Potsdam Summer School

The Arctic in the Anthropocene

International Law and Governance: The Arctic Paradox

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Potsdam, 27 June 2014

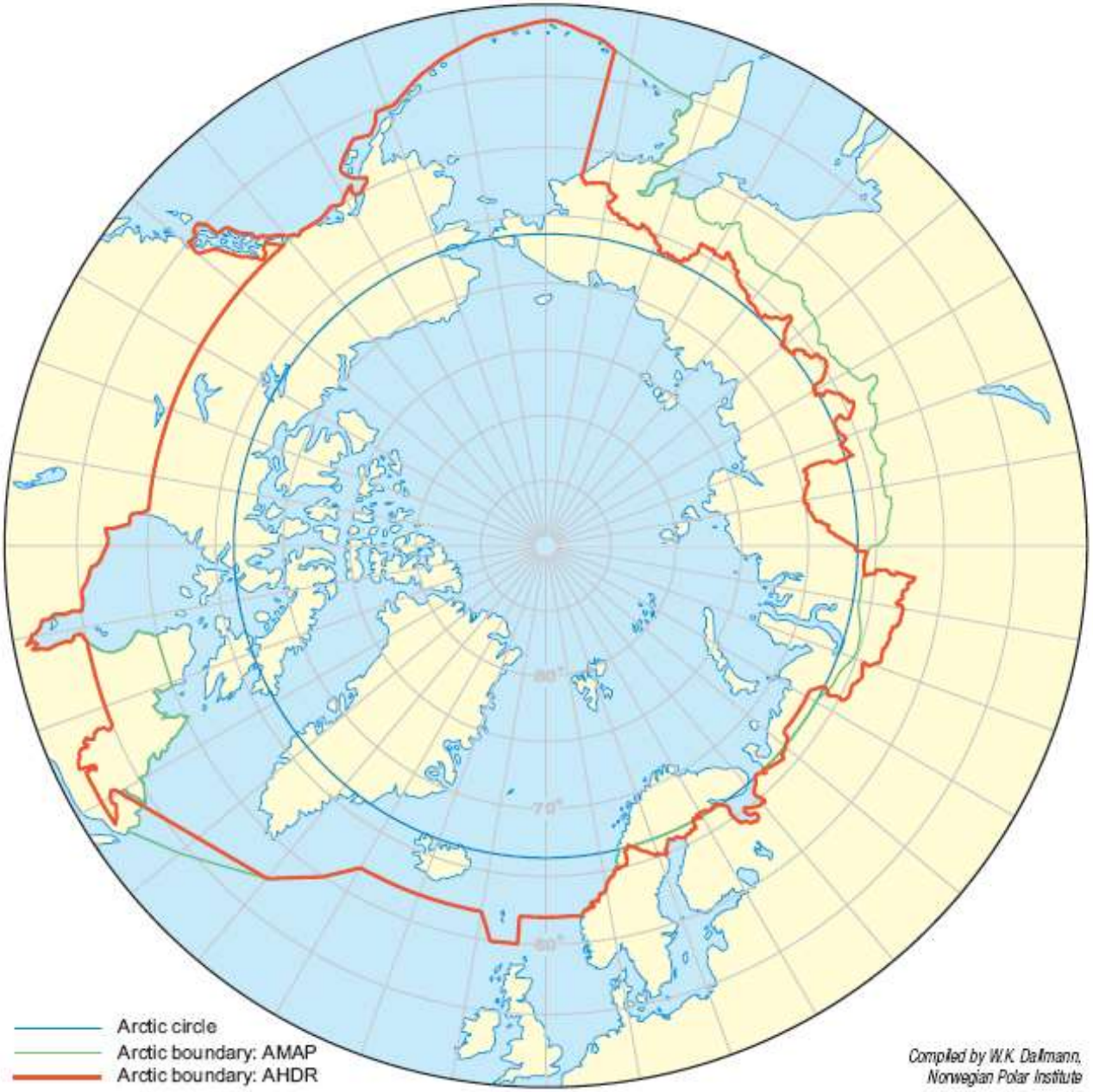
Some Definitional Points:

- Anthropocene: Climate Change & Globalization
- The Arctic Region
- Law and Governance

Anthropocene: The Grand Challenges

"We know enough to state with a high degree of scientific confidence that without action to mitigate drivers of dangerous global change and enhance societal resilience, humanity has reached a point in history at which changes in climate, hydrological cycles, food systems, sea level, biodiversity, ecosystem services and other factors will undermine development prospects and cause significant human suffering associated with hunger, disease, migration and poverty."

International Council for Science (ICSU), Earth System Science for Global Sustainability: The Grand Challenges (Nov. 2010)



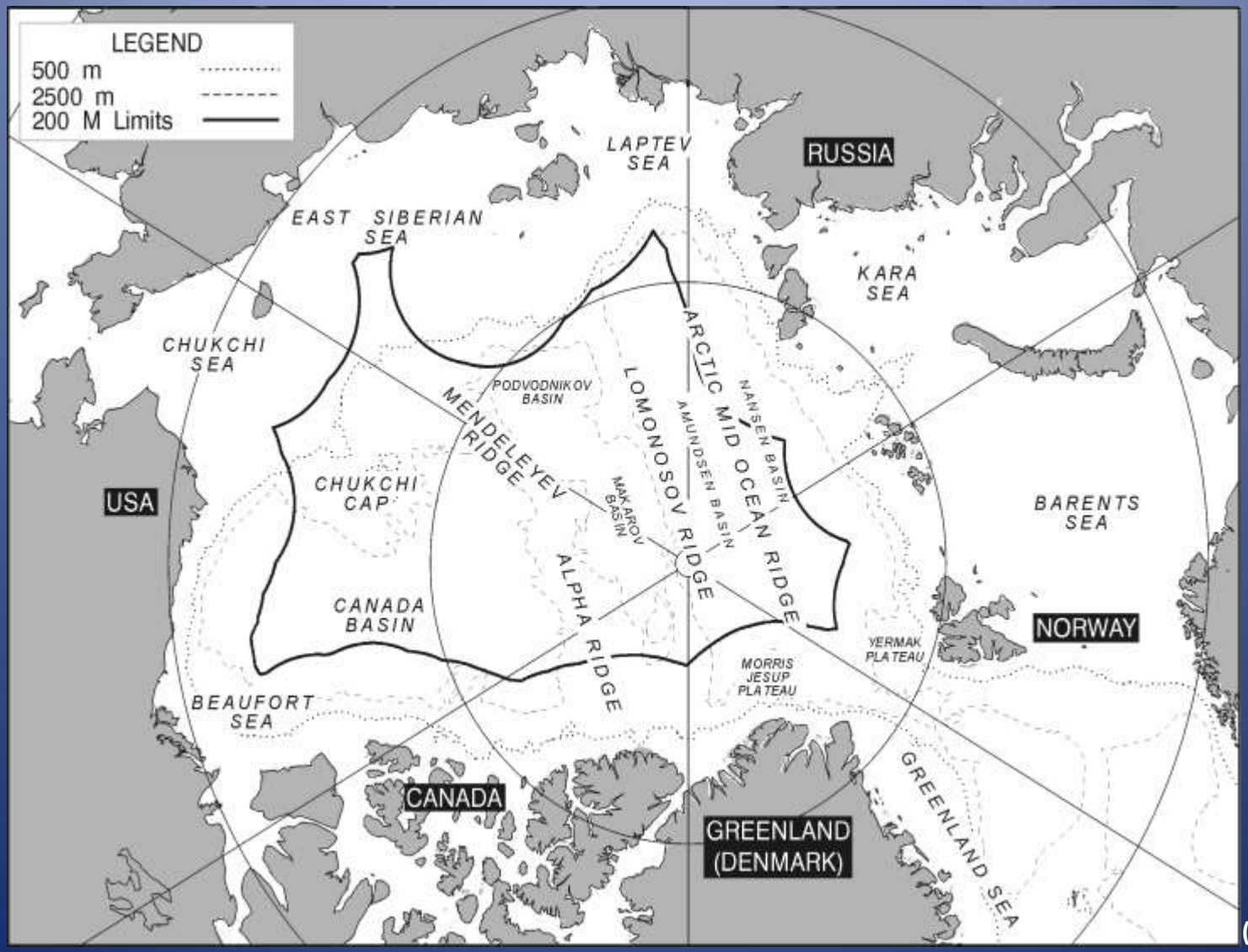
[Source: Arctic Human Development Report, 2004, p.18]

The Arctic Region

Is a line of demarcation helpful ?

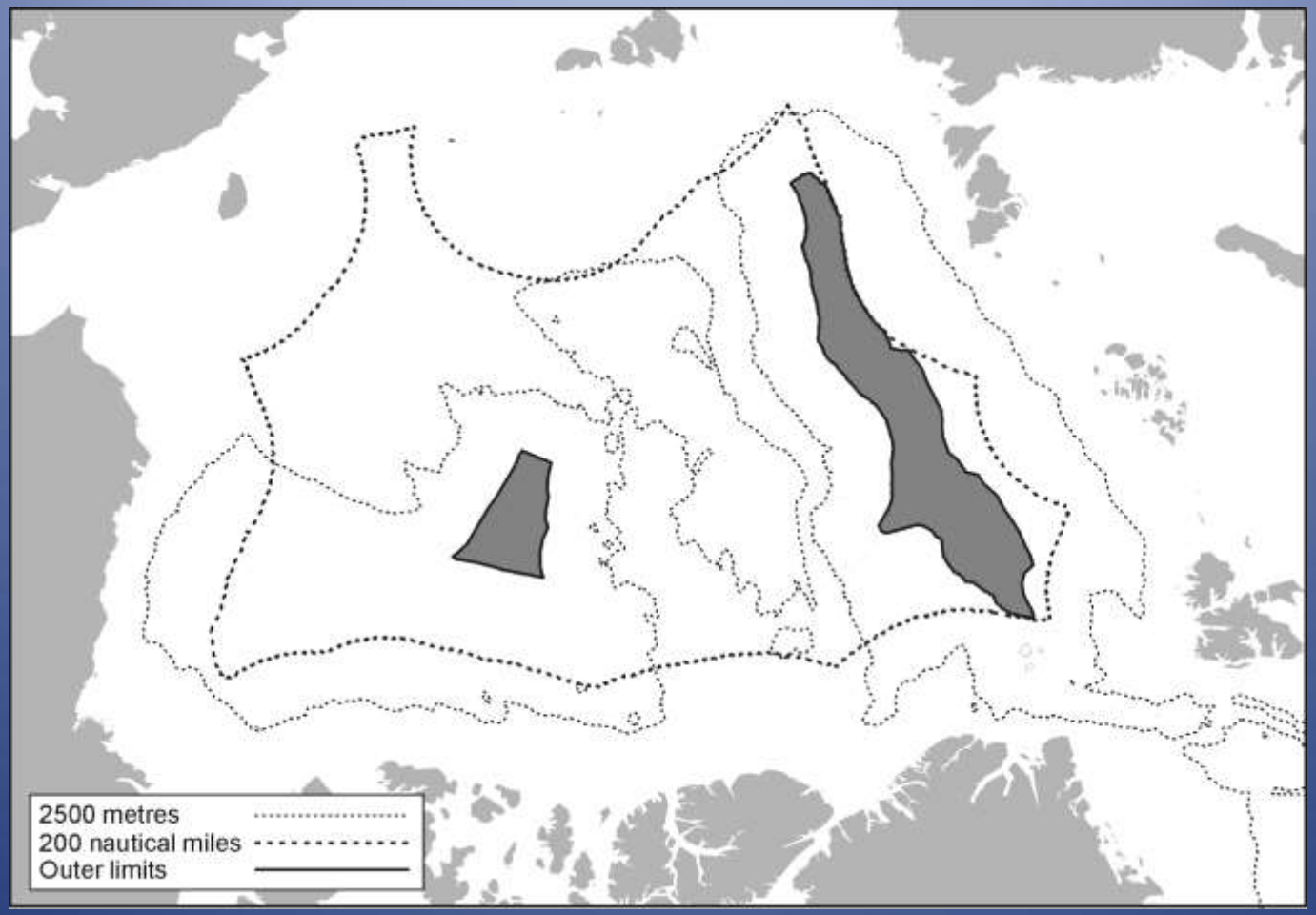
Arctic State Sovereignty & Sovereign Rights: Ocean spaces

