



Ted Stevens Center for Arctic Security Studies

Briefing for Online Arctic Forum
As of January 12, 2026

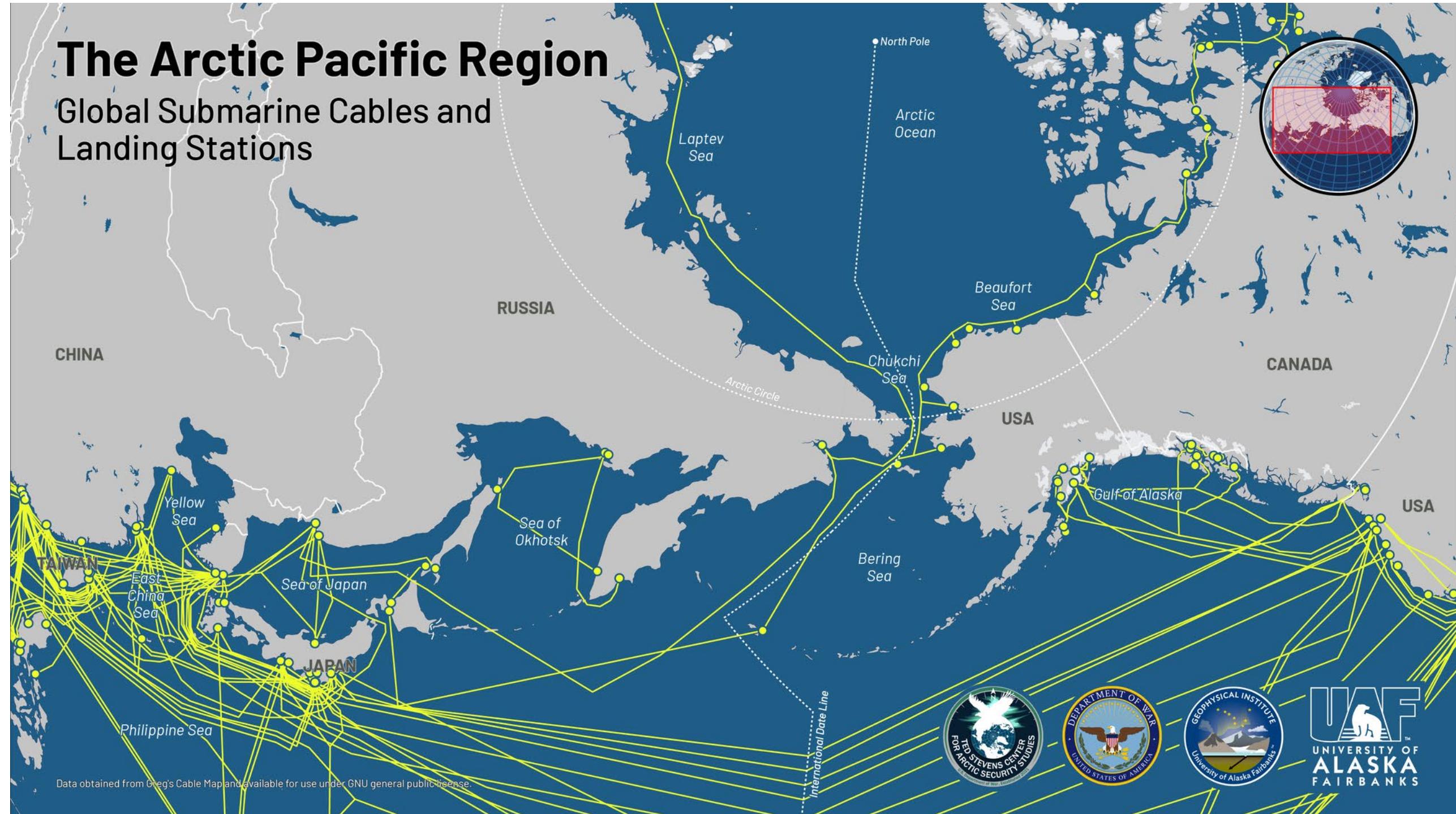
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Cyber and AI Threats to Arctic & Sub-Arctic Infrastructure



Arctic infrastructure—ports, pipelines, undersea cables, power grids, satellites—is sparse, brittle, and highly reliant on technology, making it **disproportionately vulnerable** to cyber and AI-enabled disruption.

BLUF: A single cyber incident in the Arctic can have **outsized downstream effects** across global energy markets, shipping lanes, and communications.



