

Update to AICC

US Arctic Research Commission

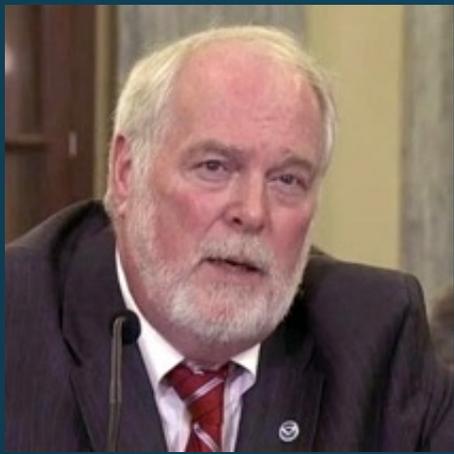


PSC rendering by Tech. Associates, Inc.

John Farrell
Executive Director
7.19.23
jfarrell@arctic.gov
www.arctic.gov



US Arctic Research Commissioners



David Kennedy



Dr. Mike Sfraga, Chair

Liz Cravalho



Dr. Mark Myers

Deborah Vo



Dr. Jackie Richter-Menge



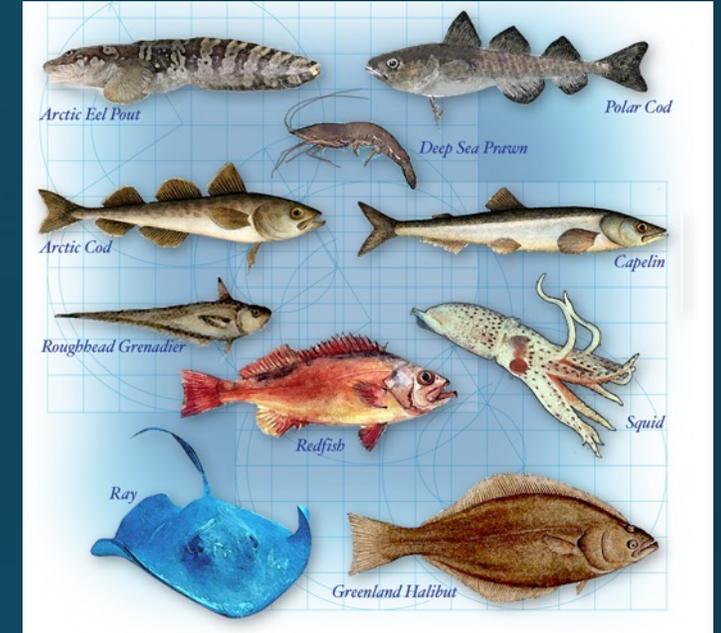
Dr. Nikoosh Carlo

Dr. S. Panchanathan
Ex officio, NSF Director



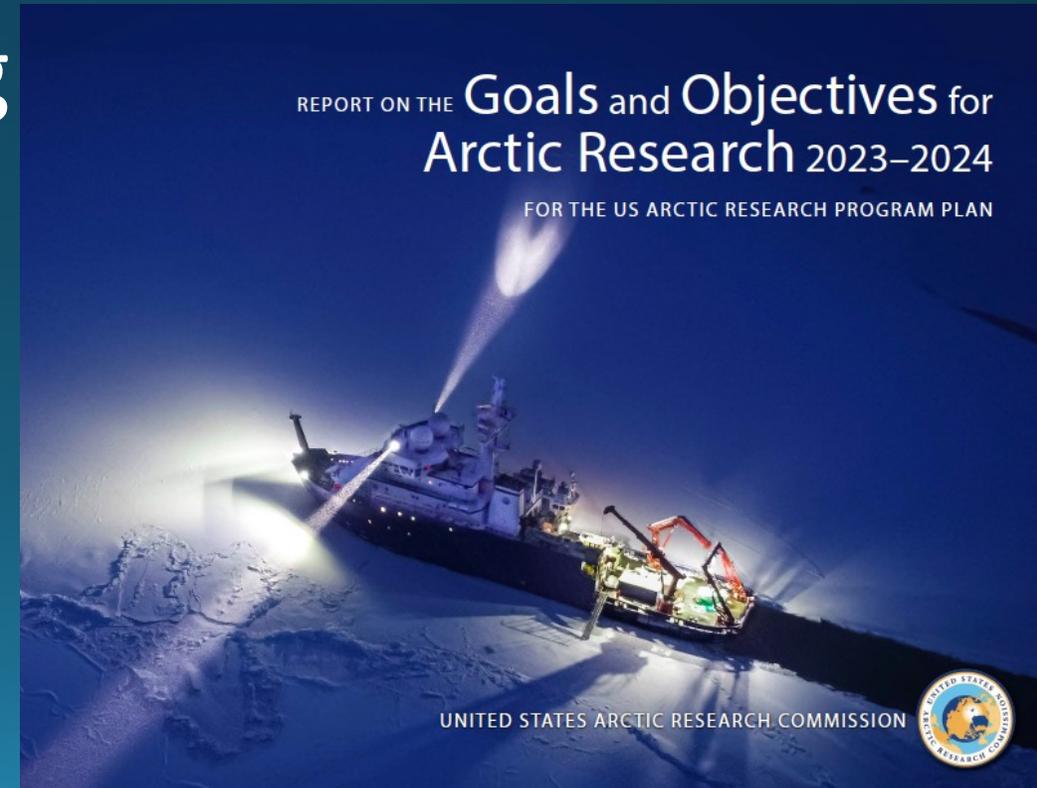
Duties:

- Develops national Arctic research policy
- Facilitates Arctic research coordination
- Reviews federal Arctic research programs
- Recommends improvements for data sharing
- Facilitates cooperation w/Alaska & int'l researchers



Research Priorities:

- Environmental Risks and Hazards
- Community Health & Well-Being
- Infrastructure
- Arctic Economics
- Research Cooperation

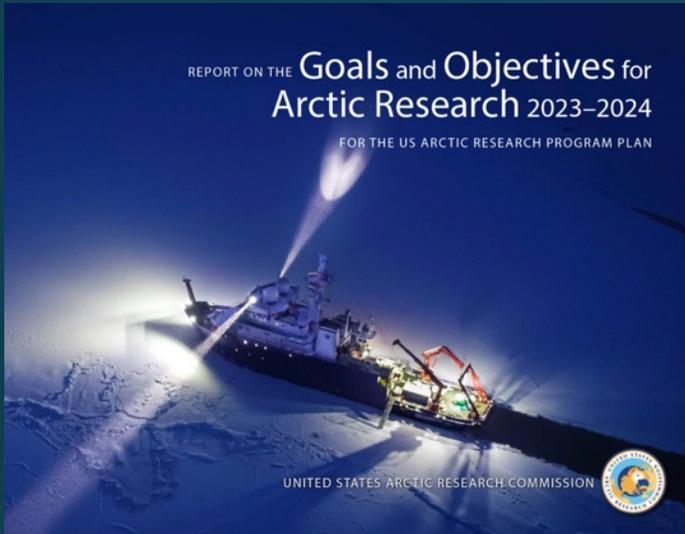


USARC's statements to POTUS and Congress on icebreakers

“Icebreakers capable of accessing all regions of the Arctic Ocean remain an enduring and long-term requirement of the scientific research community.”

“Planning needs to begin now to ensure continued and enduring access to all regions of the Arctic Ocean via icebreakers equipped with the modern scientific tools and enhanced capabilities necessary to meet US Arctic research requirements.”

Federal Arctic research policy/process



USARC sets goals



“The Commission shall, after submission of the President's annual budget request, review the request and report to Congress on adherence to the Plan.”



IARPC adopts, creates & executes research plans



White House:
OMB/OSTP
coordinate &
review budget



Congress:
Authorizes &
Appropriates

How much does the US govt. spend on Arctic research?

\$1B, more, less?

Legislative directive (NDAA): requires reporting of Arctic research budget data and associated information by relevant government agencies.

It's in progress...



