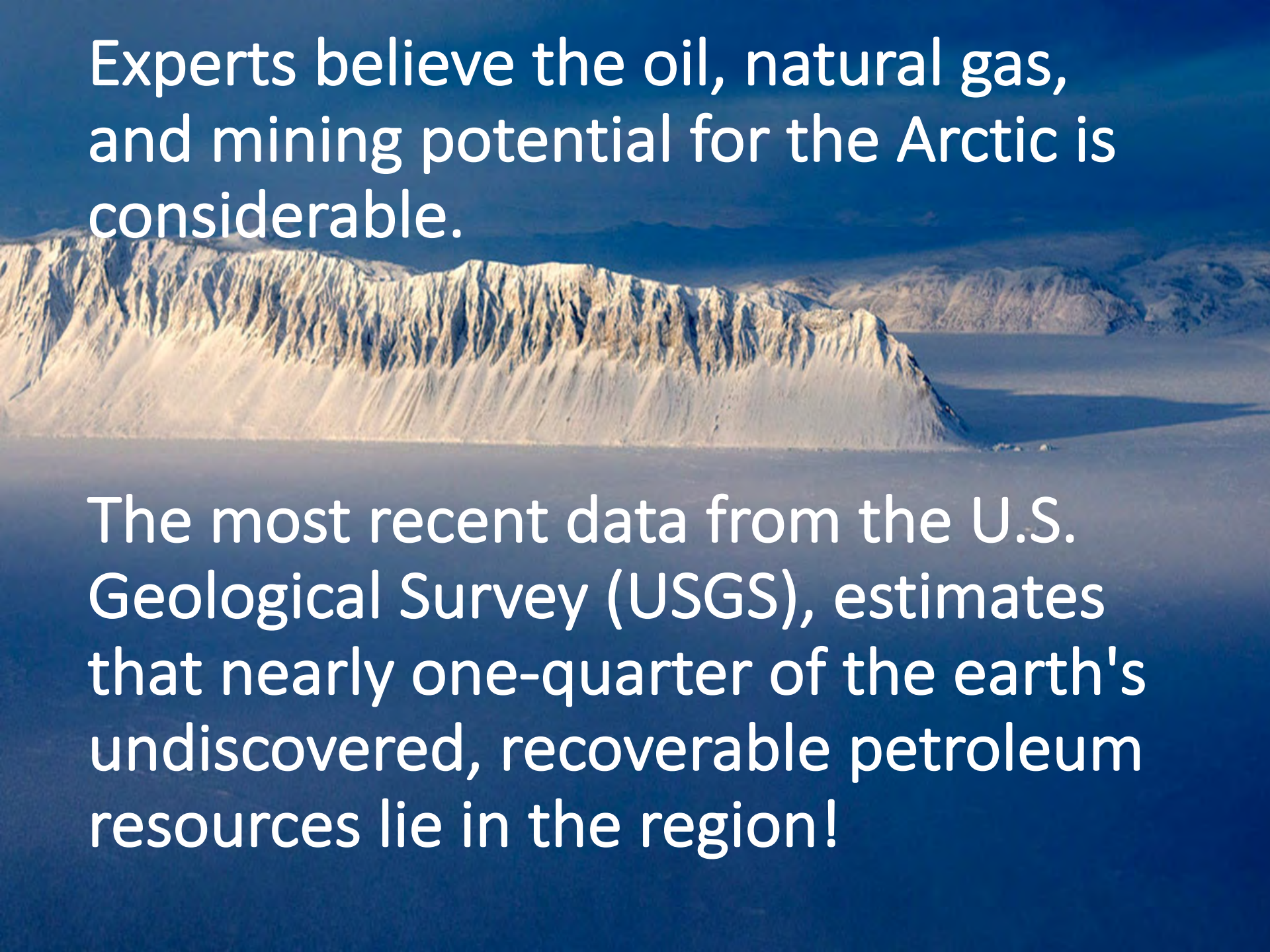
<u>Essential Questions</u>:

What responsibilities do we owe toward preserving the Earth's natural resources?

Can opposing groups cooperatively solve common challenges?

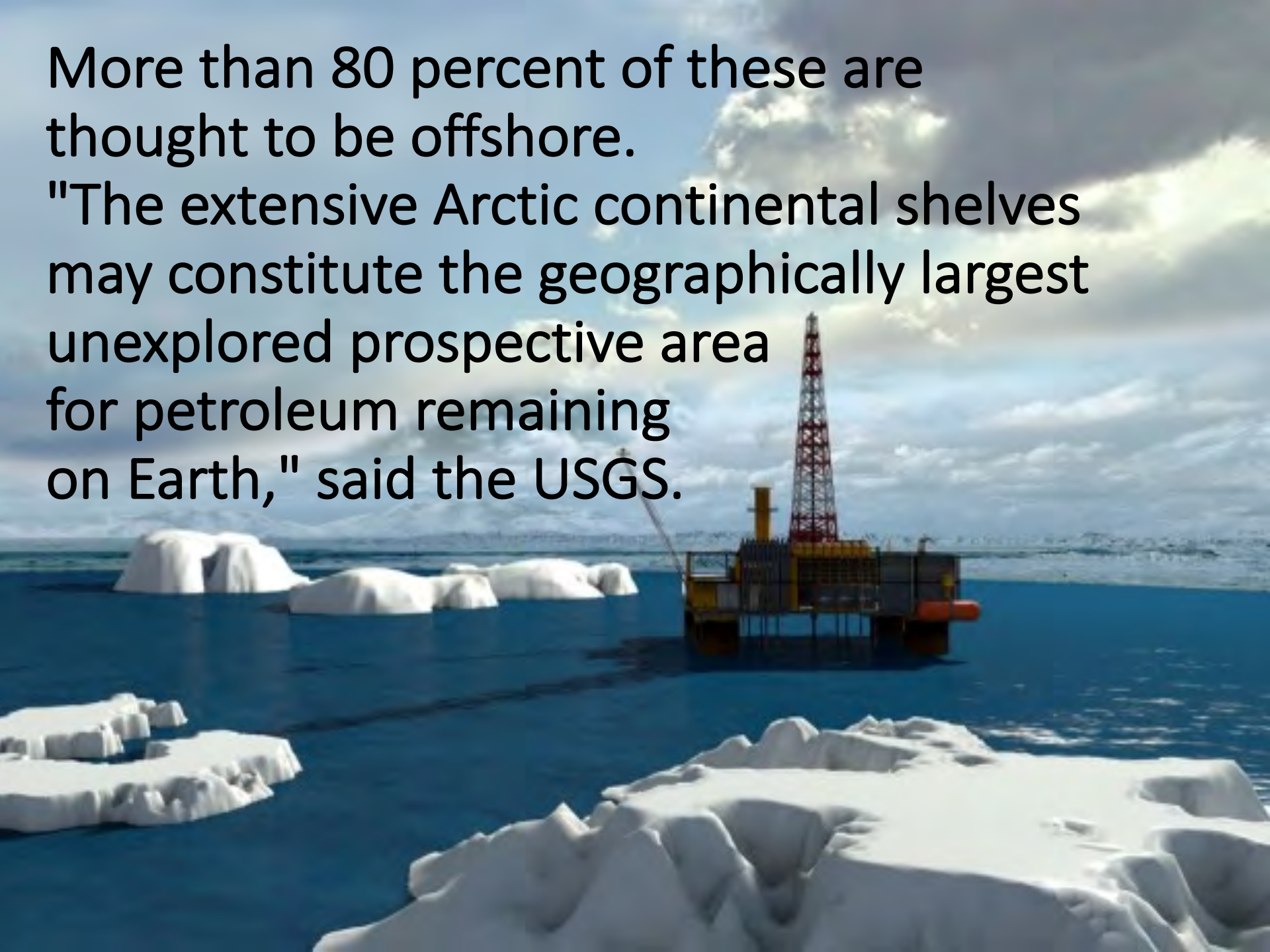
7th Grade Oklahoma Academic Standards for Social Studies	
OAS 2012	OAS 2019
Content Standard 5 The student will analyze the interactions of humans and their environment in the Eastern Hemisphere.	**7.4** The student will analyze the interactions of humans and their environment in the Eastern Hemisphere.
5.2 Evaluate the effects of human modification of and adaptation to the natural environment.	**7.4.4** Evaluate the effects of human modification of and adaptation to the natural environment through transformation caused by agriculture, the use of modern irrigation methods, industry, demand for energy, and urbanization.
5.3 Integrate visual information to analyze regional problems and policies having spatial dimensions in the Eastern Hemisphere including the **B.** Impact of economic development on Russia's Arctic Regions.	**2.B.6-8.1** Draw upon gathered information to analyze how a specific problem can manifest itself in local, regional, and global levels over time, evaluating options for individual and collective solutions.

Why is the Arctic so important now?