Today's Maritime Arctic (200 nm EEZ)



(Macnab 2000)

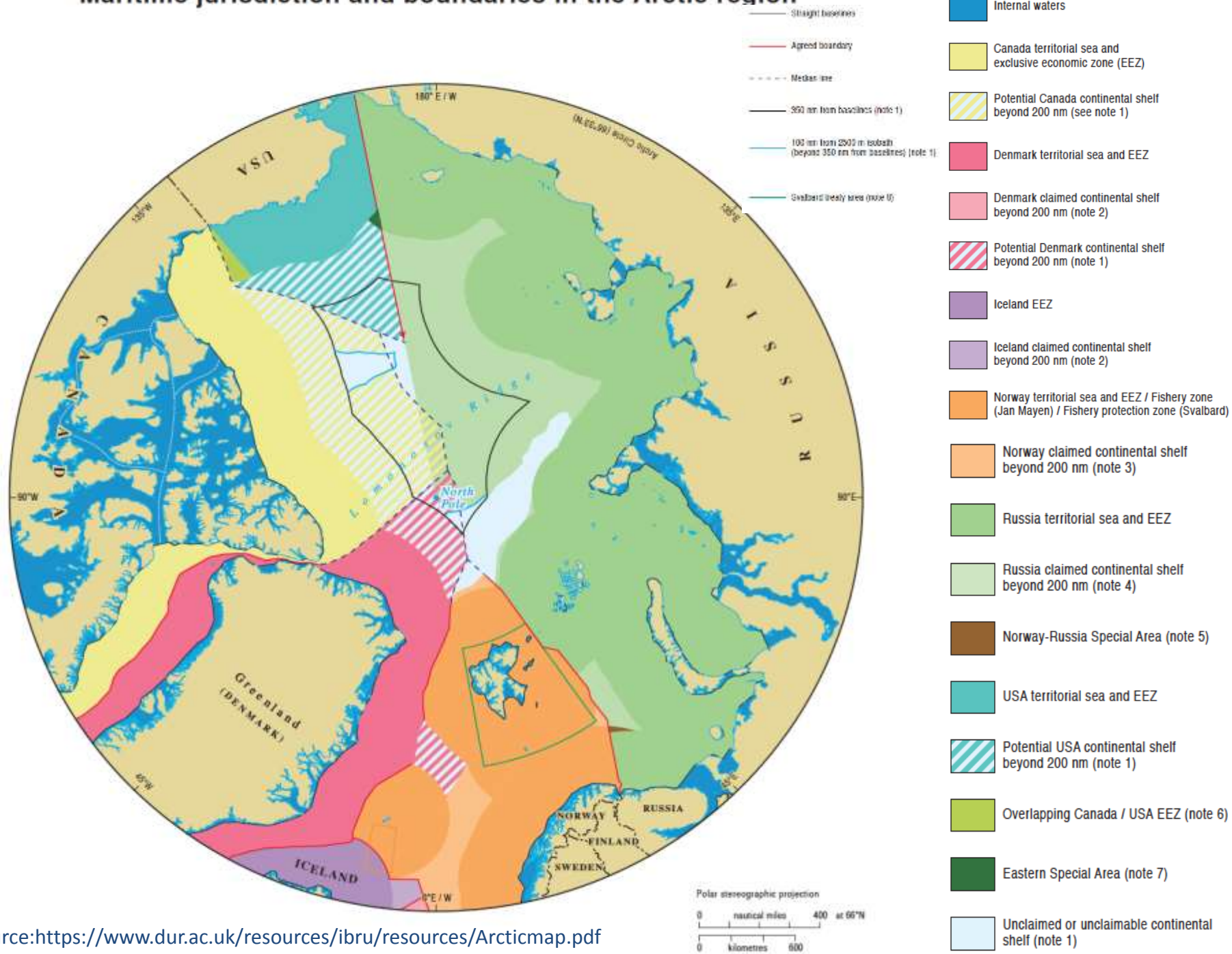
Potential Future Arctic Ocean Commons



Hypothetical Maritime Arctic
(After UNCLOS Arctic 76)

(Macnab 2000)

Maritime jurisdiction and boundaries in the Arctic region



Source:https://www.dur.ac.uk/resources/ibru/resources/Arcticmap.pdf

Laws do not spring from ideal forms. They are created to serve interests.

What should be the Objectives of the Arctic Legal Regime?

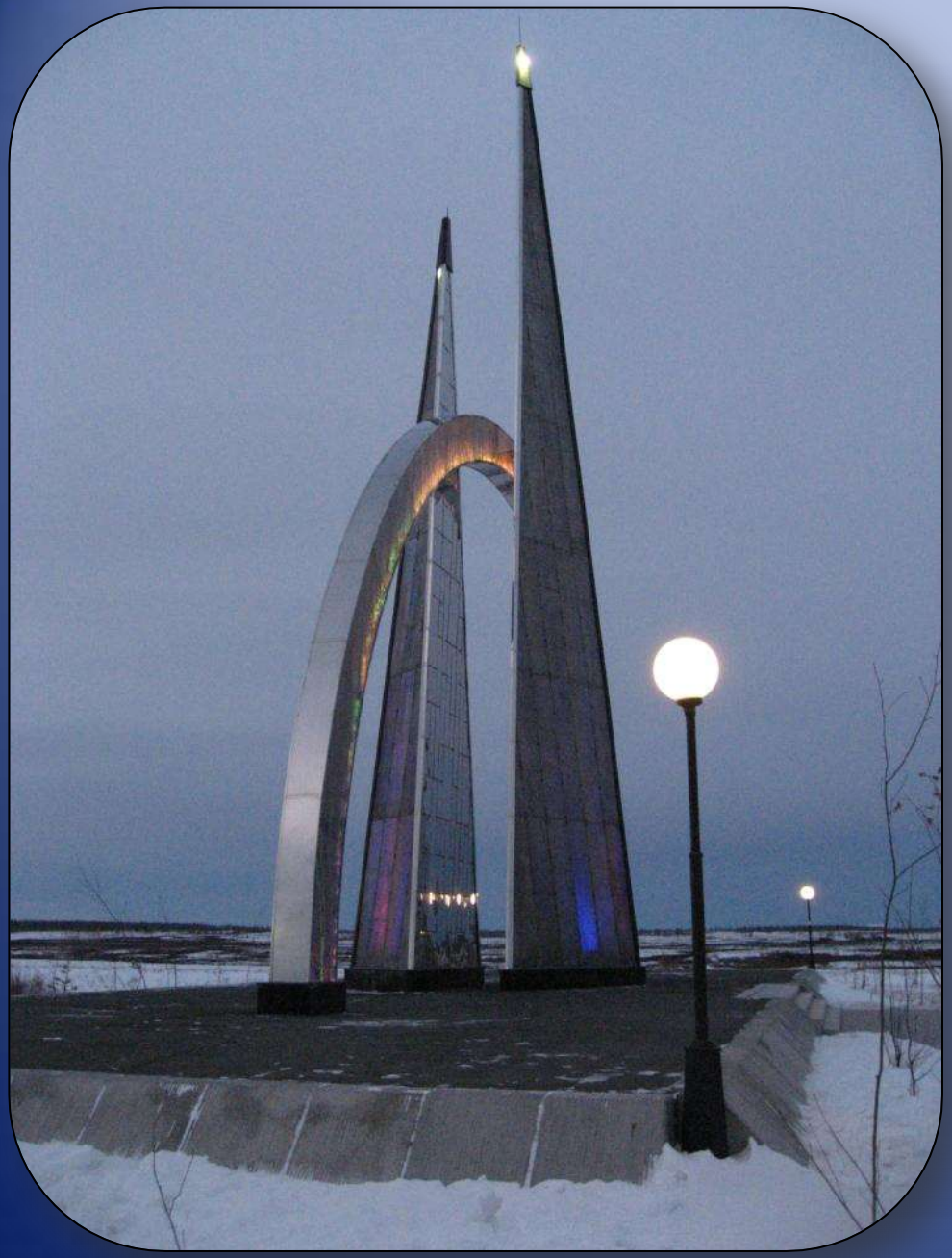
- Sustainable Development ?
- Human Rights and Indigenous Rights?
- Encourage and Manage Economic Growth ?
- Save the Earth ?
- Other?

Government v. Governance

Governance = everyone is involved in a well coordinated, effective process

To be avoided ….

