





Arctic change driver: economics

- Increasing global demand for resources
- Arctic is resource rich
- Region increasingly accessible via technology advances
 & climate change



"The opening of the 'fifth ocean," the Arctic, for longer periods of time, will provide new access to resources, migration of fishing stocks and eventually new trade routes, that can't be overstated."

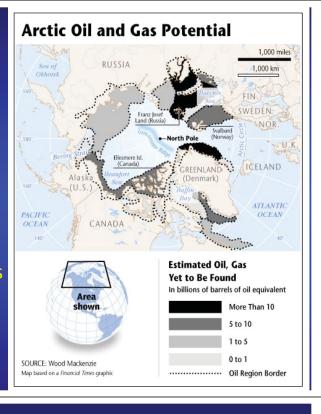
 Former Chief of Naval Operations Adm. Gary Roughead (retired) Arctic has much of world's remaining "undiscovered" fossil fuel

13% oil

30% natural gas

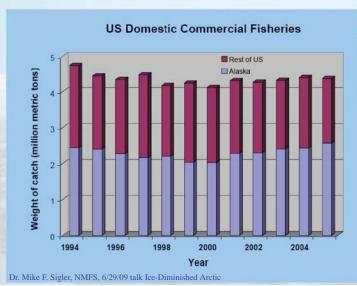
20% natural gas liquids

2009 USGS CARA report

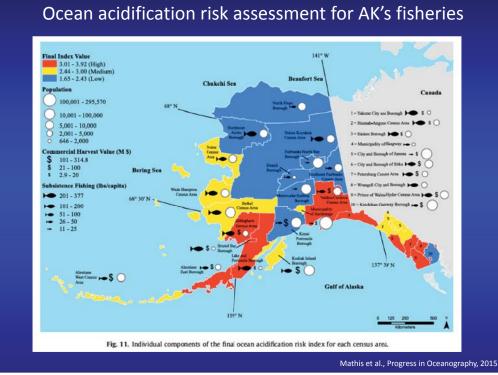


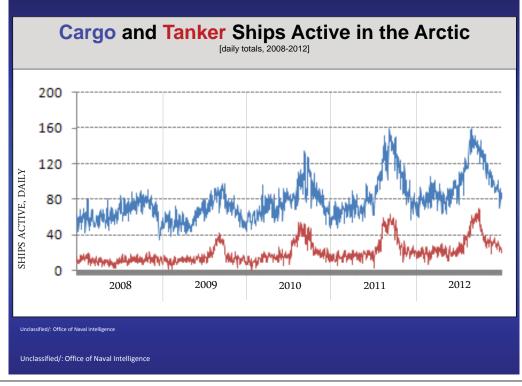
Alaska Feeds the Nation

Largest private sector employer in Alaska









Federal actions on Arctic research & policy



Arctic research

coordination from NSF to NSTC

THE WHITE HOUSE

July 22, 2010

1.Start with law (ARPA, 1984)

2.Improve it (White House takes over leadership, 2010)

3.Implement it (IARPC's 2013 Arctic Science Program Plan)

4. Obama Administration actions

- Arctic Policy (Jan. 2009)
- Arctic Strategy (including science plan, May 2013)
- Arctic Implementation Plan (Jan. 2014)
- Executive Order 13689 (Jan. 2015)



6 research themes in USARC's new "Goals" report to President Obama and Congress

- Environmental Change
- Human Health
- Built Environment
- Natural Resources & Renewable Energy
- Cultures & Community Resilience
- Intl' Sci. Cooperation



Federal Arctic research policy/process







USARC set goals



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

Final Report of the Alaska Arctic Policy Commission January 30, 2015 State of Alaska's Arctic Focus

The Alaska Arctic Policy Commission submitted to the Legislature for consideration an Arctic Policy based on these four vision statements:

- Uphold the state's commitment to economically vibrant communities sustained by development activities consistent with the state's responsibility for a healthy environment.
- Collaborate with all levels of government, tribes, industry and nongovernmental organizations to achieve transparent and inclusive Arctic decision-making resulting in more informed, sustainable and beneficial outcomes.
- Enhance the security of the state through a safe and secure Arctic for individuals and communities.
- Value and strengthen the resilience of communities and respect and integrate the culture and knowledge of Arctic peoples.





ARCTIC COUNCIL

United States Chairmanship 2015 - 2017

One Arctic: Shared Opportunities, Challenges and Responsibilities

History and Mandate of the Council

The Ottawa Declaration (1996) formally established the Arctic Council as a high level intergovernmental forum to promote cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic indigenous communities and other Arctic inhabitants on common Arctic issues.

Particular emphasis on sustainable development and environmental protection in the Arctic; military security issues are specifically excluded from the Council's mandate.