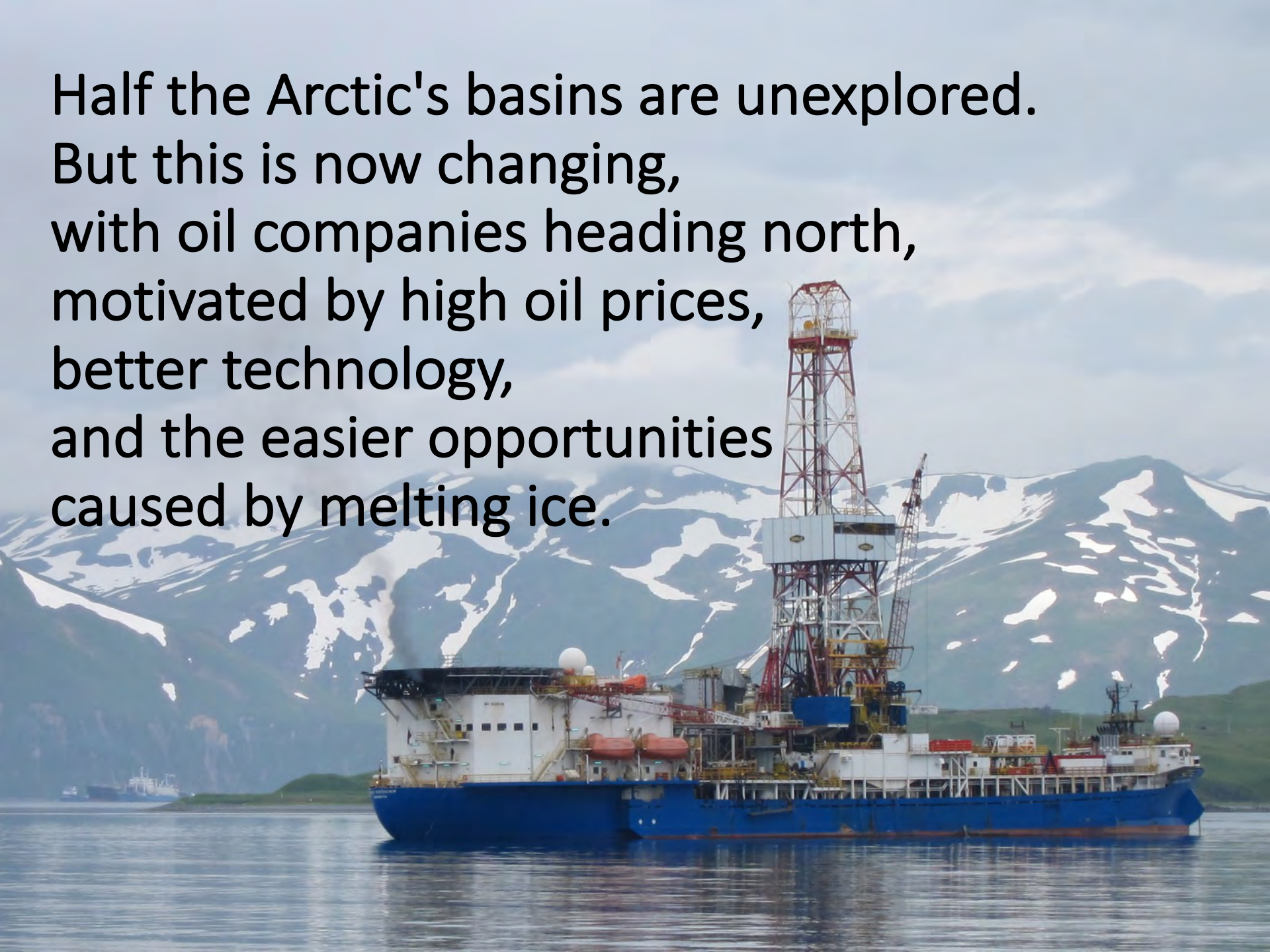
Experts believe the oil, natural gas, and mining potential for the Arctic is considerable.

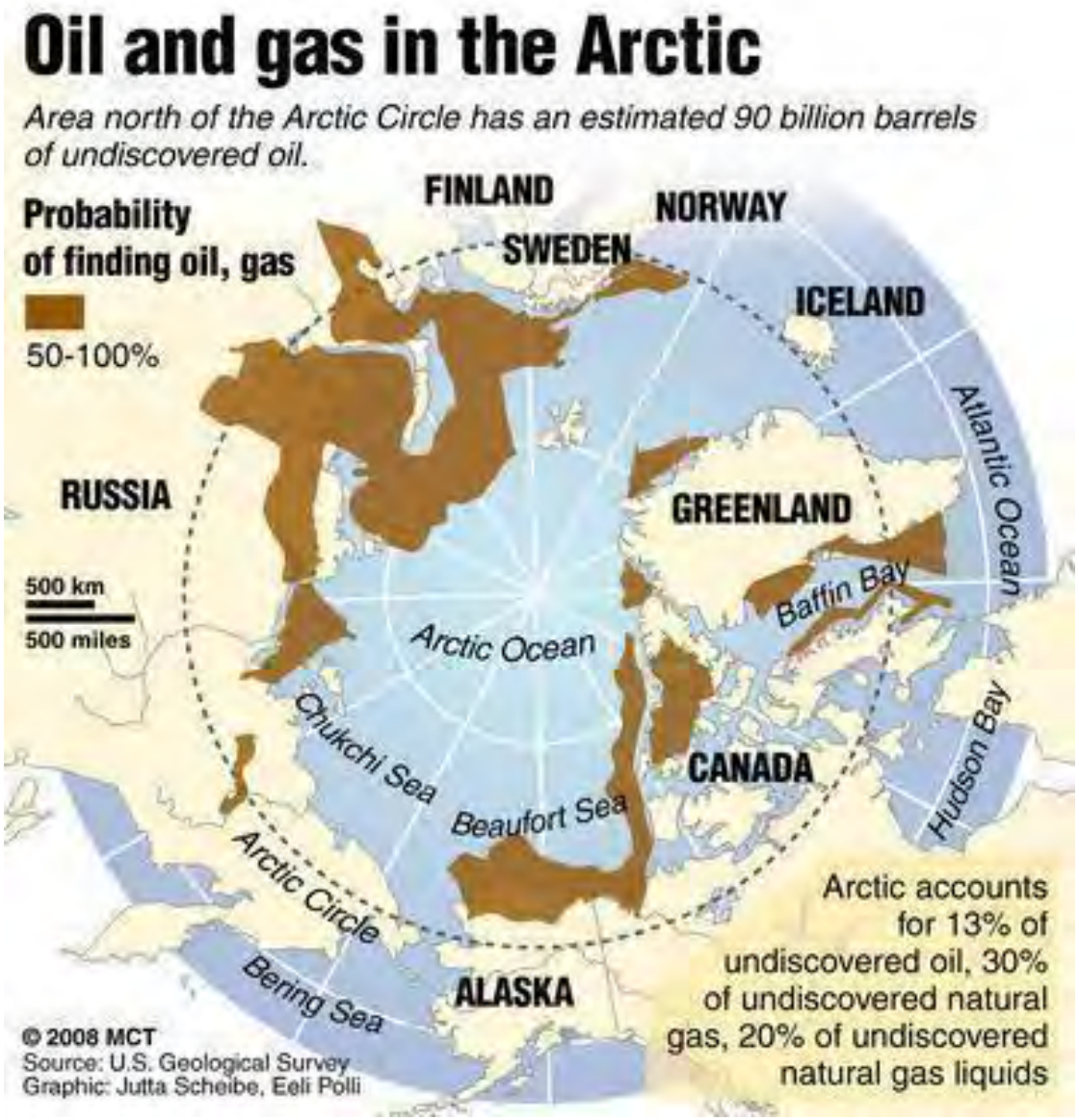
The most recent data from the U.S. Geological Survey (USGS), estimates that nearly one-quarter of the earth's undiscovered, recoverable petroleum resources lie in the region!


More than 80 percent of these are thought to be offshore.
"The extensive Arctic continental shelves may constitute the geographically largest unexplored prospective area for petroleum remaining on Earth," said the USGS.

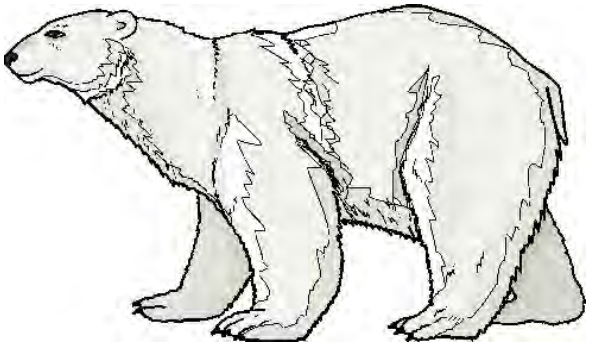
Energy-related investment in the Arctic will depend on a number of factors, including
global prices,
exploration technologies,
geographic access,
infrastructure…

…and environmental concerns.


Half the Arctic's basins are unexplored.
But this is now changing,
with oil companies heading north,
motivated by high oil prices,
better technology,
and the easier opportunities
caused by melting ice.