**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503**

May 16, 2023

BUDGET DATA REQUEST NO. 23-26

MEMORANDUM FOR: PROGRAM DEPUTY ASSOCIATE DIRECTORS

FROM: Dave Rowe
Deputy Assistant Director for Budget

SUBJECT: Collecting R&D Related Crosscut Data



Department of Defense

**Report to Congress on
Resourcing the Arctic Strategy**



OUSD (Policy)

June 2016

**\$461,334,000
on "research"**



ARCTIC UPDATE

THE US ARCTIC RESEARCH COMMISSION DAILY EMAIL NEWSLETTER

July 18, 2023

TODAY'S EVENTS

NEW THIS WEEK | 10:00 am ET on July 18, 2023 | Washington, DC USA and Virtual

A Subcommittee on Transportation and Maritime Security hearing entitled, "Strategic Competition in the Arctic."

A Subcommittee on Transportation and Maritime Security will host this hearing entitled, "Strategic Competition in the Arctic." The Subcommittee on Transportation and Maritime Security is a subcommittee on the House of Representatives Homeland Security Committee.

Witnesses include:

- Ronald O'Rourke, specialist in naval affairs, Congressional Research Service
- Luke Coffey, senior fellow, Hudson Institute
- The Honorable Esther Brimmer, James H. Binger senior fellow in global governance, Council on Foreign Relations

USARC's daily "Arctic Update"
newsletter

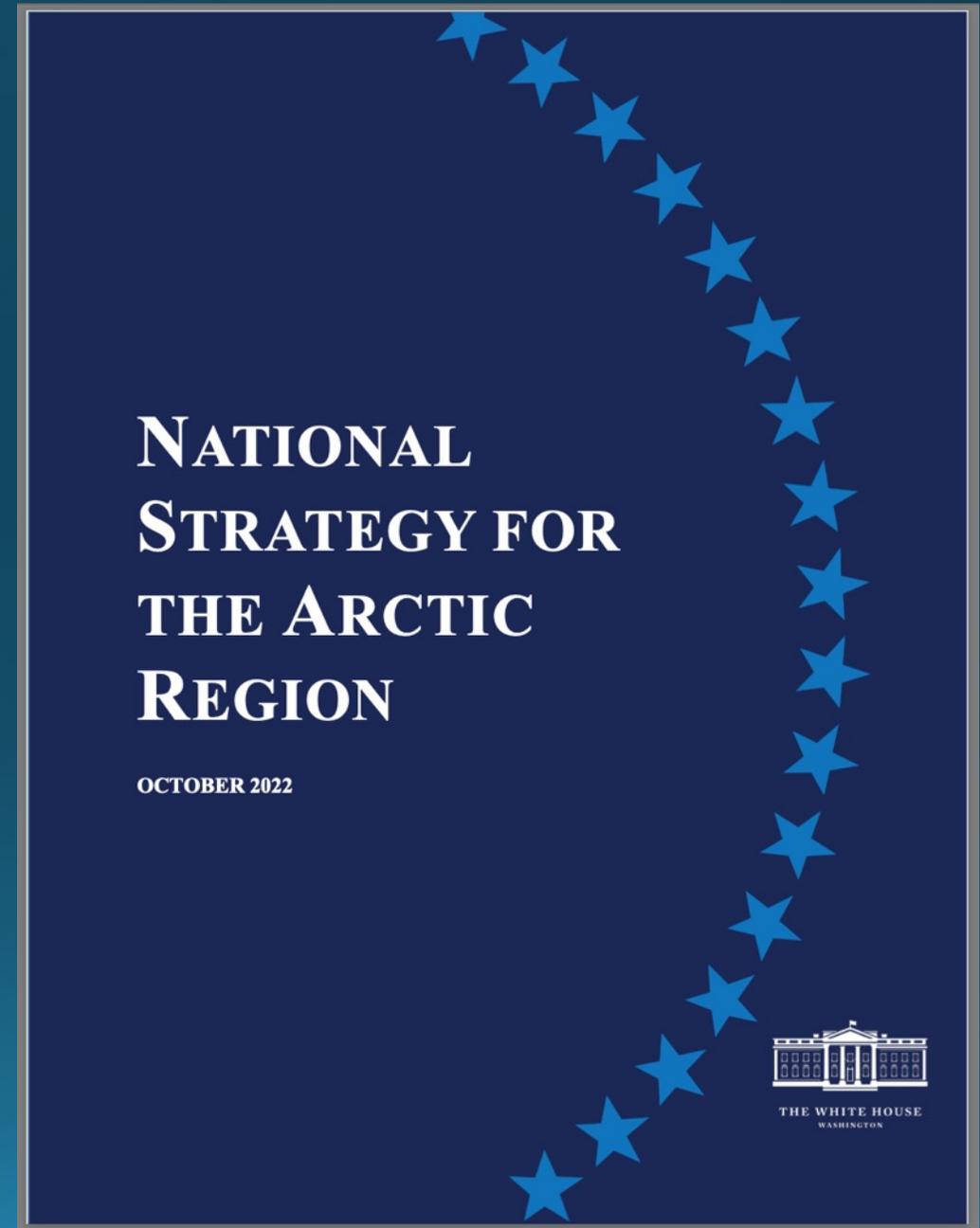
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US Federal Arctic Policy*

