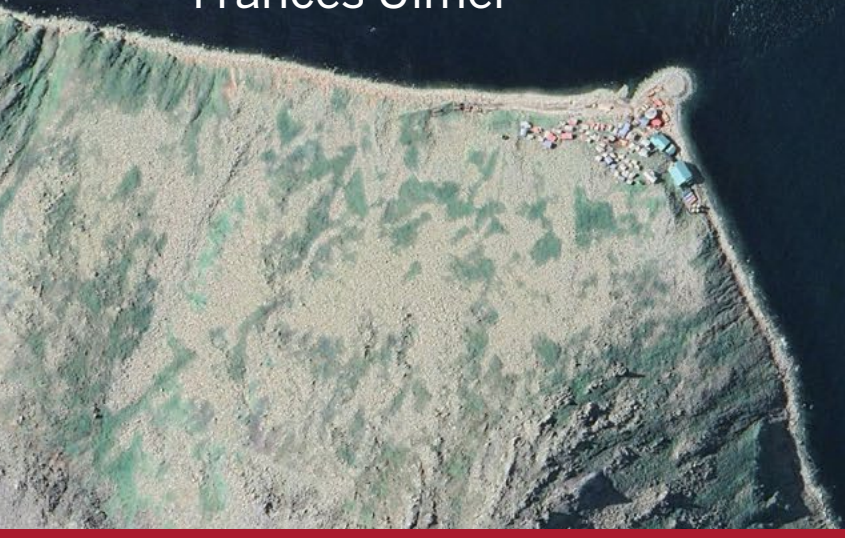
ARCTIC INITIATIVE

Addressing Dramatic Changes in the Bering Strait Region Requires Governance Adaptations

Frances Ulmer



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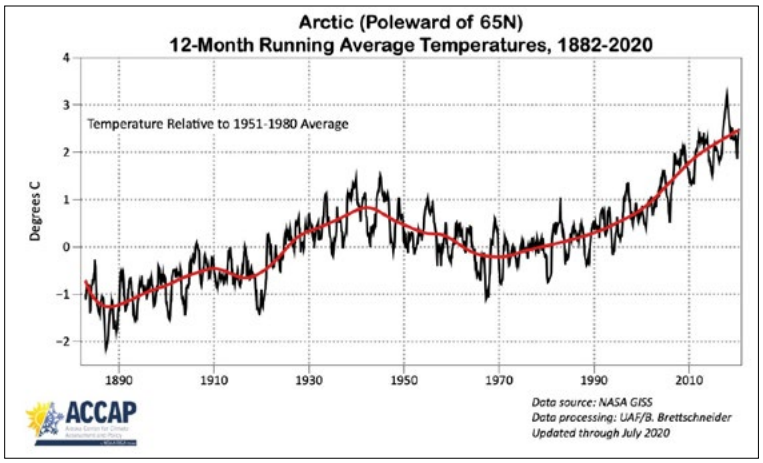
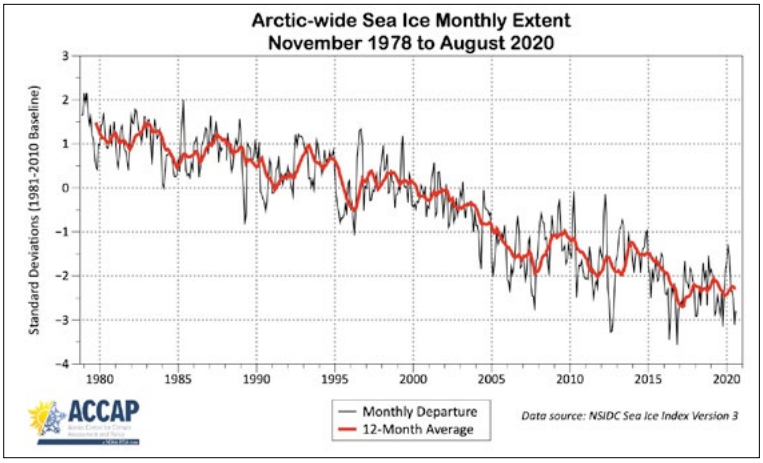
A satellite view of Little Diomede Island, Alaska, in the middle of the Bering Strait.

Image by CNES/Airbus via Google Earth, used with permission.

“Wide ranging and profoundly disturbing.”

