



Update to AICC

US Arctic Research Commission

John Farrell, Executive Director

January 10, 2018

www.arctic.gov



USARC STAFF



FRAN
Former
Univers:
Anchor



DAVID
Former
Mana
Point R



KASAI
Former
NANA
Kotzeb



LARRY
Directo
Ocear
Univers:
Durhar



JOHN FARRELL, PhD
Executive Director
Arlington, VA



CHERYL ROSA, DVM, PhD
Deputy Director
Anchorage, AK



KATHY FARROW
Communications Specialist
Arlington, VA

. McCARTHY, PhD
r Agassiz Professor of
al Oceanography
University
ge, MA

PETE
Kuskokwim Campus
/ of Alaska Fairbanks
<

LINE RICHTER-MENGE
Faculty, Institute of
n Engineering
/ of Alaska Fairbanks
, AK

A. CORDOVA, PhD
Science Foundation
, VA





Credit: US Arctic Research Commission

USARC's duties, by law:

- Develop national Arctic research policy
- Facilitate Arctic research cooperation
- Review federal Arctic research programs
- Recommend improvements for data sharing
- Facilitate cooperation w/Alaska & internationally

REPORT ON THE **Goals and Objectives** for
Arctic Research 2017–2018

FOR THE US ARCTIC RESEARCH PROGRAM PLAN

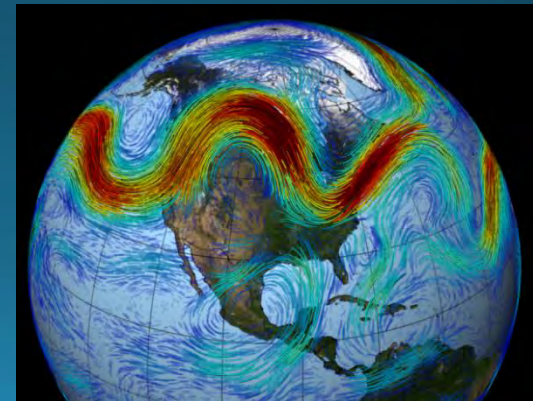


UNITED STATES ARCTIC RESEARCH COMMISSION



6 priority goals for Arctic research

1. Environmental Change
2. Human Health
3. Energy (efficiency and renewables)
4. The “Built Environment”
5. Cultures and Community Resilience
6. International Scientific Cooperation



Federal Arctic research policy/process



USARC set goals



IARPC adopts, creates & executes research plan



White House: OMB/OSTP coordinate & review budget



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



Congress: Authorizes & Appropriates

ARCTIC UPDATE



THE US ARCTIC RESEARCH COMMISSION DAILY EMAIL NEWSLETTER

November 22, 2016

Today's Events:

Today's Congressional Action:

The House is not in session. The Senate is expected to host a pro forma session.

Media

This is Russia's New Arctic Helicopter.

It looks like a regular, freshly painted, Mi-8. But it has some extraordinary qualities, manufacturer Russian Helicopters says.

The first aircraft of the type Mi-8AMTS-VA was this week handed over to the Russian Armed Forces. It is based on a model extensively applied by the military. However, a series of additional assets makes it suited for operations in extreme Arctic conditions, a press release reads. [The Barents Observer](#)



Enhanced Nitrous Oxide Emissions Found in Field Warming Experiment in the Arctic.

The impact of warming on the release of carbon dioxide (CO2) and CH4 is currently a hot topic in numerous studies carried out in the Arctic. Arctic soils are further a relevant source of the strong greenhouse gas nitrous oxide (N2O) - nearly 300 times more powerful than CO2 in warming the climate. The relevance of this finding, and a potentially even larger N2O release in a warming Arctic, is now being addressed by researchers. [Satellite Press Releases](#)

Will Climate Change Affect Arctic Whale Migration?

