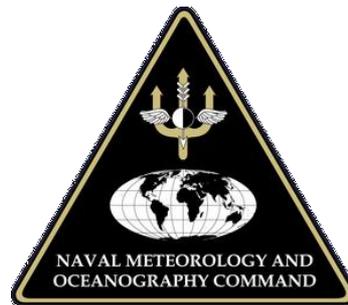




U.S Navy and the Arctic



CDR Kelly Taylor

Chief of Naval Operations Staff

Office of the Oceanographer of the Navy

OPNAV N2N6E

Deputy Director, Task Force Climate Change



Discussion Agenda



- ***The Navy and the World's Oceans***
- ***Arctic Change***
- ***Strategic Drivers***
- ***Arctic Strategy***
- ***Roadmap/Implementation Plan***
- ***Roadmap Successes and Activities***



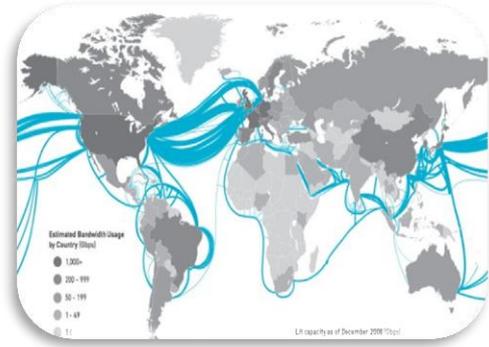
Why the Navy Matters

70

80

90

99





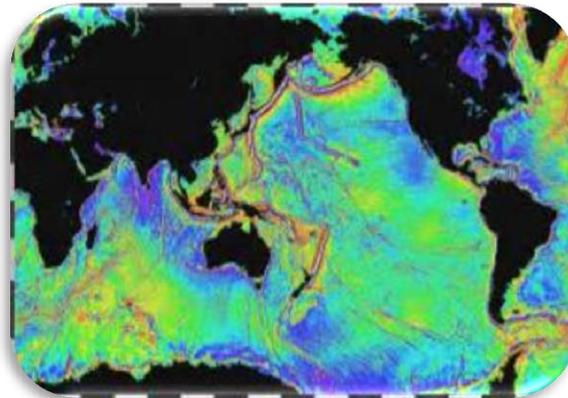
The Oceans



5



20



100



Knowing It Better Than The Competition Is Needed To Win



OMG - The Ice (Mass and Volume) Is Falling!



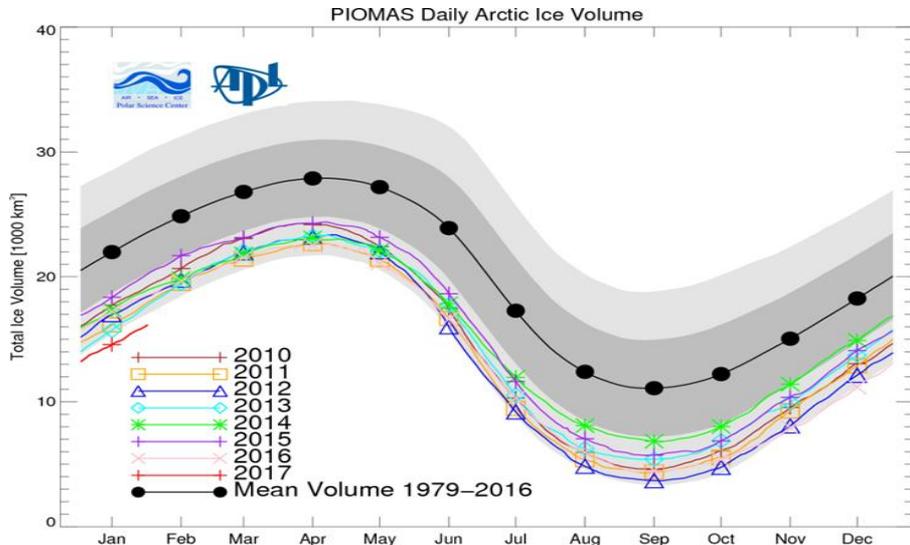
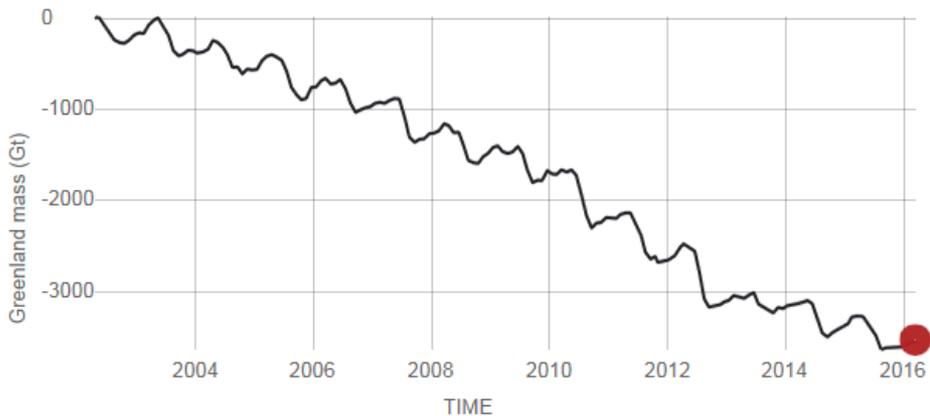
GREENLAND MASS VARIATION SINCE 2002

