Tribal Resilience Across the Country: From Guidebook to Action

May 22, 2019

We will start in a few minutes.

Two audio options:
1. Listen via computer
2. Call in to 1-833-799-1917
How to Participate

Question and Answer

- Enter your question in the Q&A box
- Questions will be moderated at the end
- EPA will post responses to unanswered questions on the State and Local Webinar Series page
How to Participate

Polling

- We’ll ask several poll questions during the webinar
- On mobile devices or tablets
  - Exit full screen mode
  - Tap the Poll icon
Today’s Agenda

- **Erica Bollerud**, Tribal Coordinator
  U.S. Environmental Protection Agency
- **Sascha Petersen**, Director
  Adaptation International
- **Mike Chang**, Climate Adaptation Specialist
  Makah Tribe
- **Stefanie Krantz**, Resilience Coordinator
  Nez Perce Tribe
- **Question and Answer Session**
Introduction

Erica Bollerud
Tribal Coordinator
U.S. Environmental Protection Agency
Investing in energy strategies that lower emissions can be an effective way for state, local and tribal governments to achieve multiple goals:

- Improve air quality and public health
- Strengthen energy systems
- Reduce greenhouse gas emissions
- Save money

We offer free tools, data and technical expertise about energy strategies, including energy efficiency, renewable energy and other emerging technologies, to help state, local, and tribal governments achieve their environmental, energy and economic objectives.

Access all of these resources at the [Energy Resources for State, Local, and Tribal Governments site](https://www.epa.gov/energy-resources-state-local-and-tribal-governments).
Tribal Greenhouse Gas Emissions (GHG) Tool

- Free, interactive spreadsheet tool designed for tribal governments interested in compiling a relatively quick and simple GHG inventory.

- The tool has two modules: one for community-wide inventories, one for inventories of tribal government operations only. Use one or both.

- Pre-programmed with default emission factors or enter community-specific information.

- What can you do with the results?
  - Create an emissions baseline
  - Track emissions trends and measure progress towards meeting GHG reduction goals
  - Assess the relative contributions of emissions sources
  - Develop mitigation strategies and policies

Download at epa.gov/statelocalenergy/tribal-greenhouse-gas-inventory-tool
Contact Information

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U.S. Environmental Protection Agency
Tribal Climate Adaptation Guidebook
Version 1.0
November 2018

Multiple Knowledges

1. Center the tribe’s adaptation effort
2. Identify concerns + gather information
3. Assess vulnerability
4. Plan for action
5. Implement + monitor action
Writing Team

Meghan Dalton

Sascha Petersen

Samantha Chisholm Hatfield
Acknowledgements

Advisors (9)

Reviewers/Contributors (21)

Editors (6)

Designers (3)

Funders (3)

Highlighted Tribal Case Studies (32)
## Tribal Case Studies

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# Tribal Case Studies

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<td>Downscaled climate projections with detailed spatial analysis + staff input &amp; estimated probability</td>
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<td>Staff input using Risk &amp; Vulnerability</td>
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<td>Pre-selected Sectors</td>
<td>Vulnerability Index Results</td>
<td>Staff Input - Multi-Criteria Analysis using: Vulnerability, Likelihood, Unique Value</td>
<td>Risk Assessment</td>
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Features

- **Checklists**—suggested activities within each section;
- **Checkpoints**—opportunities to sustain three ongoing themes throughout the Guidebook:
  - **Traditional Knowledges**—considerations for including TKs throughout the adaptation planning process relying on the *Guidelines for Considering Traditional Knowledges (TKs) in Climate Change Initiatives*. References to specific guidelines and actions are denoted by number (e.g., *CTKW Guideline 4*);
  - **Community Engagement**—opportunities and strategies to engage the tribal community in the adaptation planning process;
  - **Documentation**—opportunities to document the status of the adaptation planning process;

- **Guiding Questions**—helpful questions to consider within each section;
- **Case Studies**—tribal examples illustrating a particular activity (*Table 1*); and
- **Resources**—external resources providing greater context or more specific guidance on a particular aspect of adaptation planning (a compilation of resources is found in *Appendix A*).
Tribal Case Studies

The Nimíipuu
A Climate Change Story

Stefanie Krantz – Climate Change Coordinator
stefaniek@nezperce.org

National Adaptation Forum, April 23, Symposium: Conducting a Tribal/Indigenous Climate Change Vulnerability Assessment and Developing a Tribal Adaptation Plan

Makah Traditional Knowledge & Cultural Resource Assessment

A preliminary framework to utilize Traditional Knowledge into climate change planning

Danielle Edelman
Washington Sea Grant State Fellow
Makah Tribe

Mike Chang
Climate Adaptation Specialist
Makah Tribe

National Adaptation Forum
Madison, WI
April 25, 2019
Download: https://adaptationinternational.com/tribal-resilience

Thank You!
Sascha Petersen
Sascha@adaptationinternational.com
www.adaptationinternational.com
Makah Traditional Knowledge (TK) & Cultural Resource Assessment

A preliminary framework to utilize Traditional Knowledge into climate change planning

Mike Chang
Climate Adaptation Specialist
Makah Tribe
Overview of the Makah Tribe

- Qʷidiccaʔa’tx - “People of the Cape”
- 1855 Treaty of Neah Bay
- Ceded 300,000 acres of land to the U.S. and reserved the rights to hunt, fish, gather, whale, and seal within surrounding Usual and Accustomed Areas
- Makah identity, culture, and economy are dependent on natural resources, especially from the ocean
  - “The sea is my country.”
- Current Reservation ~47 sq miles
Makah Climate Change Workgroup

Core Team

• Katie Wrubel: Natural Resources Policy Analyst
• Seraphina Gagnon: Project Coordinator I
• Michael Chang: Climate Change Consultant
• Zak Greene: Former Climate Change Consultant
• Dana Sarff: Former Environmental Division Manager
• Haley Kennard: Hershman Marine Policy Fellow
• Stephanie Martin: Habitat Division Manager
• Doug Sternback: Air Quality Specialist
• Aaron Parker: Former Water Quality Specialist
• Riley Smith, Water Quality Specialist
• Adrienne Akmajian: Marine Ecologist
• Chad Bowechop: Office of Marine Affairs Manager
• Laura Nelson: Marine Affairs Consultant
• Forrest Howk: Former Marine Affairs Consultant

• Rob McCoy: Forestry Manager
• Shannon Murphie: Wildlife Biologist
• Dave Herda: GIS Manager
• Rebekah Monette: Historic Preservation Officer
• Michelle Smith: Planner III
• Jerry Gardener: Former Emergency Management Coordinator
• Rickson Kanichy: Emergency Management Coordinator
• Patty Manuel: Operations Director
• Dave Lucas: Public Works Manager
• Patrick Anderson: Former Makah Clinic Director
• Roxanna Phillips: Makah Clinic
• Danielle Edelman: Marine Policy Fellow

Advisors

Russell Svec: Fisheries Director
Ray Colby: Assistant Fisheries Director
Hap Leon: Fisheries Biometrician
Makah Traditional and Local Knowledge Framework

- Define historical baselines and observational environmental changes;
- Identify critical cultural resources and activities;
- Identify culturally-relevant adaptation strategies;
- And be able to engage the community into the climate planning process.
Ethical Considerations

- Usage of the term “climate adaptation” within Indigenous communities context
- Methods of gathering TK -> “Free, Prior, and Informed Consent”
- Considerations around complementing Western science with TK
Defining Traditional Knowledge

“TK or TEK is built on personal experience and interaction with peers, including people from other communities and passed on through stories, apprenticeship, and practice. It can be understood as knowledge and skills that are fluid, dynamic, flexible, adaptable, and continually updated and revised in light of new observations and experiences, and it can incorporate new technologies alongside the traditional.”

– Pearce et al. 2015, pg. 235
Historical baselines & observational changes

- **Why:** This directly informs Makah Tribe’s planning goals and helps fill in gaps in Western science monitoring efforts.

- **How:** Utilized TK interviews and archival data from Makah Cultural Research Center.

- **Example:** Using archaeological evidence from 1969-70; 1990s subsistence surveys to determine historical resource use, abundance, and habitat
Identify critical cultural resources

**Why:** Help identify critical resources and relationships important for the Makah culture and community.

**How:** Utilized from 2018 TK interviews, 2017 & 2018 community surveys; archival research

**Example:** 1990s and 2018 subsistence surveys; 2018 TK interviews

“Being on the water – I have to be. There is nothing like it. The water draws me to it. The ocean draws me to it, and I just need to be out there.” – Makah commercial and subsistence fisherman, 49 y.o.
Identifying culturally-relevant adaptation strategies

Why: Provides a suite of culturally-relevant adaptation strategies that aims to address community priorities.

How: 2017 & 2018 community surveys; 2018 TK interviews

Examples: Support the teaching and learning of traditional and cultural foods at Neah Bay school; sharing of harvest methods and food preparation across generations; emphasizing community events to increase social cohesion
Community Engagement

Why: Using TK, the Makah community is able to engage and connect their experiences directly to climate change; creates “buy-in” from the community into the planning outputs.

How: 2017 & 2018 community surveys

Examples: Framing climate impacts into cultural activities and subsistence activities; 80% supports climate adaptation work for the Tribe; continued engagement with speaker series on climate impacts, historical and cultural activities, and current research.
Makah Traditional and Local Knowledge Framework: Lessons Forward

• Not the end all be all – still learning and framing and changing
• Opportunistic data!
• Ethical considerations
Questions?

Contact Information

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The Nimíipuu
A Climate Change Story

Stefanie Krantz – Climate Change Coordinator
stefaniek@nezperce.org
PROCESS

- Driven by Tribal Leadership, Staff, community
- Comprehensive
- Local staff
- Funding
- Vision: mitigation and sustainability
- Western science and traditional science

Camus along Clearwater River in Northern Idaho
Source: Columbia River Intertribal Fish Commission
Ancestors survived ice age and ice age floods.

Mid 1990s; (350 ppm CO₂): Tribe developed a carbon offset project and completed it by 2010.

2005 to present (380 ppm) NPT Fisheries working on project to end diversion of water from Reservation Creeks to cool water and protect critical habitat for salmonids.
Timeline of Nimíipuu Climate Planning Process

- Ancestors survived ice age and ice age floods
- Mid 1990s; (350 ppm CO₂): Tribe developed a carbon offset project and completed it by 2010
- 2005 to present (380 ppm) NPT Fisheries working on project to end diversion of water from Reservation Creeks to cool water and protect critical habitat for salmonids.

2015 Drought and Fish Kill: NPTEC asks DFRM and DNR to do something
2016: DFRM and DNR Climate Change Retreat, Climate Task Force formed, RPI funding acquired
Dec 2016: Climate Change Coordinator hired
2017: Short-Term Climate Mitigation Measures passed
2017 & 2018: Climate Program received additional funding to do VA and CAP, Surveys, Toolkit, Workshop, & CSA Projects
June 2017: Climate Change Interns hired

Clearwater Subbasin Adaptation Plan for Forestry and Water

Community Based Process

VA in review, Toolkit in testing, & Climate Smart Ag & CAP Project ongoing, Climate Smart Workshops planned
“These changes have impacted my family personally for years now. We have experienced lower numbers in herd animals that we hunt. We have experienced less and dry roots and berries because of extreme temperatures and lack of snow pack. The snow run off is going faster than ever so the river gets low fast which prevents us from certain fishing. Invasive species are starting to cover sections of land that used to be covered by native plants and species.”

“Climate change could literally change our entire way of being and doing. This is alarming.”

“All I know is that we are greatly impacted as a tribal people. We can pass our knowledge to the next generation - but if we do not in some way preserve this land for our future, what will we have to pass on?”
The changing timing of the seasons, and movements, health, and abundance of wild animals, fish, and native plants have had dramatic spiritual, practical, and economic impacts on the Tribe.

The Seasonal Round is an integral part of Nez Perce Culture
The Seasonal Round is an integral part of Nez Perce Culture

**Gathering Impacts:**
- Timing of early spring wild foods has changed
- Gathering period shortened
- Ancient gathering sites impacted

**Salmonids and Fishing:**
- Lethal water temperatures
- Redds in dry creek beds
- Every part of the life cycle of migratory fish impacted
- Returns have been so low that subsistence fishing has been severely impacted.

**Berries:** Distribution, timing, and quality is changing

**Roots like Camas:**
Size, quality, and abundance has changed. The hydrology of forests is changing, and wetland plants like camas are affected.

**Wildfire Impacts:**
Hunting and gathering, Public health, Infrastructure, and economic

**Hunting Impacts:**
emerging diseases, tick and other pest outbreaks, changing migration patterns, and droughts followed by winters with heavy snows.
Note the river temperature below and above Dworshak Dam and at the Kooskia Fish Hatchery and acclimation sites upriver.
SUCCESSES, BLESSINGS, AND CHALLENGES

• Good reports/models/maps to help
• Climate Impacts toolkit
• Meetings – capacity – overwhelmed staff
• Learning the ropes – of process and people
• Getting involved
• Education– informal and formal
• The Nimíipuu are a Resilient People
• Extreme events were a call to action
• Tribe already had completed some climate work
• The Tribe JUST STARTED A CLIMATE CHANGE AND ENERGY SUBCOMMITTEE – WHU WHOOOO!!!
In 2017, The Nez Perce Tribe Adopted Short Term Mitigation Measures that focus on...

- Reducing Transportation Emissions
- Reducing Energy Use & Transitioning to Renewables
- Reducing solid waste and transitioning to biodegradable alternatives
- Planning for more aggressive cuts to our carbon footprint
Vision of a resilient future....

Restored Community
Restored Biodiversity
Restored Hydrology
Restored Fish
Restored Health
Restored Wealth
Sustainable Economy
"I really believe when you’re working in the area of protecting Mother Earth, you’re a Warrior."
“Climate is changing, there’s no question about it,” …  
It’s here.  
We’ve just got to figure out how we’re going to cope with it.  

And WE’VE GOT TO SLOW IT DOWN.  

Now, reversing it is going to be A BIG DARN JOB.”  

~Governor Brad Little
Question and Answer Session
Connect with the State and Local Energy and Environment Program

Webinar Feedback Form

Erica Bollerud
U.S. Environmental Protection Agency
Bollerud.Erica@epa.gov

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