Governance = confusion, congestion and endless consultation blur lines of accountability and inhibit decision-making

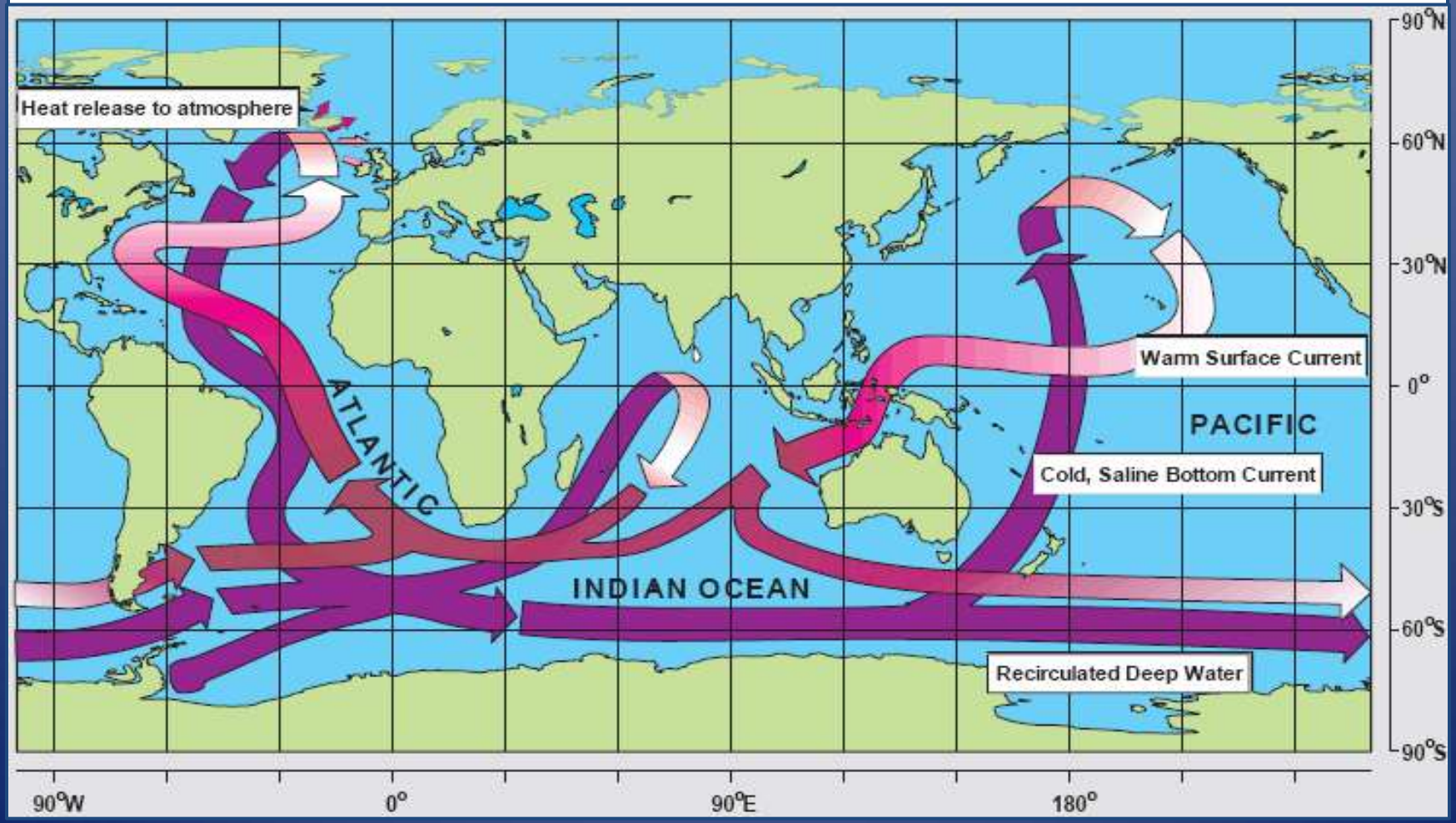


Arctic Circle Monument, Salakhard, Russia

Where does the Arctic fit in the context of the *Grand Challenges*?

Today Arctic issues (local, national, regional, global) are Inter-connected and Multi-layered.

Connected by Earth Systems



The thermohaline circulation "conveyor belt". Purple arrows indicate cold, deep ocean currents. Red arrows show shallow, warm water circulation patterns. [*after W. Broecker, modified by E. Maier-Reimer*].

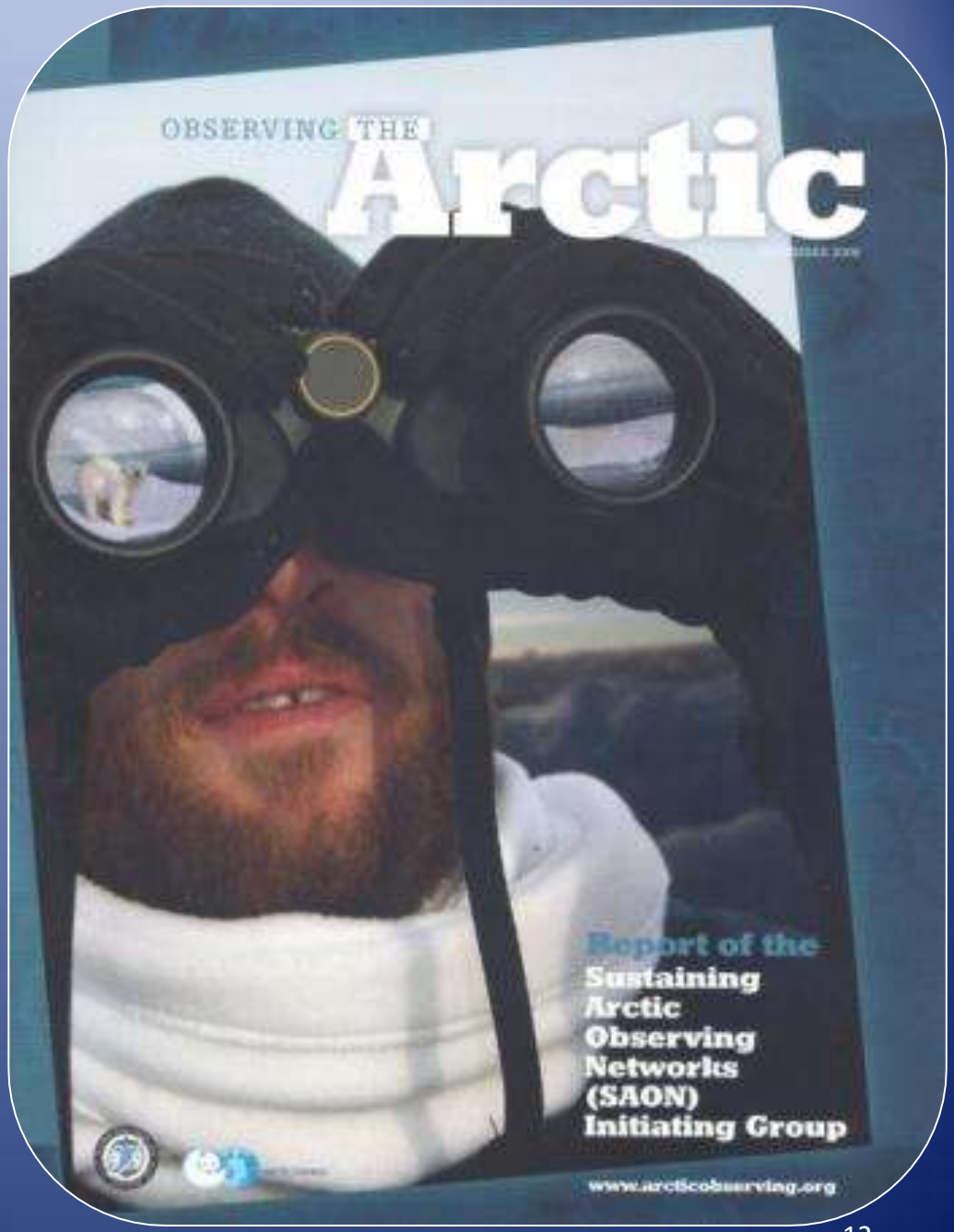
Key Messages:

- Environmentally-responsible regulation of activities ***inside*** the Arctic is only one dimension of the challenge and is unlikely to be effective to "save" the circumpolar North or halt current major drivers of Arctic change.

- Managing and transforming the rapacious consumptive appetite of a burgeoning global population is by far the more important and challenging issue.

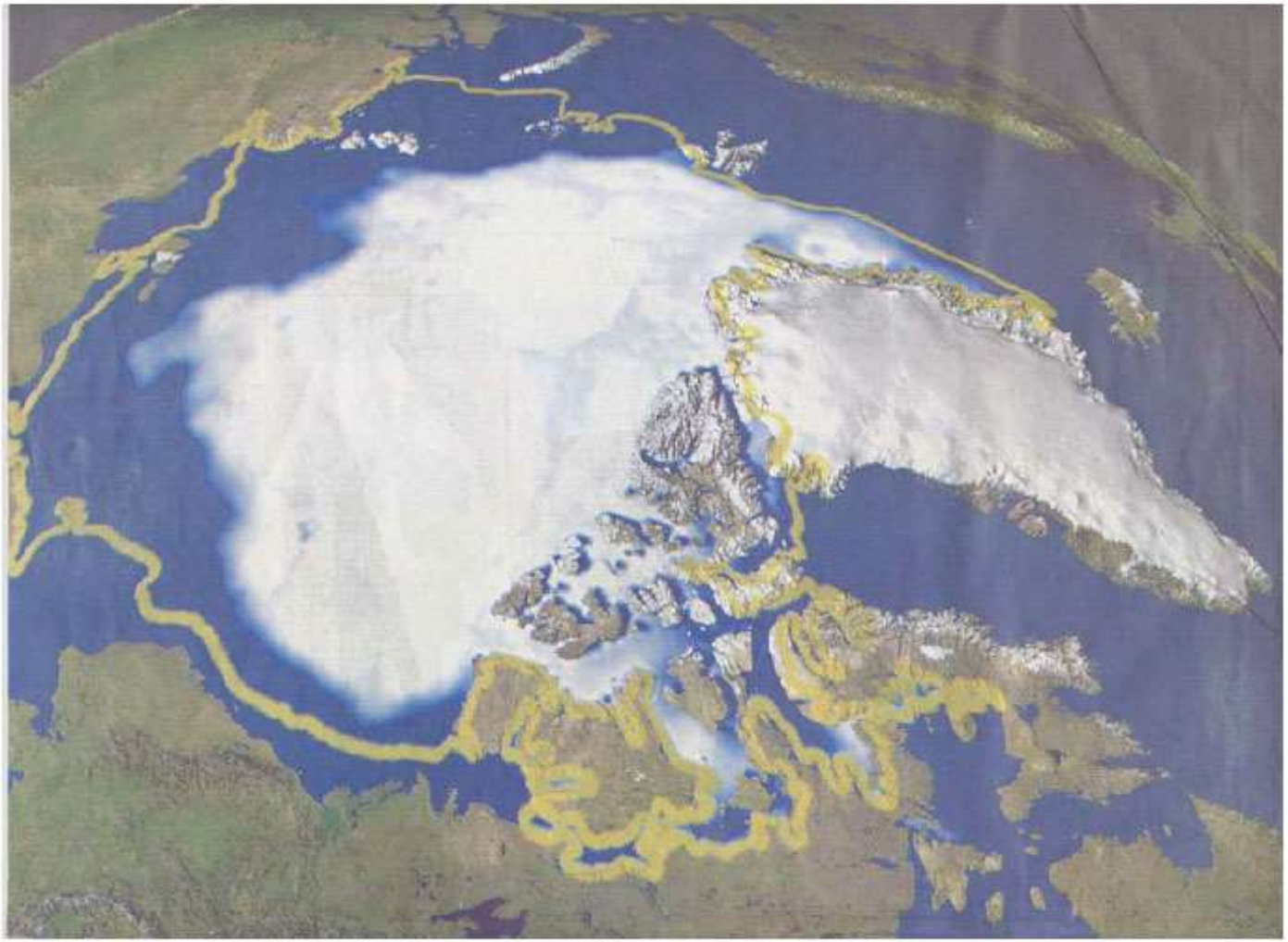
The Arctic as an Object of our Attentions

Why the dramatic upsurge in interest?



