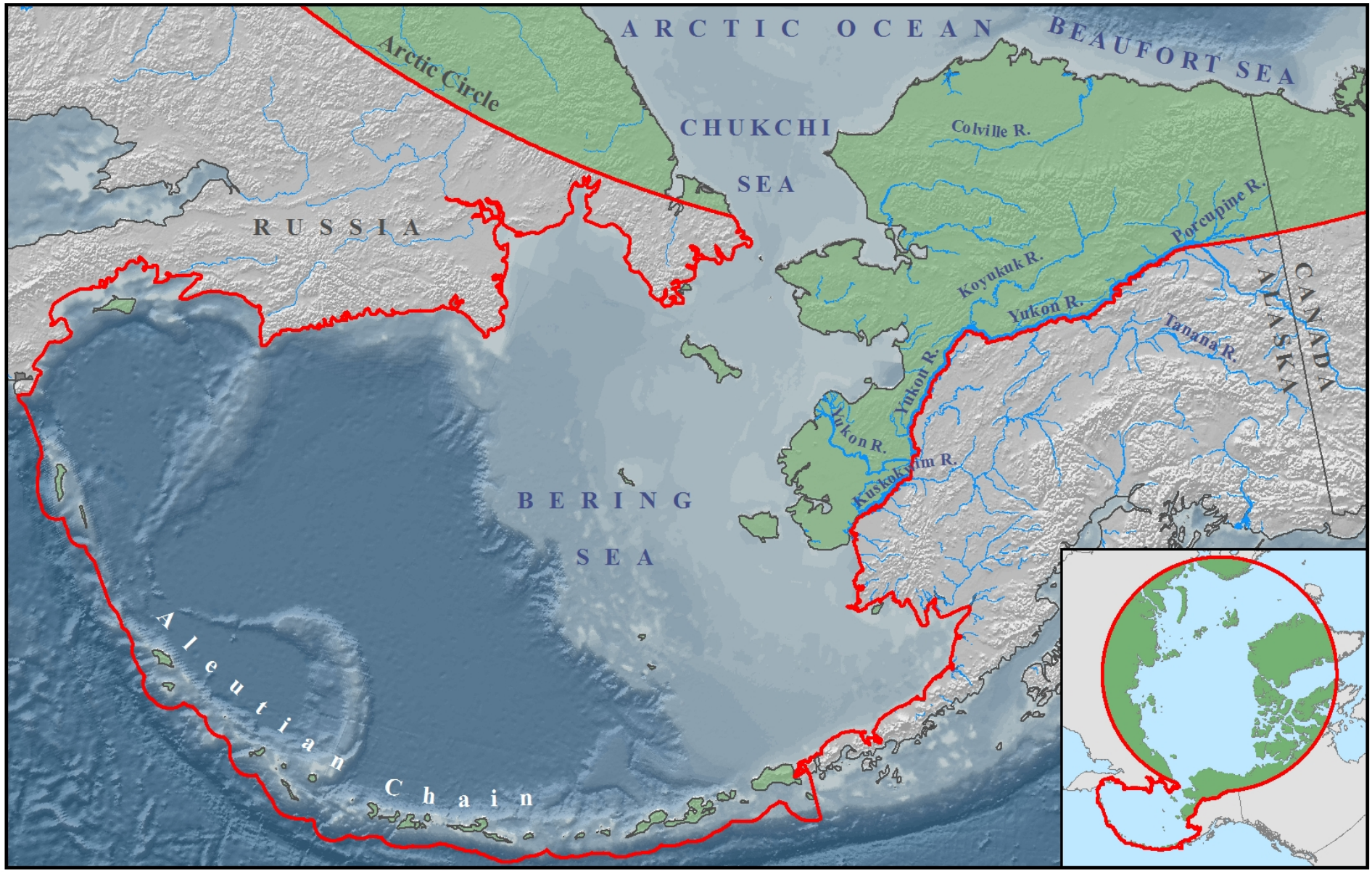
UNOLS AICC Meeting

John Farrell
December 8, 2009

Arctic Boundary as defined by the Arctic Research and Policy Act (ARPA)

