

CLIMATE ADAPTATION PLANNING IN NORTHWEST ALASKA

Suggestions for Partnering with Rural Indigenous Communities on the Frontline of Climate Change

By Nathan P. Kettle, University of Alaska Fairbanks; Tina M. Buxbaum, Alaska Center for Climate Assessment and Policy; Sarah F. Trainor, University of Alaska Fairbanks; Glenn Gray, Glenn Gray and Associates; and Josephine-Mary Sam, University of Alaska Fairbanks

Alaska is ecologically and culturally diverse with 229 federally recognized tribes. The majority of the population lives in the Municipality of Anchorage and the Fairbanks North Star, Matanuska-Susitna boroughs and the City and Borough of Juneau, with the remaining population scattered among 300 rural communities; the vast majority only accessible by air or water. Communities often have high rates of poverty coupled with incredibly high costs for food, energy, and services, and limited availability of jobs. A mixed cash-subsistence economy persists for the rural residents who rely on the environment for food, transportation, and the subsistence way-of-life.

Alaska's changing climate contributes to several environmental hazards including floods, storm surge, and erosion. These hazards pose risks to communities, impacting food and water security, transportation, public health, and infrastructure (Chapin et al., 2014). Historically, rural Alaskans have used traditional knowledge to adapt to a wide range of conditions. This knowledge provides a wealth of site-specific information, allowing residents to adapt to shifting relationships with the land. While spontaneously adapting to climate change, tribes also desire to build community resilience via formal planning (Meeker et al., 2017). This need is especially paramount in Northwest Alaska, where communities are faced with increasing vulnerabilities to storm surge and coastal erosion.

The Northwest Alaska communities of Nome and Shaktoolik have undertaken planning efforts (hazard mitigation, economic development, emergency management, and climate adaptation) to respond to climate related hazards over the past decade. We interviewed 15 tribal members and analyzed climate adaptation guidebooks and reports to learn about the challenges facing rural indigenous communities and identify lessons for supporting tribal climate adaptation planning.

CHALLENGES FACING ALASKA NATIVE COMMUNITIES PLANNING FOR CLIMATE CHANGE

Challenges to climate adaptation include lack of information, funding, leadership, coordination, insitutional rules, and uncertainty (Moser et al., 2010). Indigenous peoples also face several

legal and policy obstacles, high employee turnover, limited technical and human capacity, and in some cases, limited trust of external partners (Bronen et al., 2013; McNeeley, 2017). Competing priorities or concerns including alcohol abuse, affordable and safe housing, and suicide prevention, can overshadow climate change initiatives (Black et al., 2015; Wotkyns et al., 2014). Communities can be hesitant to work with outside consultants because of a legacy of limited understanding of local issues, priorities, and ways of knowing. A multi-level governance structure and jurisdictional boundaries make planning and implementing actions challenging. Finally, climate-related vulnerabilities are exacerbated by damaging colonial legacies that changed societal structures, economies, and excluded local experts from decision-making (Marino, 2012).

RECOMMENDATIONS TO SUPPORTING TRIBAL CLIMATE ADAPTATION PLANNING

Based on our experiences and interviews in Nome and Shaktoolik and the literature we propose the recommendations listed below and highlighted in Figure 1.

Building trusted relationships provides a foundation for success and ensures that project partners understand local priorities and objectives. Leveraging existing trusted networks, respecting Elders, upholding cultural sensitivity, and building capacity help build trust.

Do your homework - conduct preliminary scoping of documents and assessments, current climate data and projections, and workshop reports. Community input via interviews or focus groups can provide insight into the multi-level governance context for adaptation planning and avoid duplicating previous efforts. Incorporating information from previous efforts into future planning activities, such as community workshops, helps increase relevance and mitigates against



Figure 1. Best practices for supporting Tribal climate adaptation planning in Alaska and beyond.

fatigue (“We already did this!”). It also ensures responsiveness to local needs and conditions and helps understand historical legacies between tribes and agencies, local politics, and governance (Pearce et al., 2012).

