Arctic Security and the U.S. Navy

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Climate Change Update

The Ocean is Storing Most of the Heat

- Total Earth Heat Content from 1950 (Murphy 2009). Ocean data taken from Domingues et al 2008

Arctic Sea Ice Continues to Melt & Thin

- Mean surface temperature 2001-2007 relative to baseline period 1951-1980, from: The Copenhagen Diagnosis, 2009

Arctic Warming is 2 x the Rest of the World

- Ocean data taken from Domingues et al 2008

September Ice Age: 1981 to 2010

- NSIDC courtesy of J. Maslaniak and C. Fowler, CU Boulder
What is the Arctic?

It is an ocean

It is not a vacuum

It is changing
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 Distant Early Warning (DEW) line stations

1970’s
Cold weather Underway Replenishment experiments

1990’s
Submarines continue transits and research

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

1951-52
Sealift support to enlarge Thule Air Force Base

1958
Nautilus first under-ice transit

1984-85
Arctic undersea exercises

2000’s
Continuing Naval exercises

UNCLASSIFIED
Why the Navy Cares

Near-term
- Increasing Arctic maritime activity
- Partnership opportunities
- Energy security initiatives

Mid-Term
- Sea level rise impact on installations
- Water/resource challenges
- Potential increase in Humanitarian Assistance/Disaster Response

Wild-cards
- Ocean acidification
- Abrupt climate change
- Geoengineering

Challenges and opportunities exist
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
The Team...

Engaged nearly 600 individuals from over 175 organizations
The Arctic is an ocean, a challenge, but NOT a vacuum
Commercial activity remains limited through 2030

- Shipping, oil, & gas extraction to grow after 2030
- Tourism & maritime research will increase the most
- Fishing to grow but only gradually

Harsh operating environment will remain the greatest limiting factor
Navy Arctic Roadmap

Framework

Execution

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

Phase 2 (FY11-12)
- POM 14 CBA, NSP, & SPPs address the Arctic
- Arctic SAREX, Arctic Edge, Northern Edge
- Environmental assessments
- ICEX-11
- 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

Composition

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

*** Indicates recurring action
Recent Arctic Activity

About the Arctic

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

Within the Arctic

- Vigilant Eagle 2010
- Multiple NSR transits
- Arctic Crossroads 2010
- US-CAN ECS survey
- NWP cruise Ship & Oil Tanker groundings
- Russian Oil Tankers Collide

Navy is engaging with Arctic & non-Arctic countries
Navy Accomplishments: April 2010 – April 2011

Educate

Naval Post Graduate School Arctic Science & Security theses
Arctic science & security Study topics at US Naval Academy
Naval War College courses address Arctic Science & Security Topics

Studies & Assessments

Naval Arctic Mission Analysis
Naval Studies Board study
Naval Arctic Capability Based Assessment

Outreach & Engagement

NSS Interagency Policy Committee
State Department Arctic Policy Group
Conferences, Symposia, Media events
Leadership visits & staff talks

Policy, Strategy, & Plans

Support Arctic Section In 2010 UCP
Navy Arctic Strategic Objectives
USN-USCG Arctic Activity Plan

Operations & Training

Navy-NOAA Bering Strait Survey
Arctic Care 2010
Pacer Goose
ICEX 2011
USN-USCG Arctic Activity Plan
USS Taylor Port Visit to Murmansk
Operation NANOOK/NATSIQ

Science & Research

NRL Kara Sea Research cruise
Interagency partnership For air-ocean-ice numerical prediction
Science Ice Exercise Plan

Improve understanding

Ensure readiness (resilience)
Navy Arctic Strategic Objectives

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

Signed by CNO on 21 May 2010
Navy Activity On and Under the Ice

Technology Demonstrations – ICEX-11

- Aerial resupply
- SSN 778 surfaced
- Ice-mining
- VIP visit

Interagency Research Efforts – Operation Ice Bridge 2011

- Greenland Ice Sheet
Naval Studies Board Recommendations

- Support ratification of UNCLOS
- Support research & development
- Address partnership demands
- Address naval coastal installation vulnerabilities
- Address emerging technical requirements (e.g. polar ops)
- Prepare for increase in HA/DR, Arctic missions
- Support research & development

Navy action is already underway
Arctic Military Roundtable

- Share what Defense Forces are doing to adapt to climate change, retain military mission capability resilience, and adapt to changing missions
- Build relationships and reduce regional tensions.

Avoid Perception of “Militarizing” the Arctic
Some Final Thoughts ...
Discussion

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