Seminal Event #1: Climate

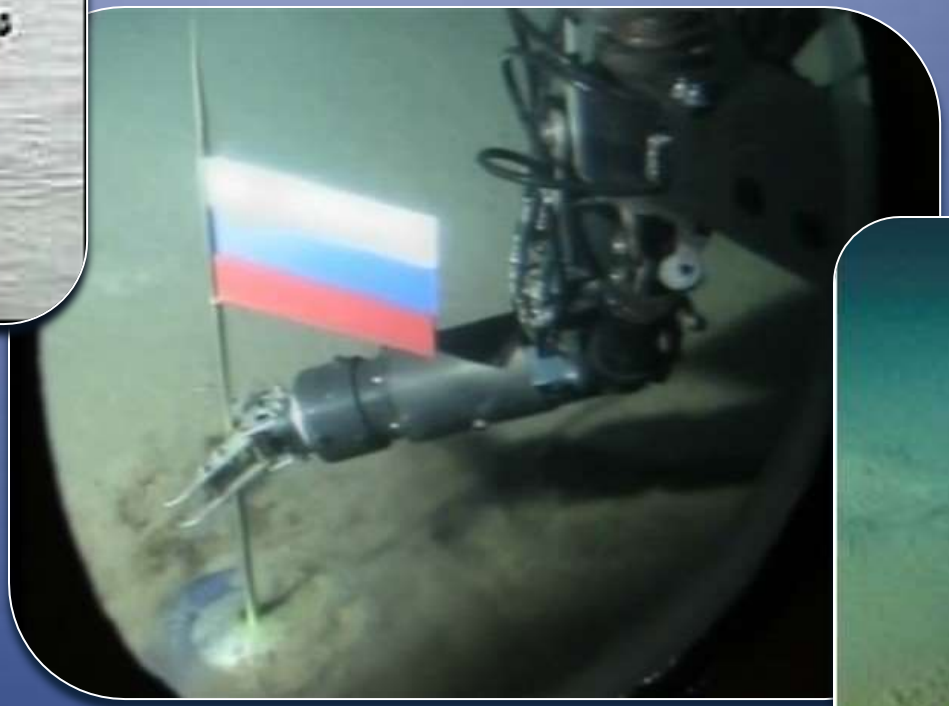
2005



NASA photo of Arctic Sea Ice as of 21 Sept. 2005 as compared to September 1979 (yellow line)

[Source: *National Post*, Canada, 30 Sept. 2005, pg. A-18]

Seminal Event #2: Geopolitics



August 2007

Seminal Event #3: Globalization

2008

USGS Fact Sheet 2008-3049

USGS
science for a changing world

Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle

The U.S. Geological Survey (USGS) has completed an assessment of undiscovered conventional oil and gas resources in all areas north of the Arctic Circle. Using a geology-based probabilistic methodology, the USGS estimated the occurrence of undiscovered oil and gas in 33 geologic provinces thought to be prospective for petroleum. The sum of the mean estimates for each province indicates that 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids may remain to be found in the Arctic, of which approximately 84 percent is expected to occur in offshore areas.

Overturned sedimentary rocks of the Lisburne Group under a midnight rainbow near Galbraith Lake, Alaska, summer 2001. USGS photo by David Houseknecht.

Introduction

In May 2008 a team of U.S. Geological Survey (USGS) scientists completed an appraisal of possible future additions to world oil and gas reserves from new field discoveries in the Arctic. This Circum-Arctic Resource Appraisal (CARA) evaluated the petroleum potential of all areas north of the Arctic Circle (66.56° north latitude); quantitative assessments were conducted in those geologic areas considered to have at least a 10-percent chance of one or more significant oil or gas accumulations. For the purposes of the study, a significant accumulation contains recoverable volumes of at least 50 million barrels of oil and/or oil-equivalent natural gas. The study included only those resources believed to be recoverable using existing technology, but with the important assumptions for offshore areas that the resources would be recoverable even in the presence of permanent sea ice and oceanic water depth. No economic considerations are included in these initial estimates; results are presented without reference to costs of exploration and development, which will be important in many of the assessed areas. So-called nonconventional resources, such as coal bed methane, gas hydrate, oil shale, and tar sand, were explicitly excluded from the study. Full details of the CARA study will be published later.

A number of onshore areas in Canada, Russia, and Alaska already have been explored for petroleum, resulting in the discovery of more than 400 oil and gas fields north of the Arctic Circle. These fields account for approximately 240 billion barrels (BBOE) of oil and oil-equivalent natural gas, which is almost 10 percent of the world's known conventional petroleum resources (cumulative production and remaining proved reserves). Nevertheless, most of the Arctic, especially offshore, is essentially unexplored with respect to petroleum. The Arctic Circle encompasses about 6 percent of the Earth's surface, an area of more than 21 million km² (8.2 million mi²), of which almost 8 million km² (3.1 million mi²) is onshore and more than 7 million km² (2.7 million mi²) is on continental shelves under less than 500 m of water. The extensive Arctic continental shelves may constitute the geographically largest unexplored prospective area for petroleum remaining on Earth.

Methodology

A newly compiled map of Arctic sedimentary basins (Arthur Grantz and others, unpublished work) was used to define geologic provinces, each containing more than 3 km of sedimentary strata. Assessment units (AUs)—mappable volumes of rock with common geologic traits—were identified within each province and quantitatively assessed for petroleum potential. Because of the sparse seismic and drilling data in much of the Arctic, the usual tools and techniques used in USGS resource assessments, such as discovery process modeling, prospect delineation, and deposit simulation, were not generally applicable. Therefore, the CARA relied on a probabilistic methodology of geological analysis and analog modeling. A world analog database (Charpentier and others, 2008) was developed using the AUs defined in the USGS World Petroleum Assessment 2000 (USGS World Assessment Team, 2000).

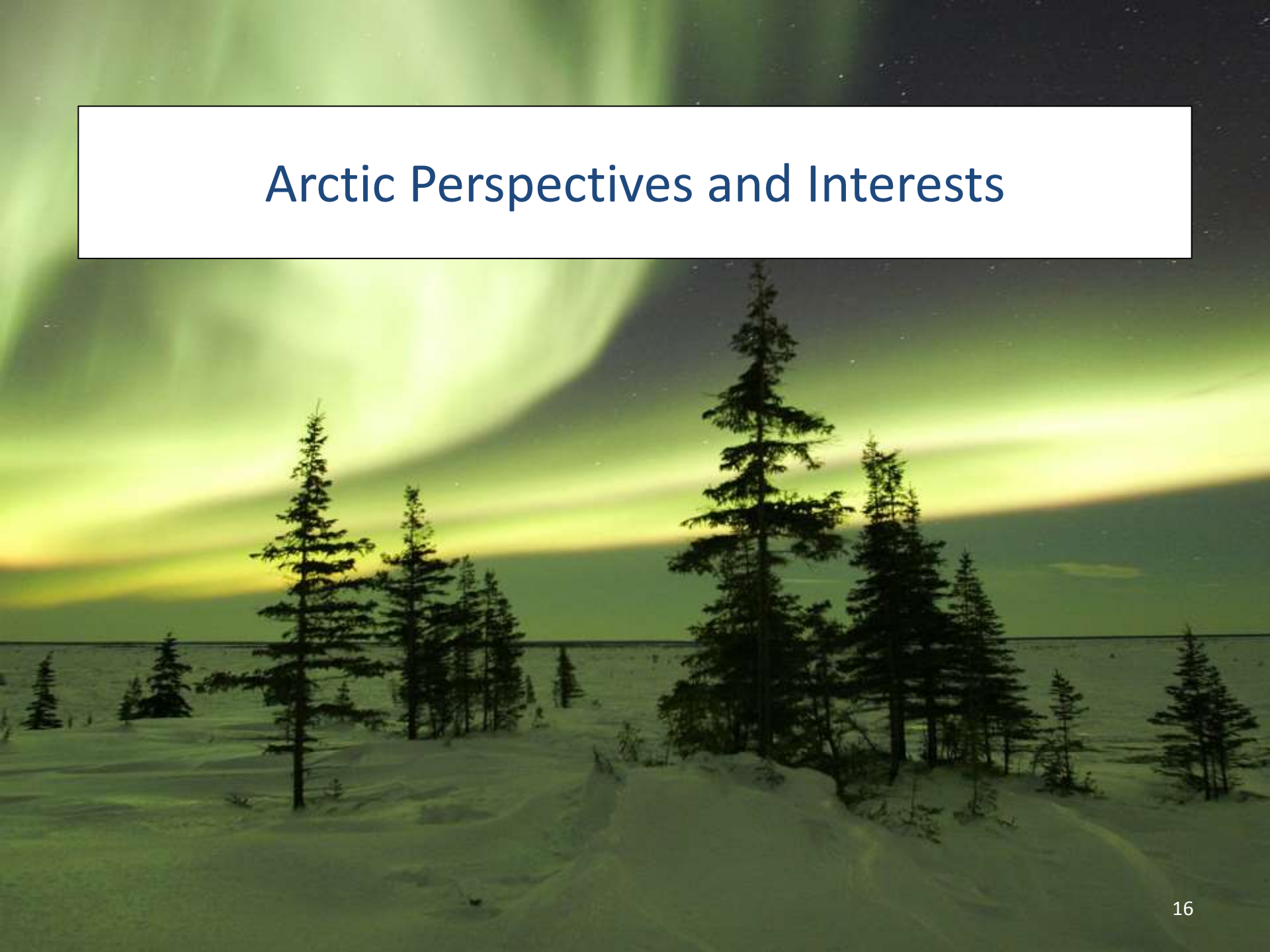
[Continued on back page]