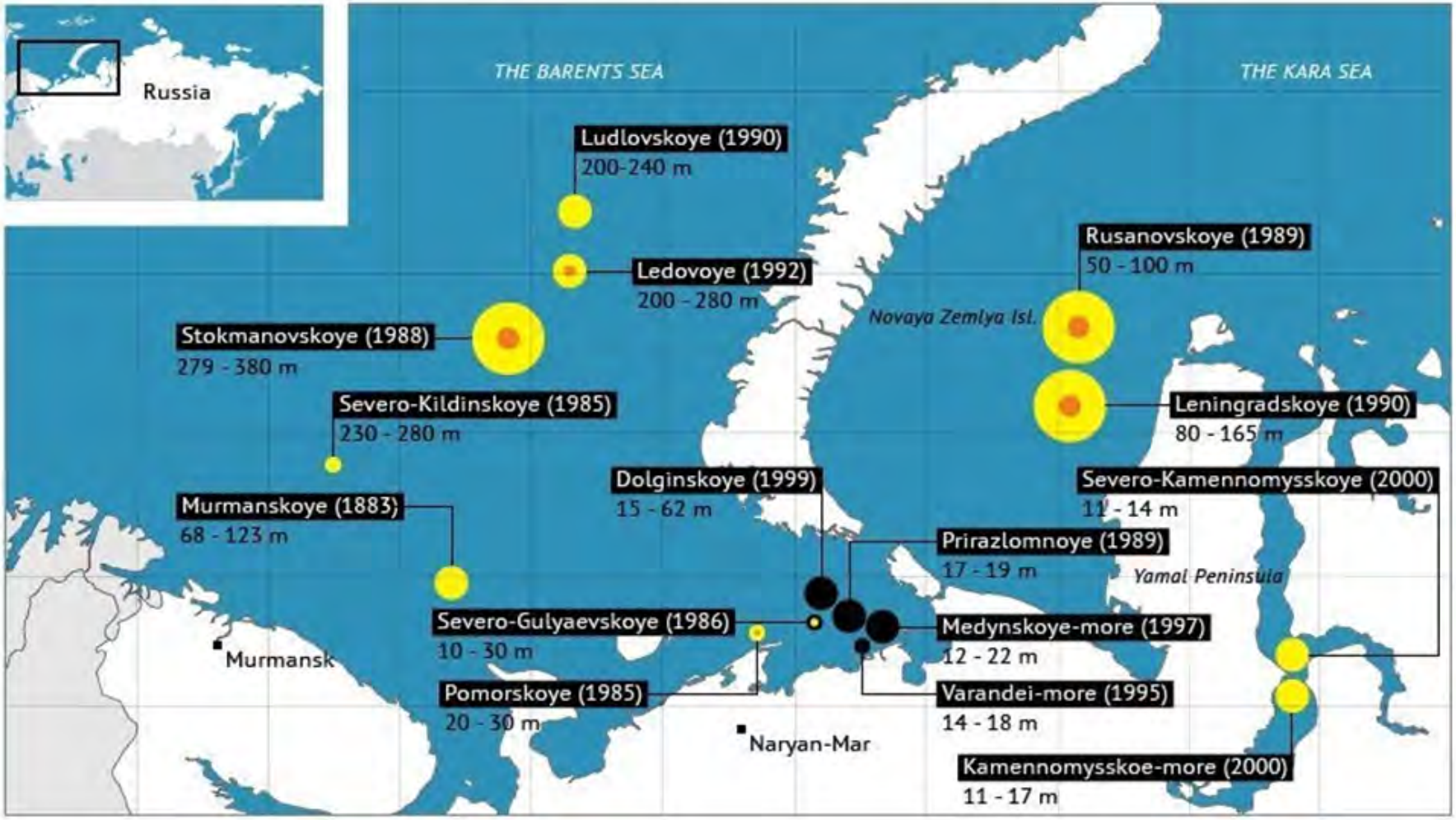
Few countries have been as eager to invest in the Arctic as Russia, whose economy relies heavily on fossil fuel and mineral production.



Of nearly sixty large oil and natural gas fields discovered in the Arctic, 2/3 are in Russia!

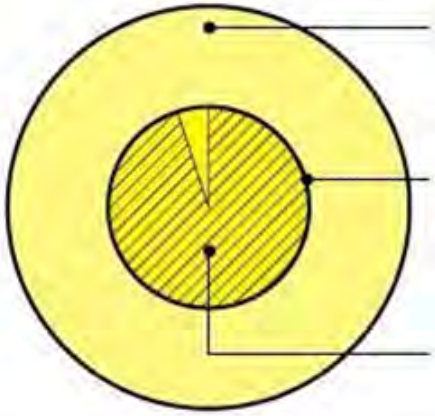
Russian oil and gas fields in the Arctic

Oil and gas fields containing immense reserves have been found in the Russian section of the Arctic sea-shelf



The Arctic in figures

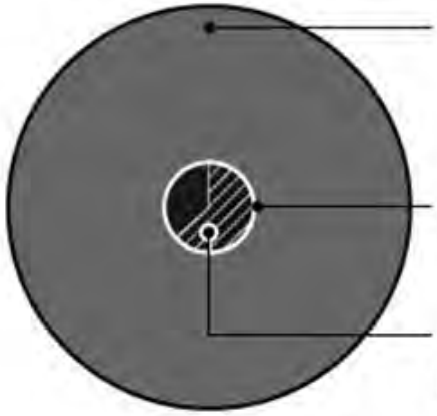
Natural gas



25 % Russian share of world natural gas reserves (1st place in the world)*

95 % Russian gas reserves in the Arctic zone**

Oil

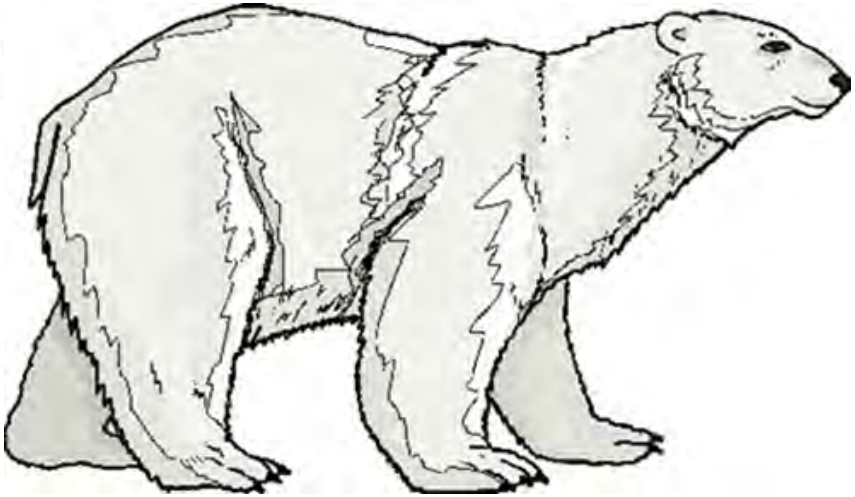


5,3 % Russian share of world oil reserves (8th place in the world)*

60 % Russian oil reserves in the Arctic zone

*CIA data

** according to Valery Yazayev, Vice Speaker of the State Duma of the Russian Federation; president of Russian Gas Society



Development of energy in the Russian Arctic was begun by nationally-owned companies,
but now international petroleum companies are doing business with Russia, such as the Arctic partnership
of Exxon-Mobil and Rosneft.

The Arctic's potential has prompted a handful of territorial disputes...

2007: Russian explorer Artur Chilingarov descended in a three-man submersible to drop a Russian flag onto the North Pole's seabed.

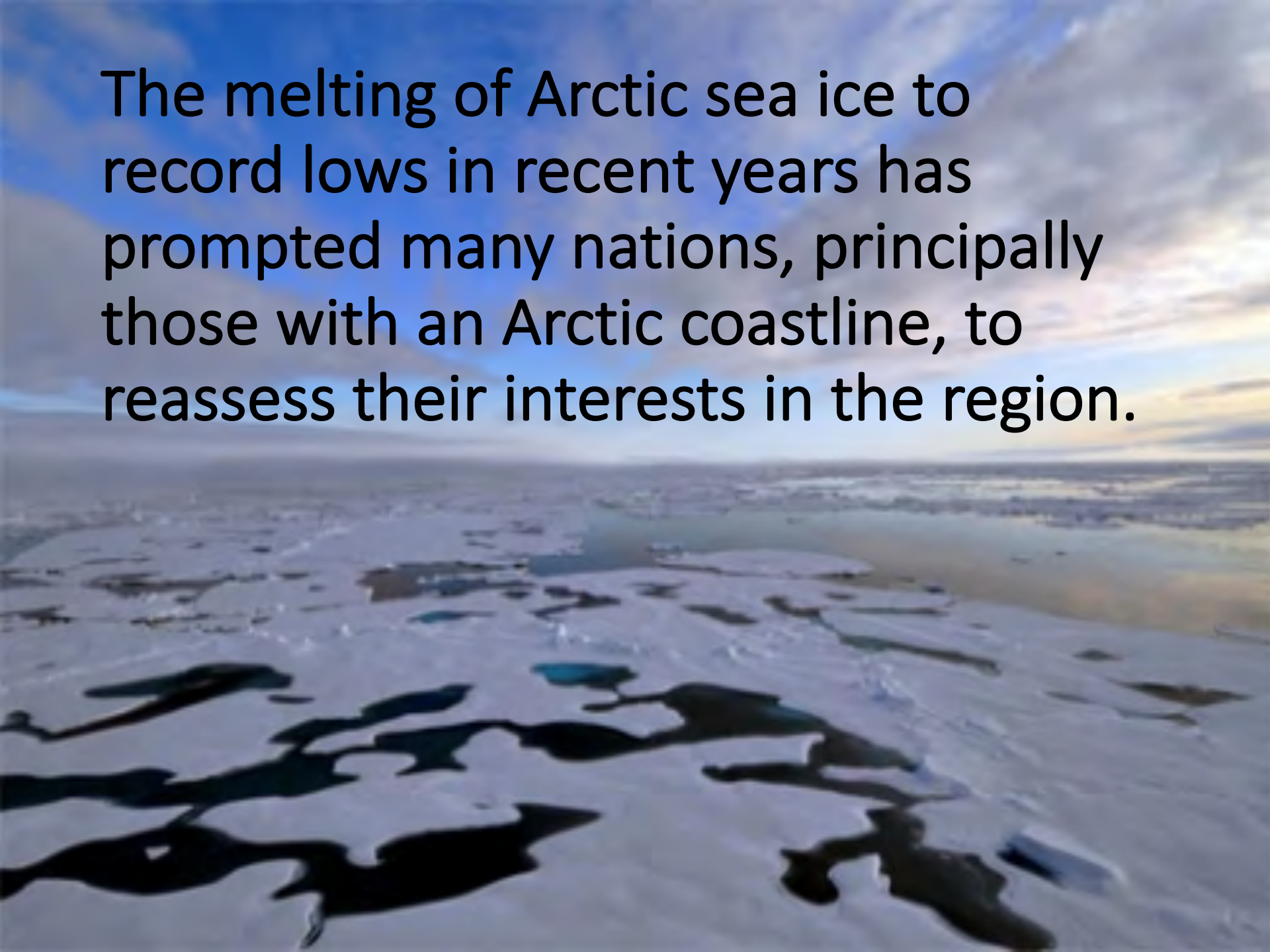
Arctic Territorial Claims
Sea of Okhotsk
RUSSIA
ARCTIC CIRCLE
RUSSIA
FINLAND
SWEDEN
NORWAY
LOMONOSOV RIDGE
NORTH POLE
ARCTIC OCEAN
Bering Sea
ICELAND
Greenland (DEN.)
Alaska (U.S.)
PACIFIC OCEAN
ATLANTIC OCEAN
CANADA
500 1000 mi
40
20
0
20

