

## Arctic Indigenous Observing Strategies

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### Abstract

The recently-published 2014 IPCC WG2 “Polar Regions” chapter has underscored the importance of addressing the issues of the indigenous communities in the Arctic as well as strengthening their voice and role in the planning and implementation of research to understand the environmental changes and impacts taking place across the north as well as practical and timely solutions. (Larsen et al, 2014). This paper summarizes some recent recommendations for enhancing the availability and use of local, indigenous, and community-based knowledge as well as scientific research data among all communities.

*“...Indigenous, isolated, and rural populations are especially vulnerable to climate change due to a strong dependence on the environment for food, culture and way of life; their political and economic marginalization; existing social, health, poverty disparities; as well as their frequent close proximity to exposed locations along ocean, lake or river shorelines....” (Larsen et al, 2014)*

Although indigenous communities are facing climate, development, and other changes, which are impacting community infrastructure, health, water supplies, food, and safety on a daily basis, they have had limited participation in the scientific studies associated with these changes. This is due in part to the indigenous emphasis on relationships among biophysical, ecological, and cultural components versus the western science emphasis on specific facts. (Cochran et al 2013) A number of multi-faceted approaches have been suggested to help broaden indigenous participation in climate change research to strengthen the voice of the communities. This paper summarizes some recent recommendations for enhancing the availability and use of local, indigenous, and community-based knowledge as well as scientific research data among all communities.

A recent study by Cochran et al (2013) in Alaska outlines a multi-pronged approach to ways that indigenous peoples can contribute more effectively to understanding and adapting to climate change – as follows:

1. *“Engage communities in designing climate-change solutions*
2. *Create an environment of mutual respect for multiple ways of knowing*
3. *Directly assist communities in achieving their adaptation goals*

4. *Promote partnerships that foster effective climate solutions from both western and indigenous perspectives*
5. *Foster regional and international networking to share climate solutions”*

In a presentation on the “*Consequences of Changes Across the Arctic: Implications for Arctic Indigenous Peoples*” in 2011, a list of potential solutions and strategies for future adaptations via “Indigenuity” (Indigenuity = Indigenous + Ingenuity - A term coined by Dr. Dan Wildcat of Haskell Indian Nations University) was given which outlined some of the key strategies for creating resilience in the Sami indigenous reindeer herding community discussed among members of a research team – which can be applied to a more general indigenous community observing approach. (Maynard 2011) They were as follows:

1. *Utilize all best available Indigenous and scientific data and observations for decision-making and predictions: Indigenous knowledge, science, technologies, weather, etc.*
    - a. *Collaborate & co-produce*
    - b. *Create strong partnerships*
  2. *Utilize a local observations & monitoring network (e.g., the International Centre for Reindeer Husbandry) to ensure strong input of indigenous knowledge for decision-making & predictions*
  3. *Create assessments & adaptation strategies to address impacts of climate change, development, pollution, & loss/changes (e.g., in pasturelands on indigenous reindeer herder communities)*
  4. *Expand outreach, education, capacity-building and information-sharing among all stakeholders*
  5. *Establish agreements between indigenous communities and industries and governments to ensure they can co-exist in changing climates (e.g., adaptive access to historical pasturelands and migration routes)*
  6. *Create mechanisms for clear and on-going communications between indigenous communities and the oil and gas industry and governments for co-managing land use*
  7. *Ensure that Indigenous knowledge and peoples are included in decision-making which impacts the herding community*
  8. *Ensure that industry, governments & reindeer herders work together to help preserve language, culture and well-being of Indigenous peoples*
- (Maynard, 2011)

Finally, when addressing the most effective ways of “Interfacing Traditional Knowledge, Community-Based Monitoring and Scientific Methods for Sustained Arctic Monitoring”, it is important to include the conclusions from the NRC 2009 report on *Informing Decisions in a Changing Climate*. Their key considerations in the design of observations and data system to support decision-making support are as follows:

1. *Begin with user needs.* Decision support activities should be driven by users' needs, not by scientific research priorities.
2. *Give priority to processes over products.* To get the right products, start with the right process.
3. *Link information producers and users:* Decision support systems require networks, and institutions linking information producers and users
4. *Build connections across disciplines and organizations.*
5. *Seek institutional stability:* Decision support systems need stable support. (i.e., long term financial commitments to maintain continuity of data and gap free data)
6. *Design for learning.* (Learning from experience with constant dating and redesign to assure currency and relevance)

## References

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