Recognizing and respecting tribal sovereignty is key in building relationships and successful collaboration with tribes. Before applying for funding, obtain support from tribal leadership and allow ample time for multiple conversations between tribes and outside organizations to clarify objectives and responsibilities. Memorandums of Understanding can be used to clarify responsibilities and, for us, was a key step to affirm support and respect (Black et al., 2015).

Engaging communities in design and implementation throughout the process—grant proposal through implementation—is central to integrating local priorities and assisting communities in achieving goals (Chapin et al., 2016; Cochran et al., 2013). Engagement builds trust and relationships within and between the community and project team. Fostering intergenerational involvement further enhances continuity. Different levels of governance—tribal, local, and regional—may have disparate priorities. We found that establishing a local coordinator and steering committee were especially effective in supporting community engagement, protecting traditional knowledge, navigating local politics, and ensuring tribal priorities were addressed (Lamb et al., 2011).

Respecting local and traditional knowledge on equal footing with western climate science is critical in understanding potential impacts and adaptive capacities, building trust, and developing more effective adaptation strategies. Generalized scientific descriptions provide a broad understanding of large-scale processes, and local and traditional knowledge provide a

detailed and nuanced understanding of local conditions. Traditional knowledge also provides an understanding of the relationships between identity and worldview and guidance on responsibilities required for management and stewardship.

Focus on outcomes, not just assessments and plans can prevent participant fatigue. “It just started annoying me that these studies were going on and on and on. Look, we’ve already talked about this six years ago, why are we talking about it still?” (Shaktoolik tribal member). Detailed planning discussions, such as the identification of action steps, required authorities, estimated expenses and timelines, and available community assets can increase opportunities for implementing adaptation actions in planning efforts.

Identify steps required for implementation, including authorities, timelines, costs, and community assets. Implementation should maximize the use of local resources and materials where possible. Leveraging existing networks and partnerships and understanding local contexts and resources increases opportunities for success. If possible, including pilot funds for implementing strategies from the climate adaptation plan can mitigate against feelings of fatigue and provide forward momentum (Lamb & Davis, 2011; Pearce et al., 2012).

Integrate efforts and support capacity building in planning, design, and implementation of climate adaptation strategies. Efforts are more likely to be successful when they support building capacity to address short- and long-term risks (Trainor et al., 2017). For example, climate adaptation planning efforts can be integrated into existing hazard mitigation plans by exploring how existing hazards change over time. Providing financial support for a local coordinator in Nome

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and Shaktoolik helped build capacity to mitigate overextended local administrative support (Wotkyns & Gonzalez-Maddux, 2014).

Support formal and informal networking and partnerships. Social networks are critical in building capacity. Networking—formal and informal—among communities provides opportunities to share information and experience and overcome barriers (Chapin et al., 2016; Cochran et al., 2013). Formal networking with state and federal agencies can reduce financial costs, and partnerships among consultants and agencies can support planning efforts. Liaisons between tribes and outside entities are useful in navigating and complying with tribal policies (Black et al., 2015). The formal and informal networking in both Nome and Shaktoolik supported trust building and capacity development.

DISCUSSION AND CONCLUSION

Our experiences in Nome and Shaktoolik identified challenges and opportunities for supporting climate adaptation planning and implementation in rural indigenous communities. Funding access to plan and implement climate adaptation strategies was a key barrier. Although some federal funding for planning and implementation in rural Alaska communities is available, (such as the Bureau of Indian Affairs (BIA) Tribal Resilience Program), local grant writing capacity is needed to apply for these programs (Bronen & Chapin, 2013; Marino, 2012). Additional barriers include lack of cultural

sensitivity training, jurisdictional challenges, and lack of coordination between state and federal agencies.

As an outside collaborator, we offer suggestions for working with indigenous communities based on our experiences and the literature. Our suggestions include building trust, recognizing and respecting tribal sovereignty, engaging communities, respecting traditional knowledge side-by-side with western climate science, conducting preliminary scoping, supporting capacity building, focusing on process and outcomes, and networking. Our experiences also highlight the need for evaluating process and outcomes of climate adaptation planning and implementation. Evaluations can legitimize efforts, facilitate learning among communities and collaborators, enable course corrections, and increase future funding opportunities (Trainor et al., 2017). *

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