Most military analysts play down the prospects for armed conflict in the Arctic…

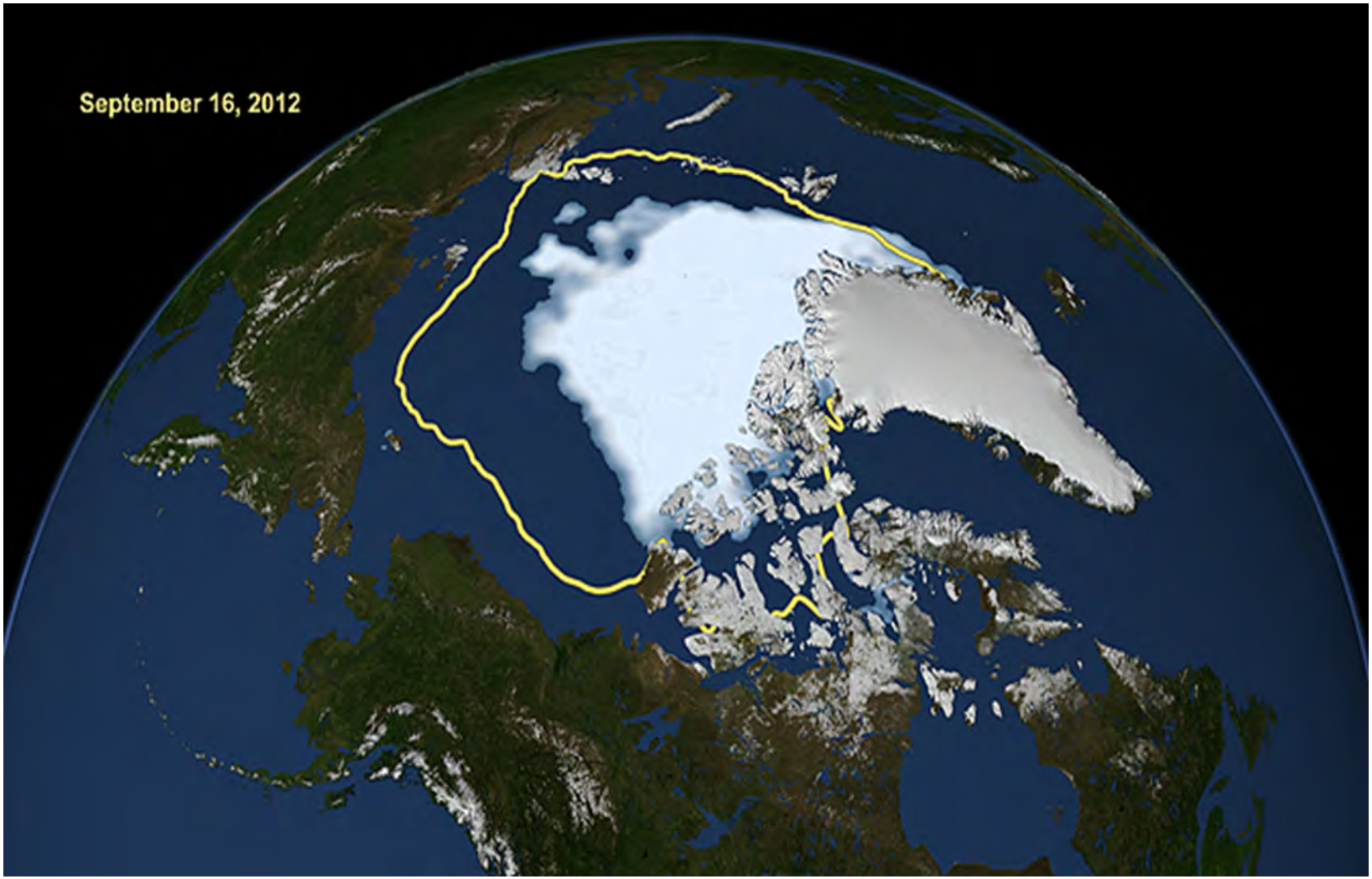
but nations are nonetheless preparing to protect their interests in the region.
Russia has made a military buildup in the Arctic a strategic priority.

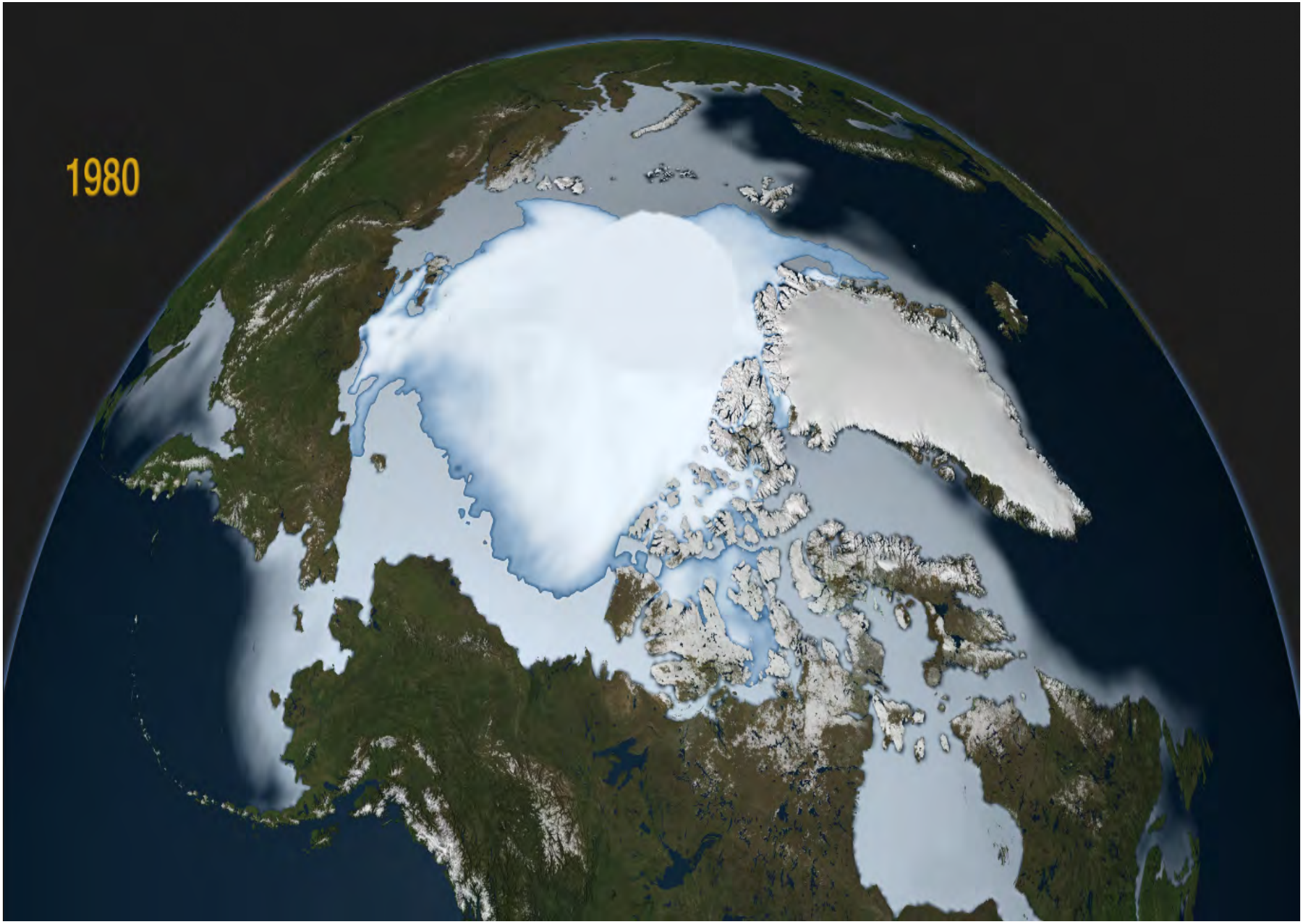
What caused the “race” to “heat up”?