All United States and foreign territory north of the Arctic Circle and all United States territory north and west of the boundary formed by the Porcupine, Yukon, and Kuskokwim Rivers; all contiguous seas, including the Arctic Ocean and the Beaufort, Bering and Chukchi Seas; and the Aleutian chain.[1]



Acknowledgement: Funding for this map was provided by the National Science Foundation through the Arctic Research Mapping Application (armap.org) and Contract #0520837 to CH2M HILL for the Interagency Arctic Research Policy Committee (IARPC).

Map author: Allison Gaylord, Nuna Technologies. May 27, 2009.

1. The Aleutian chain boundary is demarcated by the 'Contiguous zone' limit of 24-nautical miles

Trillion Dollar Issues

- Arctic ownership, sovereignty
- Arctic resources (fish, O&G, minerals)
- Global Trade (trans-arctic & destinational shipping)
- Climate change mitigation/adaptation
- Protecting shared values – culture & conservation

US ARCTIC RESEARCH COMMISSION

US Arctic Research…

…~$400M/yr across >15 federal agencies

…cooperating with over a dozen nations

…using research infrastructure worth billions

US ARCTIC RESEARCH COMMISSION

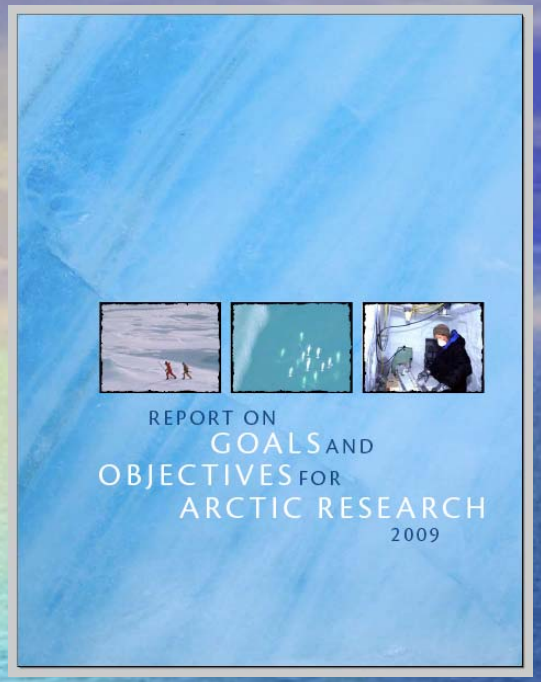
What is the USARC?

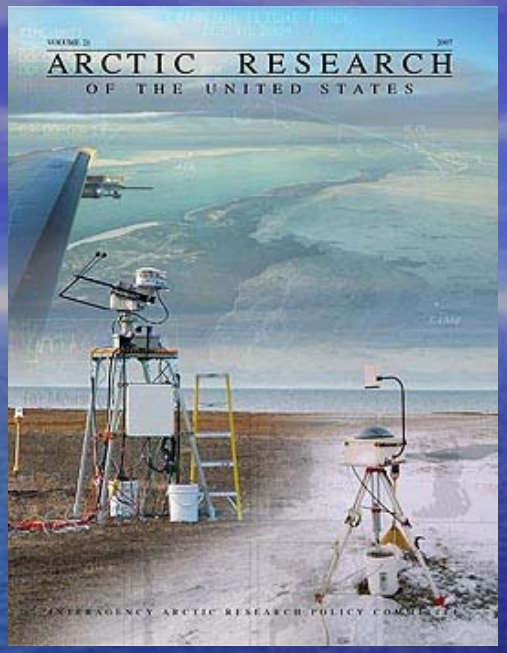
- Independent federal agency that works with Congress and Executive branch

- Develops and recommends an integrated national Arctic research policy

- Helps establish a national Arctic research program plan to implement the policy

- Facilitates cooperation among federal, state and local governments, and other nations with respect to Arctic research, both basic and applied (e.g. workshop w/NIC)





USARC: establishes research goals & sets research policy

IARPC: adopts goals, creates research plan

White House: OMB/OSTP

Congress: Authorizers & Appropriators

USARC comments on budget to Congress

Research Themes and Interagency Leadership

- Enviro. Arctic Change/Ocean Studies – NSF, NOAA, etc.
- Arctic Human Health – NIH, CDC, etc.
- Civil Infrastructure – DOD/Army Corps of Engineers
- Natural Resource Assessment & Earth Sci. – USGS
- Indigenous Lang., Identities, Cultures – Smithsonian, etc.

Environmental Arctic Change & Ocean Studies

- Grow Arctic Observing Network; tie to GEOSS
- SEARCH (Study of Environmental ARctic CHange). NSF…
- Tie research more closely to CCSP, CCTP, OAP
- Better models to set climate goals (mitigation)
- Key questions: methane, black carbon, acidification
- Support key policy issues: COP-15 & beyond, sea ice retreat/shipping, endangered species, exploration

Boost infrastructure for Arctic Research

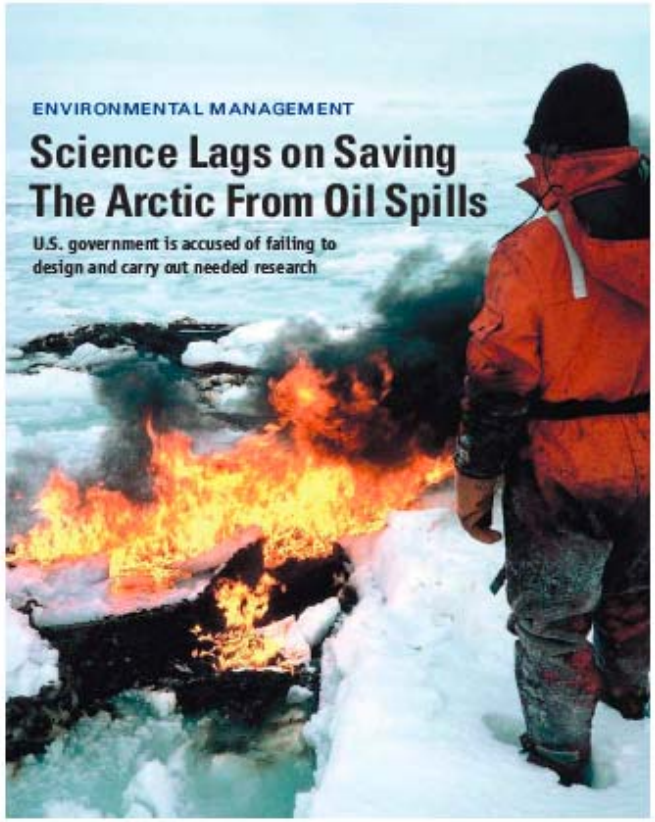
- Sustainable Arctic Observing Network (intl' coop.)
- Cabled (fiber optic) observatories
- Icebreakers (GAO, DHS IG)
- Alaska Region Research Vessel (Yes)
- Barrow & Intl' Arctic Research Centers
- Advance use of robotic remote sensing (sea, air, space)
- Satellites (NASA's ICESat-II, GRACE-II, others)
- Declassify US intelligence data, mapping, imagery
- Nuclear submarines (SCICEX), ice camps


Arctic Council
Arctic Marine Shipping Assessment 2009 Report
ARCTIC MARINE SHIPPING ASSESSMENT
ARCTIC COUNCIL
PAME

ENVIRONMENTAL MANAGEMENT

Science Lags on Saving The Arctic From Oil Spills

U.S. government is accused of failing to design and carry out needed research



CREDIT: DAVID GLOVING

Hot spot. Oil from a 1986 test spill is burned off the Canadian coast of Nova Scotia as part of ongoing research on Arctic cleanup efforts.

