



# **ASSESSMENT OF NEEDS AND TOOLS TO SUPPORT ACTION**

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# EPA National Tribal Climate Adaptation Workgroup

Leads: OITA, Paige Lieberman and R10, Vicky Salazar



**Started in April 2019**



**Focus**

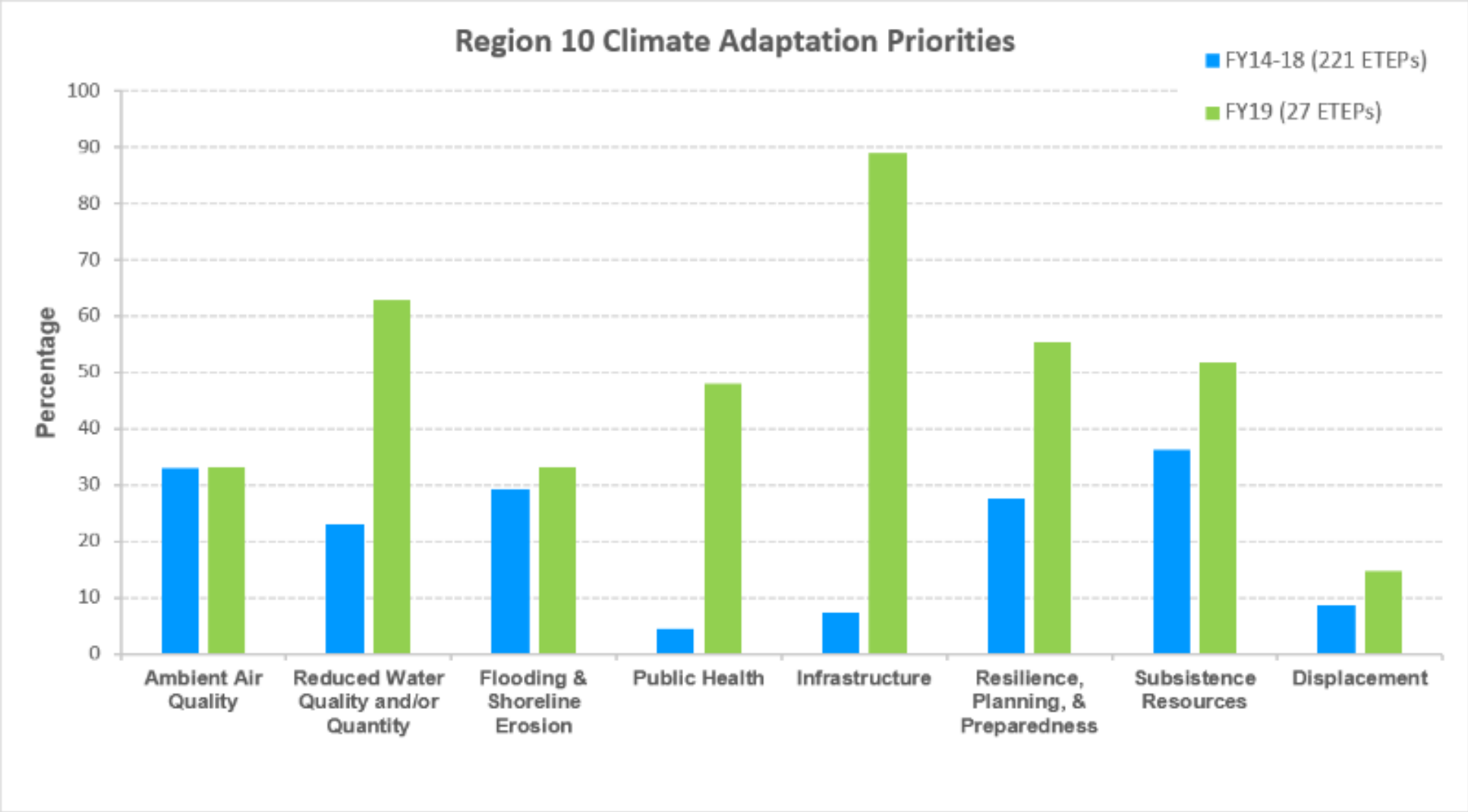
Research - what are the tribal needs  
Inventory and identify relevant tools  
Determine EPA's role and develop a plan  
Highlight grant opportunities