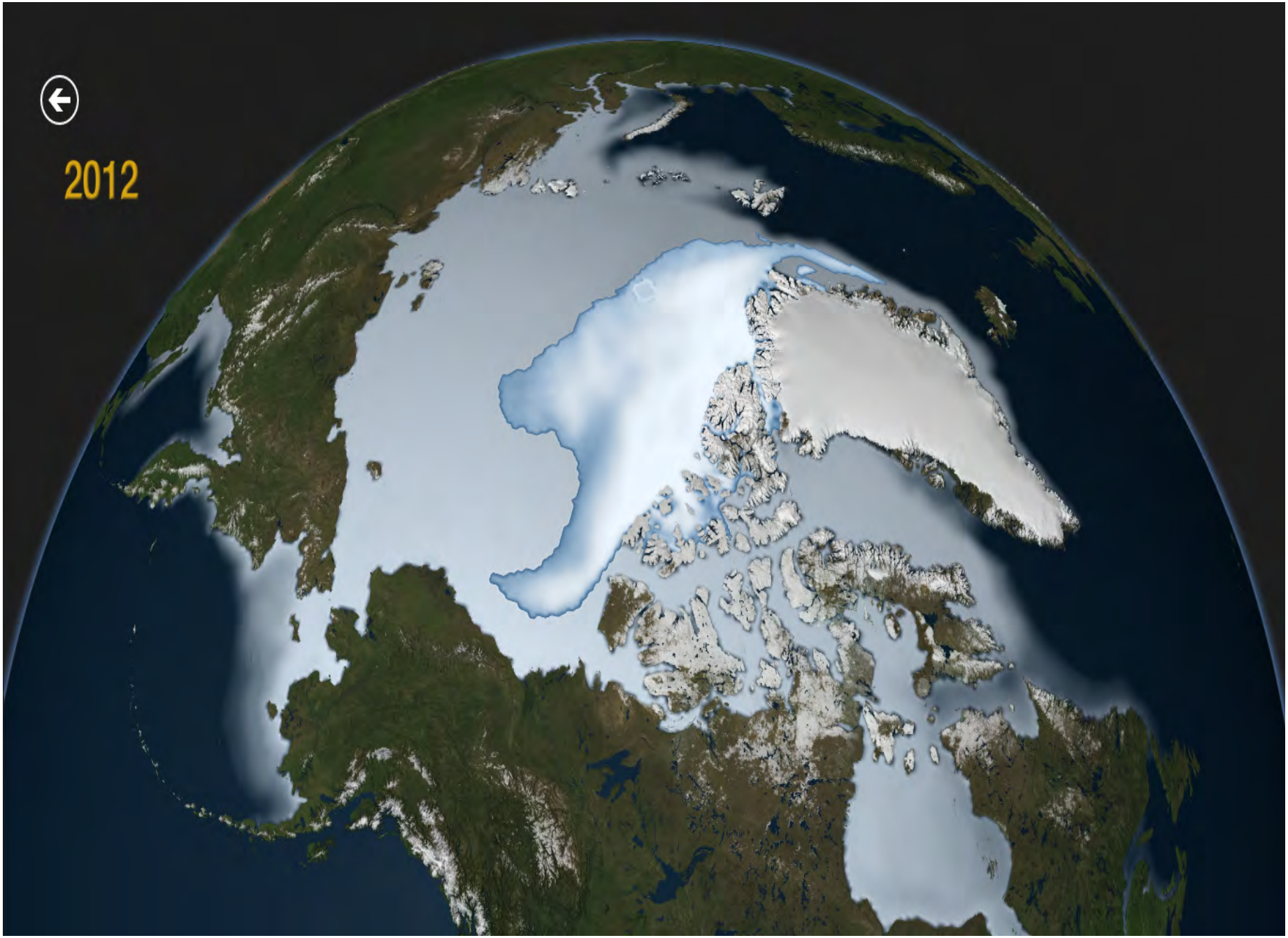
The melting of Arctic sea ice to record lows in recent years has prompted many nations, principally those with an Arctic coastline, to reassess their interests in the region.



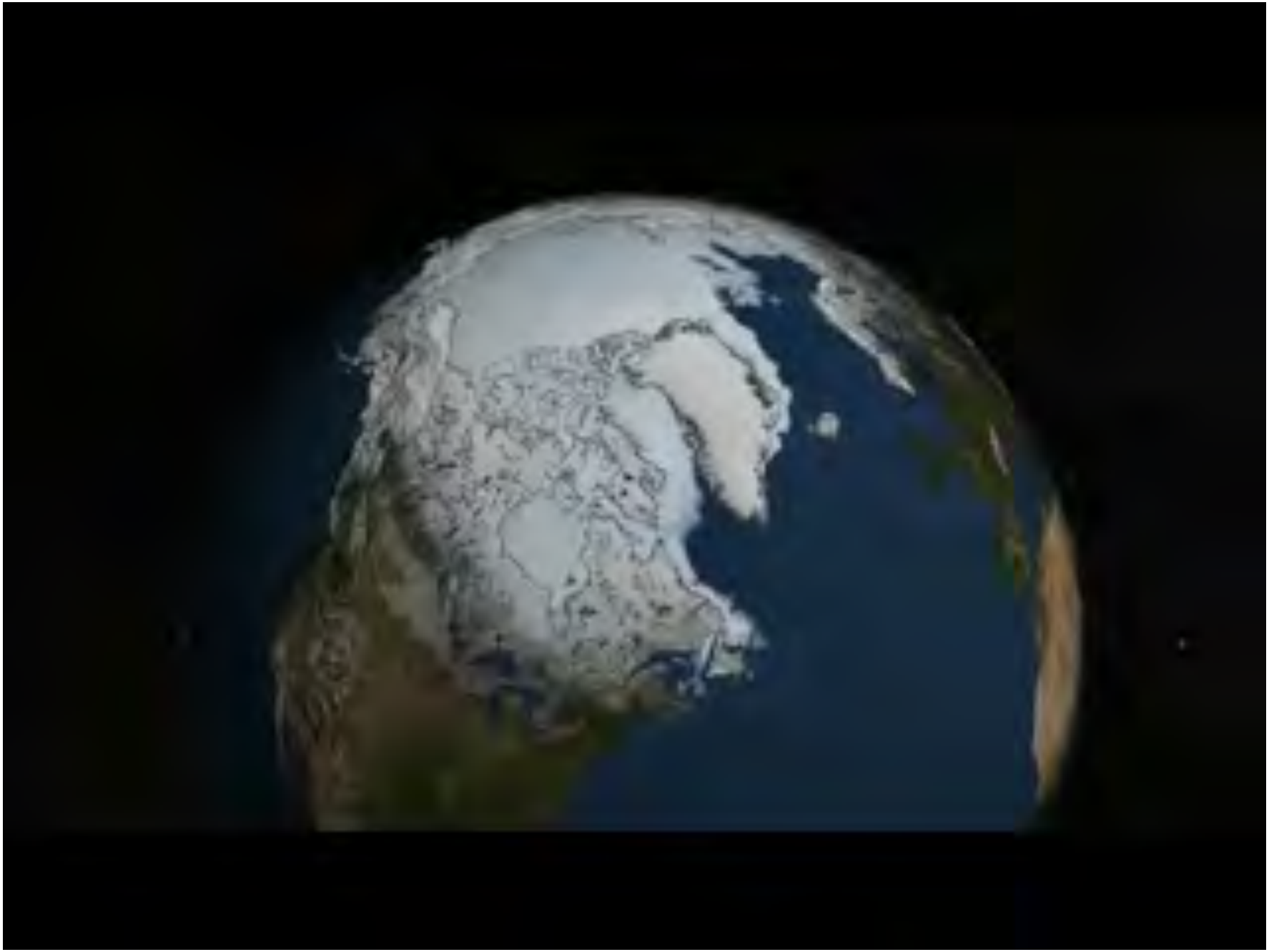
The Arctic is warming faster than anywhere else on the planet… The years 2007–2012 saw the six lowest levels since satellite imaging began in 1979.