Global warming is raising the possibility of a devastating oil spill in the Arctic, as melting sea ice attracts more shipping and energy exploration. But the United States is ill-prepared to prevent and recover from spills in this ecologically fragile region, say scientists and policymakers. So they are asking the U.S. government to reinvigorate the national oil-spill research program with a focus on the Arctic.

In 1986, the federal government set up the Oil Spill Liability Trust Fund to pay for cleaning up spills, putting a nickel tax on every barrel of crude oil produced domestically or imported into the country. In 1990—1 year after the *Exxon Valdez* spilled 250,000 barrels of crude into the sub-Arctic Prince William Sound in the Gulf of Alaska—Congress created a national research program funded by the trust fund to improve cleanup technologies and study spill effects on ecosystems in all regions, including the Arctic. A 13-agency coordinating committee led by the U.S. Coast Guard oversees the program.

But the national oil-spill research plan hasn't been updated since 1997, and the federal agencies have spent only a fraction of the $28 million a year that was authorized—last year's total for all oil-spill research was $7 million. The Oil Spill Recovery Institute in Cordova, Alaska, which, under the 1990 Oil Pollution Act, was created to study spills in the Arctic, typically spends $800,000 a year. In contrast, Norway, for example, has invested $10 million since 2006 to study new oil-spill technologies in the Arctic.

A 1993 U.S. National Research Council (NRC) report on the coordinating committee's original plan concluded that the "effectiveness of the plan is in doubt" because of the low level of funding, adding that public interest in oil spills wanes quickly after an accident occurs. Another problem, says Mead Treadwell, chair of the U.S. Arctic Research Commission, which is charged with recommending national policy on Arctic research, is that the Coast Guard has been preoccupied with homeland security since the 2001 terrorist attacks.

"It just isn't working," Treadwell says about the 1990 law's research program. "We need to have the confidence that we can prevent and respond to spills in this frontier region." The interagency committee needs to update its research plan to pay more attention to the Arctic, Treadwell said to a Senate spending panel last month at a field hearing in Alaska on the Arctic's strategic importance.

Bills are pending in both houses of Congress that would beef up the Arctic research program. A Senate bill (S. 1564) would authorize $8 million annually in fiscal years 2010 through 2014 specifically for research on Arctic biology and improved cleanup technology. A House bill (H.R. 2693) would put the National Oceanic and Atmospheric Administration (NOAA) in charge of a new interagency committee that would include grants to universities and research institutions and have research on Arctic spills as one of its priorities.

Treadwell doesn't believe the 1990 law needs any significant changes. "Congress can rearrange the chairs in the room, but why don't we just use the legislation already available?" he says. Captain Anthony Lloyd, the Coast Guard official who chairs the coordinating committee, says the committee plans to start updating the research plan within the next year. More research is key, says Treadwell. "Right now, if a university researcher has a good idea for climate change, there is a way to get funding," he says. "Not so for oil-spill research."

There are plenty of challenges for scientists to tackle. The logistics of Arctic oil spills is more difficult, as the Arctic has fewer locations from which to launch recovery missions. In addition, the icy waters require different cleanup techniques. The ice can also trap oil underneath it, making it difficult for crews to find. "When the oil gets under the ice, that's a different situation," says Stanley Rice, a senior scientist at NOAA's Auke Bay Laboratories in Juneau. "That's what's scary to us."

Under ideal conditions, cleanup crews can recover 30% of spilled oil, according to a 1999 NRC report. But that figure would be much lower in the Arctic, says Rick Steiner, a marine biologist at the University of Alaska, Anchorage. "If … there is a spill, it's virtually certain that most of the oil will remain in the environment," Steiner says. He and other scientists worry that this lost oil will disrupt an ecosystem already stressed by climate change. "We currently know enough [to predict] that it would be a big problem," Rice says.

–MICHAEL TORRICE

Oil-spill in ice research, need more...

- USCG Chairs Interagency Coordinating Committee on Oil Pollution Research (ICCOPR).
- National oil-spill research plan not updated since '97
- Senate bill (S. 1564) authorizes $8 million annually in FY10 thru '14 for Arctic biology research and improved cleanup tech.
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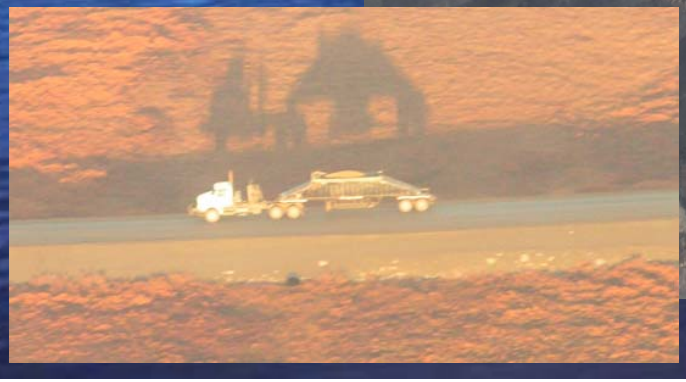
U.S. COAST GUARD


1712
KODIAK

Red Dog: world's largest zinc mine




Red Dog
Mine, Alaska

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Tuesday, December 8, 2009

OSTP Blog

Science ⋄ Technology ⋄ Innovation

OSTP Visits Alaska

Friday, October 2nd, 2009 at 3:52 pm by Phillip Larson

By Kate Moran

Other items of interest:

- DOI gives Shell permission to drill 3 wells in Chukchi
- USCG authorization bill and others (Begich, Young)
- Intl' Arctic Fisheries Conference
- Arctic in Interagency Ocean Policy Task Force. One of 5 "Areas of Special Emphasis"
- Arctic Research & Policy Act
- GAO study & DHS IG audit

TITLE 15 - COMMERCE AND TRADE
CHAPTER 67 - ARCTIC RESEARCH AND POLICY

§ 4109. Coordination and review of budget requests; Office of Science and Technology Policy; Office of Management and Budget

(a) The Office of Science and Technology Policy shall—

(1) review all agency and department budget requests related to the Arctic transmitted pursuant to section 4107 (a)(5) of this title, in accordance with the national Arctic research policy and the 5-year program under section 4107 (a)(2) and section 4108 of this title, respectively; and

(2) consult closely with the Interagency Committee and the Commission to guide the Office of Science and Technology Policy's efforts.

(b) **(1)** The Office of Management and Budget shall consider all Federal agency requests for research related to the Arctic as one integrated, coherent, and multiagency request which shall be reviewed by the Office of Management and Budget prior to submission of the President's annual budget request for its adherence to the Plan. The Commission shall, after submission of the President's annual budget request, review the request and report to Congress on adherence to the Plan.

(2) The Office of Management and Budget shall seek to facilitate planning for the design, procurement, maintenance, deployment, and operations of icebreakers needed to provide a platform for Arctic research by allocating all funds necessary to support icebreaking operations, except for recurring incremental costs associated with specific projects, to the Coast Guard.

(Pub. L. 98–373, title I, § 110, July 31, 1984, 98 Stat. 1248.)

GAO study

"investigative arm of Congress"

- What's the status of USCG's efforts to identify requirements across all of its missions in light of reduced ice conditions and increased maritime activity in the Arctic?

- What's the adequacy of USCG's current shore-based infrastructure in Alaska and what, if any, plans are in place to expand or improve that infrastructure?

- Are USCG's surface and aviation assets adequate to conduct operations in polar conditions, including legacy assets and new Deepwater assets?

DHS IG's Audit

"CG Polar Icebreaker Maintenance, Upgrade & Acquisit."

Stated Objective: determine if CG's polar icebreakers are capable of supporting the National Security Presidential Directive 66 and Homeland Security Presidential Directive 25 requirements for increased MDA in the Arctic region.

Status: projected start date is Aug. 2010


Thanks
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