U.S. Department of the Interior
U.S. Geological Survey

USGS Fact Sheet 2008-3049
2008

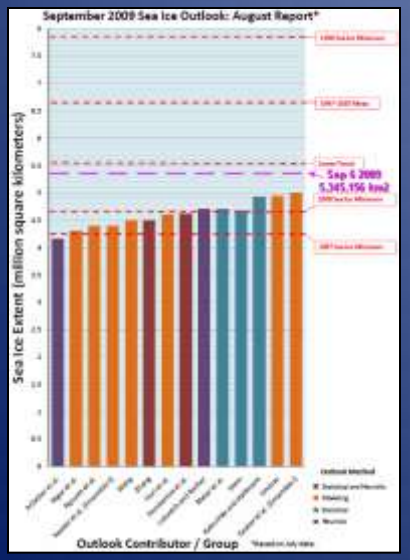
http://pubs.usgs.gov/fs/2008/3049/images/coverphoto.jpg

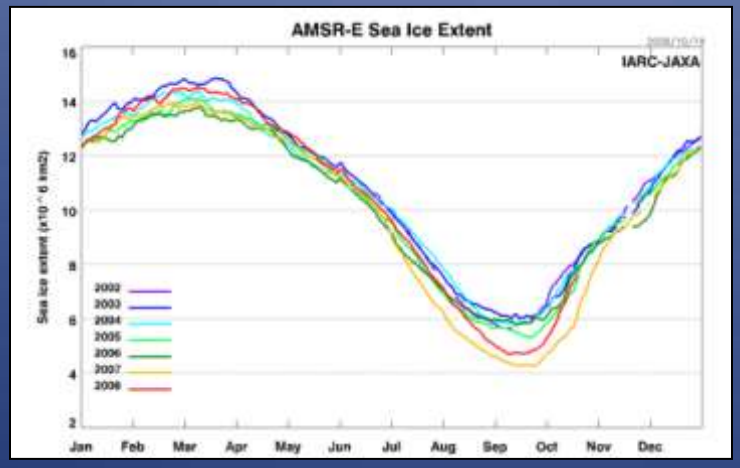
Arctic Perspectives and Interests



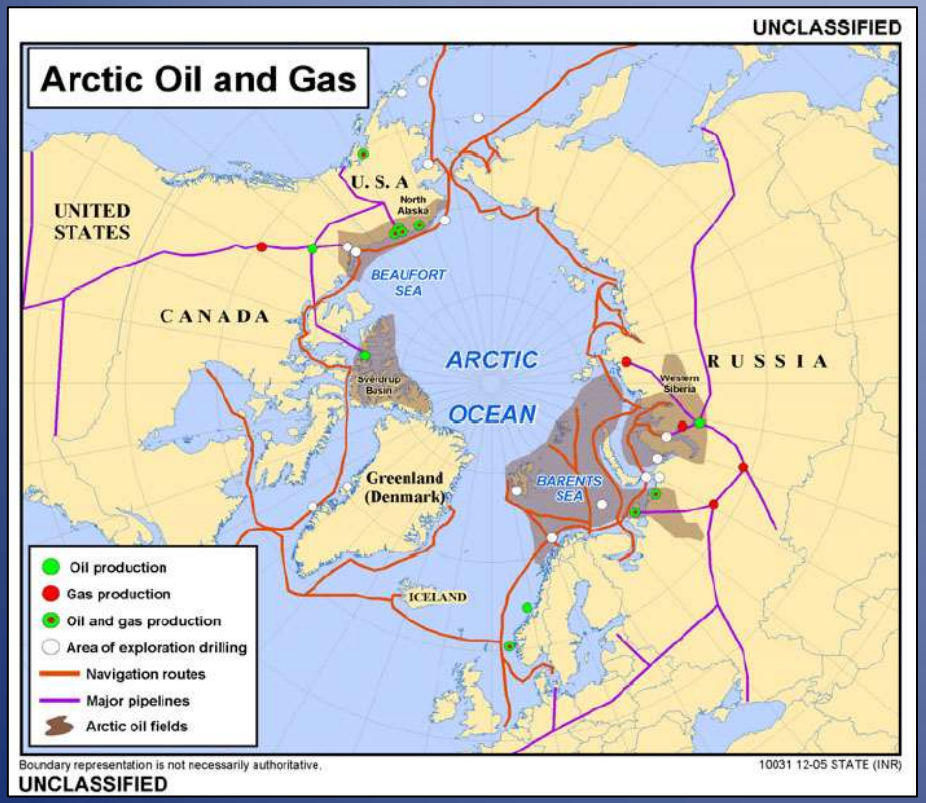
To some, this is the Arctic…a Wilderness

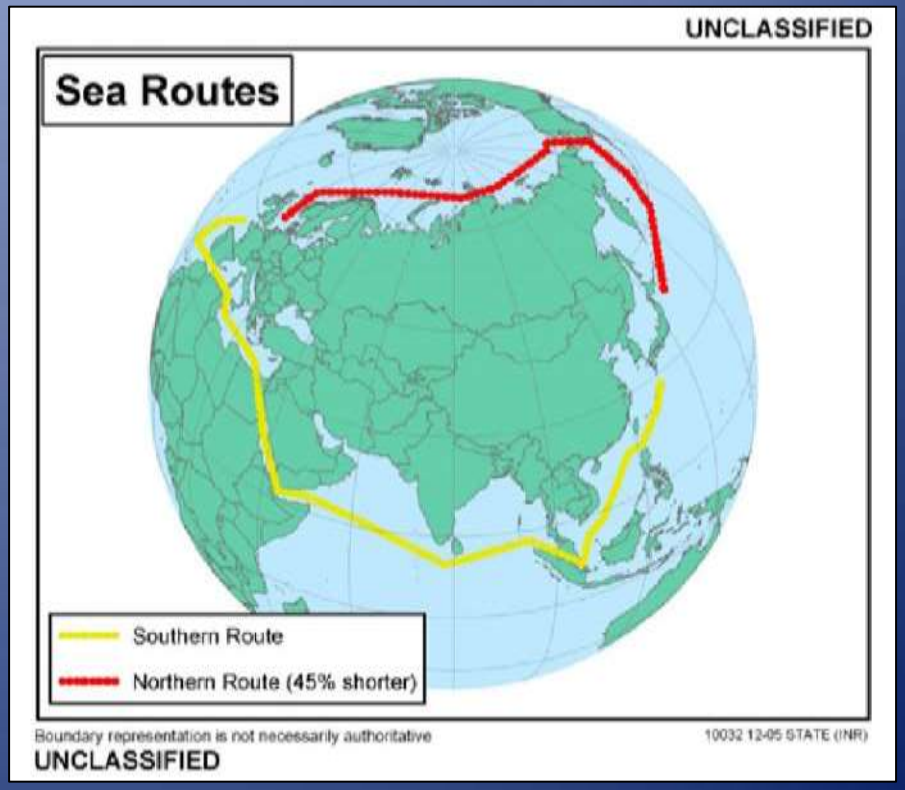
Others see this… a Laboratory





Still others see this… a Frontier



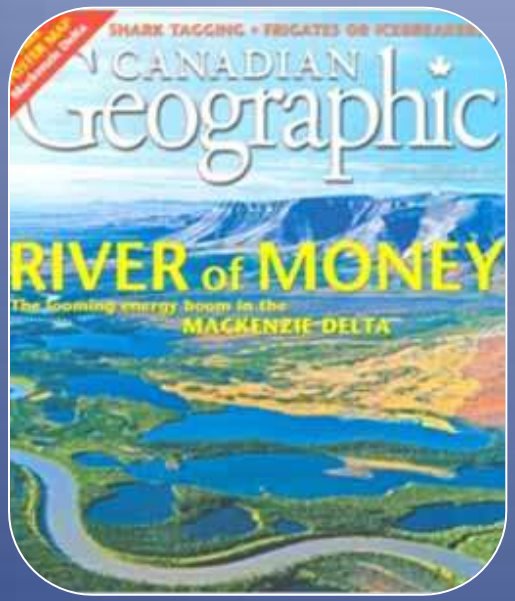


Often forgotten, for many the Arctic is a Homeland

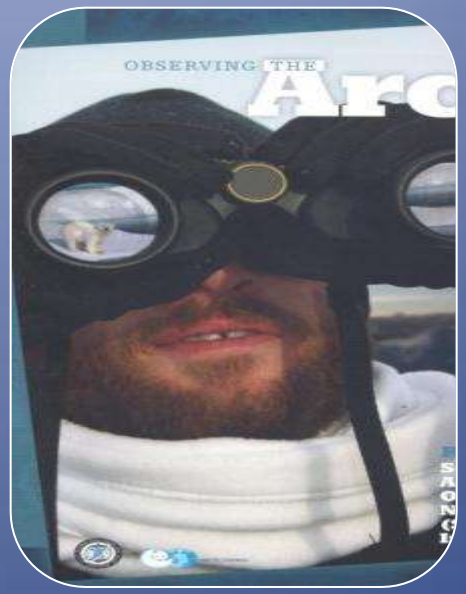
Competing Interests in Relation to the Arctic