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

RATE OF CHANGE

↓ 281.0

Gigatonnes per year
margin: ±29





Arctic Ice Coverage

Sea Routes



Northern Sea Route

2025: 6 weeks open
41' controlling draft



Transpolar Route

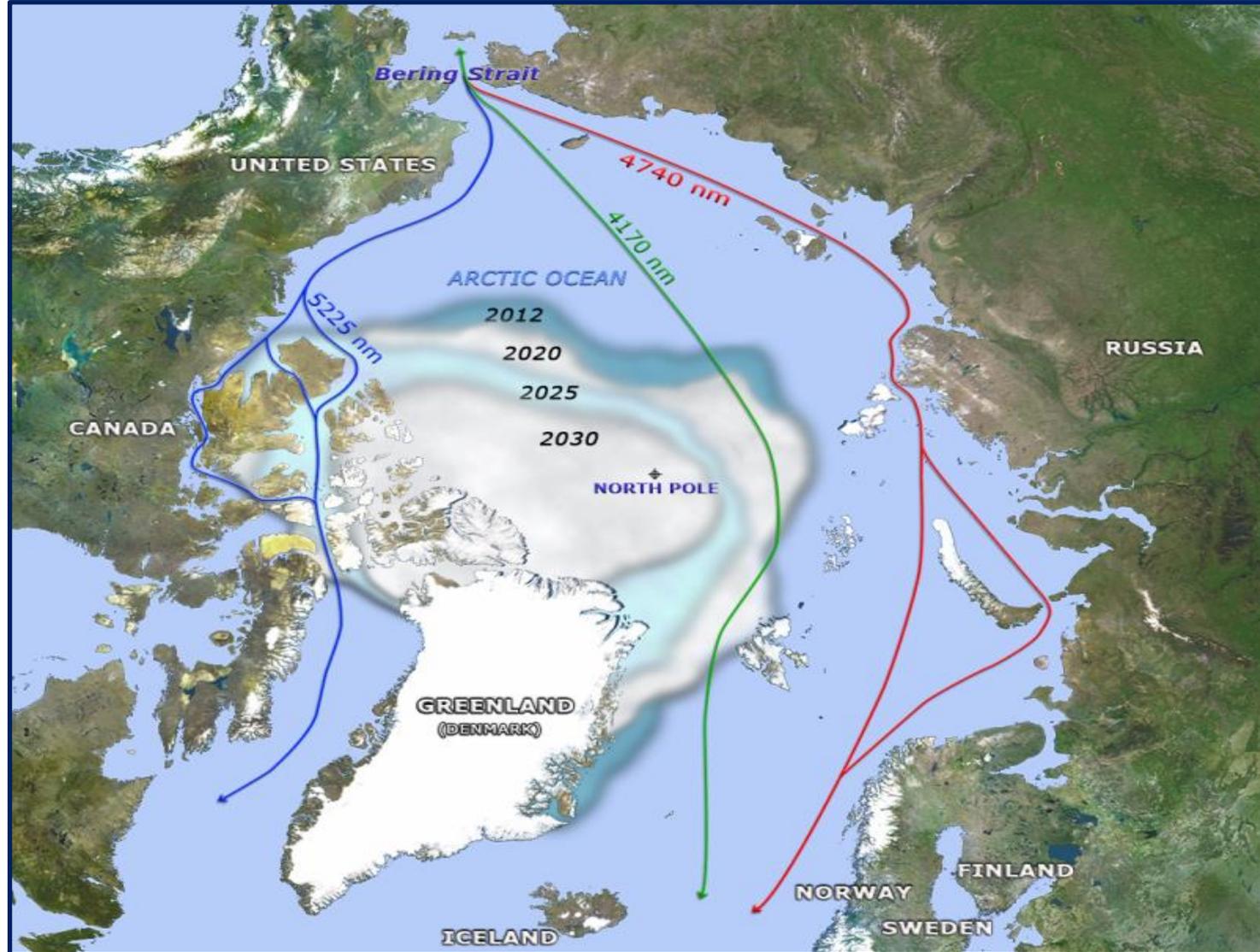
2025: 2 weeks open
Deep ocean transit



