U.S. Navy Arctic Engagement: Challenges & Opportunities

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Office of the Oceanographer of the Navy
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Navy’s Arctic Experience

1926
Admiral Byrd’s first Over-flight of North Pole

1946
USS Midway tests carrier capabilities

1955-57
Sealift support to construct DEW line stations

1970’s
Cold weather UNREP experiments

1990’s
Submarines continue transits and research

1942-45
World War II: Dutch Harbor, Attu & Kiska

1951-52
Sealift support to enlarge Thule AFB

1958
Nautilus first under-ice transit

1984-85
Arctic SHAREMs

2000’s
ARCTIC CARE, NORTHERN EDGE, PACER GOOSE, ICEX, SCICEX

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Arctic Climate Change Update

Arctic Sea Ice Continues to Melt & Thin

March, 2010

September, 2010

2010 Arctic Sea Ice Extent 3rd Lowest on Record

Thousands of square kilometres

Source: NSIDC

2010 Arctic Ice Volume Lowest on Record

Source: NASA/Goddard Space Flight Center
Arctic Considerations

Today

- Poorly Charted
- Limited Infrastructure
- Harsh Operating Environment
  - Security Concerns
  - Transportation Access

One Scenario

The Arctic is not a vacuum – changes in this region will impact others
Media Coverage

Not necessarily representative of Arctic reality
Task Force Climate Change

Establishment
Chief of Naval Operations
Executive Board on May 15, 2009

Composition
Navy, NOAA, USCG in core group with
Joint, interagency, international support

Charter
Global climate change impacts with near term Arctic focus

Science-based approach, cooperative partnerships, risk assessments
Arctic Roadmap Drivers

Arctic Ice Decline

CS-21

Maritime Strategy

NSPD-66

National Arctic Policy

QDR 2010

Defense Department Guidance

CNO

Direction

TFCC Established

CNO

Signed by VCNO

Arctic Roadmap

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Navy Arctic Roadmap

Framework

Execution

Phase 1 (FY10)
- Fleet readiness assessment, external studies, strategic implementation plan
- Advocate for UNCLOS
- Innovative Readiness Training (IRT)
- Monitor Polar SATCOM Program
- Arctic TTX & LOE
- POM 12 investments for air/ocean/ice numerical prediction

Phase 2 (FY11-12)
- POM-14 CBA: NSP, & SPPs address the Arctic
- Formalize expanded/new cooperative partnerships
- Arctic SAREX, Arctic Edge, Northern Edge NANO
- ICEX-11
- Environmental assessments
- Support National Ocean Policy/Marine Spatial Planning Implementation for Arctic
- Interagency partnership for air/ocean/ice numerical prediction

Phase 3 (FY13-14)
- Execute POM-14
- Implement expanded/new cooperative partnerships
- Arctic UUV operations
- Update roadmap ICW ODR

Navy recognized as a valued joint, interagency, & international partner in the Arctic

*** Indicates recurring action
Engaged nearly 450 individuals from over 125 organizations
Arctic Intelligence Assessment

**Overall risk for conflict is and will remain low through 2030**

**Economic & environmental factors drive state interest**
- Arctic Council remains primary diplomatic forum
- Arctic nations seek to preserve sovereignty & avoid conflict
- Non-Arctic nations take economic interest

**Greatest sources for risk:**
- Inadvertent RUS-NOR border incident
- Negative ECS claim evaluation
- Gradually escalating mutual fears

**Commercial activity remains limited through 2030**
- Shipping, oil, & gas extraction to grow *after* 2030
- Fishing to grow but only gradually
- Tourism & maritime research will increase the most

*Harsh operating environment will remain the greatest limiting factor*
Navy Arctic Strategic Objectives

Signed by CNO on 21 May 2010

I. Contribute to safety, stability, & security in the region

II. Safeguard U.S. maritime interests in the region

III. Protect the American people, our critical infrastructure, & key resources

IV. Strengthen existing & foster new cooperative relationships in the region

V. Ensure Navy forces are capable and ready

Towards the desired end state: a safe, stable, and secure Arctic

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Navy Arctic Mission Analysis

**Will the scope of Navy mission requirements in the Arctic change?**

- Regional Security – expect participation in *more exercises with allies*.
- Maritime Security, MDA, SAR, HADR – *more likely & important* as summer activity increases.
- Force Projection, Sea Control – *unlikely* due to low probability of conflict, *no significant change*.
- DSCA – *no change* in future requirement.
- Ballistic Missile Defense – *no significant change* expected in threat level.