Homeland

Frontier



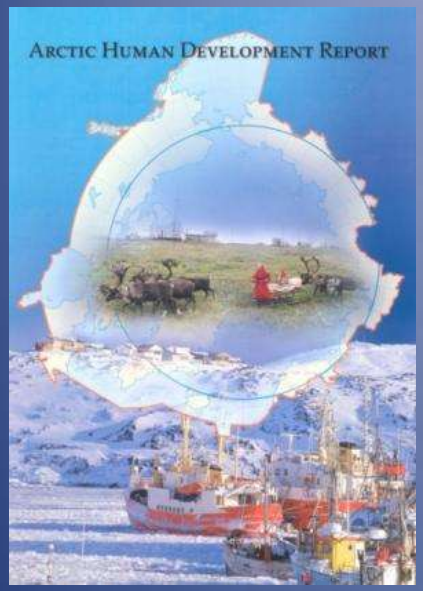
Laboratory

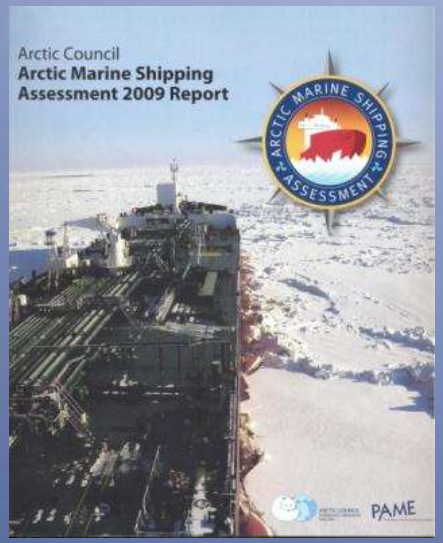


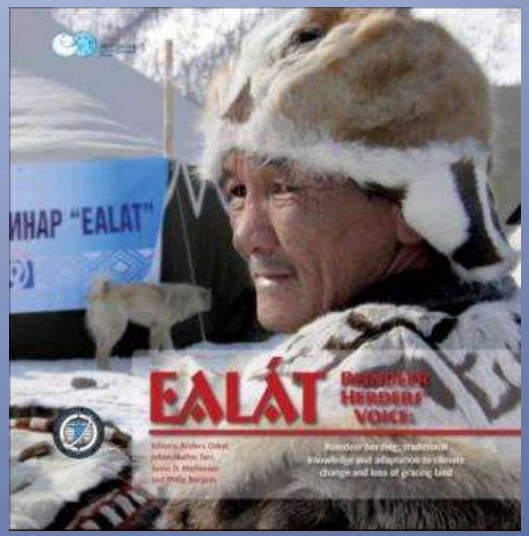
Wilderness

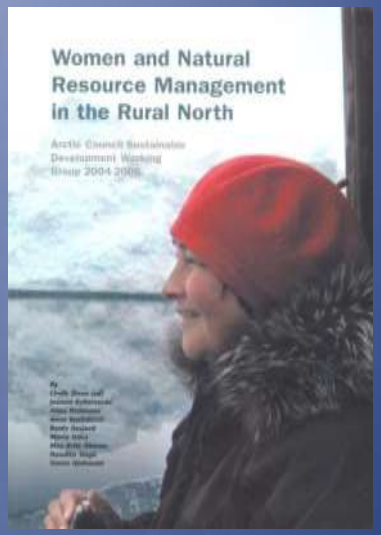
While this way of characterizing Arctic affairs is an over-simplification, juxtaposing homeland, laboratory, frontier and wilderness helps clarify some of the values and goals of various stakeholders.

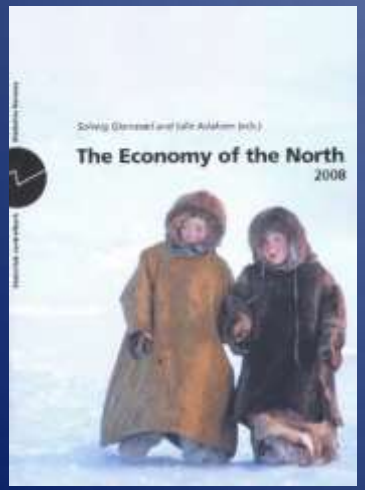
An Ongoing Challenge: Balancing Competing Interests

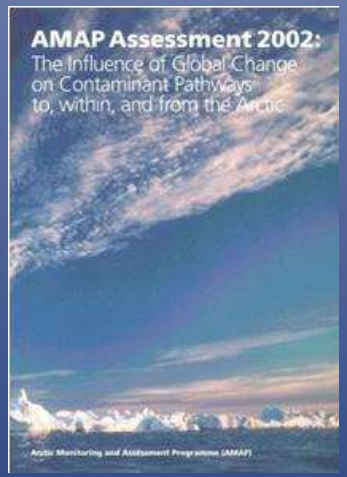


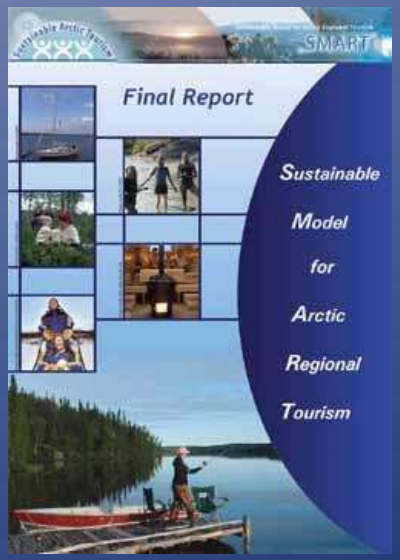


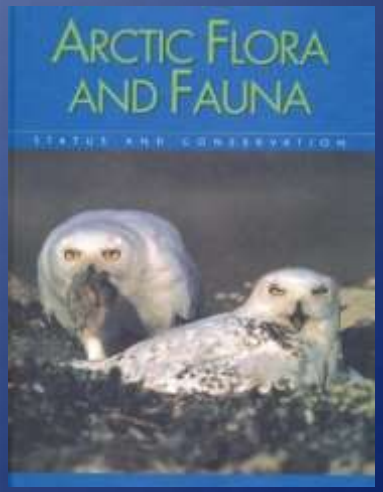










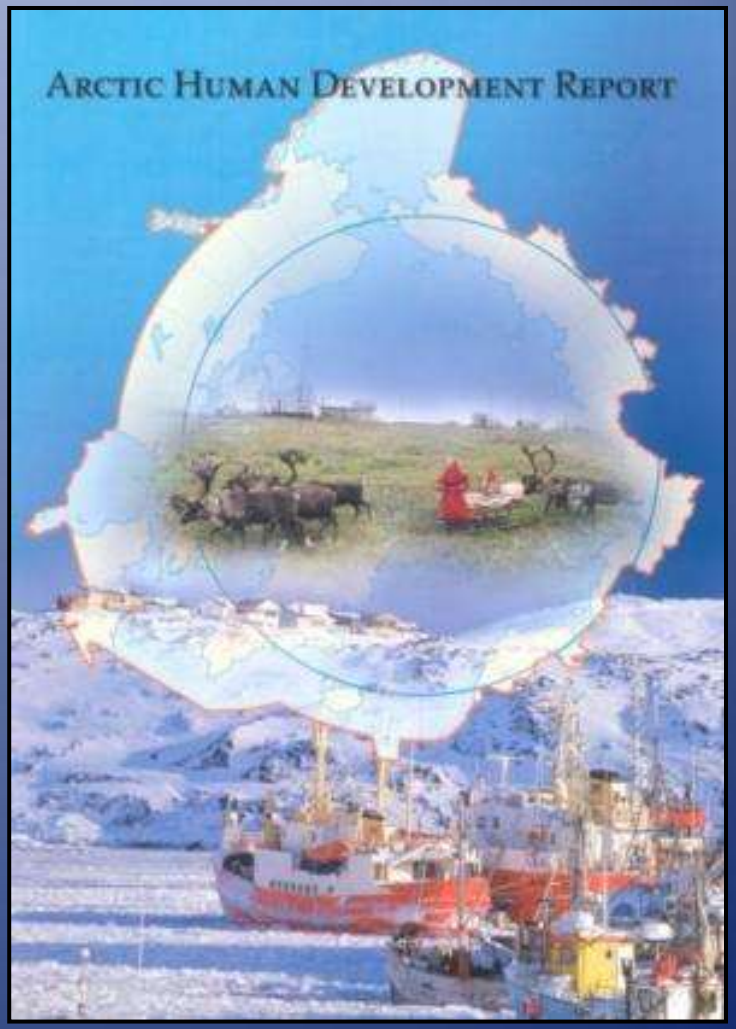


The Evolving Arctic Story Lines: The Meta Narratives (A view from the Outside Looking In)

- Climate change is causing Arctic ice to melt.
- Consequently, new inter-ocean shipping channels will open.
- Arctic natural resources are becoming more accessible.
- Nations have conflicting claims to the sea beds.
- The EU & China, and others, are asserting interests in the Arctic.
- The Arctic has become a potential hot spot for future conflicts.
- Polar bears are disappearing.
- Scientists need more time and money to study what is happening.
- Traditional ways of life for northern peoples are disappearing as fast as the ice.

What's Missing From this Storyline?
A view from the Inside Looking Out

- The perspectives of the peoples of the Arctic regarding their governance and legal systems are all but missing from the meta- narratives



International Law & Governance:

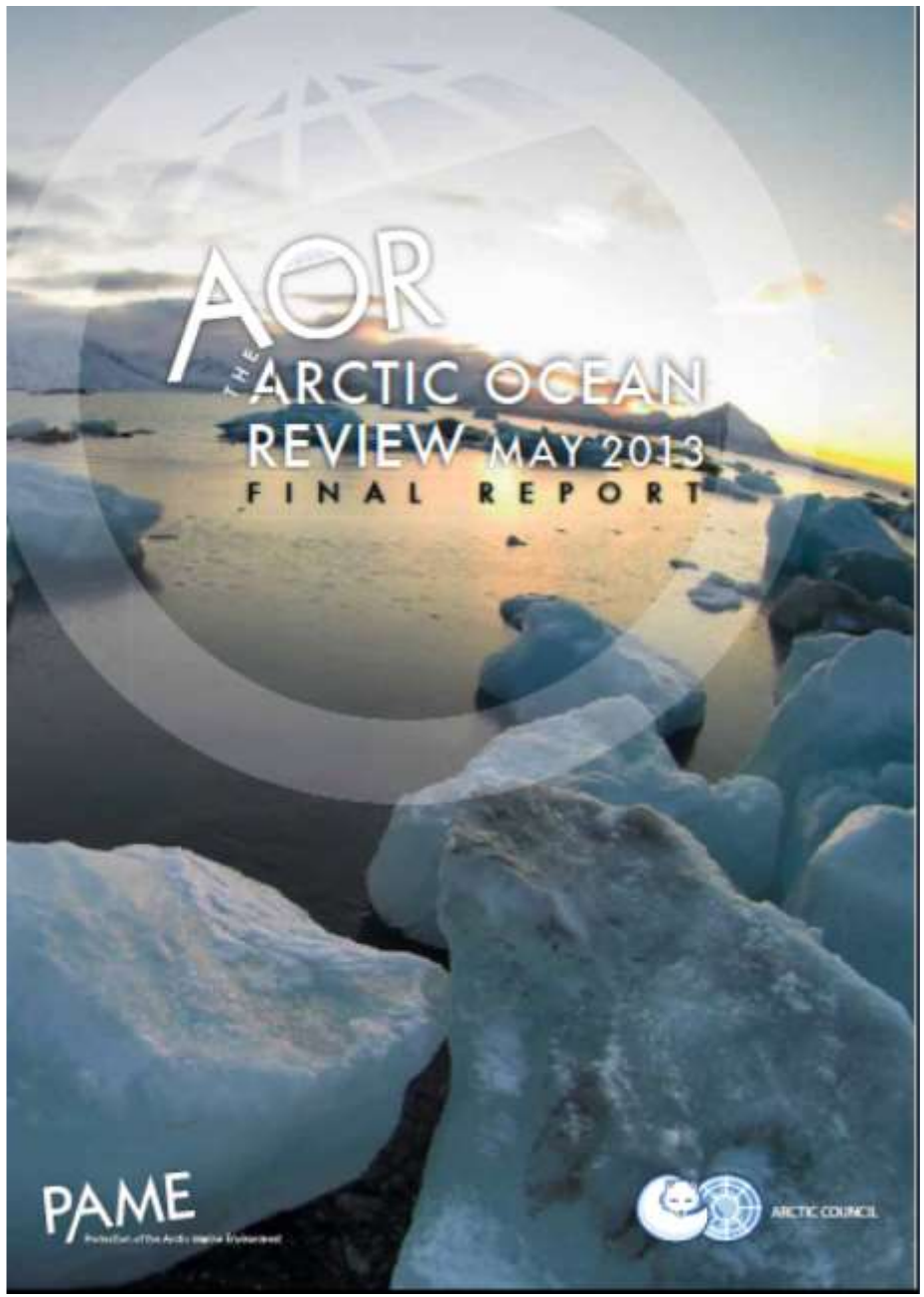
- Is there an Arctic vacuum?
- Can existing systems manage?
- Recent and current issues
- Many drivers of Arctic change are exogenous