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



Navy Strategic Drivers



Environmental Change

Russian Resurgence

Commercial & Recreational Activity



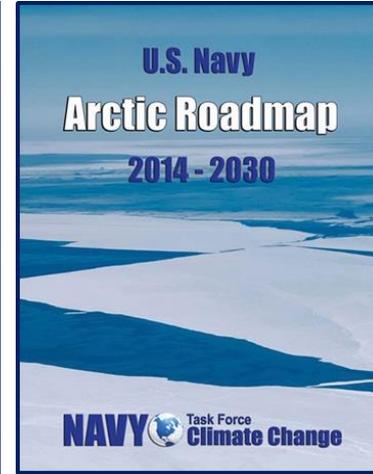
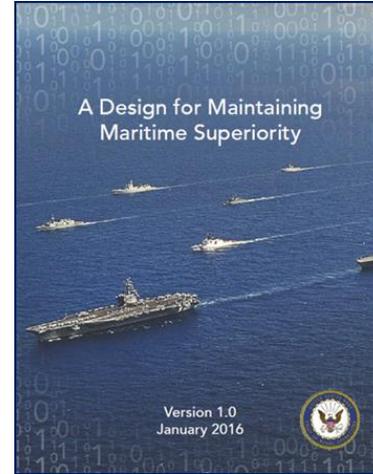
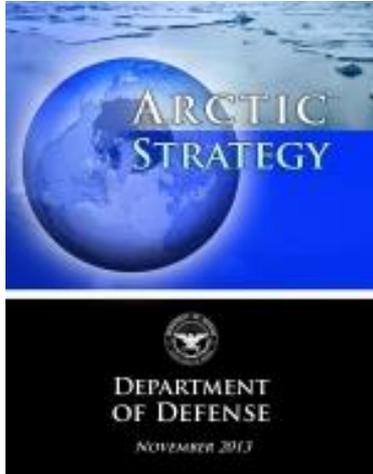
If it is Navigable, They will Come



