



# Time, Distance, and Resources in the Arctic

## Online Arctic Symposium

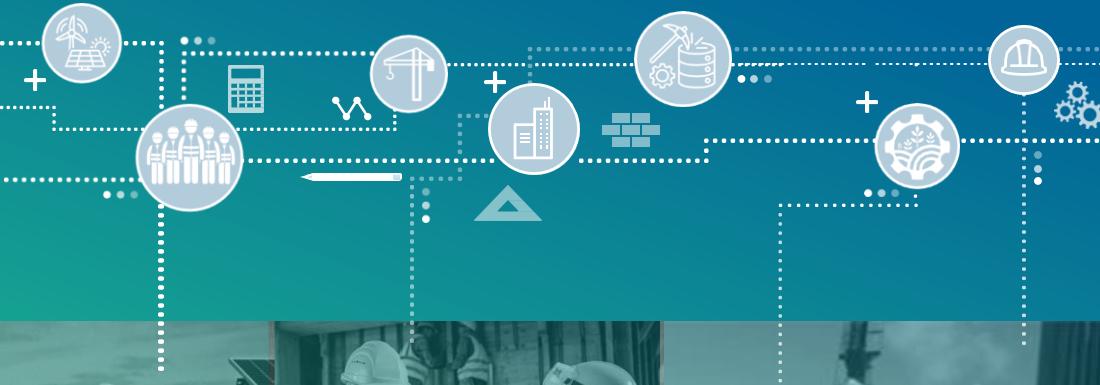
Hosted by Consular Office of Japan in Anchorage

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Randy Ruaro, Executive Director



# About AIDEA



## Mission

Our mission is to promote, develop, and advance the creation of jobs and economic growth in Alaska by providing various means of financing and investment. (AS 44.88.010)

## What does AIDEA do?

- Partners in projects with private sector developers (P3), or municipalities, Tribes, boroughs, state agencies, or federal organizations.
- Finances projects that have an economic impact and provide jobs for Alaskans and can also act as a conduit to facilitate marketing platform, projects, financing etc.