Indigenous Traditional Governance

"Before government came… it was like a calm day all the time."

Is there a Legal/ Governance Vacuum in the Circumpolar North? A few examples of *Arctic-relevant* International Instruments:

- *United Nations Convention on the Law of the Sea (UNCLOS) (1982)*
- *UN Framework Convention on Climate Change* (UNFCCC)
- *Vienna Convention for the Protection of the Ozone Layer* (1985)
- *Montreal Protocol on Substances that Deplete the Ozone Layer* (1987)
- Stockholm Convention on Persistant Organic Pollutants (2004)
- Convention on Long-range Trans-boundary Pollutants (1979)
- *International Maritime Organization* (1958) and related conventions and protocols
- *Ramsar Convention on Wetlands* (1971)
- Convention for the Protection of the Marine Environment of the North-East Atlantic (1998)
- *UN Convention on Biological Diversity* (1992)
- *UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage* (1972)
- *Convention on Migratory Species* (1979)
- *Agreement on the Conservation of African-Eurasian Migratory Water Birds* (1999)
- *Convention on International Trade in Endangered Species* (1973)
- *Global Programme of Action for the Protection of the Marine Environment from Land-based Activities* (1995)
- Regional seas MEAs and regional fisheries conventions and protocols
- Chemicals and hazardous wastes conventions, primarily of a global nature



Arctic Ocean Review Final Report, May 2013: a review of international instruments relevant to management of the Arctic marine environment prepared under the auspices of the PAME working group of the Arctic Council

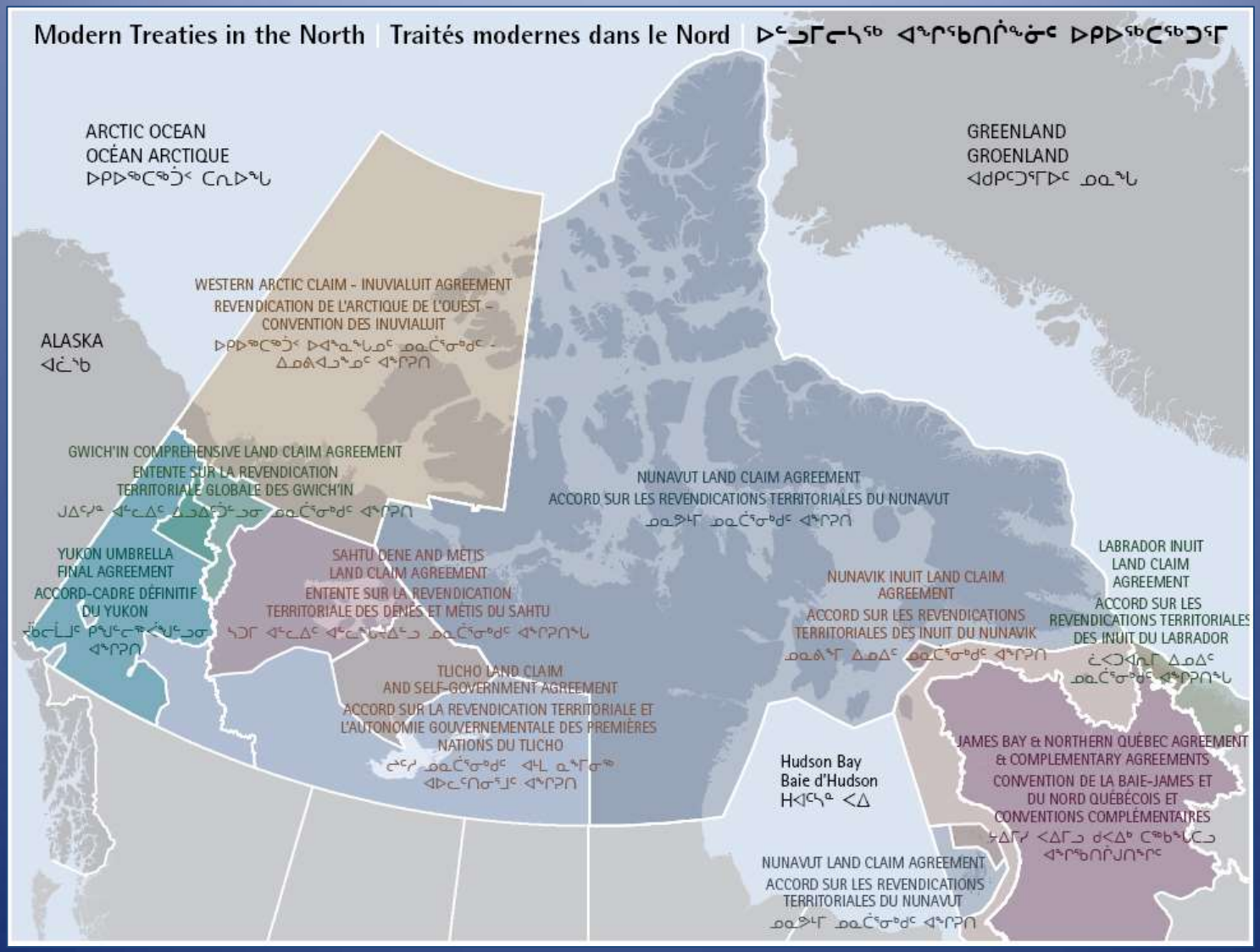
See also: WWF International Governance and Regulation of the Marine Arctic Overview and Gap Analysis (2009)

Are existing systems of governance incapable of managing the emerging issues? A Canadian Example:

Governance Level*	Example of Governance Bodies
International	UNCLOS and IMO, etc.
Regional	Arctic Council et al
National	Government of Canada et al
Territorial/Provincial	Yukon, NWT, Nunavut, etc
Indigenous Peoples	IRC, NTI, Yukon FN, T'licho, Gwich'in, etc.
Local Community	e.g. Whitehorse, Yellowknife, Iqaluit
(*ordered by geographical scope, not jurisdictional paramountcy)	

Arctic Governance Layer Cake: Messy and Complex

Canadian Aboriginal Land Claims & Self-Government Treaties



http://www.northernstrategy.gc.ca/cns/images/img5_large.jpg

Recent and Current Issues

- Climate change
- Limits of the continental shelf in the Arctic
- Status of passages like the NSR and NWP
- Oil and gas regulation
- Fisheries management
- Vessel-based tourism
- Search and Rescue
- Black Carbon
- Trans-boundary Pollution

Many Key Arctic Change Drivers are Global/External to the Arctic

- Climate Change
- Transboundary Pollutants
- Pressure for new shipping routes
- Tourism demand
- Commercial-scale Fishing
- Demand for Non-renewable Natural Resources

Responding to Arctic challenges often requires action outside the Arctic.

Key External Drivers of Change: Climate Change & Globalization

- A common misperception is that Arctic problems are linked to industrial and resource developments *inside* the Arctic…

- However, fundamental ecosystem change is already occurring in the Arctic in advance of any significant development in the region.

The Anthropocene's Offspring:

- A Problem Statement
- Inter-connectedness
- The Growth Paradigm
- Implications for Int'l Law & Governance

A Problem Statement: Population

"...the exhalations of breath and other gaseous emissions by the nearly seven billion people on Earth, their pets and livestock are responsible for 23% of all greenhouse gas emissions....Add on the fossil fuel burnt in the total activity of growing, gathering, selling and serving food..., this adds up to about half of all carbon dioxide emissions....Like it or not, we are the problem....it is not simply too much carbon dioxide in the air or the loss of biodiversity as forests are cleared; the root cause is too many people."

[James Lovelock, *The Sunday Times*, 08 Feb 2009]

Arctic change will have impacts beyond the Arctic.

- Atmospheric, oceanic impacts
- Potentially catastrophic methane release
- Sea Level Rise
- Demands for resources, including fresh water
- Potential migration to the North as climate change alters conditions elsewhere

The Growth Paradigm

Growth remains the main focus of almost every economy in the world:

- Three pressures
  - more people
  - more consumption per capita
  - catch-up among the poor

- World population = 7 billion
  By 2100 = 10.1 billion

- No country has ever assessed a current level of consumption and decided it is enough

"Something's wrong here, Harriet ... This is starting to look less and less like The Road to Total Freedom!"

How well is the planet tolerating the economy at its current size? EXAMPLE: Status of Fisheries

Status	%	Comment
Underexploited	3	Able to produce more than current catches.
Moderately exploited	12	
Fully exploited	53	Current catches at or close to maximum sustainable production with no room for further expansion.
Over exploited	28	Yielding less than their maximum potential production owing to excess fishing pressure, with a need for rebuilding plans.
Depleted	3	
Recovering from depletion	1	

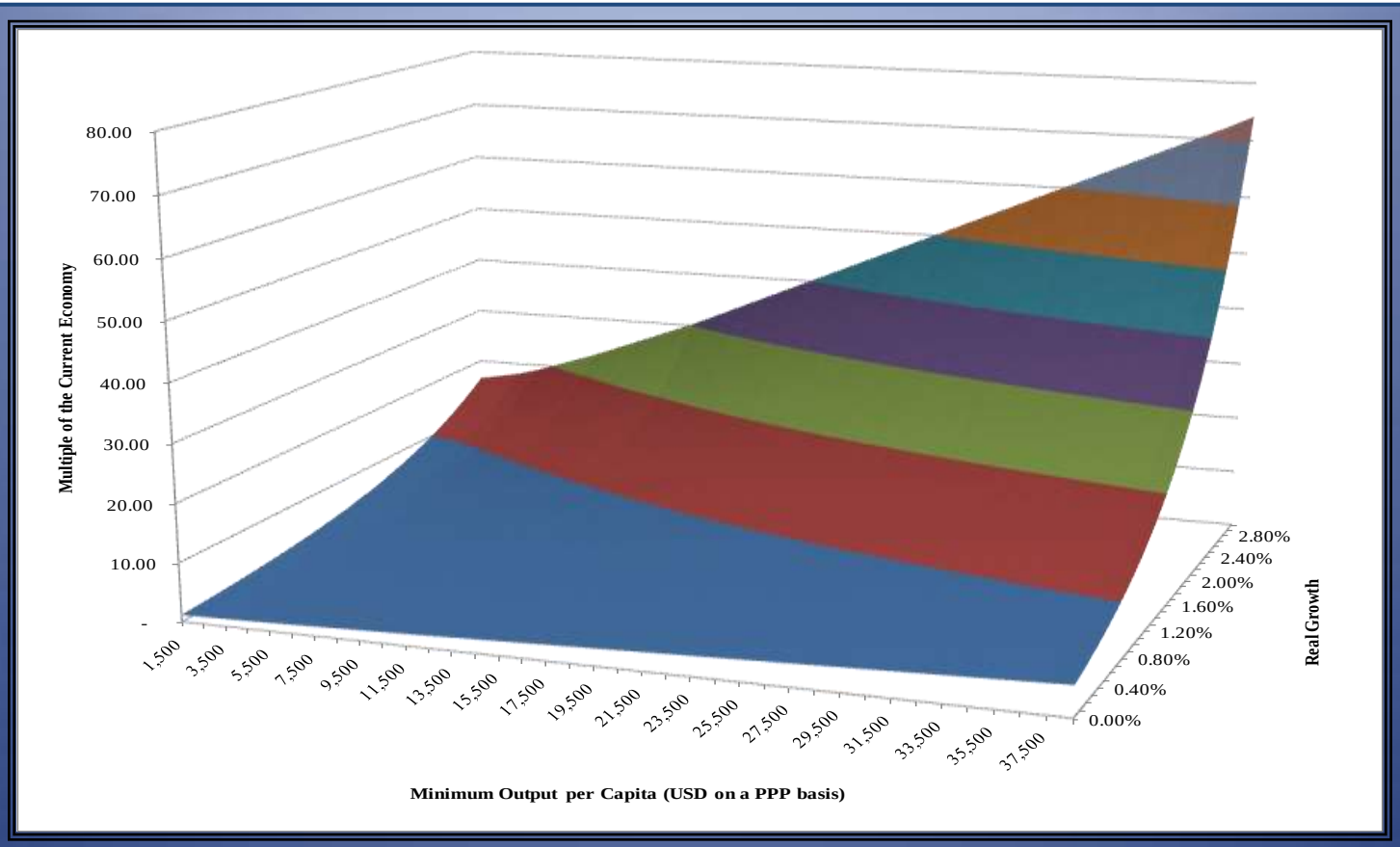
The State of Fisheries and Aquaculture (2010) issued by the Fisheries and Aquaculture Department of the United Nations' Food and Agriculture Organization

Competition for scarce resources:

When all the low-hanging fruit is gone

Inconvenience stores

Limits to Growth: The Growth-Equity Frontier



There appears to be a barrier spanning various growth and catch-up levels that, if surpassed, will place unsustainable pressure on Earth's natural systems.

McIntyre, Murray, Funston. "If not growth, then what?" in Int. J. Business Governance and Ethics, Vol. 7, No. 2, 2012

Implications for International Law and Governance

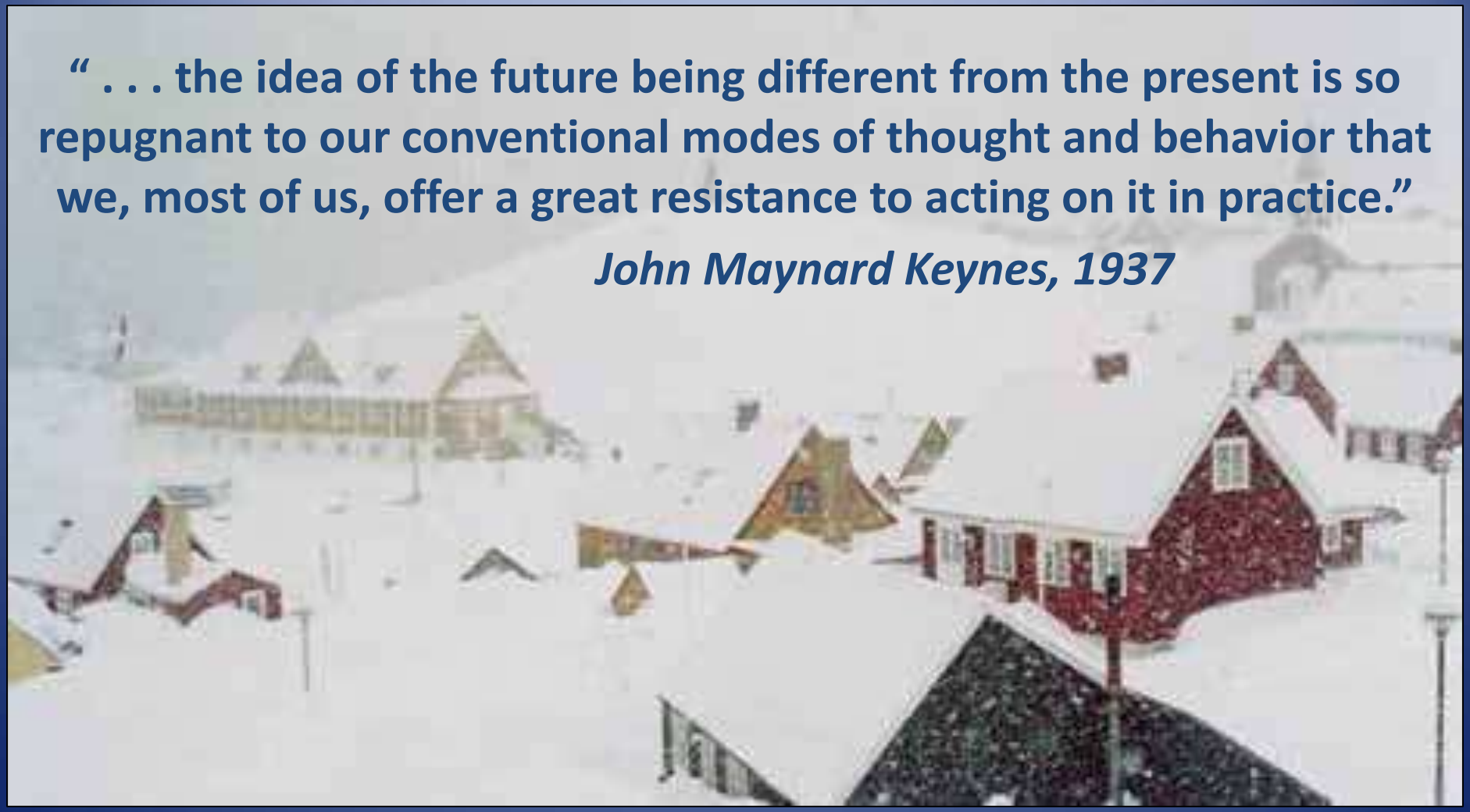
- What happens to the size of the global economy over the long term if it attempts to serve the three masters identified above: population growth, increases in standards of living for everyone, and catch-up for the poor? (72 X Current GDP by 2100 ?)

- Conversely, what happens politically and socially if the economy can never be made large enough to serve all three masters, and humanity approaches the growth-equity frontier?

Challenge for Political Systems

- Difficulties undertaking and executing the long-term strategic thinking required to address issues like climate change and the limits to growth.

- Tipping points and Urgency factors



" . . . the idea of the future being different from the present is so repugnant to our conventional modes of thought and behavior that we, most of us, offer a great resistance to acting on it in practice."

John Maynard Keynes, 1937

Arctic Resources:

- A New Global Superstore?
- Myths of the Frontier
- Science and Politics
- New Approaches

Is the Arctic a new global superstore?

Myths of the Frontier Identified by World Economic Forum

- Myth No. 1: The Arctic is an uninhabited, unclaimed frontier with no regulation or governance.
- Myth No. 2: The region's wealth of natural resources is readily available for development.
- Myth No. 3: The Arctic will become immediately accessible as sea ice continues to disappear.
- Myth No. 4: The Arctic is tense with geopolitical disputes and is the next flashpoint for conflict.
- Myth No. 5: Climate changes in the Arctic are solely of local and regional importance.

The Real Challenge:
Law and Governance in Populous Middle Latitudes

The Arctic today is a tightly-coupled component of highly dynamic **global** biophysical, geopolitical and socio-economic systems.

Paradoxically, the Arctic story today is not about the Arctic at all. . . It's about the populous regions of the planet.

An Urgent Need to Engage the Middle Latitudes (China, EU, South Korea, Japan, India, Brazil, etc.)

Science and Politics

Science:

A disciplined method of inquiry that builds understanding of the world around us

Politics:

A process for shaping human agendas, making choices between competing interests and allocating scarce resources

New Approaches

- Green growth: Concept of a new circular economy to replace linear growth
- Culture and education as key factors in building sustainable societies
- The next Kennedy?

Summary

1. The Arctic is multi-faceted and difficult to define.
2. Our perceptions & perspectives condition our approaches to the Arctic.
3. Arctic issues (local, national, regional, global) are inter-connected and multi-layered.
4. Responding to Arctic challenges increasingly requires action outside the Arctic.
5. Arctic change will have impacts beyond the Arctic.
6. Science is important but new forms of political economy are the critical.

Thanks for your attention!

"Mr. Osborne, may I be excused? My brain is full."