## Assess: ETEP Review

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- Tribes in Region 10: **271**
- EPA-Tribal Environmental Plans (ETEPs) Reviewed: **223**
- Alaska ETEPs: **185**
- WA, OR, ID ETEPs: **38**

# Climate Adaptation Priorities Identified



*What is  
included?*

*In 2019, ETEPS  
referenced an  
average of 7  
(2014 avg 3.2)*

*All identified by at  
least one*

<u><b>Ambient Air Quality</b></u>	Wildfires/ Smoke Dust
<u><b>Water Impacts</b></u>	Quality (chemical, acidity/ salinity) Quality (biological, e.g., algal) Quality (physical, e.g. temp) Quantity/ Availability
<u><b>Flooding &amp; Shoreline Erosion</b></u>	Shoreline Erosion Coastal Erosion  Permafrost/ Sea Ice/ Glacial Melt Extreme Precip Events (Storms) Storm Surges & Tidal Action
<u><b>Public Health</b></u>	Ambient Air Temp IAQ (smoke, mold, moisture) Disease Mental Health
<u><b>Infrastructure</b></u>	Water Energy Waste Transport
<u><b>Resilience, Planning, &amp; Preparedness</b></u>	Vulnerability Assessment Community Education on Climate CA Planning Emergency Response Planning
<u><b>Subsistence Resources</b></u>	Loss of Habitat/ Range Shift Highly Impacted Populations (e.g., salmon) Invasive Species Disease/ Parasites TEK
<u><b>Displacement</b></u>	Sea Level Rise Permafrost Melt Other

# Climate Adaptation Priorities Identified

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## Reduced Availability of Subsistence Resources

- Range shift, reduced yield
- Invasive species
- Disease/pests

### Proposed Action:

- Document changes
- Remove invasive species



This photo shows the First Salmon ceremony of the Puyallup Tribe.

*Photo credit: Matt Nagle, Puyallup Tribal News.  
4<sup>th</sup> National Climate Assessment*

# Climate Adaptation Priorities Identified

## Coastal and Riverbank Erosion

- Storm surge and flooding
- Loss of protection from sea ice
- Increased rainfall

## Proposed Action:

- Document changes
- Reinforce riverbank
- Some tribes: relocation



A rock revetment was installed in the Alaska Native Village of Kivalina in 2010 to reduce increasing risks from erosion.

*From Figure 15.3, Ch. 15: Tribes (Photo credit: ShoreZone. Creative Commons License CC BY 3.0:*

*<https://creativecommons.org/licenses/by/3.0/legalcode>). 4<sup>th</sup> National Climate Assessment*

The inset shows a close-up of the rock wall in 2011.

*Photo credit: U.S. Army Corps of Engineers–Alaska District. 4<sup>th</sup> National Climate Assessment*



# Climate Adaptation Priorities Identified

## Reduced Water Quality

- Harmful algal blooms
- Ocean acidification

## Proposed Action:

- Collect baseline data
- Document changes
- Educate community



Phytoplankton bloom off the Pacific Northwest.

*NASA image courtesy Jeff Schmaltz, LANCE/EOSDIS MODIS Rapid Response Team at NASA GSFC. Caption by Mike Carlowicz.*