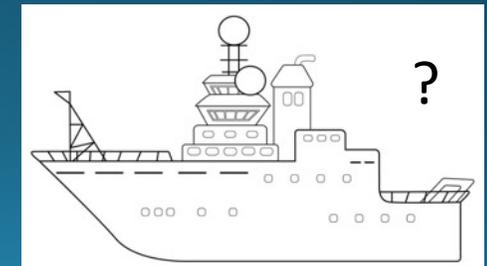
- NSPD66/HSPD25 Arctic Policy, 2009
- Nat. Strategy for the Arctic Region, 2022
- NSAR implementation plan, expected 2023

* Scientific research always a basic component



In the future, what US icebreaker(s) will be used for Arctic research?

- *R/V Sikuliaq*, in light/seasonal ice
- *USCGC Healy*, service life to 2030, & beyond...?
- USCG “Commercially Available Polar Icebreaker?”, in FY24 budget request
- Arctic Security Cutter?, envisioned, but no program of record, yet



NATIONAL STRATEGY FOR THE ARCTIC REGION

OCTOBER 2022



Guiding principle 3

- **Plan for Long-Lead Time Investments:** Many of the investments prioritized in this strategy will require long lead times. We will be proactive, anticipating changes coming to the Arctic over the next several decades and making new investments now to be prepared. Among other investments, **we will procure additional icebreakers**, enhance communications and maritime transportation infrastructure, support communities to build climate resilience, **and invest in scientific research.**

NATIONAL STRATEGY FOR THE ARCTIC REGION

OCTOBER 2022



Guiding principle 5

- **Commit to a Whole of Government, Evidence-Based Approach:** The Arctic extends beyond the responsibility of any single region or government agency. U.S. Federal departments and agencies will work together to implement this strategy.
- We will improve our understanding of the Arctic environment and develop whole-of-government **capabilities** [e.g., **icebreakers**] to support expanding activity in the U.S. Arctic region.

USCGC HEALY, and then what...?



- Healy entered into service in 2000, and original service life is until 2030
- Will undergo service life extension program, via 5-yr production betw '26-'30
- Good until when...mid 2030s...later?
- Ultimately replaced by what...? Most likely an Arctic Security Cutter (ASC)
- No “program of record” yet for ASC, but possibly “soon”
- USCG will need “requirements” for the ASC, including science mission requirements (SMRs) based on anticipated science missions (SMs). NB: the door is long closed on PSC requirements.
- Where might SMs and SMRs for the ASC come from? ==> UNOLS

UNOLS precedent

- In 2010, NSF tasked UNOLS to establish a committee to review (refresh) SMs & SMRs for a Polar Research Vessel (PRV) study completed in 2006.
- Committee led by academic researcher, w/ members from research vessel user community and tech/operational experts
- Comm. met several times and held a workshop and survey, for broader input
- Final report completed in February 2012, and given to NSF