Map developed by the University of Alaska Fairbanks in collaboration with the Ted Stevens Center

Fisheries Security and CCP“Fish Mining”



Industrial-scale distant-water fishing (DWF) by the CCP increasingly resembles **resource extraction** rather than sustainable harvesting. Often linked to illegal, unreported, and unregulated (IUU) fishing.

BLUF: Fisheries security is food security, economic security, and **national security**—especially for Arctic communities.

Critical Minerals as an Emerging Arctic Commodity



Emerging Trends:

As demand for rare earths and strategic minerals grows, the Arctic is becoming a **new extractive frontier**.

Strategic Concern:

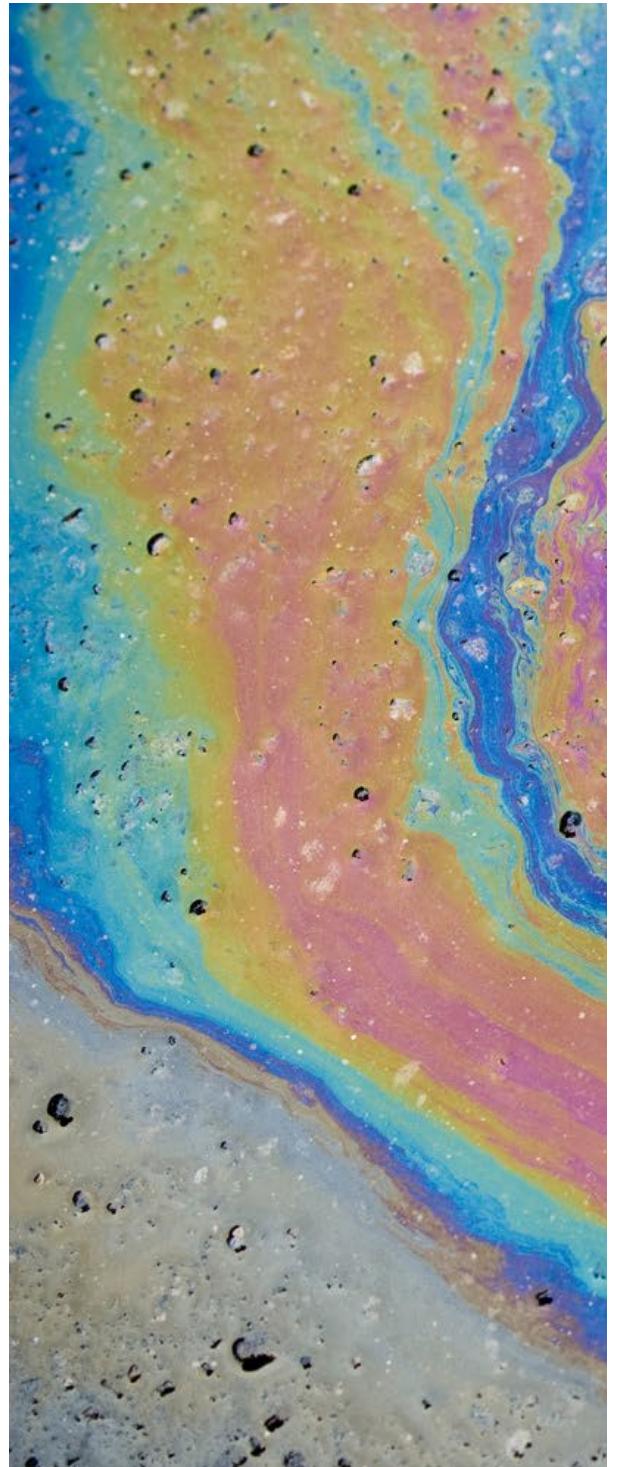
Foreign state-backed **investment seeking control** over supply chains under the guise of commercial development.

The Way Ahead:

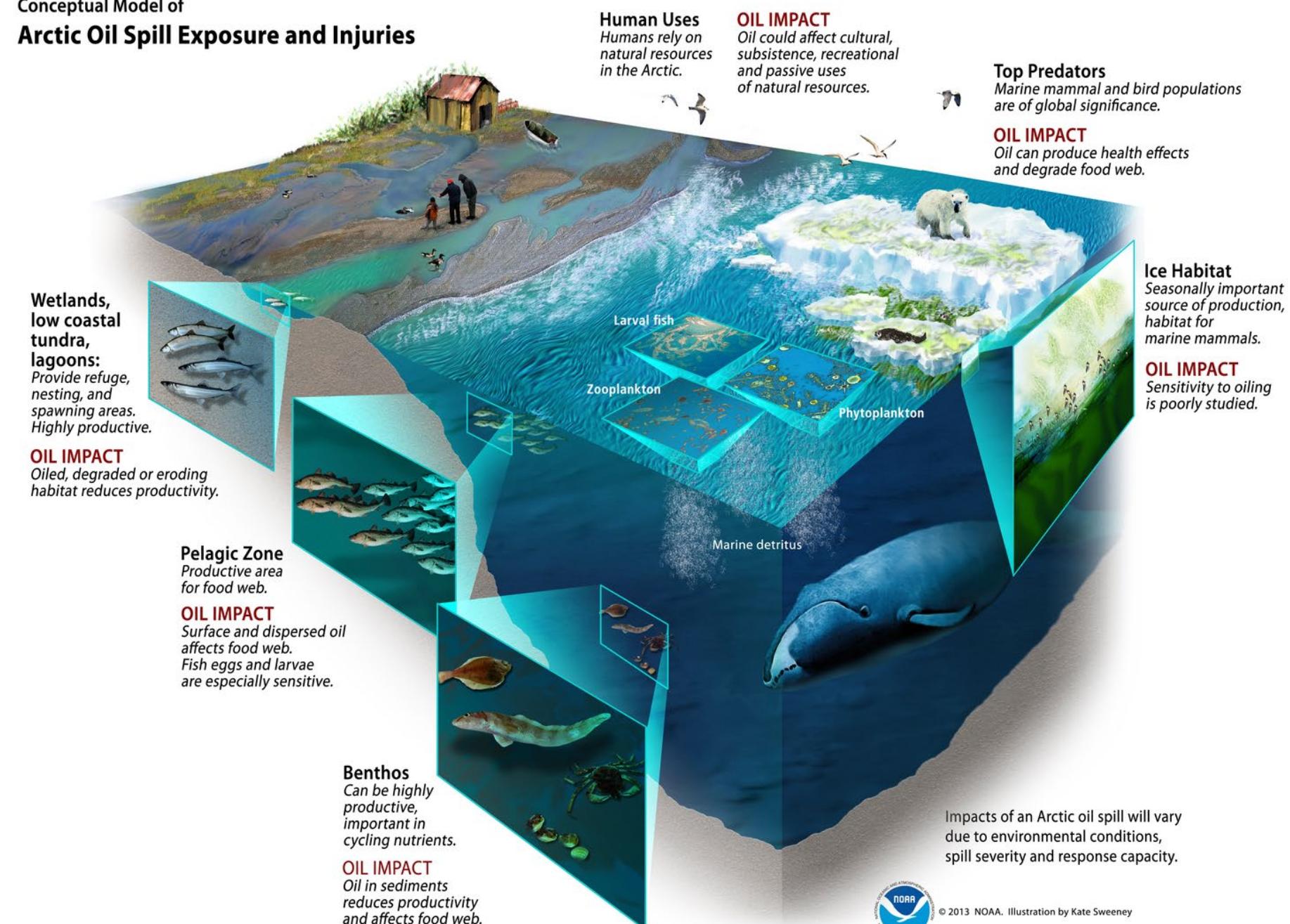
Allies must **coordinate standards** for responsible extraction, transparency, and benefit-sharing.



Petrochemicals : Growing Access, Growing Risk



Conceptual Model of
Arctic Oil Spill Exposure and Injuries

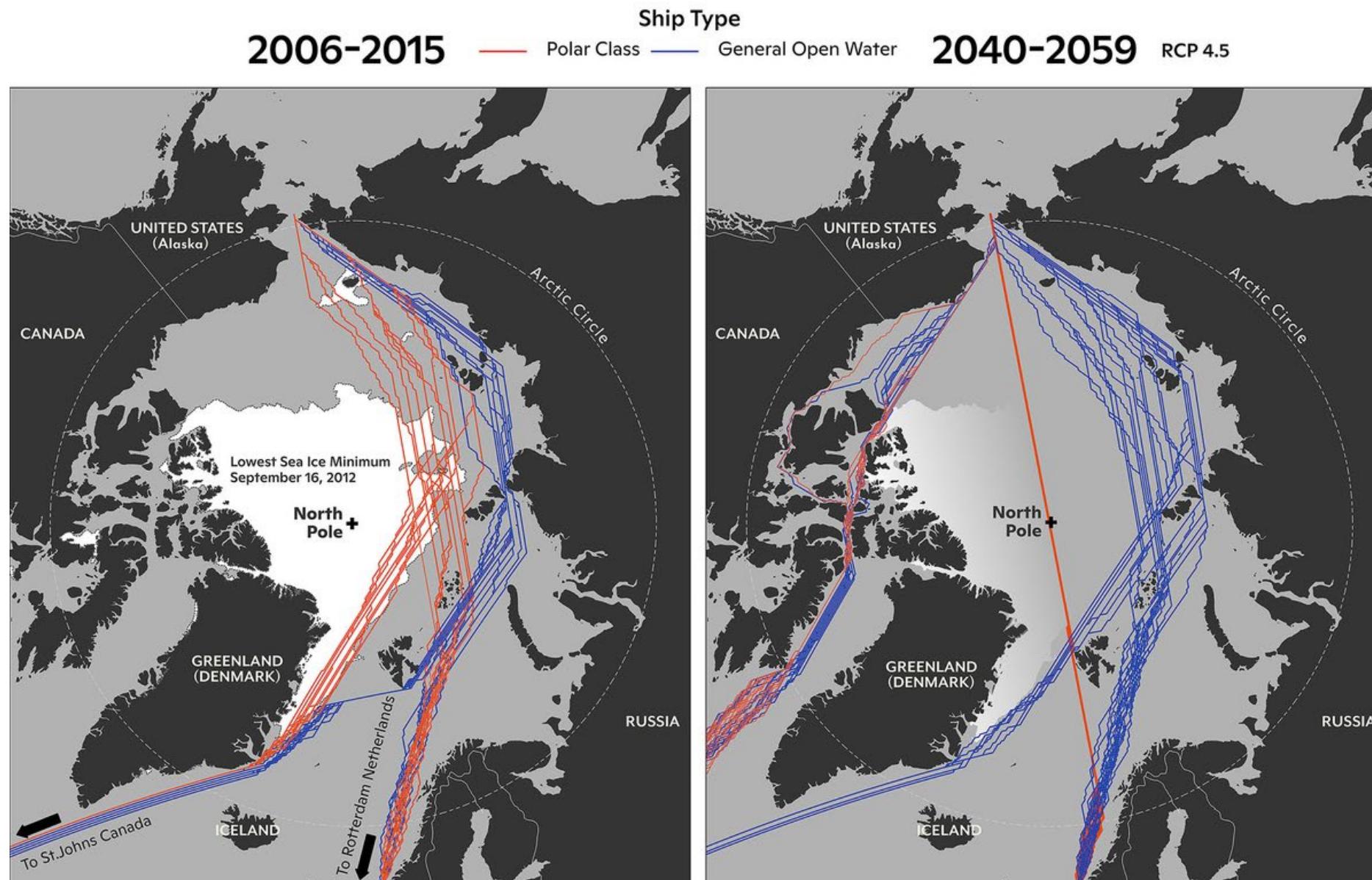


Diminishing ice is
expanding access to Arctic
petrochemical resources.



BLUF: A “bad day” in the Arctic—spill, blowout, or infrastructure failure—has **irreversible environmental and geopolitical consequences** due to limited response capacity.

Emerging Arctic Transportation Routes



Reduced ice is transforming the Arctic into a **strategic transit corridor**.

Increased traffic demands safe harborage, search and rescue capacity, and domain awareness.



Fig. 1. Model of maritime ship-traffic in the Arctic Ocean (Smith and Stephenson 2013), predicting trade routes that will open as sea ice diminishes through mid-21st century with polar-class ships that are ice-strengthened (orange) according to the International Association of Classification Societies (IACS) and other ship types that are designed for open water (blue). Source: NOAA

Rise of Chinese Presence Under the Banner of Science



Scientific research is vital—but not all science is benign.

CCP Arctic activities increasingly show **dual-use characteristics** : mapping seabeds, monitoring acoustics, and testing systems with military relevance.

BLUF: Transparency, data sharing norms, and reciprocal access must be enforced to preserve scientific legitimacy.

Persistence of Russian Threats



RUSSIA'S ARCTIC BUILD-UP

Russia views the Arctic as a military bastion and economic lifeline.

Despite competing priorities, Russia continues to **invest in Arctic militarization**, energy leverage, and coercive signaling.