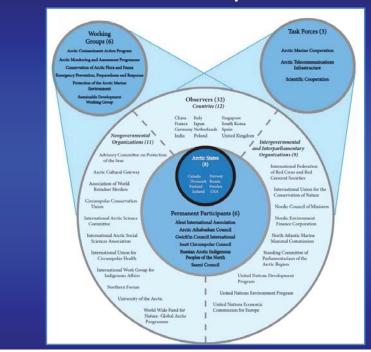
Arctic Priorities

 Balanced thematic pillars of the Arctic Council during the US Chairmanship 2015-17:

Improving Economic and Living Conditions
Arctic Ocean Safety, Security, and Stewardship
Addressing Impacts of Climate Change

- Arctic as a region of stability, peace and international cooperation
- Arctic climate change impacts locally and globally

Arctic Council Structure | U.S. Chairmanship





U.S. Chairmanship Team

Secretary of State John F. Kerry - Chair of the Council

Special Representative for the Arctic Robert J. Papp – Coordinator of the Chairmanship

Fran Ulmer - Special Advisor on Arctic Science and Policy

Ambassador David Balton - Chair of the Senior Arctic Officials

Julia L. Gourley - Senior Arctic Official

Overarching Goals

- · Continue strengthening the Arctic Council as an intergovernmental forum
- Introduce new long-term priorities into the Arctic Council
- Raise Arctic and climate change awareness domestically and across the world

3 Thematic Pillars: Balanced Approach

ARCTIC COMMUNITIES

- Renewable Energy
- Community Sanitation & **Public Health**
- Water Resources **Vulnerability Index**
- Freshwater Security
- **Telecommunications**

Infrastructure

Suicide Prevention &

Resilience

ARCTIC

- **OCEAN** CLIMATE
- Search & Rescue Exercises
- Marine Environmental Protection
- Marine Protected Areas Network
- Arctic Ocean Cooperation
- Arctic Ocean Acidification

- **ARCTIC**
- Short-lived Climate
- **Pollutants**
- Arctic Climate Adaptation &
 - Resilience
- Pan-Arctic Digital Elevation
 - Map
- Early Warning Indicator System



Economic Development

- Harness the expertise and resources of the Arctic Economic Council to inform the Arctic Council's work to improve economic and living conditions in the region.
- Coordinate an Arctic-wide telecommunications infrastructure assessment to promote the build-out of commercial infrastructure in the region.
- Promote the development of renewable energy technology to spur public-private partnerships, improve energy affordability, mitigate public health risks and reduce black carbon output in Arctic communities.
- Facilitate collaboration between industry, researchers and public policy experts to increase access to and reduce the operating costs of in-home running water and sewer in remote communities.

U.S. Federal Government Involvement: Working Groups and Task Forces

Arctic Contaminants Action Program Environmental Protection Agency

Arctic Monitoring & Assessment Program U.S. Global Change Research Program

Conservation of Arctic Flora & Fauna U.S. Fish and Wildlife Service

Emergency Prevention, Preparedness & Response National Nuclear Security Administration

Protection of the Arctic Marine Environment National Oceanic and Atmospheric Administration

Sustainable Development Working Group Department of State

Task Force on Arctic Marine Cooperation State/National Oceanic and Atmospheric Administration

Task Force on Telecommunications Infrastructure in the Arctic State/National Telecommunications & Information Administration

> **Task Force on Scientific Cooperation National Science Foundation**

Chairmanship Project Leads

- Search and Rescue U.S. Coast Guard
- Marine Environmental Protection U.S. Coast Guard and Interior/Bureau of Safety and **Environmental Enforcement**
- Marine Protected Areas Commerce/National Oceanic and Atmospheric Administration
- Ocean Acidification Commerce/National Oceanic and Atmospheric Administration and State/Office of Ocean and Polar Affairs
- Short Lived Climate Pollutants State/Office of the Special Envoy for Climate Change
- Climate Resilience Interior/Office of Policy Analysis and State/Office of International Health and Biodefense
- Pan-Arctic Digital Elevation Map Interior/U.S. Geological Survey
- · Climate Change Indicator System U.S. Global Change Research Program and State/Office of Global Change
- Renewable Energy Energy/National Renewable Energy Laboratory, Interior and State/Office of Ocean and Polar Affairs
- Sewer and Water Challenge HHS/Centers for Disease Control and Prevention
- Arctic Water Resource Vulnerability Index State/Office of Ocean and Polar Affairs
- Arctic Freshwater Synthesis Energy/Office of Biological and Environmental Research
- Mental Health and Suicide Prevention HHS/Office of Global Affairs

The opening of the Arctic presents opportunities and challenges that must be addressed through scientific enquiry and rational policies, both of which require international collaboration.

Increased access to resources could introduce unhealthy competition, environmental damage and greater need for international stewardship.

We must not forget the reason for greater access in the Arctic is a warming climate, which brings along a cascade of environmental and social consequences.