These words describe the extraordinary changes happening in the Arctic region. The Arctic of today does not resemble the Arctic of fifty years ago, and the Arctic of 2070 will be different still, based on everything we know now. Warmer temperatures on land and in the ocean, retreating sea ice and glaciers, thawing permafrost, rapidly changing ecosystems, range expansion of novel species and stress in native species, changing ocean chemistry, and altered seasons all contribute to significant alteration of a region in an extremely compressed timescale. At the same time, globalization and the increasing international interest in the region add new pressures for access, development and geopolitical positioning in the Arctic. Concerns about the implications and impacts of that intensified engagement generate even more anxiety about the transformation to a brand-new Arctic in the 21st Century.





These changes are undeniable, and they are accelerating, as has been well documented by numerous studies, scientific papers, Indigenous Knowledge and by personal accounts from the people of the Arctic describing the changes they are witnessing and how their lives have been impacted. All these sources agree that the change and the impacts are unprecedented and threaten the health and safety of communities now and in the future. Has this documentation changed the way in which decisions are being made to prepare for the future? In my opinion, only to a very limited extent.

Governance Vacuum

Why has there been so little action directed toward adapting to the realities of a changing Arctic and the necessity to prepare for future conditions that will alter economic livelihoods, transportation systems cultural practices and communities? I believe it is not for lack of concern or even lack of trying. It is due in large measure to an absence of sufficiently adapted governance structures that can appropriately gather, incorporate, evolve and then fund the multi-layered solutions that will be successful.

Most Arctic forecasting efforts attempted by governments, researchers and planners conclude with reports describing some of the anticipated changes and broad recommendations about the need for more research and more funding by governments. It certainly is true that more research and more funding would be helpful. That is not enough, however, to accurately or completely understand the implications of those changes, or to effectively organize the challenging work of preventing some of the most negative outcomes. What is needed are new methods to evaluate and then implement the adaptation measures needed for a sustainable Arctic and its people.

Shoreline erosion in Kivalina, Alaska (photo credit: Shorezone.org)

Currently, most government funding and agency approaches to the dramatic changes in the Arctic are modest and incremental. For example, communities that are highly vulnerable to coastal erosion get assistance in building sea walls with a design life of a few years. Even those communities that have been identified as candidates for relocation find it very difficult to obtain support for longer-term solutions like financing new community construction, or for other approaches to help people transition to safer locations (like the Canadian program to pay for individual moves). Needless to say, these decisions are extremely difficult for many reasons, such as a lack of consensus at the community level, disagreement about alternative sites, no established state or federal program that is responsible to assist before a disaster happens instead of after the fact, in addition to lack of funding.

Difficult Decisions

The village of Shishmaref is an example of a community in Northwest Alaska that has voted several times to move, and then not to move, and then to move again. Shishmaref is a traditional Inupiaq village of approximately six hundred people on Sarichef Island, just north of the Bering Strait. Hundreds of feet of shoreline, houses and parts of roads have been lost, due to coastal erosion and thawing permafrost. The U.S. Army Corps of Engineers has rated it extremely vulnerable, and has tried unsuccessfully to construct permanent barriers that could be sufficient protection for the village. When I visited Shishmaref over a decade ago, I attended one of the town meetings discussing the potential relocation. It was heartbreaking to hear the stories of people who had deep connection to a place generations had called home…the only place they ever expected to raise their families. However, the powerful fall storms were eating away their shorelines, year after year, eroding the coastline. The late onset of freeze up and absence of sea ice left them unprotected from the pounding waves of the Chukchi Sea just a few feet from their homes. It is no wonder that moving a village creates such difficult emotional divides, particularly when there is no governmental program to provide the kind of assistance needed for planning and designing or funding a managed retreat or relocation, until after a disaster happens.

Similarly, projected increases in shipping and potential industrial developments stimulate many conversations about the need for more ports and more support infrastructure in key locations. In some areas of the Arctic, like the Bering Strait region, that infrastructure is minimal. Sometimes the discussion focuses on promoting those activities as economic opportunities;sometimes the focus is on preparing for potential accidents and disasters, and lately, the focus is on national security. All of these discussions are important in building more awareness about the challenges presented by changing conditions. However, the more difficult questions about assessing the relative positives and negatives of alternative sites for projects or evaluating the potential impacts of new development on traditional cultures and local environments are often considered too politically and culturally difficult to discuss openly. Moreover, many different entities have roles in the decision process, each with their own method for seeking input, focusing on

one part of a project at a time. Meaningful opportunity to involve and respect the perspectives of the people most impacted by decisions is essential, but rarely done in ways considered satisfactory. It is challenging to develop a process to identify feasible and sustainable adaptation options, evaluate them, and then develop a consensus among the essential stakeholders and relevant decision makers. However, that is exactly what is needed, given the scale of the decisions that need to be made.