Source: The Office of Senator Dan Sullivan

Power Generation Shortfalls and Alternatives



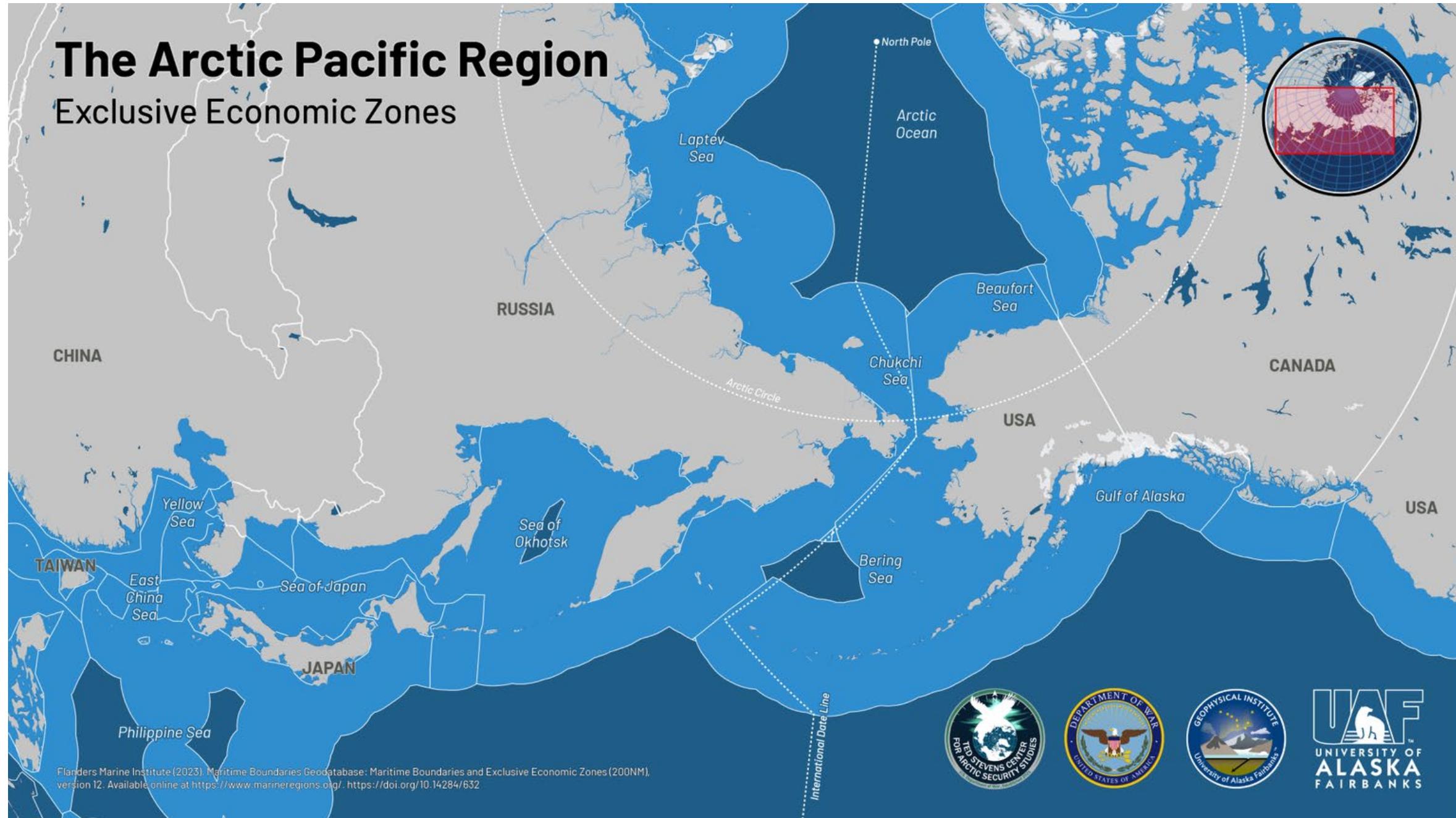
Many Arctic communities face chronic **energy insecurity**.

Dependence on diesel is costly and vulnerable.

Viable alternatives—micro-nuclear, renewables, hybrid grids—require policy coordination, investment, and local buy-in.

BLUF: Energy resilience is **foundational to security and defense**, sovereignty, and quality of life.

Rising Non-Aligned and Illicit Traffic



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Non-aligned shipping and commercial actors are increasing across Arctic routes.

While illicit trafficking remains limited, the trendline is upward, especially for smuggling, sanctions evasion, and gray-zone activities.

BLUF:

Shared maritime domain awareness is essential

Criticality of Allied Unity



Building Warfighting Readiness

- Exercises like Arctic Edge, Cold Response, ICEX simulate real-world contingencies
- Train across services and borders to build muscle memory
- Joint logistics, comms, and maneuver **enhance combat effectiveness**
- Faster decision-making through **common operating pictures**

Communicating Capability and Credibility

- Joint operations and visible unity **raise the cost of aggression**
- Allied cohesion **undermines adversary** attempts to divide and exploit
- Strong partnerships signal **credible deterrence** posture
- Joint presence reinforces security and stability

Matching Capabilities to Threats

- Enables **tailored responses** from HA/DR to high-end conflict
- Modular force packages through **partner integration**
- Builds trust, responsiveness, and command relationships
- Limits space for **gray zone** operations and illegal claims

BLUF:

Defense cooperation in the Arctic is a **force multiplier**.

It enhances deterrence, increases readiness, and ensures decisive advantage

Importance of Arctic Regional Economics



Security without economic viability is unsustainable.

Healthy Arctic economies **reduce vulnerability** to coercion, predatory investment, and destabilization.

Infrastructure, education, and lawful commerce are **strategic enablers**, not secondary concerns.



Learning from Arctic Indigenous Knowledge



Arctic Indigenous communities are not just stakeholders —they are knowledge holders. Effective Arctic policy must integrate Indigenous experience, consent, and leadership from the start.



Supporting the Arctic Warfighter



EDUCATION

DECISION ADVANTAGE
THROUGH KNOWLEDGE

ENGAGEMENT

STRATEGIC ADVANTAGE
THROUGH PARTNERSHIPS

RESEARCH

OPERATIONAL ADVANTAGE
THROUGH ANALYSIS



OFFERINGS

- Over ten unique courses tailored to Arctic security and defense practitioners
- Scenario-based learning and tabletop exercises that prepare leaders for real-world decision-making
- Arctic Military Fellows Program develops the next generation of leaders through an accredited Master's degree
- Executive-level primers deliver essential Arctic security knowledge to senior leaders in a condensed, high-impact format

OPPORTUNITIES

- The annual Anchorage Security and Defense Dialogue strengthens relationships that underpin deterrence and shared security
- Regional Security Dialogues connect practitioners across four distinct Arctic subregions
- Field Workshops facilitate the sharing of best practices across the allied Arctic to improve readiness, resilience, and cohesion
- Digital programs provide the latest Arctic insights on the go

PRODUCTS

- The Defense Readiness and Arctic Risk Program analyzes emerging threats and capabilities across all domains
- Additional research programs support DoW decision-makers with timely, mission-relevant analysis
- The Journal of Arctic Security (JAS) advances analysis among experts, scholars, and practitioners
- TSC serves as the US Principal and Multinational Chair for the International Cooperation Program for Polar ResearchSituational Awareness Working Group (SAWG)



Security Cooperation in and across the Arctic

Advancing Defense and Security Through
Regional and Global Partnerships

DoW Regional Centers for Security Studies (RCs) are international venues for bilateral and multilateral research and education involving U.S. and allied military and defense practitioners, utilizing their unique academic forums to build **strong, sustainable, and strategic international networks of defense and security leaders.**

Having capable allies and partners who contribute meaningfully to shared security objectives will support deterrence and is foundational to keeping America safe.

WHO
Allies and Partners
Department of Defense
U.S. Government
Interagency
Industry
Non-Governmental Organizations
Academia

WHAT
Education
Courses
Workshops
Field Programs
Research
Digital Programming
Fellowships
Alumni Dialogues

WHY
Encourage and enable partner nations to apply capabilities and capacity, provide access, and to support US security and defense interests.

DSCA: Executive Agent



OUSWP:
Strategic level
guidance



USNORTHCOM
Develop programs
in support of
campaign
objectives



Strong, sustainable
international network
of defense and
security leaders

VALUE

Prepare defense and security practitioners, propose useful & risk informed solutions, provide enabling associated networks – to advance capable support to U.S. and Allied Arctic defense measures. These efforts support Homeland Defense, plus deter and dissuade adversaries that threaten peace and security across the Allied Arctic.

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Questions?

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