Engaging Stakeholders on Impacts of Climate on Water Resources

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Who is a Stakeholder?

- Individuals, groups or organizations **affected by (or who can affect)** a decision or action.
- **Stakeholders will vary in their interest, power and responsibility** with regard to a particular issue.
- **They will have different roles and responsibilities**
- They will produce and be informed by **different modes of knowledge**
What is Engagement?

- Communication
- Consultation
- Participation
- Partnerships
Continuum of Engagement

- Co-Production
- Partnership
- Participation
- Consultation
- Communication

Co-Production
The USGS serves the Nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

To restore & protect the Yukon River

Fifty year vision:

“To once again drink water directly from the Yukon as our ancestors did for thousands of years before us”
Founded in 1997 as a coalition of sovereign Tribal & First Nation governments...today it represents 75 of the 76 Tribes and First Nations in the watershed.

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Community-Based Water-Quality Monitoring

- Annual Training
- Weekly Sampling
- Sample Analysis
- Sample Shipment
- Data Sharing & Dissemination
- Communication
Striving for Co-Production

Workshop participants
Towards Co-Production

School outreach & student data collection.
Towards Co-Production

Community dinner
Towards Co-Production

Participatory Methods

• Semi-structured Interviews – flexible enough to be guided by the participants knowledge & interest

• Participatory Mapping – group activity locating subsistence areas
Towards Co-Production

Soliciting Feedback

- Gave a presentation in each community – preliminary results
- Asked for feedback – What did we get right? What did we get wrong?
Dissemination

- USGS Fact Sheet
- Presentations
- Publications

ABSTRACT Indigenous Arctic and Subarctic communities currently are facing a myriad of social and environmental changes. In response to these changes, studies concerning indigenous knowledge (IK) and climate change vulnerability, resiliency, and adaptations have increased dramatically in recent years. IK to loss and livelihoods are often the face of adaptation research; however, the cultural dimensions of climate change are equally important because cultural dimensions inform perceptions of risk. Furthermore, many Arctic and Subarctic IK climate change studies document observations of change and knowledge of the elders and older generations in the community, but few include the perspective of the younger population. These observations by elders and older generations form a historical baseline record of weather and climate observations in these regions. However, many indigenous Arctic and Subarctic communities are composed of primarily younger residents. We focused on the difference in the cultural dimensions of climate change faced between young adults and elders. We confirmed the findings from interviews conducted in four indigenous communities in Subarctic Alaska. The Findings illustrated that intergenerational observations of change were common among interview participants in all four communities. (1) Older generations observed more overall change than younger generations interviewed by us, and (2) how change was perceived varied between generations. We defined "observations" as the specific examples of environmental and weather change that were described, whereas "perceptions" referred to the manner in which these observations of change were understood and contextualized by the interview participants. Understanding the difference in generational observations and perceptions of change is key to the development of climate change adaptation strategies.

Key Words: Alaska, climate change, indigenous knowledge, observation, perception, Yukon River Basin
What was gained

Benefits of engaging stakeholders:

• Democratizing science …*citizen participation is citizen power*…

• Holistic information – the inclusion of stakeholder knowledge makes our science better.

• Capacity building – transfer of knowledge and skills, capacity to do the science/monitoring without us
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