Consider a UNOLS repeat performance
for the USCG's Arctic Security Cutters

NSF's current long-term focus is on the other pole, the Antarctic

- An Antarctic Research Vessel (ARV), to begin ops in 2031 (depending on several "ifs") and to replace *RVIB Nathaniel B. Palmer*
- ARV not discussed in UNOLS
- Vessel Integrator, Industry Day 7/12/23 (seeking single vendor for all)



	<i>Nathaniel B. Palmer</i>	Antarctic Research Vessel	
Length	309 ft	365 ft	~20% Larger
Sci/Tech Berthing	45	55*	~20% More scientists
Total Lab Space	3,805 sq ft	4,497 sq ft	~20% More lab space
Working Deck Space	4,054 sq ft	7,197 sq ft	~80% More deck space
Endurance	65 days	90 days*	~40% Longer endurance
Icebreaking	3' @ 3 kts	4.5' @ 3 kts*	50% Greater icebreaking

How many USCG icebreakers?

July 2010: USCG High Latitude Study: 6 (3 + 3)

June 2012: Papp: 6 (3 + 3). \$3.2B

June 2013: DHS: 6 (3 + 3). PCS acquisition program established

Feb. 2015: Zukunft: 6 (3 + 3)

“You can get wrapped around the axle saying do we need six (icebreakers), do we need three and three, or four and two? Whatever it may be, there’s a least a need for one and we haven’t even started on the one yet.” -Papp in Senate hearing 3/5/15

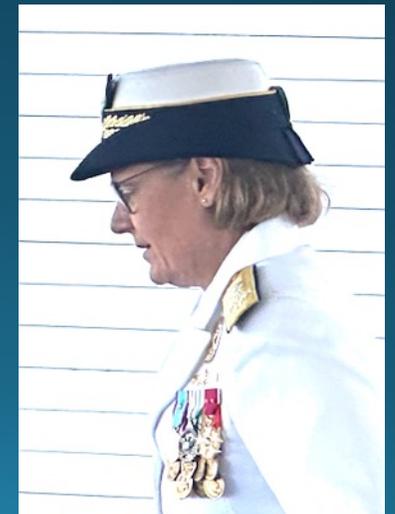
Feb. 2017: Integrated Program Office awards five contracts to industry

July 2017: Nat. Academy of Science report says block-build 4 icebreakers

April 2019: USCG contract to Halter Marine for design and construction of PSC

Nov. 2022: Halter sold to Bollinger. Estimated delivery of 1st PSC is no earlier than 2028.

April and June 2023: USCG testified that the new fleet mix analysis concluded a requirement of 8 or 9 icebreakers



Excerpts from the James M. Inhofe National Defense Authorization Act (NDAA) for FY23 (enacted 12.23.22)

- If the Commandant determines, by April 26, 2023, that it is not more cost effective and efficient to construct 3 additional PSCs rather than constructing 3 PSCs, or if she fails to make a determination by June 1, 2024, then she shall **establish a program office for ASC acquisition** no later than January 1, 2025.
- Not later than 270 days (thus, as late as September 28, 2025), after the date on which the Commandant establishes a program office...the Commandant shall complete the evaluation of **requirements** for the ASC and initiate the design phase of that class.
- Report to Congress the **fleet mix analysis** of polar icebreakers and icebreaking tugs by June 21, 2023
- If the Command acquires a **commercially available polar icebreaker**, she “shall ensure scientific research capacity comparable to the Coast Guard Cutter Healy (WAGB 20), for the purposes of hydrographic, bathymetric, oceanographic, weather, atmospheric, climate, fisheries, marine mammals, genetic and other data related to the Arctic, and other research as the [Commerce] Under Secretary [i.e., NOAA Administrator Rick Spinrad] determines appropriate.”
- **NOAA** will be responsible for costs related to: (a) science party; (b) the scientific mission; and (other scientific assets and equipment that augment such an icebreaker beyond full operational capacity as determined by the NOAA Administrator and Commandant.