National Needs for Improved Arctic Weather & Climate Predictions: Why Now?

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Climate Change. Challenges. Solutions

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Why Care About Climate Change?

- It’s About People
- It’s About Water
- It’s About Change
• It’s an Ocean
• It’s Changing
• It’s not a Vacuum
Arctic Sea Ice (1994 – 2012)
Resources in the Ground...
...in the Water...

Source: NOAA/NMFS
... in the Future
but especially, the people

BG Guy Hamel
Premier Eva Aariak
Some Risks, known...
...and unknown
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
• Communications
• Navigation
• Environment
• Access & Logistics
Harsh under ‘normal’ conditions
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

Crossroads
Sea route distances:
Distance from the
Bering Strait to
Rotterdam

Courtesy: US Navy
Strategies abound…
White House Releases Implementation Plan for the National Strategy for the Arctic Region

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Today the White House released the Implementation Plan for the National Strategy for the Arctic Region. The Administration solicited input from Alaska Natives, the State of Alaska, Congress, academia, industry and others to develop an Implementation Plan that sets forth the guidelines for Federal Departments and Agencies to execute the National Strategy for the Arctic Region. The Implementation Plan complements and builds upon existing initiatives by Federal, State, local, and tribal authorities, the private sector, and international partners, and also focuses efforts where opportunities exist and action is most needed. It is designed to meet the reality of a changing Arctic environment and uphold our interests in safety and security, protect the environment, and work with international partners to pursue our global objective of combating the effects of climate change as described in the President’s Climate Action Plan.

While the Implementation Plan is designed to guide the activities of Federal Departments and Agencies, successful implementation will depend upon active engagement and coordination with Alaska Natives and the State of Alaska. The Implementation Plan will be reviewed on an annual basis to ensure that progress continues to be made in agreement with the Strategy.
Required Capacity…part of a team

- Ice breakers
- Ice hardened USN vessels
- Observations
- Navigation surveys and infrastructure
- Arctic domain awareness
- Bases for support
- Port(s)
- Energy infrastructure
- Communications

Awareness & Infrastructure
A Potential Way Ahead…

“Begin with the end in mind”

Mission

Authorities

Budget

Improving Prediction Capability

Earth System Prediction Capability

Recapitalize aging suite of global atmospheric models

Interagency collaboration

Revolutionary advancement National predictive architecture

UNCLASSIFIED

Initial Navy investments in today’s budget
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