# Climate Adaptation Priorities Identified

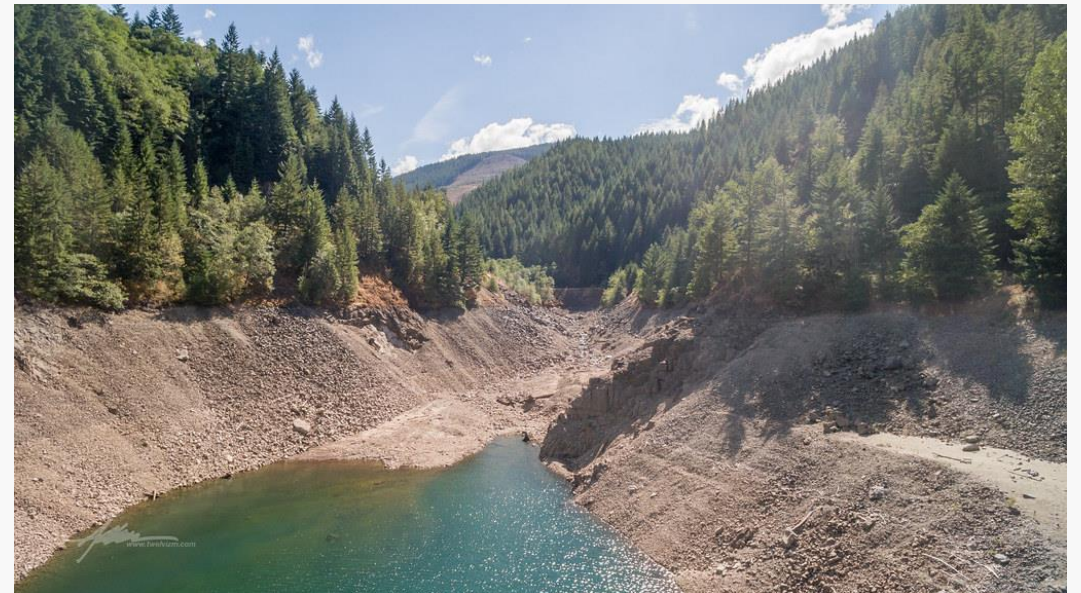
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## Reduced Water Quantity

- Decreased snowpack and streamflow
- Lakes or creeks drying up completely during summer

## Proposed Action:

- Document changes



Detroit Lake Reservoir in Oregon at record-low levels in 2015. *Photo Credit: Twelvizm, Flickr*

# Climate Adaptation Priorities Identified

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## Permafrost Melt

### Proposed Action:

- Collect baseline data
- Document observed changes
- Educate community



Melting permafrost in Alaska caused by rising global temperatures. *Photo Credit: Andrew Burton/Getty Images*

# Priorities Not Attributed to a Changing Climate (but we know are connected...)

## Air Quality: Road Dust

### Proposed Action:

- Apply water or palliatives
- Enforce speed limits
- Create trails around the community instead of through the middle.



Dust often comes from roads or runways where it is kicked up by vehicles, but it can also be picked up by the wind from barren areas.

*Photo courtesy of Alaska Department of Environmental Conservation, Division of Air Quality*



# Priorities Not Attributed to a Changing Climate

(but we know are connected...)