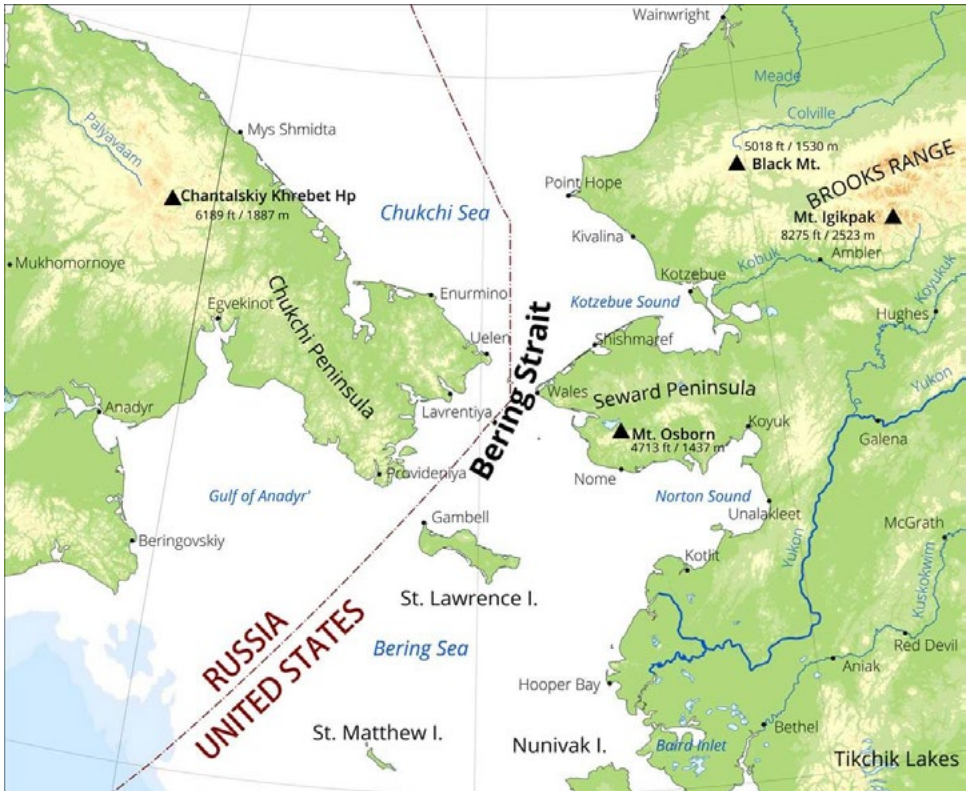
(a)

(b)

Erosion in the village of Shishmaref, Alaska (photo credits: C. Rosa (a), IARC Group — ACCAP, AFSC, AK CASC, IARC (b))

The Bering Strait Region

The Bering Strait Region is a great example of an Arctic region where these questions are highly relevant and critical to its future. The Bering Strait is one of the most valuable and vulnerable places in the Arctic today. The narrow strip of water between Alaska and Russia, 51 miles wide, is a major wildlife corridor for countless marine mammals, birds and fish that migrate through the Strait twice annually. As a link between the Bering Sea and the Chukchi andBeaufort Seas, migrating marine mammals, waterfowl and sea birds, and other wildlife are wholly dependent upon the Bering Strait to get to the historically productive Arctic waters for mating, nesting and feeding in spring and summer. The Indigenous people in the region, both in Alaska and in Russia, possess a vibrant cultural heritage based on subsistence harvest. They have a vital interest in the health of the ecosystem and the sustainability of the species they have depended on for centuries.



Map of the Bering Strait region (source: Freeworldmaps.net)

Concurrent with this environmental change, the Bering Strait is becoming a major shipping lane for vessels transiting between the Arctic and

the North Pacific, with traffic increasing, particularly between the Northern Sea Route and Asia. From cruise ships to LNG tankers, increased vessel traffic in this narrow passage raises concerns about the potential for maritime accidents such as oil spills, interference or injury to whales and other marine mammals from ship strikes and disturbance, and disruption of subsistence hunting and activities. These risks are magnified by increasingly unpredictable and extreme weather conditions and the lack of nearby facilities for intervention (rescue, response, clean up, etc.). The challenges posed by increased ship traffic have generated attention from governments, industry, local residents and environmental organizations, prompting efforts to explore interim steps to address these risks. Examples include, the Alaska Port Access Route Study process; the Waterways Safety Committee; a bilateral agreement between the U.S. Coast Guard and Russian agencies on ship routing; the informal cooperation between Russia and U.S. Coast Guards to open lines of communication through the Arctic Coast Guard Forum; the mandatory Polar Code adopted by the International Maritime Organization and IMO's approval of voluntary two-way routes on both sides of the Bering Strait which was jointly proposed by Russia and the United States, as well as three Areas to Be Avoided in the Northern Bering Sea (around Nunivak Island, St Lawrence Island and King Island).