A study published by researchers from Florida Atlantic University's Harbor Branch Oceanographic Institute and a team of scientists is evaluating the relationship between changing sea ice and beluga whale migration. They are



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AND U.S. NATIONAL ICE CENTER

7th Symposium on

The Impacts of an Ice-Diminishing Arctic on Naval and Maritime Operations

JULY 18-20, 2017
NAVAL HERITAGE CENTER
WASHINGTON, DC



Over 50 speakers, including 2 US Senators, 1 Congressman, current and former USCG Commandant, and other senior leaders from Navy, NSF, NOAA, DOI, DOS, State of Alaska, Indigenous groups, academia, industry, non-US, etc.

Program, presentations, and videos:

www.star.nesdis.noaa.gov/ice2017/index.php

The White House Arctic Science Ministerial, September 2016

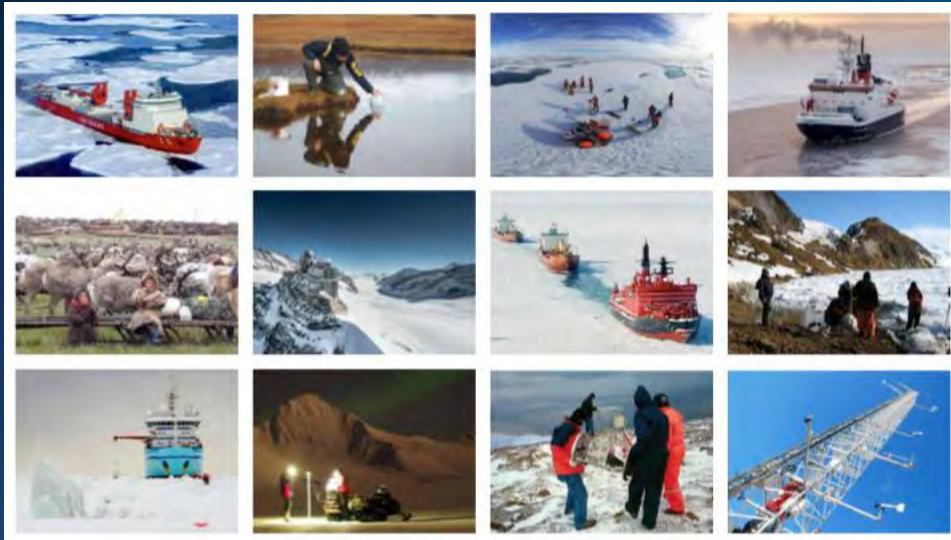


Photo credit: U.S. Coast Guard Petty Officer 2nd Class Connie Terrell

Why held?

- High priority topic. Arctic is rapidly changing, with global effects
- Science is inclusive, and widely supported. “Soft diplomacy”
- US President supported ministerial as a catalyzing event
- To advance cooperation on int’l research efforts & specific initiatives

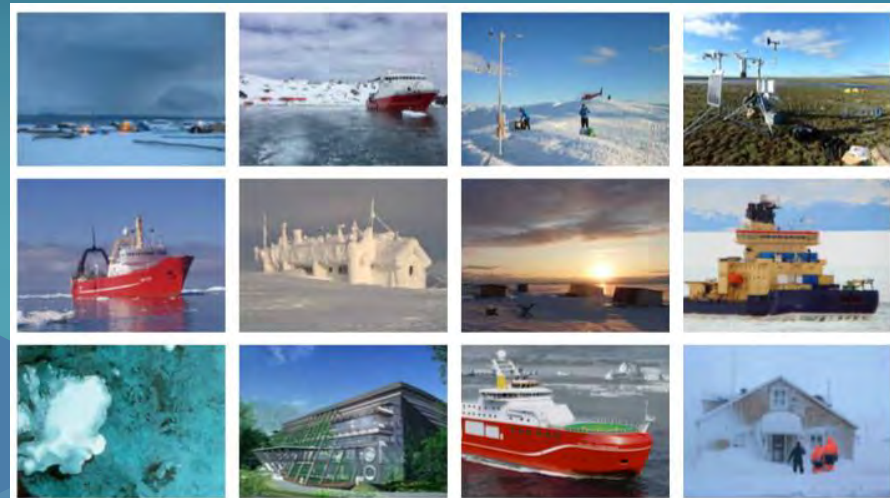




Arctic science program synopses from 24 governments & the EU

PDF at www.arctic.gov

Request paper copies from:
info@arctic.gov



Arctic Science Ministerial #2

- Hosted by EU, Germany, and Finland in Berlin, Germany
- “Arctic Science Forum” on 10/25/18. ~300 invited people
- Ministerial (~25 nations & 6 indigenous groups) on 10/26, ~100
- Review deliverables from ASM1 themes, and set new themes



Ministry of
Education
and Culture



Bundesministerium
für Bildung
und Forschung

Arctic Science Ministerial #2

Themes:

1. Strengthening, integrating and sustaining Arctic observations, facilitating access to Arctic data, and sharing Arctic research infrastructure
 2. Understanding regional and global dynamics of Arctic change
 3. Assessing vulnerability and building resilience of Arctic environments and societies
- 

Legally binding...

Agreement on Enhancing Int'l Arctic Scientific Cooperation

- Initiated by Arctic Council
- US chairmanship goal
- Task Force
- 8 Arctic States as parties
- Observers and PPs





Bloom
USA/DOS
Co-Chair



Barbin
Russian Fed.
Co-Chair



Falkner
USA/NSF
HOD

- US & Russia co-chaired task force
- **Goal:** enhance int'l coop. in sci. activities to increase effectiveness & efficiency in developing scientific knowledge about the Arctic
- Facilitates **access** (people, equipment, samples, data)
- Specific articles on non-parties, and traditional and local knowledge encouraging use, communication, and participation
- USARC designated as US “competent authority”
- Signed on 5/11/17 at Fairbanks Ministerial. Not yet in force.

AGREEMENT ON ENHANCING INTERNATIONAL ARCTIC SCIENTIFIC COOPERATION

ANNEX 1: Identified Geographic Areas

This map shows the approximate extent of the Identified Geographic Areas described in Annex 1 of the Agreement on Enhancing International Arctic Scientific Cooperation. It is intended for illustrative purposes only.



- Approximate Extent of Identified Geographic Areas
- 62°N
- - - Arctic Circle

Continental shelf areas are not depicted.
U.S. Department of State, OES/OPA, 10/2017



Climate change recognized as a security threat

“Climate change is impacting stability in areas of the world where our troops are operating today. It is appropriate for the Combatant Commands to incorporate drivers of instability that impact the security environment in their areas into their planning.”

Secretary of Defense James Mattis
in written responses after confirmation hearing



Report: Climate impact on national security

Critical evaluations and recommendations on how current and deteriorating climate/weather conditions impact US national security and US military missions, domestically and internationally



Institute on
Science for Global Policy



EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON, D.C.



August 17, 2017

M-17-30

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: MICK MULVANEY
DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET

MICHAEL KRATSIOS *AK*
DEPUTY ASSISTANT TO THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY

SUBJECT: FY 2019 Administration Research and Development Budget Priorities

American leadership in science and technology is critical to achieving this Administration's highest priorities: national security, economic growth, and job creation. American ingenuity combined with free-market capitalism have driven, and will continue to drive, tremendous technological breakthroughs. American inventions have fundamentally changed the course of

R&D priority areas

American...

1. ...Military Superiority
2. ...Security
3. ...Prosperity
4. ...Energy Dominance
5. ...Health



"It's better than I feared.
There is much more to
praise in this document
than to complain about."