## Emergency Preparedness

### Proposed Action:

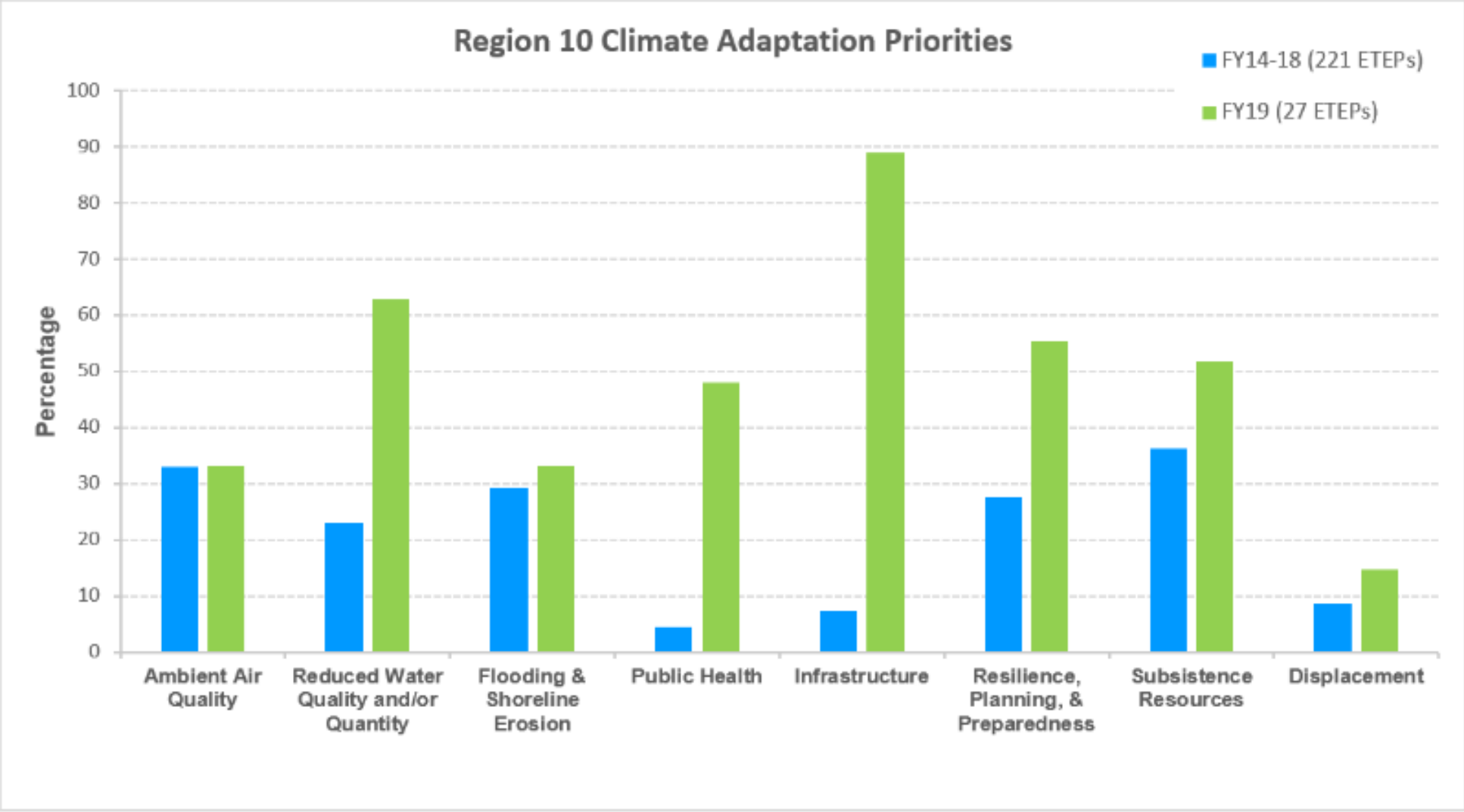
- Develop emergency response plan
- Review existing plans and determine tribal role.
- Disaster resilience and preparedness



Andy Lamebear, a Yurok Wildland Fire Department firefighter and Yurok tribal member, ignites a cultural burn on the Yurok Reservation.

*Photo courtesy of the Yurok Tribe. 4<sup>th</sup> National Climate Assessment*

# Climate Adaptation Priorities Identified



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# ***RESOURCES***

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## EPA Climate Adaptation Resources



- [Climate Indicators](#)
- [Climate Research](#)
- [Weather and Climate](#)
- [Implications of Climate Change](#)
- [Climate Ready Estuaries](#)
- [Implications in the Water Sector](#)
- [Economics of Climate Change](#)
- [Environmental Education](#)
- [Tribal Greenhouse Gas Inventory Tool](#)

[\*\*https://www.epa.gov/arc-x\*\*](https://www.epa.gov/arc-x)



# ARC-X

## Adaptation Resource Center (ARC-X)

A tailored package of information about:

- The risks that a changing climate poses to the issues of concern selected
- Relevant adaptation strategies case studies illustrating how other communities have successfully adapted to those risks
- Tools to replicate others' successes
- EPA funding opportunities
- EPA can help you use it for your community

<https://www.epa.gov/arc-x>

### Climate Change Adaptation Training

[Learn how our climate is changing, and how to adapt.](#)



EPA's **Adaptation Resource Center (ARC-X)** is an interactive resource to help local governments effectively deliver services to their communities even as the climate changes. Decision makers can create an integrated package of information *tailored specifically to their needs*. Once users select areas of interest, they will find information about: the risks posed by climate change to the issues of concern; relevant adaptation strategies; case studies illustrating how other communities have successfully adapted to those risks and tools to replicate their successes; and EPA funding opportunities.

