



## UNITED STATES ARCTIC RESEARCH COMMISSION

### About

The US Arctic Research Commission (USARC) is an independent federal agency that advises the President and Congress on domestic and international Arctic research through recommendations and reports.

USARC, a presidentially appointed consultative body, was created by the Arctic Research and Policy Act of 1984, and is supported by staff in Washington, DC, and in Anchorage, AK. Under this Act, USARC biennially recommends key research goals and objectives for the US Arctic Research Program Plan. The goals are adopted by an Interagency Arctic Research Policy Committee (IARPC) that develops the nation's five-year Arctic Research Program Plan. This plan is implemented by US federal and state agencies, local governments, university partners, and private-sector collaborators.

This page summarizes the *Report on the Goals and Objectives for Arctic Research 2011–2012*. The full report can be downloaded at [http://www.arctic.gov/publications/2011-12\\_usarc\\_goals.html](http://www.arctic.gov/publications/2011-12_usarc_goals.html).

### GOAL 1 | Understand Arctic Environmental Change

#### KEY OBSERVATIONS

- The Arctic is warming at twice the global rate, and the region will likely contribute to further warming through reductions of sea ice cover, forest expansion, and the release of methane, a greenhouse gas.
- The Arctic is experiencing significant increases in shipping, tourism, and natural resource extraction, and greater attention is being paid to its fisheries and ecosystems.

#### USARC RECOMMENDS...

...greater support for efforts to observe and understand the Arctic environment and climate, how they are changing due to natural and human activities, and how we may better respond to future change. We must do more to synthesize scientific results and translate them into actionable information.

### GOAL 2 | Improve Arctic Human Health

#### KEY OBSERVATIONS

- Marked health disparities exist between US Arctic residents and those who live in the lower 48 states. Similar latitudinal disparities exist in other Arctic nations.
- While Alaskan rates of infant mortality, fetal alcohol syndrome, chronic lower respiratory disease mortality, and accidental injury have decreased, the rates of substance abuse, domestic violence, obesity, diabetes, cancer, and suicide have risen.

#### USARC RECOMMENDS...

...additional basic biomedical and behavioral research in these areas, continued community health analyses, and a recurring assessment of intervention efforts, on a decadal scale, to help develop research priorities, review results, and guide the scaling up of localized, successful efforts into broader clinical interventions.

## GOAL 3 | Assess Natural Resources

### KEY OBSERVATIONS

- The US Arctic is rich in natural resources, such as oil and gas, minerals, fisheries, and wildlife, yet we have not sufficiently assessed their distribution, abundance, and concentration.
- The United States is not yet a party to the United Nations Convention on the Law of the Sea (UNCLOS), thus precluding us from claiming our share of the Arctic 200 nautical miles beyond the coast or contesting the claims of other countries.

### USARC RECOMMENDS...

...basic mapping of Arctic lands and charting of Arctic waters to the standards achieved in the lower 48 states. We must also quantitatively assess mineral, energy, and living resources. Concomitant with this assessment, the Commission recommends gaining a greater understanding of the immediate and cumulative environmental, social, and economic impacts of developing these resources. Finally, the Commission continues to urge Senate ratification of UNCLOS.

## GOAL 4 | Advance Civil Infrastructure Research

### KEY OBSERVATIONS

- Arctic climate change is affecting infrastructure, and the implications for transportation, communication, energy, and community networks are considerable.
- Thawing permafrost affects buildings, utilidors, and roadbeds. Diminished sea ice and stronger storms are eroding coastlines and communities. While marine access increases, terrestrial access decreases (e.g., shorter seasons for ice roads).

### USARC RECOMMENDS...

... a research program on innovative technological and engineering solutions to support civil infrastructure that will withstand environmental change. Focus on building foundations; delivery of utilities, energy, and communication; and a transportation system that addresses land, air, and sea (e.g., deep-draft Arctic ports). Also, if oil spills cannot be prevented, we must be prepared to respond, and the uniqueness of the Arctic requires specialized research.

## GOAL 5 | Evaluate Indigenous Languages, Identities, and Cultural Research Needs

### KEY OBSERVATIONS

- Language is one of the most vulnerable, yet important, elements of Arctic cultural identity and heritage.
- When speakers of endangered languages switch from their mother tongue to other languages for communication and education, vast amounts of knowledge and tradition are lost, impacting cultural identity.

### USARC RECOMMENDS...

...developing an integrated Arctic indigenous languages research plan that: (1) conducts regular assessments to understand the extent and diversity of languages spoken by Arctic indigenous peoples and the viability of those languages for future generations; (2) documents procedures to ensure that languages and place names spoken and given by Arctic people are recorded and preserved; and (3) defines policy options and processes for language monitoring and preservation.



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