*-John Holdren
Obama's Science Advisor*

R&D priority practices

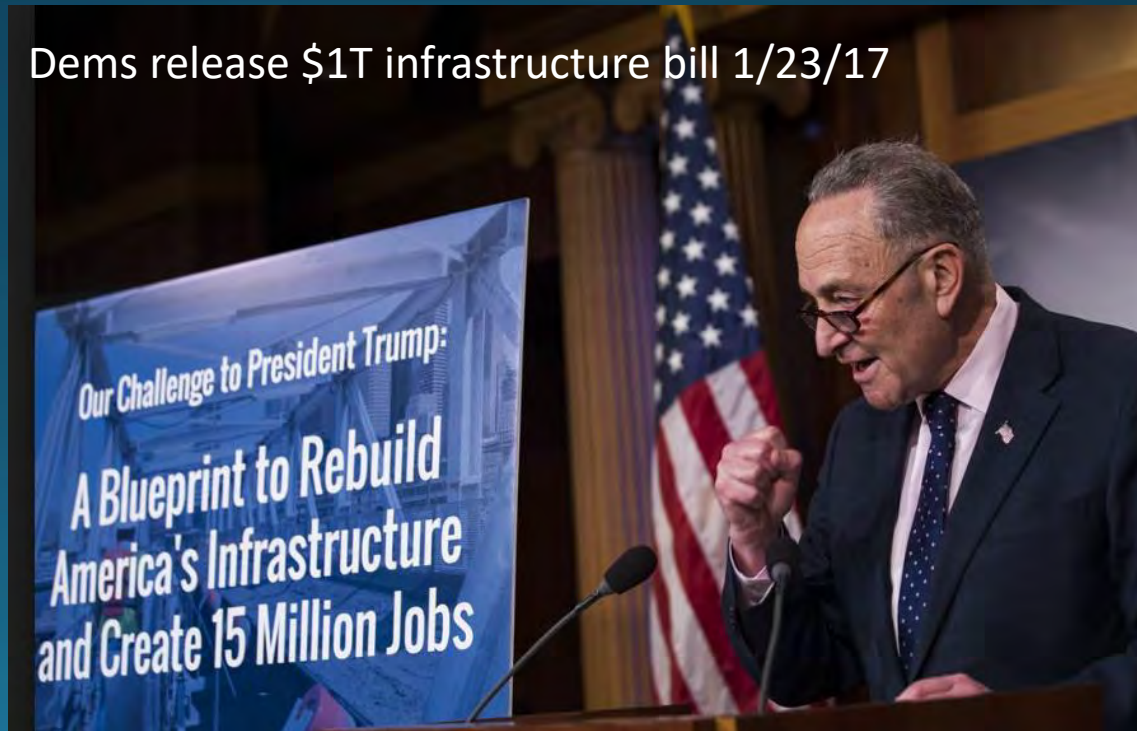
1. Increasing govt. accountability & efficiency
2. Supporting innovative early-stage research
3. Maximizing interagency coordination

R&D workforce & infrastructure

1. Developing a future-focused workforce
2. Modernizing & managing research infrastructure

Greater investment in infrastructure?

- Trump's victory speech mentions a plan to rebuild the country's transportation infrastructure.
- Scientists are hoping it will include research & cyberinfrastructure
- But financing...? Tax credits, PPPs, borrowing, treasury spending?
 - Roads
 - Bridges/tunnels
 - Water & sanitation
 - Airports/airstrips
 - Ports/harbors
 - Seawalls
 - Buildings
 - Pipelines
 - Rail lines
 - Military installations
 - Field stations
 - (Icebreakers?)





Infrastructure...



Concrete



Not concrete





...oil spills in
ice-covered
waters...



Arctic Domain Awareness Center

A DHS Science and Technology Center of Excellence

Vision: provide networked and mission-focused support to the USGC operator.

Mission: develop and transition technology solutions, innovative products, and educational programs to improve situational awareness and crisis response capabilities related to emerging maritime challenges in the Arctic environment.

Mechanisms: funding research, workshops, programs that support Arctic Search and Rescue, Humanitarian Assistance, Disaster Response and Security missions

Hosted: University of Alaska (UAA and UAF)

<http://adac.uaa.alaska.edu>