#### How to Use ARC-X



[Navigation Tips](#)

#### Tailor Your Search



#### Explore the Center



Learn about a specific topic:

- [Climate Change Implications](#)
- [Adaptation Strategies](#)
- [Case Studies](#)
- [EPA Tools](#)
- [Online Training](#)

#### Connect with Us







# REGIONAL RESILIENCE TOOLKIT

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5 STEPS TO BUILD  
LARGE SCALE  
RESILIENCE TO  
NATURAL DISASTERS





# ECOLEARN

## ENVIRONMENTAL EDUCATION

ENRICHMENT FOR A  
BETTER TOMORROW



~70 LESSONS  
1 HOUR EACH  
PRESCHOOL — 5TH  
AGE APPROPRIATE  
EASY TO TEACH  
HANDS ON  
FUN

- water
- air
- ecosystem
- food
- waste
- energy
- climate change
- animals
- marine debris

Coming soon:  
Green Building, Oceans,  
National Parks







**5<sup>TH</sup> GRADE:**

# **ECOSYSTEMS**

**ECOSYSTEM'S ARE A WEB RELATIONSHIPS BETWEEN DIFFERENT ANIMALS AND PLANTS IN ECOSYSTEMS, AND THAT AFFECTING ONE LINK IN THE WEB HAS RIPPLE EFFECTS FOR THE ENTIRE SYSTEM. STUDENTS' WILL DEVELOP RESPECT FOR THE DIVERSITY OF SPECIES ON THE PLANET AND THE IMPORTANT WAYS IN WHICH ALL LIVING THINGS ARE CONNECTED.**



[Click for Audio](#)



**US EPA,  
Region 10  
EcoLearn**





2<sup>nd</sup> Grade

# Climate Change and Weather

Learn the difference between weather, climate,  
and climate change!