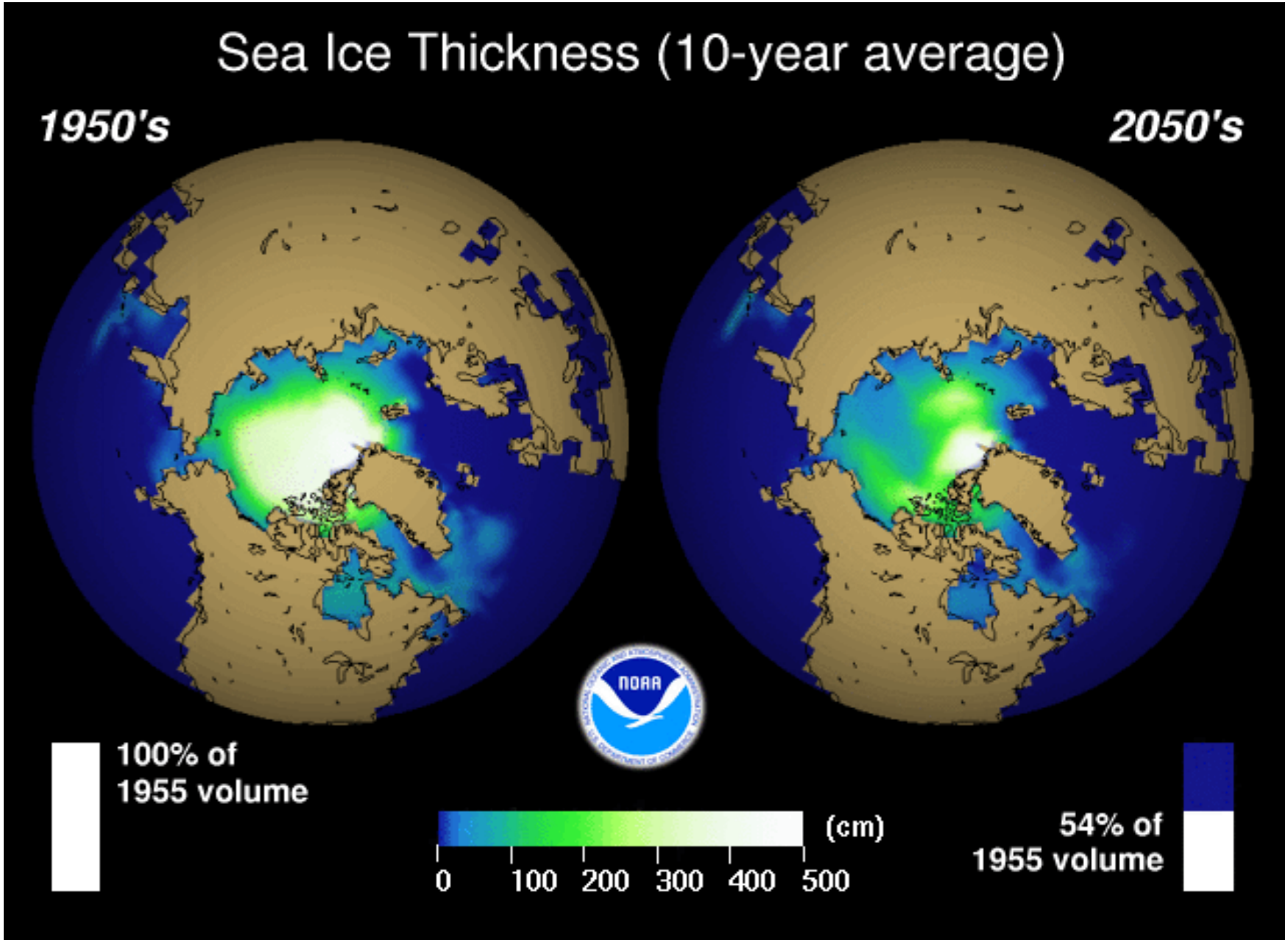



1980

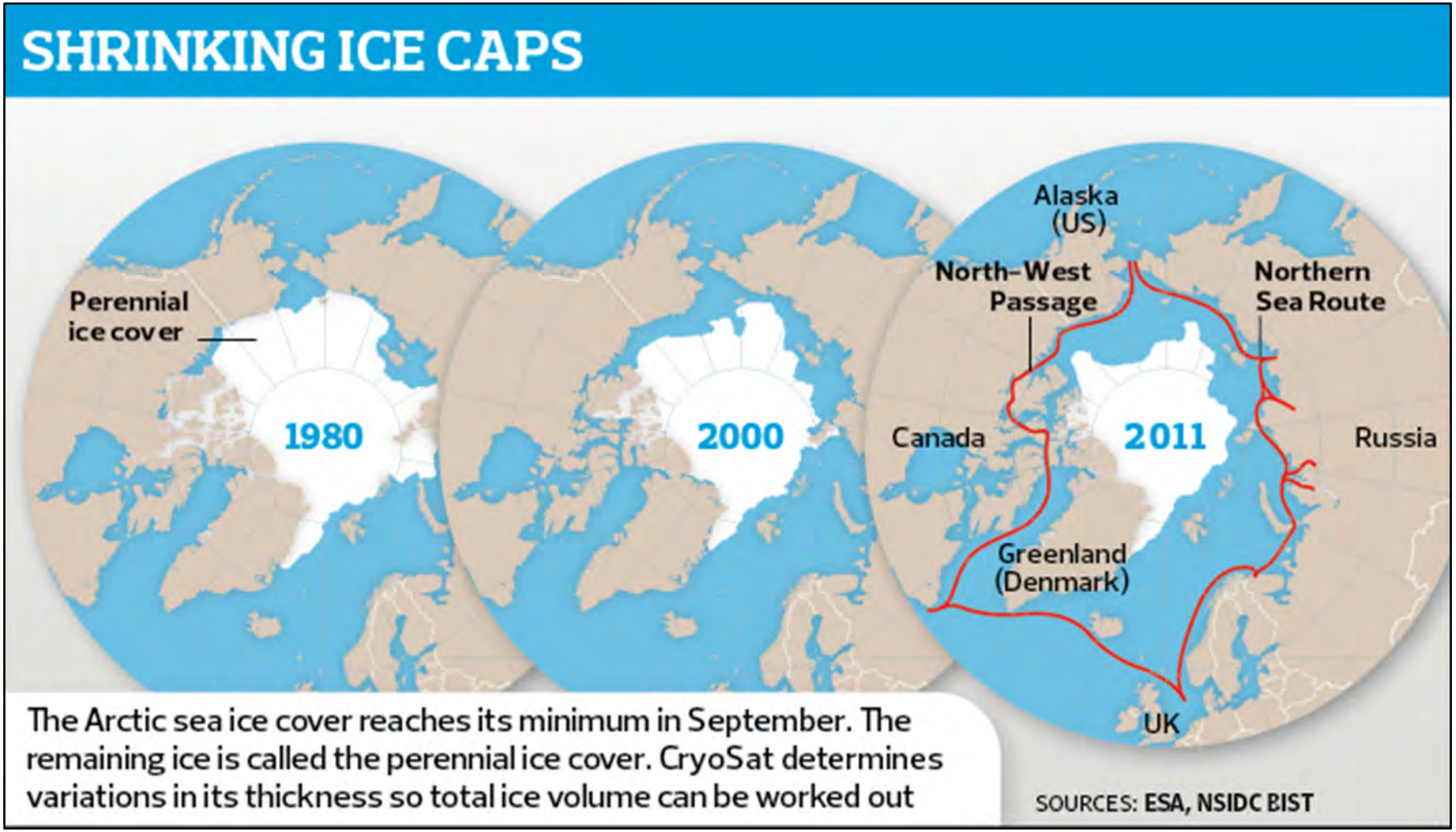

2012

Scientists expect some annual variability.
"We may even recover for a few more years," said a senior research scientist at the National Snow and Ice Data Center.
"However, the long-term trend is downward."



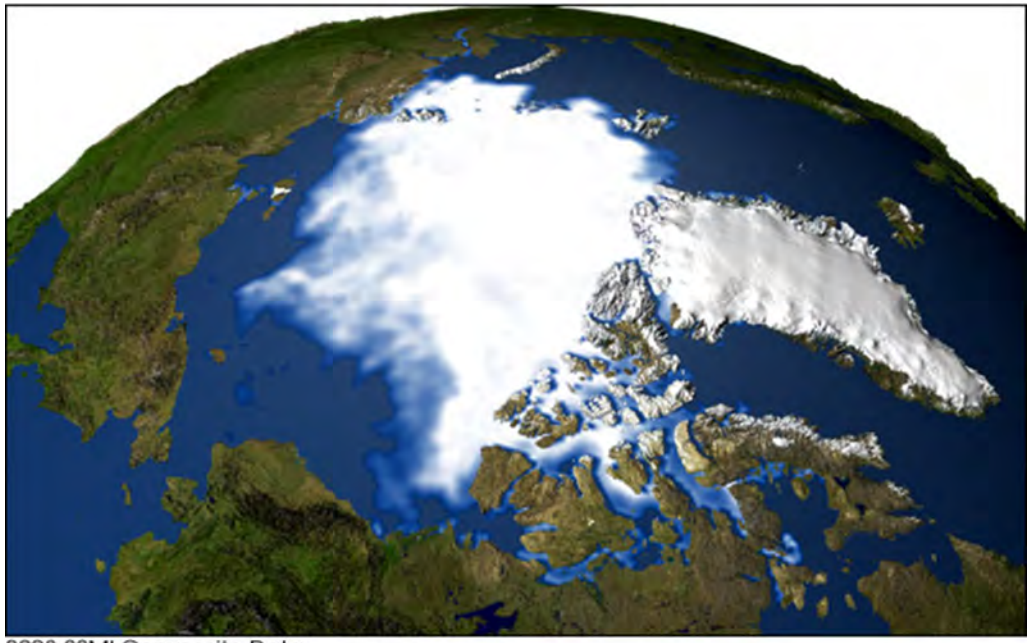

Sea Ice Thickness (10-year average)
1950's
2050's
100% of
1955 volume
(cm)
0
100
200
300
400
500
54% of
1955 volume

Many scientists forecast ice-free summers in the Arctic in a matter of decades, opening the region up to even greater commercialization, including energy production and shipping...



But the thaw will also pose new security challenges, as Arctic nations increase their military presence in the region for national security.

1979 SSMI Composite Data



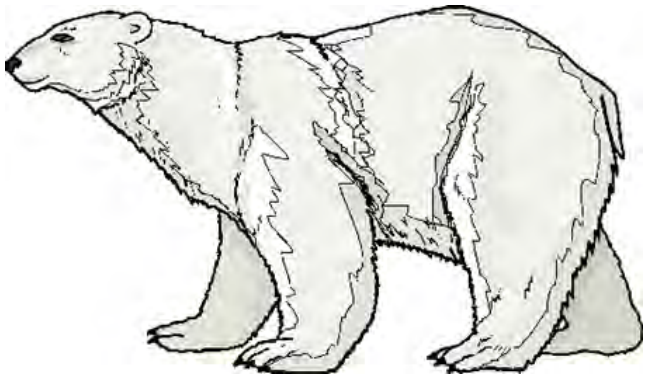
2003 SSMI Composite Data

Who governs the Arctic?

The Arctic is administered according to the domestic laws of each Arctic nation…

but also subject to international agreements. The legal framework that governs activities on and beneath the Arctic—as with all the world's oceans—is the 1982 UN Convention on the Law of the Sea.

It established freedom of navigation rights;
set territorial sea boundaries:
twelve miles offshore
created exclusive economic zones:
up to 200 miles offshore
extended continental shelf rights:
up to 350 miles offshore



ARCTIC BOUNDARIES

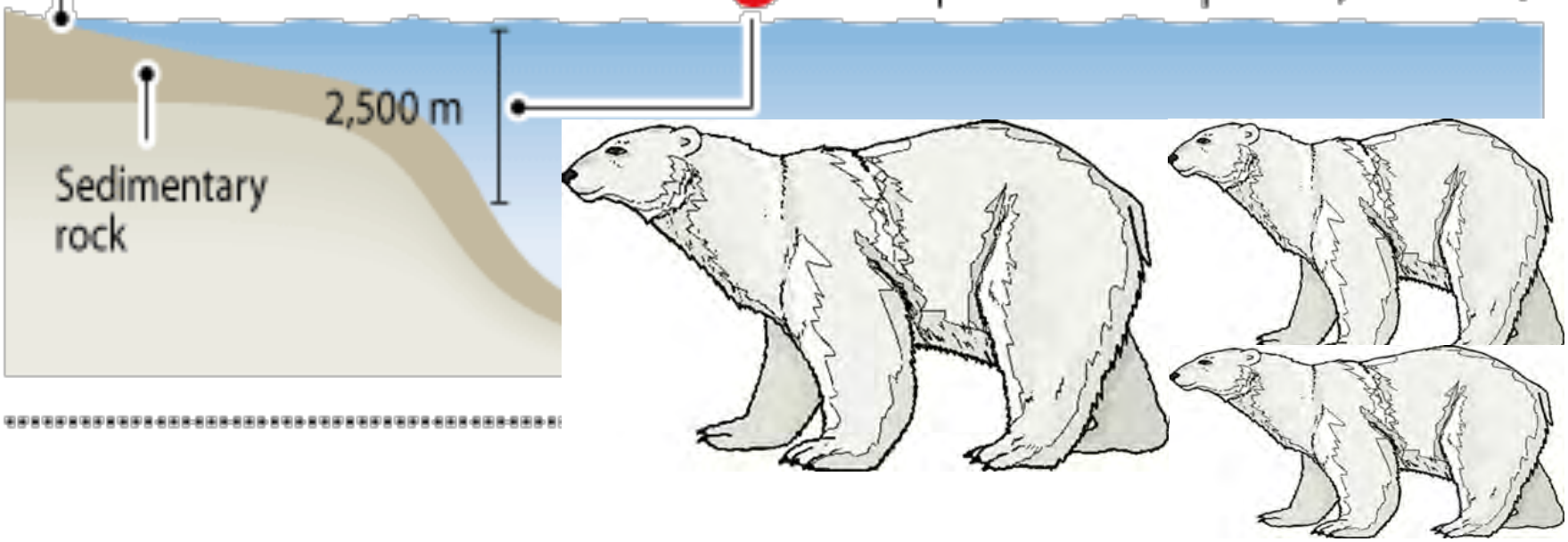
- A coastal nation can claim exclusive economic rights to natural resources on or beneath the sea floor up to 200 nautical miles beyond their land territory (exclusive economic zone or EEZ)

- If the continental shelf extends beyond that distance, the country must provide evidence to a UN commission

CONTINENTAL SHELF CLAIMS

Claims cannot extend beyond

1. 350 nm from territorial sea baseline
2. 100 nm past a water depth of 2,500 m

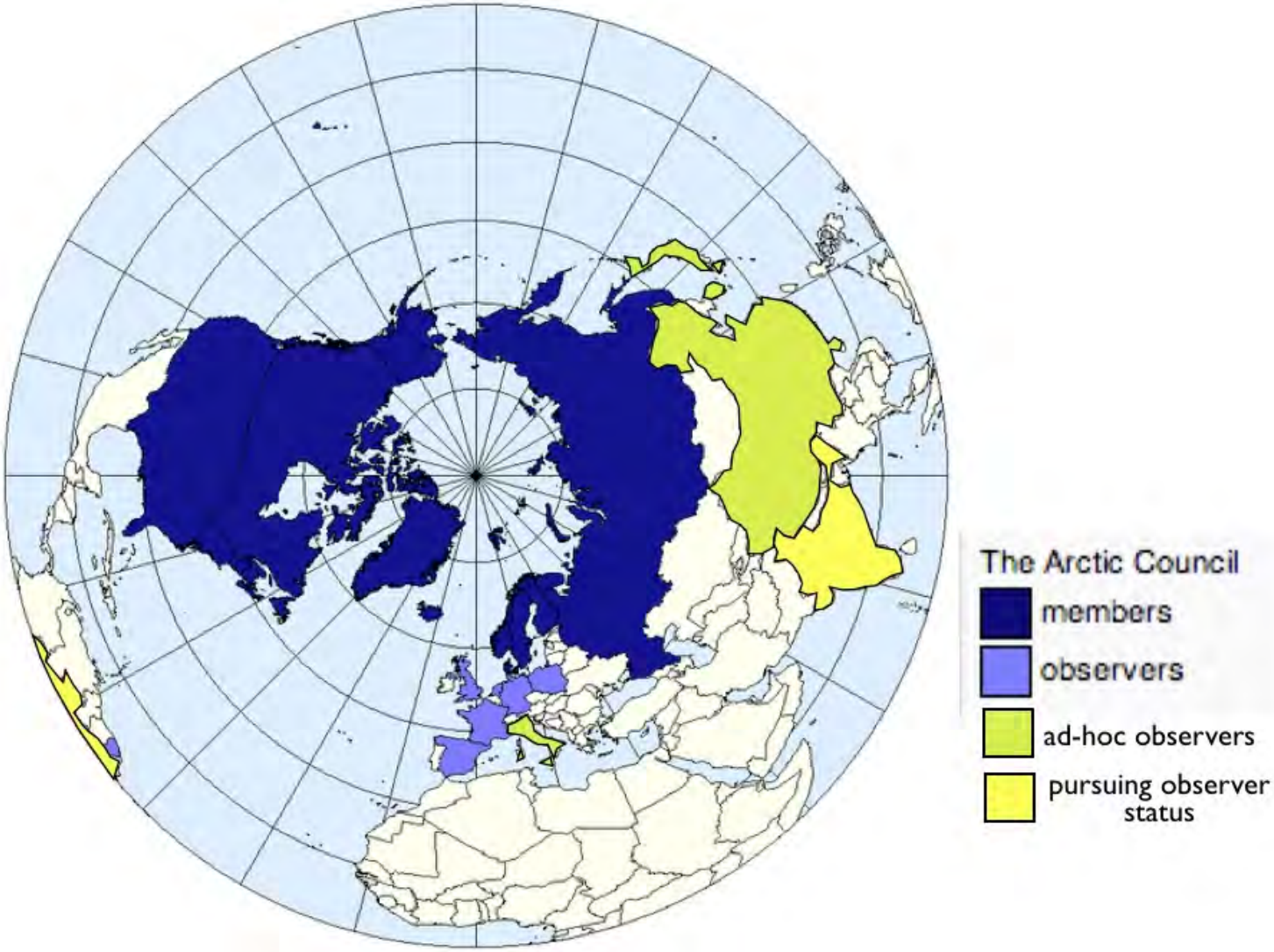


Who is the Arctic Council?

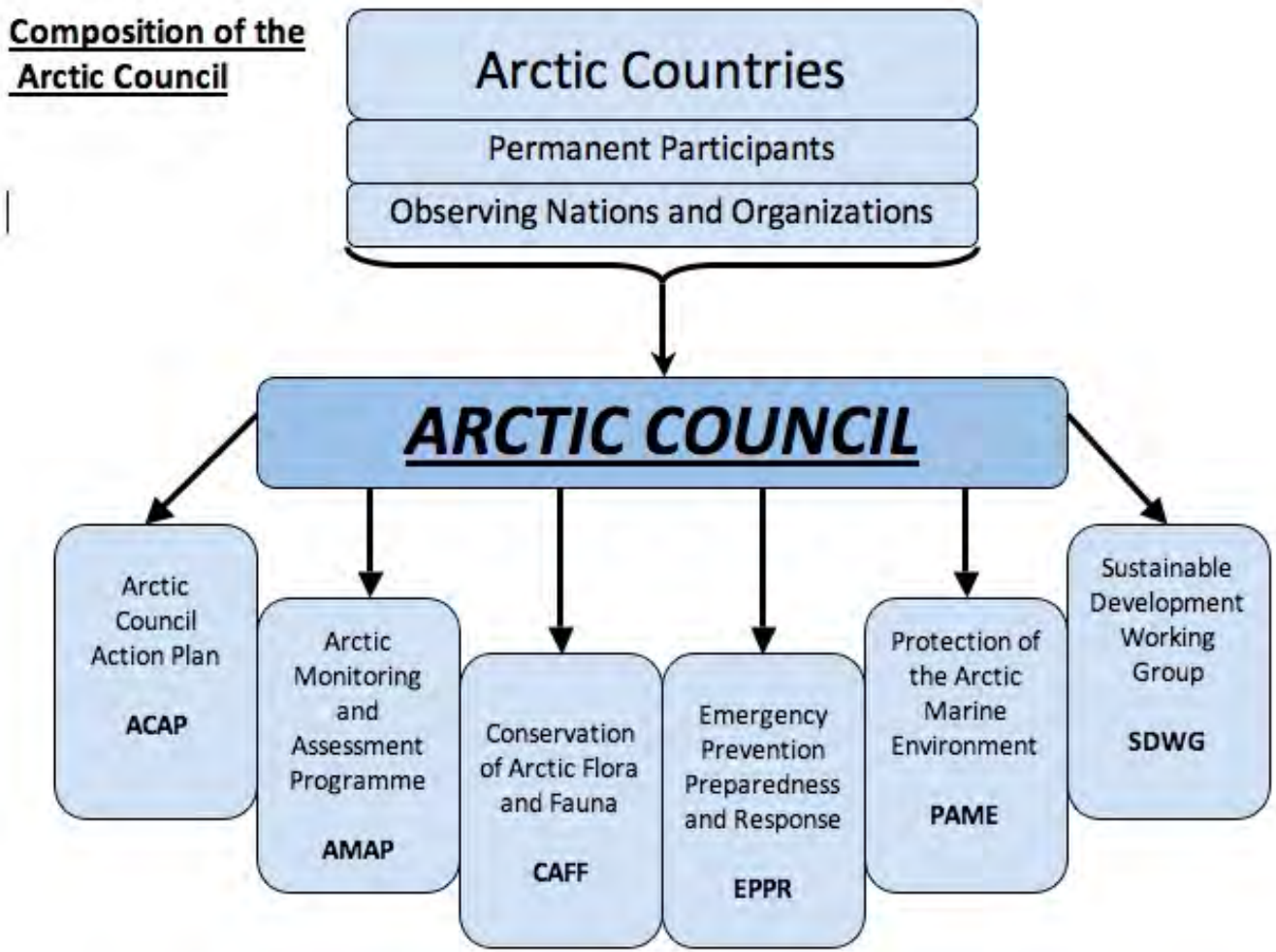
ARCTIC COUNCIL

The Arctic Council was formed in 1996 as an “intergovernmental” group
to promote cooperation and coordination among the Arctic States.

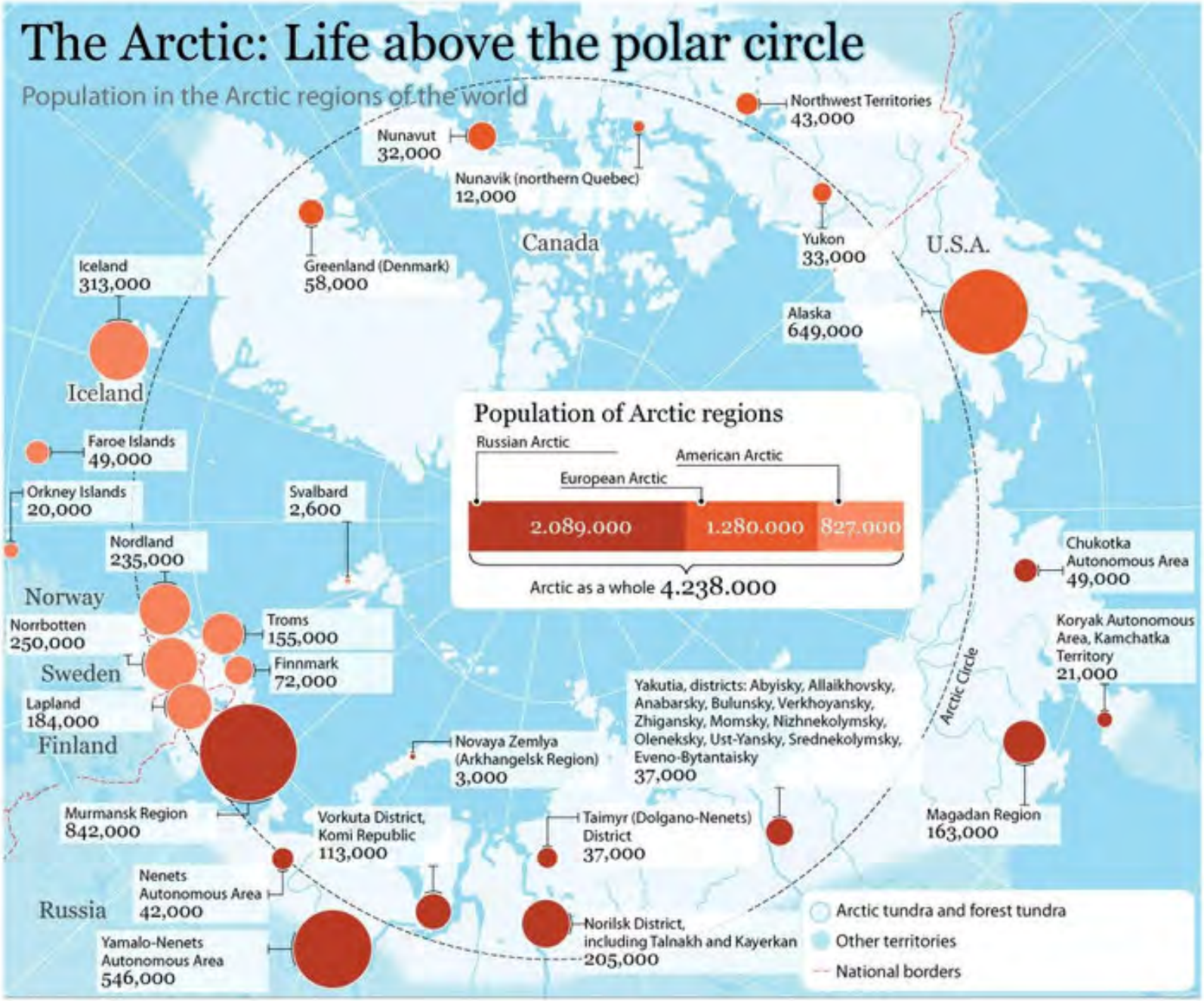
Arctic Council Member States are Canada, Denmark (including Greenland), Finland, Iceland, Norway, Russia, Sweden, and the United States.



The Arctic Council conducts international environmental studies and negotiates policies to be followed by members



It also includes Arctic Indigenous communities interested in the development and environmental protection in their homelands.



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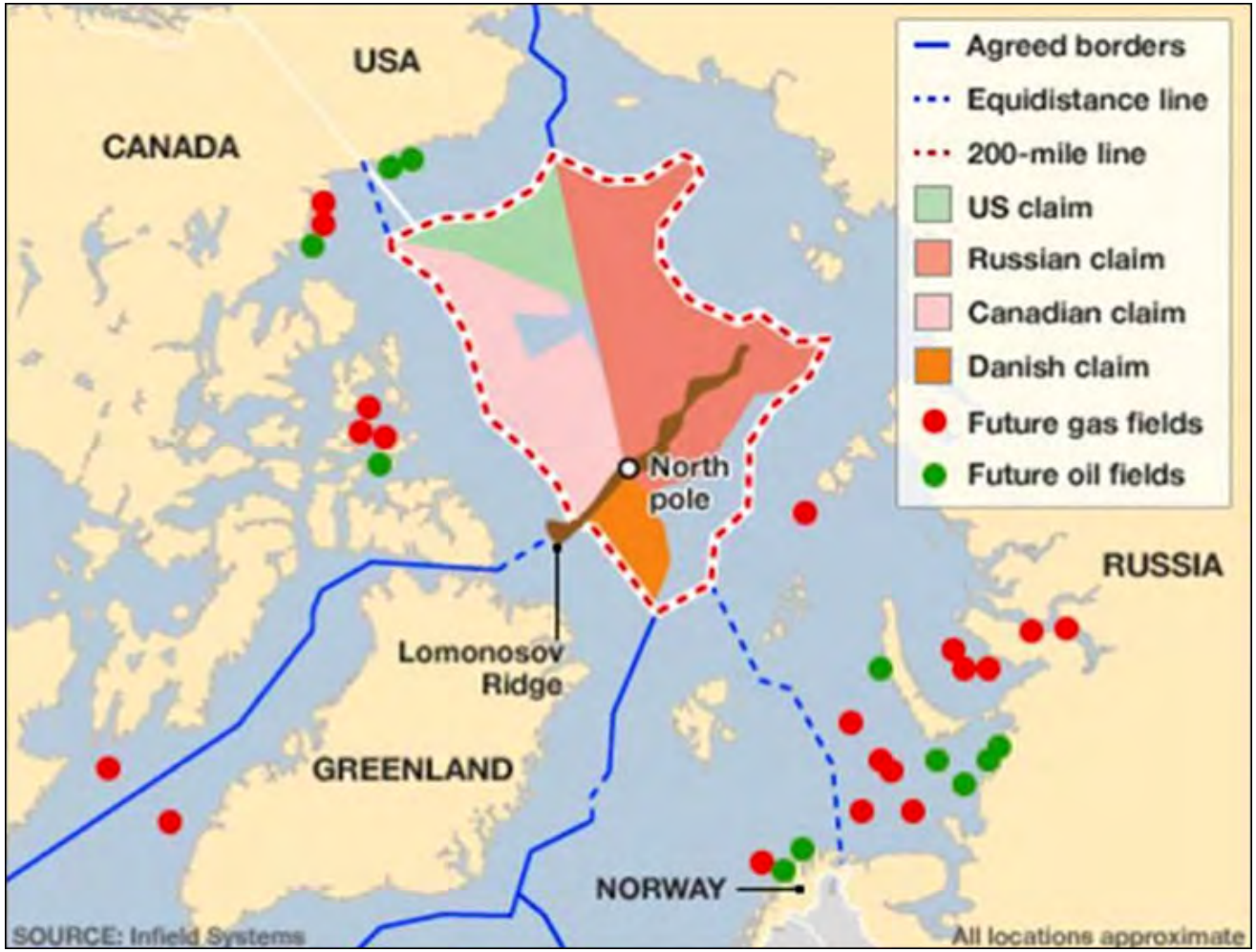
NATO's role in the Arctic?

The members of NATO (North Atlantic Treaty Organization) also share common interests in the security of the Arctic's resources. However, Russia is *not* a member of NATO.

Finally, what is the role of the United Nations in the Arctic?

The U.N. is often called upon to resolve territorial disputes, such as Russia's attempt to expand its drilling operations beyond internationally-agreed upon areas.



There are many perspectives about the Arctic's wealth and how it should be managed for sustainable use…

Race to the Arctic: Opportunities and Challenges

What do you think?

<u>Essential Questions</u>:

What responsibilities do we owe toward preserving the Earth's natural resources?

Can opposing groups cooperatively solve common challenges?

Race to the Arctic: Opportunities and Challenges

Council on Foreign Affairs http://www.cfr.org
Arctic Council http://www.arctic-council.org/index.php/en/
NASA http://www.nasa.gov/topics/earth/features/2012-seaicemin.html
USGS http://energy.usgs.gov/RegionalStudies/Arctic.aspx
Russia Council http://russiancouncil.ru/common/upload/arcnato1.jpg
Discovery http://news.discovery.com/earth/
NATO http://www.nato.int/
New York Times
http://topics.nytimes.com/top/news/international/countriesandterritories/arctic_regions/index.html#
Greenpeace http://www.greenpeace.org/usa/arctic/

Sources