# Importance of Arctic

***"Whoever holds Alaska  
will hold the world."***

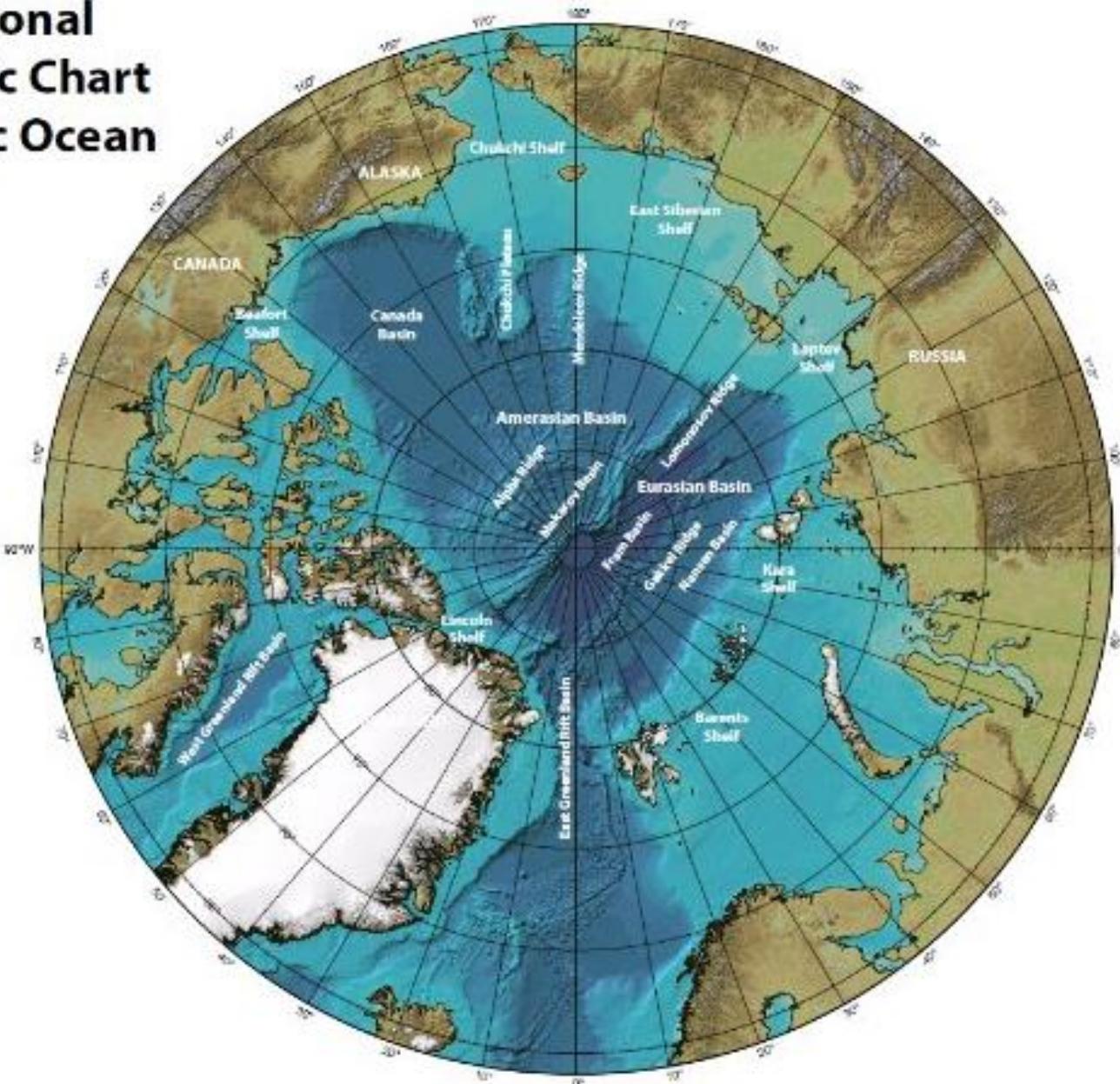
- Brigadier General Billy Mitchell

**Billy Mitchell understood that Alaska was not a remote edge of the map, but a central crossroads between continents, where distance collapses and geography dictates power.**



Brigadier Gen. Billy Mitchell

# International Bathymetric Chart of the Arctic Ocean

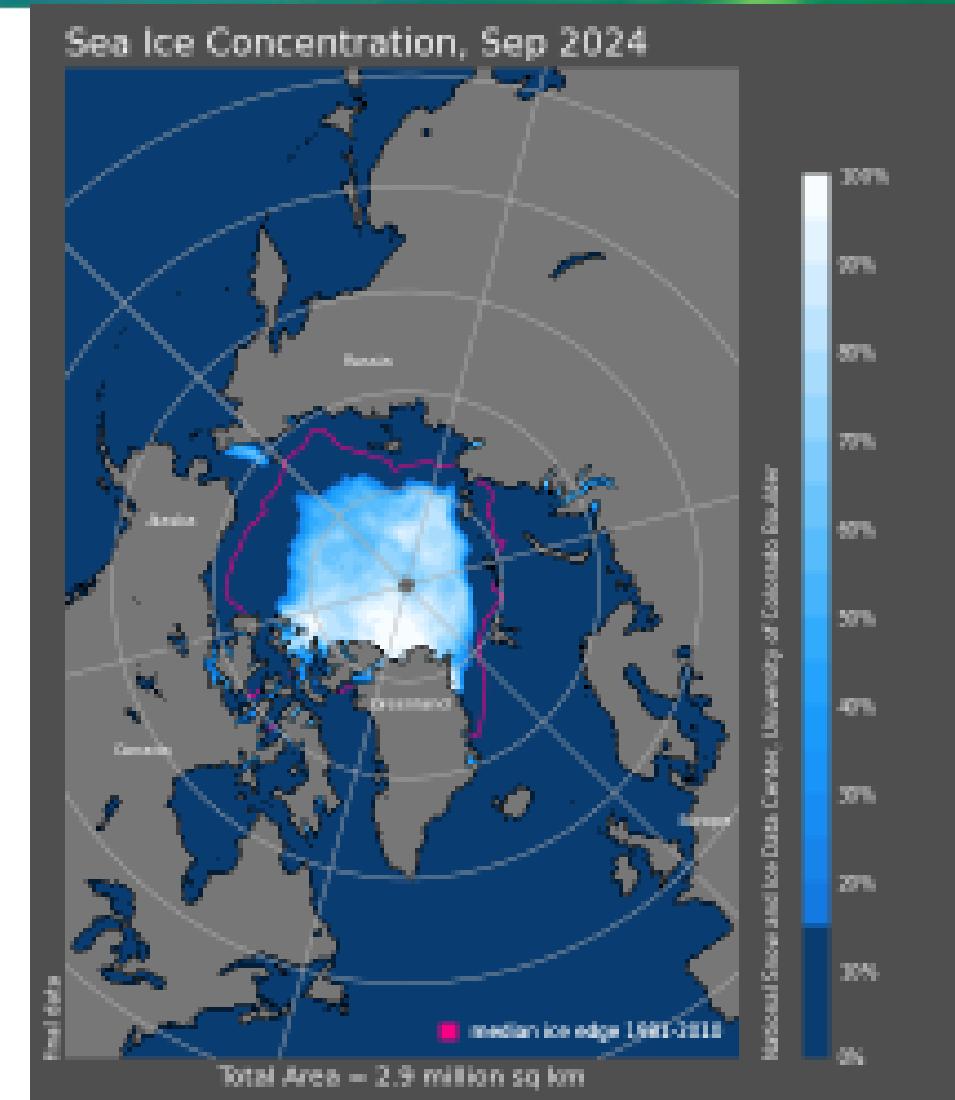


# Sea Ice Concentration



**While time and distance collapses between countries and continents they must deal with ice.**

## But conditions are changing.



# HMS Terror - 1845

**Before – ice was  
a significant  
barrier and  
hazard.**



# Conventional Resources of the Arctic



## Resource basins in the Arctic Circle region

Source: U.S. Geological Survey.



# Arctic Oil and Natural Gas Resources



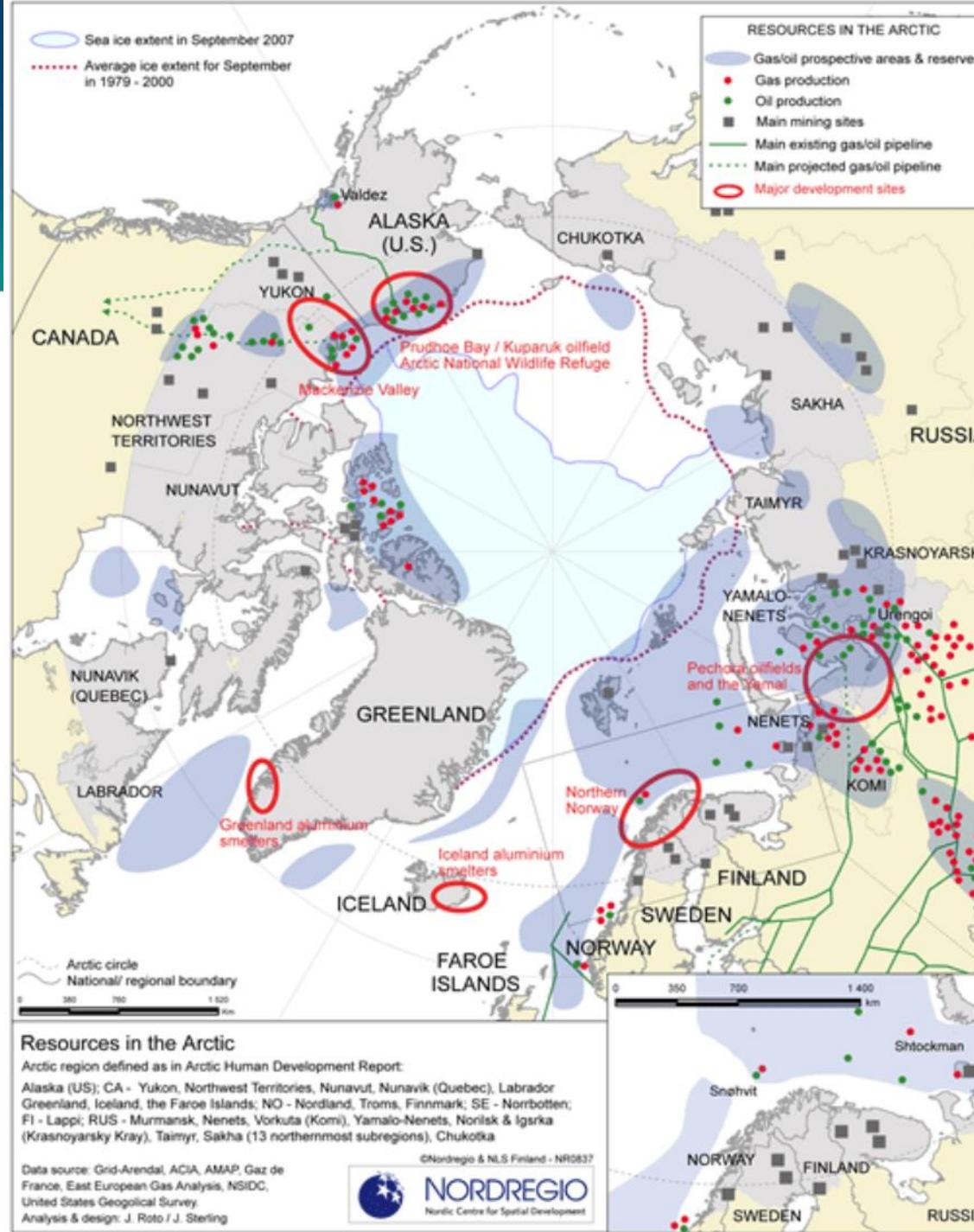
**The Arctic holds an estimated 13% (90 billion barrels) of the world's undiscovered conventional oil resources and 30% of its undiscovered conventional natural gas resources, according to an assessment conducted by the U.S Geological Survey (USGS).**

# Arctic Oil and Natural Gas Resources



- **The North Slope of Alaska is also one of the largest natural gas resources in the world.**
- **The North Slope contains approximately 35 trillion cubic feet of proven natural gas reserves, and a potential resource of another 200 trillion cubic feet of natural gas. Advancements in drilling technology will allow tapping of an additional 590 trillion cubic feet of shale, tight gas, and gas hydrates. These resources make the project viable for the long term. (Total 825 tcf)**

# Resources in the Arctic



# Unconventional Resources of the Arctic

## Methane Hydrates

**Crystalline solid formed of water and methane**

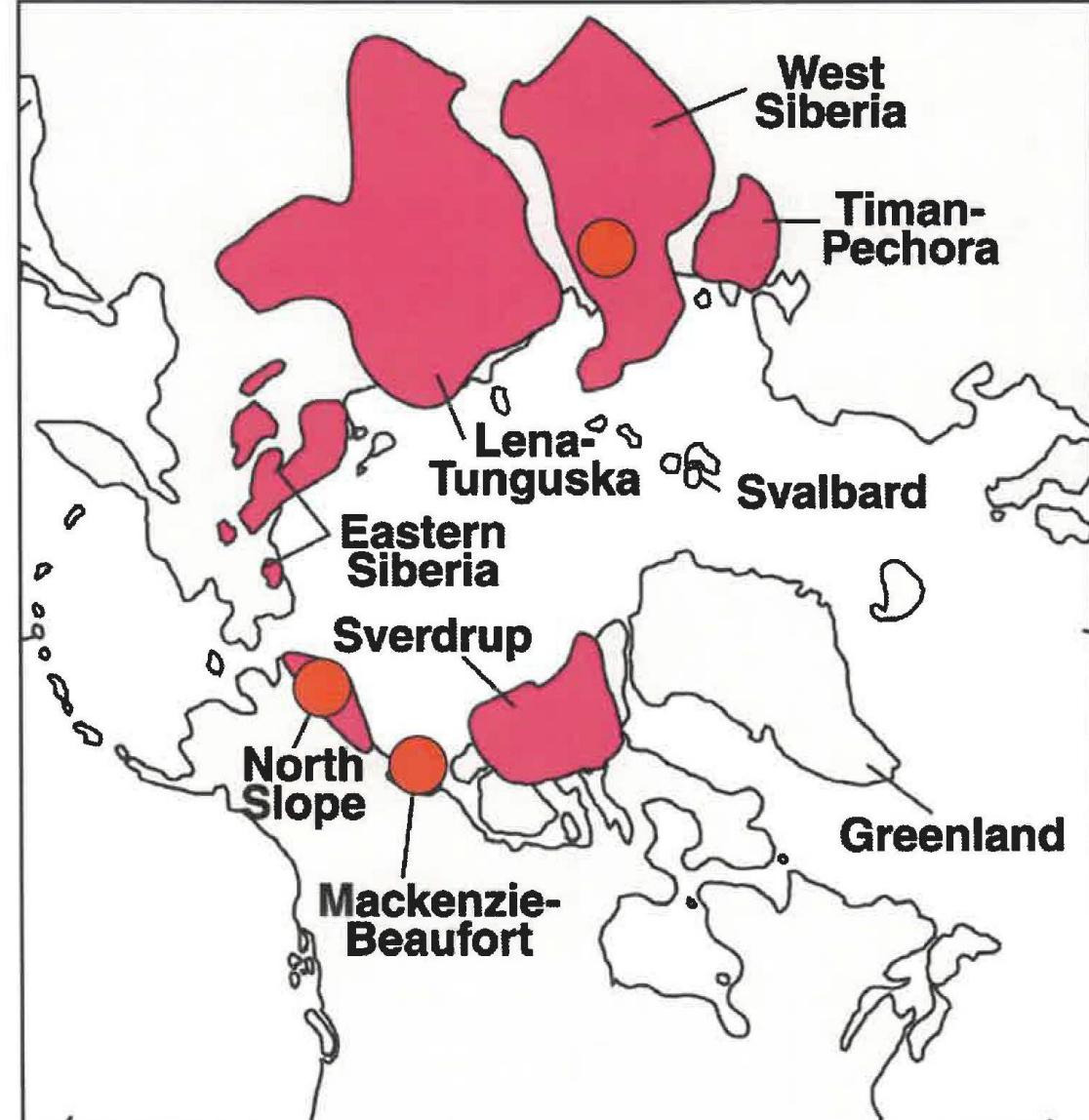
**Methane hydrates: The world's largest natural gas resource**

Methane hydrates are a crystalline solid formed of water and methane, where methane molecules are trapped within a lattice of ice. These hydrates are found in ocean sediments and permafrost regions, playing a critical role in the global carbon cycle by acting as a significant reservoir of methane, a potent greenhouse gas. When stable, they can store vast amounts of carbon; however, if conditions change - like rising ocean temperatures - they can destabilize and release methane into the atmosphere, contributing significantly to climate change due to methane's potency as a greenhouse gas. Methane hydrates are estimated to hold more carbon than all other fossil fuels combined, making them a significant component of the global carbon cycle.



# Arctic Basins – Methane gas hydrates

**Arctic Basins - Area of  
known or inferred  
gas hydrates**



# Naturally Occurring Hydrogen

- Also known as white hydrogen, geologic hydrogen, geogenic hydrogen, or gold hydrogen, natural hydrogen is molecular hydrogen present on Earth that is formed by natural processes as opposed to hydrogen produced in a laboratory or in industry.
- Modelling suggests that enough natural hydrogen exists to meet humanity's demand for hydrogen for thousands of years, however most of this cannot be extracted economically.
- Natural hydrogen has been identified in many source rocks in areas beyond the sedimentary basins where oil companies typically operate.
- As of 2023, only one well of natural hydrogen has been exploited, producing enough gas to generate electricity for a village in Mali.

# Questions?



Together we're enabling long-term jobs  
and economic opportunities for Alaskans.



[www.aidea.org](http://www.aidea.org)

813 W Northern Lights Blvd Anchorage, Alaska 99503  
(907) 771-3000 Phone | (907) 771-3044 Fax

Join us on social media at <https://bit.ly/AIDEAK>