**US EPA**  
Region 10  
EcoLearn

# THE WHOLE PACKAGE

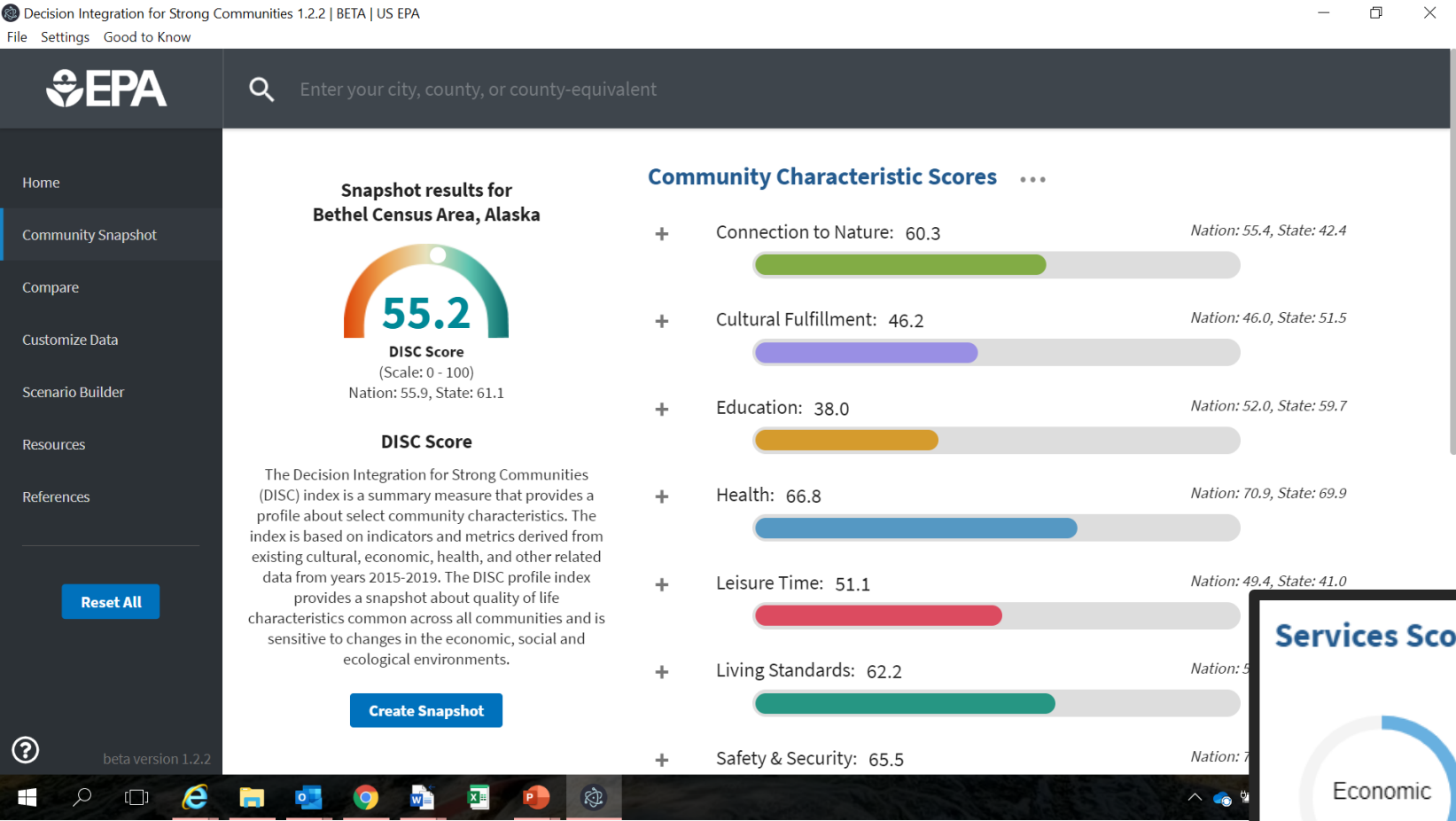
1. Introductory Letter to Parents
2. Ecolearn overview for students/youth.
3. 70+ lessons on 9 topics
4. Background material on each topic.
5. 1 – 2 fun activities per lesson.
6. PowerPoint for each lesson.
7. Non-perishable and specialized materials to teach the lesson.
8. Partnership with EPA (internships for older youth)

<http://bit.ly/EPAEcoLearn> (ask to join), case sensitive  
Email [salazar.vicky@epa.gov](mailto:salazar.vicky@epa.gov) request to join  
MUST HAVE A MICROSOFT ADDRESS



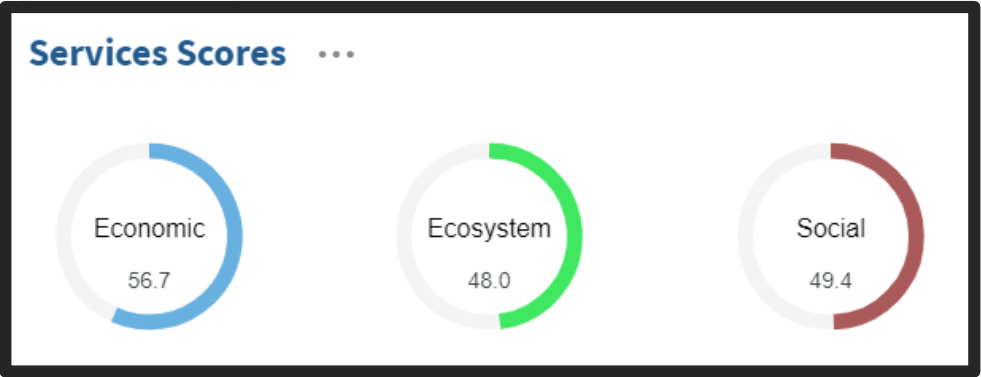


# Decision Integration for Strong Communities (DISC)



## County Level

- Resilience index
- Scenario Builder
- