Overarching Option #1: Establish an Alaska Climate Change Knowledge Network (ACCKN)

Recommended Option

Establish an Alaska Climate Change Knowledge Network (ACCKN) with the following functions:

- Provide means to organize, archive when needed, and inventory data and other resources pertinent to understanding climate change and its effects in Alaska.
- Provide online access to the above data, information, and knowledge in ways that facilitates use.
- Identify and communicate to information providers the information needed by communities to understand and plan for climate change.
- Provide means to share information on specific geographic areas of concern such as the Arctic.
- Provide means to incorporate community and other entities' (e.g., the private sector) data, information, and knowledge about the effects of climate change.
- Provide a point of coordination with NOAA efforts to develop a Regional Climate Center in Alaska.

Option Description

Issue

Numerous activities are underway to collect data relevant to climate change in Alaska, within state agencies, among Alaskan research institutes, in the private sector, at the federal level, within not-for-profit and international organizations, and within Alaskan communities. Some of the existing data are maintained in online archives, others are stored in file cabinets or boxes. There is no easy way to access and integrate these climate-change data sets, research, and project information. Additionally, numerous forums, meetings, and events take place that generate information, knowledge, and ideas among the participants. Significant knowledge exists in these contexts, but awareness of its existence is limited and accessing and using the information is challenging and does not facilitate use. Most Alaskan communities and businesses have very little understanding of the recent and projected environmental and ecological changes they are experiencing and approaches to be taken to adapt. Further, most state and federal agencies responsible for planning and managing both natural resources and built/human capital are not sufficiently informed about climate-change research and predictions to make good decisions regarding strategies to adapt to climate change. Finally, the information available is often not in a user-friendly form that meets the planning needs of communities, agencies, businesses, NGOs and other entities.

Overview

There is a need to promote more effective organization of climate-change data and information and means to use the information. This requires technology and data management approaches, as well as coordination and collaboration among agencies, organizations, and entities with data

collection and management responsibilities. Current entities with climate-change data collection, data management, policy, and/or research responsibilities include:

- Alaska Marine Ecosystem Forum
- State-Federal Climate Change Roundtable
- Alaska Ocean Observing System – AOOS (Alaska Marine Information System for Ocean and Coastal Information)
- Scenarios Network for Alaskan Planning - SNAP
- Alaska Center for Climate Assessment and Policy - ACCAP
- Alaska Climate Research Center - ACRC
- Governor's Sub-Cabinet on Climate Change
- North Pacific Research Board
- National Oceanic and Atmospheric Administration - NOAA
- US Geological Survey - USGS
- Alaska SeaLife Center
- Geographic Information Network of Alaska - GINA
- Office of the State Climatologist

The ACCKN will be supported by a staff that organizes and coordinates access to existing archives of data on climate change, promotes sharing of data and knowledge among experts and those in need of information, provides means to link data, identify gaps in data and information, improve access to data that are currently difficult to locate, and provide access to tools and models that support the use of data accessible through the ACCKN. The staff will bring expertise in both technology to support the infrastructure of the ACCKN and science to understand the content.

The ACCKN will support the online, distributed management of numerous information resources via a Web portal. Resources will include archived climate data, climate projections, maps of climate and Arctic conditions and changes, research on climate-change effects, data on current environmental conditions (including data for which archives may not currently exist), policies, forums, workshops, adaptation tools, technical assistance opportunities, community knowledge, etc. The ACCKN will not be responsible for new data collection, but will organize and facilitate access to data from existing sources and assist in identifying and prioritizing gaps in data and potential sources of funding to address those gaps.

Users of and participants in ACCKN will likely include scientists, federal, state, and local government agency representatives; the private sector; academics; community members; the media; and non-governmental organizations.

Option Design

Structure

Central to this option will be the establishment of a focal point for organizing and disseminating information relative to the various state, national, and international entities and forums on climate change. It is expected this focal point will consist of a staff that performs a coordination function among various data collection efforts and climate change events (e.g., maintain a

directory of contacts and calendar) and that develops and maintains an on-line portal to facilitate knowledge sharing. This staff may be established at a state-university funded site, an NGO, within an existing agency, etc. The staff, on behalf of the ACCKN, will have several responsibilities including the following:

1. Maintain a comprehensive inventory of organizations and programs collecting data relevant to climate change in Alaska. Establish means to evolve the inventory to ensure currency and the ability to integrate new efforts.
2. Provide/encourage access to information about climate change and various geographic regions that exist in current programs, offices, and databases as identified on the first page. (This will be a distributed model, with data residing where they are collected or organized, with tools and standards to promote access.)
3. Provide access to research papers and references for better understanding impacts of and potential responses to climate change.
4. Provide access to an inventory of successful Alaska-relevant climate-change adaptation programs as well as contact information for communities, agencies, NGOs, and businesses that developed these. This will enable stakeholder groups to learn quickly from others that have developed successful climate-change adaptation plans.
5. Provide access to data about Arctic forums and individuals participating in them, results of discussions, and decisions. This will aid participants in understanding and tracking Alaska's views and positions on Arctic concerns.
6. Provide a forum to bring together various entities with responsibilities for climate-change data collection to provide means to integrate data and conduct analyses. This includes working with NOAA as they explore development of their regional climate partnerships and Climate Services Initiative.
7. Establish means to address questions of users about climate change issues, including collecting questions and creating a Frequently Asked Questions (FAQ) file and establishing "chat" rooms/wikis for discussion.
8. Identify gaps in data and information and explore and facilitate potential funding sources to address those gaps.
9. Provide means for communities and individuals with knowledge of local conditions to contribute their data to the ACCKN.
10. Identify areas with a high degree of interest or critical topics where information is lacking and promote means among ACCKN stakeholders to interact on these topics.

Targets/Goals

A primary goal of the option is to ensure that investments in Alaska in data and information relative to climate change be leveraged to ensure they serve the communities, businesses, and people of Alaska. This includes understanding existing efforts and providing access to the data they produce.

Targets are as follows:

- Secure funding to conduct a comprehensive inventory of existing efforts, including primary points of contact
- Develop a plan for an approach to organize and coordinate access to relevant climate change data.

- Establish dedicated staffing for the ACCKN and commitments from existing centers and data repositories to provide resources to ensure adequate engagement for Network development. Identify and secure funding for staff to support both technical and scientific aspects of managing and promoting use of climate-change data
- Develop a prototype of a portal/center that will support improved access to the data identified above
- Establish a portal/center for accessing climate change and Arctic data and research
- Use the portal to provide technical assistance and strategies that improve the ability to respond to a changing climate and address Arctic issues
- Establish clear measures of performance (e.g., number of users, number of contributors, relevance of information) for the portal to ensure on-going adaptation to potentially changing needs

Timing

Year 1: Initiate planning and develop partnerships

- Explore potential options/relationships with NOAA in their consideration of a Regional Climate Center in AK. Consider how the ACCKN can support and leverage current NOAA climate efforts and define the regional component of the National Climate Service.
- Complete a comprehensive inventory of existing data collection and archival efforts related to climate change and Arctic issues and sources of potential funding and technical assistance for climate-change adaptation.
- Convene groups of interested parties to outline possible approaches and develop a formal plan, identifying needed funding, technical infrastructure requirements, staffing, and management

Year 2: Implement the plan

- Secure funding for staffing
- Develop a prototype for the ACCKN, including partnerships with selected communities, businesses, and NGOs as pilot tests of ACCKN
- Begin integration and provision of data

Year 3: Provide technical assistance in the integration and use of climate change data to a broad array of stakeholders

Years 4 and beyond: Continue to provide online access to and technical assistance in the use of data and information and identify data gaps and potential funding to address the gaps.

Parties Involved (in implementation of this option)

Representatives of the various centers at the University of Alaska, representatives from selected state agencies who are knowledgeable about agency needs and expertise related to climate change, federal agency representatives with responsibilities for collecting data relevant to climate change and Arctic issues (e.g., NOAA, USGS), private sector representatives addressing climate change and Arctic issues, community representatives with knowledge about community needs relative to climate change, and NGOs.

Evaluation

Metrics must be established that document effectiveness and utilization of the network; routine user surveys could be conducted.

Research and Data Needs
This option suggests a portal for information and knowledge sharing, so no additional research is anticipated before implementation. The operation of ACCKN will, however, identify research gaps in its efforts to provide climate-change information to stakeholders. These research needs will be communicated to research programs and state and federal agencies.

Implementation Mechanisms

This option can be initiated immediately through cooperative efforts among the stakeholders. Funding is needed to support a core staff of 3-5 people. The ACCKN will proceed in the phases identified above. Expanded functioning would require additional funding support to the ACCKN from potential stakeholders and partners, including federal agencies such as NOAA, EPA, and the Departments of Energy and Interior; Federal grants, cost recovery (e.g. from industry groups wanting to know about climate factors in designing a new pipeline), and products generated (e.g. climate hazard maps for local governments)

Related Policies/Programs and Resources

Related Policies and Programs
This program builds on and integrates the efforts of several entities that address climate change as noted in the Option Description.

Available Resources
Many entities already have some state funding in place (direct state funding for Subcabinet activities and university funding to SNAP, AOOS, GINA, ACRC, and ACCAP). There is additional federal funding provided by NOAA to AOOS and ACCAP. These funding mechanisms have enabled these entities to develop substantial capacity and expertise but not at a scale or level of coordination sufficient to implement the proposed ACCKN. Funding to launch ACCKN could come from the federal stimulus package to Alaska.

Feasibility

Feasibility
This program could be implemented immediately because existing entities have the technical expertise to develop the framework. The major hurdle will be institutional - having staff to help pull together existing entities and identifying who leads, how to coordinate, who participates, how information is managed, how decisions are made, etc. An unresolved issue is how to formalize the State-University-federal and within-University partnership in a way that makes it responsive to state needs but insulates it from short-term political crises and shifts in priorities. NOAA and other federal agencies, NGO, private sector, and community representatives should also be involved.

Constraints

The structure and function of the proposed NOAA National Climate Service (NCS) is not yet defined. ACCKN will be developing without a clear model for how it will integrate into the NCS as its Alaskan (and Arctic) regional component.

Adaptation Benefits and Costs

Benefits

This option provides numerous benefits for anyone dealing with climate change issues in AK. It will improve the availability of data for decision-making, will provide approaches to involve relevant stakeholders in discussions on data pertinent to climate change and Arctic issues, and could result in more fruitful and coordinated discussions occurring at the community, state, regional, and federal levels. It will also constitute the regional component of the NCS, giving the NCS an existing regional climate partnership to leverage.

TWG Approval and Deliberations

This option was identified by both the Natural Systems and Economic Activities TWGs. It was refined by representatives from each of those TWGs.

THESE NEED FURTHER DISCUSSION (AND MAY BE REMOVED ALTOGETHER)

Costs (under development)

Possible costs:

1. Phase 1 (Inventory): $50,000
2. Phase 2 (Plan): $75,000
3. Phase 3 (Implementation): $300,000/year (TBD – based on Plan)