Arctic Strategies: Aligned

NATIONAL STRATEGY
FOR THE ARCTIC REGION

MAY 2013



Security

Stewardship

**International
Cooperation**

**Security and
Defense
Cooperation**

**Support
Safety**

**Challenges
and
Contingencies**

**Arctic Access
and Presence**

**Maritime
Domain
Awareness**

Cooperation

**Safety and
Security**

**Naval Power
at and From
the Sea**

**High Velocity
Learning**

**Partner
Network**

**US Arctic
Sovereignty**

**Homeland
Defense**

**Ready Naval
Forces**

**Freedom of
the Seas**



Arctic Roadmap Implementation Plan



Lines of Effort

Policy,
Strategy,
Missions, & Plans

Requirements

Operations &
Training

Science &
Technology

Environmental
Observation &
Prediction

Safe Navigation

C4ISR

Installations &
Facilities

Platforms,
Weapons, &
Sensors

Maritime Domain
Awareness

Communications &
Outreach

Near-term (present-2020)

- Primarily undersea and air presence
- Surface ship presence in open water
- Specify Requirements
- Investment decisions
 - Targeted increases
- Gain experience and expertise
 - S&T
 - Exchanges
 - Exercises
- Update Doctrine, CONOPS, TTPs
- Strengthen Partnerships



Mid-term (2020-2030)

- Be ready to respond to contingencies and emergencies
- Periodic presence
 - Support to SAR, DSCA, FoN
- Deliver capability
- Gain additional experience and expertise

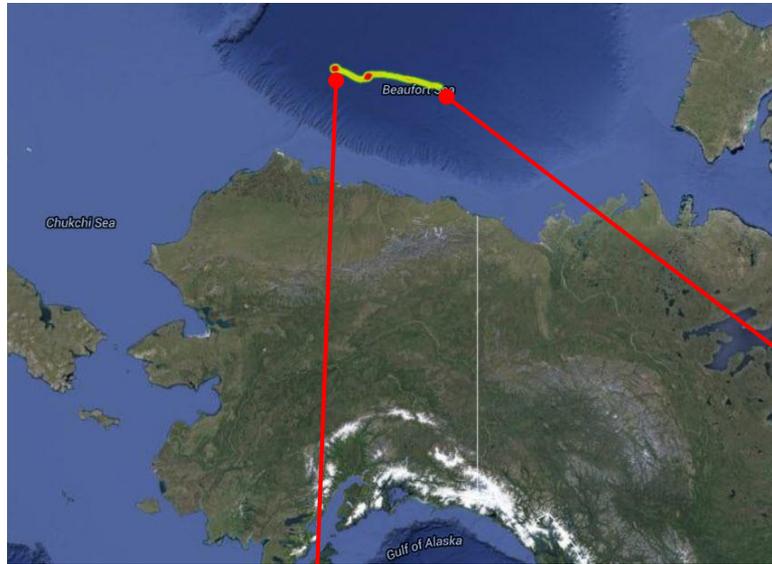
Far-term (FY30 & beyond)

- Operate deliberately for sustained periods as needed
- Manned, trained equipped:
 - Arctic Region Operations



The roadmap leads to a force that is capable and ready to operate in the Arctic as needed

Recent Arctic Activities



AXIB Buoy Deployment

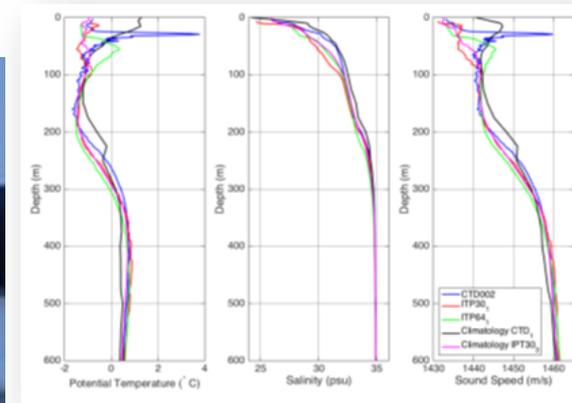
U.S. Navy Ice Camp SARGO



U.S. Navy Ice Camp SARGO



U.S. Navy Ice Camp SARGO



"Beaufort Lens"

Navy Climate-related Actions Are Relevant Today



Future Arctic Activities



Exercise Northern Edge



Naval Postgraduate School



ICEX 2018



Exercise Cold Response



ICEX 2018

Navy Climate-related Actions Are Relevant Tomorrow



Thank You!