However, very few of these efforts address the broader questions of long-term impact or how to best structure the management of international shipping through the Bering Strait or how to effectively involve and empower the tribes and local communities whose subsistence activities could be impacted. Their participation in the choices being made about development, investment, regulation, and coordination of response, is essential.

Previous Efforts to Coordinate and Align

On January 21, 2015, President Obama signed an Executive Order 13689 titled "Northern Bering Sea Climate Resilience Area" creating a special coordinating entity to do just that in response to requests from the Bering Sea Elders, Kawerak and Alaska Village Council of Presidents (the Alaska Native regional tribal organizations representing tribes in the area). The Order created "The Task Force on the Northern Bering Sea Climate Resilience Area" and the "Bering Intergovernmental Tribal Advisory Council" in order to bring some focus to federal agency decision making and enable local voices to be heard more effectively. Unfortunately, it was formalized late in the Obama Administration and as a result, it was barely formed before it was abolished by the Trump Administration. Very little can be said about its utility since it did not have the opportunity to work as designed, but both the agencies and the Alaska Native tribes demonstrated an eagerness to establish the structures included in the Executive Order. The need continues for such an entity to bring focus to the key issues, to incorporate the local understanding and Indigenous knowledge, to reflect the values of those who stand to either benefit from wise decisions or suffer the consequences of mistakes, and to better understand and bridge the chasm between differing goals for the future of the Bering Strait region.

In 2019, U.S. Senator Lisa Murkowski introduced a bill titled "*The Arctic Policy Act*" which included language to establish a similar coordinating entity. The legislation also addresses other issues including Arctic research and policy, but this particular provision should prompt more discussion about how to create a new model for evaluating, engaging, and managing the dramatic changes in many places in the Arctic. Without an overarching structure, it is difficult to understand and evaluate the impacts of multiple projects or their cumulative impacts because it is difficult to identify and include all of the relevant participants who can add information and insight to such deliberations on a consistent basis. This includes the local and Indigenous Knowledge holders who have unique and essential understanding to offer, and the scientists who have done research in the

region over many years. Unfortunately, the status quo results in piecemeal decisions that may or may not be compatible with other decisions made by other agencies, organizations or commercial interests.

In some regions, governments use regional planning to attempt to bring those many factors, relevant information and competing alternatives into a more cohesive vision and strategy. In some cities and countries this approach can work effectively. However, elsewhere there are fewer resources available for comprehensive planning and less confidence in its value as a way to build consensus, so it is rarely used, and that is the case in Alaska. Another barrier to effective planning and implementation is the lack of systematic coordination by the federal and state agencies that have relevant jurisdiction and responsibilities. The Arctic Executive Steering Committee which was created by an Executive Order in 2015 ("Enhancing Coordination of National Security Efforts in the Arctic") was beginning to address this situation, but it no longer meets. Fortunately, one of the subgroups, the Community Resilience Working Group does convene calls for periodic updates. The State of Alaska once had the Department of Community and Regional Affairs, and the Alaska Coastal Management Program, both of which were vehicles for strengthening opportunities for the local, state, federal, regional, tribal and private interests to share information and resolve differences. Without these structures for collaboration, there are vacuums to be filled at both the state and the federal levels.

In addition to the need for a structure to improve collaboration and meaningful deliberation about major decisions that must be addressed in a time of rapid transformation, it is essential that projections about alternative futures be based on reliable, relevant information.Many activities that are impacted by a changing climate- from fisheries management to resource extraction, are regulated by agencies relying on information that may be outdated. For example, the last time Alaska updated its Land Atlas, on which engineers base their construction designs, was in the 1980s. Updating information is crucial; changing conditions (increasing permafrostthaw and rain or snow events) impact the design and construction of roads, airports and buildings. There are other examples of systems that are slow to incorporate the projections of climate change which are available from reliable scientific

