



Adaptation to Climate Change and Variability: Bringing Together Science and Indigenous Ways of Knowing to Create Positive Solutions

CHANGING RELATIONSHIPS WITH TRADITIONAL PLANTS AND ANIMAL RELATIVES

Over seventy participants of *Rising Voices* convened for a second time at the National Center for Atmospheric Research (NCAR) in Boulder, Colorado on June 30-July 2, 2014 to discuss what the science, information, support and research needs are of tribal communities to facilitate respectful and appropriate adaptation solutions to climate change and variability. *Rising Voices* is a community of engaged Indigenous leaders, Indigenous and non-Indigenous environmental experts, students, and scientific professionals across the United States, including representatives from tribal, local, state, and federal resource management agencies, academia, tribal colleges, and research organizations.

We came together from across the nation – including Hawai'i and Pacific Islands, Alaska, Northwest, Southwest, the Plains, Midwest, Gulf states, and Northeast – for a rich and honest discussion regarding the complex climate change challenges facing Indigenous peoples, current adaptation and mitigation strategies, protection of Indigenous knowledge, sustainable Indigenous practices, and political and institutional barriers. Many of the Indigenous communities represented at *Rising Voices* are already contending with a changing climate, including displacement of Native Alaskan villages and Native Gulf Coast communities due to rising sea levels, loss of sea ice, and/or extreme hurricane activity.

The overarching issues related to the changing relationships with traditional plants and animal relatives included the ethics inherent in traditional knowledges and protocol for engaging with Indigenous communities. There was consensus on the need to focus on the next generation of Indigenous voices and climate scientists and the opportunity to engage younger people through storytelling in and with nature. The primary risks identified by the group included the transfer of ecological knowledge to help with sustainability and adaptation (where transfer refers to both giving and receiving), and the risk of being defeated in stewardship. Sacred knowledge cannot be transferred without an appropriate and ready receiver.

There are many opportunities to build stronger relationships between Indigenous people and the science community, in ways that manage differences by working on equal footing and with recognition of historical and current power, authority, and funding issues. This should focus on local and situational awareness to tie global and regional climate modeling to specific tribal experience and issues. Such work would require:

- A self-governing/governance model (and a tribally-informed Internal Review Board)
- Focused partnerships on successful team and approaches, asking “what is working and what is right?”

- Science packaged within stories and founded in an Indigenous curriculum (such as the Smithsonian Museum Native America Indigenous Geography Curriculum, using a common approach to outdoor classrooms and a K-12 priority on plant and animal relations, and using storytelling, including forced migration due to climate change and extreme events as well as “climate migration”, e.g., North Dakota’s climate will be more like Kansas’ climate in the future).
- Clarity on different vocabularies and the ability to bridge between different groups and culture.
- Using “climate migration” to guide nation-to-nation collaboration (such as treaties or tribal college curriculum) to capitalize on local understanding of nature-climate connections that might be migrating due to climate change.

Some examples of the above include:

- Existing: Sustainable land strategy program (see: <http://snohomishcountywa.gov/2194/Sustainable-Lands-Strategy>)
- Potential: More Indigenous people or voices in the Farm Bill. The recently formed USDA Climate Hubs might be able to assist in facilitating this; a Rising Voices subcommittee could draft language for the next Farm Bill where reservation lands in agriculture could be classified as “priority areas” and given “producer” status, and community qualification for USDA programs could be expanded.

Based on our discussions, we recommend the following:

- ***Traditional Ecological Knowledge (TEK):*** To the extent agreed by Indigenous knowledge holders, map the TEKs, places, resource uses, and histories of coastal and other (e.g., drought afflicted) Indigenous communities as a resource guide for climate change impact and adaptation efforts, especially cross-community collaborations. Indigenous people have a rich knowledge of their environment that is important for filling in lack of data and for developing adaptation and sustainable strategies.
- ***Indigenous Perspectives:*** Support inclusion of Indigenous perspectives, insights, and knowledge in federally-appointed and/or agency-led assemblies concerned with natural resources, environmental management, and policy, such as the National Ocean Council’s efforts to improve the health of our oceans, coasts, and Great Lakes. The free, prior, and informed consent (FPIC) of Indigenous peoples should be respected when these assemblies are formed and engagement with Indigenous peoples be continued.
- ***Collaborative Research:*** Have Indigenous communities most impacted by a changing climate be co-investigators in climate change research. This includes helping to set a U.S. research agenda that addresses the unique priorities, contexts, and experiences of Indigenous communities and invites community members’ participation as partners. Resources need to be allocated and managed by Indigenous community leaders to enable that participation, including resources to support training, workforce development, data gathering and management, the purchase of appropriate equipment, and the incorporation of research results into community planning.

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Rising Voices website: <http://www.mmm.ucar.edu/projects/RisingVoices>