U.S Navy and the Arctic

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Discussion Agenda

- The Navy and the World’s Oceans
- Arctic Change
- Strategic Drivers
- Arctic Strategy
- Roadmap/Implementation Plan
- Roadmap Successes and Activities
Why the Navy Matters
Naval Oceanography

The Oceans

5 20 100

Knowing It Better Than The Competition Is Needed To Win
OMG - The Ice (Mass and Volume) Is Falling!

Greenland Mass Variation Since 2002

Data source: Ice mass measurement by NASA's GRACE satellites.
Credit: NASA

Rate of Change: 281.0 Giga tonnes per year
Margin: ±29

PIOMAS Daily Arctic Ice Volume

Total Ice Volume (10^6 km^3)


Mean Volume 1979–2016
Arctic Ice Coverage

Sea Routes

**Northern Sea Route**
2025: 6 weeks open
41’ controlling draft

**Transpolar Route**
2025: 2 weeks open
Deep ocean transit

**Northwest Passage**
2025: intermittently open
33’ controlling draft

Sea route distances:
Distance from the Bering Strait to Rotterdam
Military Strategic Drivers

North Korea

Iran

Extremist Groups

Russia

China

Naval Oceanography

Observe-Predict → Fight-Win
Navy Strategic Drivers

Environmental Change

Russian Resurgence

Commercial & Recreational Activity

If it is Navigable, They will Come

Naval Oceanography  Observe-Predict ➔ Fight-Win
The Arctic Roadmap Implementation Plan

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<td>Policy, Strategy, Missions, &amp; Plans</td>
<td>• Primarily undersea and air presence</td>
<td>• Be ready to respond to contingencies and emergencies</td>
<td>• Operate deliberately for sustained periods as needed</td>
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<td>Requirements</td>
<td>• Surface ship presence in open water</td>
<td>• Periodic presence</td>
<td>• Manned, trained equipped: Arctic Region Operations</td>
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<td>Operations &amp; Training</td>
<td>• Specify Requirements</td>
<td>• Support to SAR, DSCA, FoN</td>
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<td>Science &amp; Technology</td>
<td>• Investment decisions</td>
<td>• Deliver capability</td>
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<td>Environmental Observation &amp; Prediction</td>
<td>• Targeted increases</td>
<td>• Gain additional experience and expertise</td>
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<td>Safe Navigation</td>
<td>• Gain experience and expertise</td>
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<td>Platforms, Weapons, &amp; Sensors</td>
<td>• Exercises</td>
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<td>Maritime Domain Awareness</td>
<td>• Update Doctrine, CONOPS, TTPs</td>
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<td>Communications &amp; Outreach</td>
<td>• Strengthen Partnerships</td>
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The roadmap leads to a force that is capable and ready to operate in the Arctic as needed.
Recent Arctic Activities

U.S. Navy Ice Camp SARGO

AXIB Buoy Deployment

“Beaufort Lens”

Navy Climate-related Actions Are Relevant Today
Future Arctic Activities

Navy Climate-related Actions Are Relevant Tomorrow

Exercise Northern Edge
Naval Postgraduate School
Exercise Cold Response
ICEX 2018
ICEX 2018
Thank You!