sources. For example, a village threatened by coastal erosion, may find it more difficult to make a decision to abandon a vulnerable site if the range of possible damage from storm surges or permafrost thaw is uncertain. That uncertainty can stymie the tough decisions that could be considered in light of the rate of change being experienced in the region. The Alaska Center for Climate Assessment and Policy at the University of Alaska Fairbanks is doing a wonderful job of providing information and downscaling climate models. But the range of possible futures is large. A recent Statewide Threat Assessment prepared for the Denali Commission by the University of Alaska Fairbanks and the U.S. Army Corps of Engineers is a good example of an effort to combine information about climate threats to communities in Alaska. But whose responsibility is it to gather the relevant information from a variety of sources and prepare alternative scenarios to show futureoptions clearly, and to facilitate the discussion and decision process? How will this be possible, from both financial and organizational points of view, as more communities are at risk from thedramatic changes and as more infrastructure development evolves? What venue exists fordiscussion about the benefits and realities of alternative approaches?

Permafrost thaw and shoreline erosion in the Bering Strait region (photo credit: Stratus Consulting/University of Colorado)

These problems are not unique to the Bering Strait region, as many communities across the world are attempting to creatively address the climate change threats to their homes and their economies. From Venice to New Orleans, similar challenges are confronting people and their institutions. Many governments struggle with the complexity of assuring meaningful stakeholder involvement and obtaining participation from the multiple jurisdictions that have overlapping governance authority and responsibilities. In urban areas, those can be cities, counties, airport and port authorities, metropolitan water districts, and others. In rural Alaska they include tribes, cities, boroughs, Alaska Native Corporations, state and federal agencies, and in some instances, international entities. The unique aspects of the Bering Strait region make this a place where the combination of urgency and uniqueness call out for a new approach sooner rather than later.

Possible Paths Forward

It is time to consider and evaluate alternative structural and procedural approaches to improve how we handle the new realities of a rapidly shifting climate, land scape and sea scape, and to develop tools that could be useful to successful adaptation. Effective solutions to these challenges will require a willingness to experiment with approaches that are not currently available. Too much is at stake to assume that the current decision-making structures and processes are sufficient.

Here are a few ideas to consider in addressing these challenges in the U.S. portion of the Bering Strait region:

1. Designation of specific areas that are vulnerable to significant climate change risk as "areas of elevated attention" as was done for Northern Bering Sea Climate Resilience Area. Such a designation would trigger the creation of a multi jurisdictional, inclusive, coordinating committee to bring the relevant stakeholders and decision makers together. Although this region is not the only part of the Arctic that could benefit from this approach, it is one

where there was sufficient local, tribal and federal agreement to try a different coordination process to improve and align decisions. Much could be learned from doing this in such a challenging and important area.

2. Re-engagement of the Arctic Executive Steering Committee by agencies that have management responsibilities in the region to provide a more cohesive, if not completely comprehensive, assessment of what federal and state agencies are doing in the region and share that information with the many other groups, communities and decision makers who could benefit from that analysis.

3. Formation of a coordinating hub by Alaska tribes for Indigenous Knowledge holders who are willing to work with scientists doing relevant research in co-producing the needed information for long-term decisions in resource management. Even for researchers who understand the importance of such partnerships, it is not always easy for them to find the relevant and appropriate people from a region who are available. Knowing where to start or who to contact is challenging, and a hub could provide a useful pathway.

4. Preparation and dissemination of better guidance to the research community on how to conduct research collaboratively in partnership with communities, and how coproduction can strengthen and add credibility to their research results. Canada's ArcticNet could provide a template for the kind of collaboration that links user needs with research investment. Related to the recommendation above, effective communication and co production begins with communication. Several organizations have developed coproduction protocols and guidance, but wider dissemination and additional training could reduce misunderstandings and foster collaboration.

5. Reconstitution of a coastal management program by the State of Alaska that could serve as a central point of contact and communication for state, federal, local, tribal and business interests to jointly focus attention on emerging challenges, and agree on the best tools to reduce risk and support adaptation.

Though there are likely many more initiatives that could be undertaken to strengthen effective and coordinated adaptation, these recommendations are provided to prompt discussion and analysis of alternatives that might be helpful in the Bering Strait region, and perhaps elsewhere. Adapting resource management practices and developing strategies to reduce risk to communities and their livelihoods will require trial and error. The transition will be characterized by efforts that will be successful and others that may be considered "lessons learned". That is to be expected, but it is imperative that we create new and effective ways to reach consensus and adapt to the rapid changes in the region. Most importantly, this effort needs to happen soon and in an expedient matter. These problems will not resolve themselves; they are building in size and demand immediate attention. I believe that the residents and researchers of the Arctic will rise to these challenges if the resources can be found to make it possible, and if everyone works together toward common goals.

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