<table>
<thead>
<tr>
<th>Mission Areas</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
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</thead>
<tbody>
<tr>
<td>Strategic Deterrence</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
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<tr>
<td>Ballistic Missile Defense</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
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<tr>
<td>Sea Control</td>
<td>Low</td>
<td>Low</td>
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<td>Low</td>
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<tr>
<td>Force Projection</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
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<tr>
<td>Maritime Security</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Maritime Domain Awareness</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
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<tr>
<td>Search and Rescue</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
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<tr>
<td>Regional Security Cooperation</td>
<td>Medium</td>
<td>Medium</td>
<td>Med/High</td>
<td>Med/High</td>
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<tr>
<td>HA/DR</td>
<td>Low</td>
<td>Low/Med</td>
<td>Medium</td>
<td>Med/High</td>
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<tr>
<td>DSCA</td>
<td>Low</td>
<td>Low</td>
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**Criticality Ranking Criteria**

- **High**
  - Navy has primary role in Arctic Mission is very relevant in Arctic.

- **Medium**
  - Navy has secondary role in Arctic Mission is very relevant in Arctic.
  - OR
  - Navy has primary role in Arctic Mission is somewhat relevant.

- **Low**
  - Mission not likely to be relevant in Arctic.

To achieve Navy’s Strategic Objectives for the Arctic
To identify Navy capability gaps & solutions to mitigate them
### Ongoing Navy Arctic Activity

#### Improve understanding

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<tr>
<td>Naval Post Graduate School Arctic Science &amp; Security dissertations</td>
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<td>Arctic science &amp; security Study topics at US Naval Academy</td>
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<td>Naval War College courses address Arctic Science &amp; Security Topics</td>
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<td>Naval Arctic Mission Analysis</td>
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<td>Naval Arctic Capability Based Assessment</td>
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<td>Naval Studies Board study</td>
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<td>NSS Interagency Arctic Policy Committee</td>
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<td>State Department Arctic Policy Group</td>
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<td>Conferences, Symposia, Media events</td>
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<td>Advocate for UNCLOS</td>
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<td>Arctic Roadmap</td>
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<td>Navy Arctic Strategic Objectives</td>
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<td>Exploring New Cooperative Partnerships</td>
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<td>Northern Edge 2009</td>
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<td>OSD Tabletop Exercises</td>
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<td>Arctic glider UUV demonstration</td>
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<td>Operation NANOOK/NATSIQ</td>
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<td>Interagency partnership For air-ocean-ice numerical prediction</td>
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<td>Science Ice Exercise Plan</td>
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#### Ensure readiness (resilience)

- Ongoing Navy Arctic Activity
- Improve understanding
- Ensure readiness (resilience)
Other Arctic Activity

About the Arctic

- Finland Arctic Strategy
- Arctic Council SAR MOU Draft
- Russian Arctic Strategy
- Arctic Council Reaffirms UNCLOS
- Canada National Arctic Policy

Within the Arctic

- Chinese research cruises
- US & Other International Research
- Vigilant Eagle 2010
- Arctic Crossroads 2010
- Multiple NSR transits to China
- NWP cruise ship grounding
- US-CAN ECS survey
- Russian Oil Tankers Collide

Arctic & non-Arctic actors are engaged

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### What’s Next?

#### Studies & Assessments
- **NOV**
  - Fleet Arctic Readiness Assessment
- **DEC**
  - Navy Arctic Capabilities Based Assessment
- **JAN**
  - Navy CBA
- **FEB**
  - Outreach & Engagement
- **MAR**
  - Outreach & Engagement

#### Operations & Training
- **DEC**
  - USEUCOM Arctic Zephyr Workshop
- **FEB**
  - ICEX-11

#### Outreach & Engagement
- **NOV**
  - FIN-CAN Arctic Conference
- **DEC**
  - OSD-SERDP Symposium
- **JAN**
  - American Geophysical Union
- **FEB**
  - Arctic Frontiers Conference
- **MAR**
  - OSD(I&E) DEIC Arctic Partnership Roundtable

#### Science & Research
- **NOV**
  - POAM for Interagency partnership for air-ocean-ice numerical prediction
- **FEB**
  - Monitor DARPA HALE UAV Program ("Vulture")
Standardized Arctic data collection to identify trends
Challenges & Opportunities

“Are we doing enough?”
- ADM Gary Roughead

“...receding ice and the possibility of that shipping area being open during the good part of the year, this is something that we would clearly have to address and invest some resources in...”
- SEC Robert Gates

“The first thing I would do if someone invaded Canada from the North would be to rescue them.”
- VADM McFadden
Questions?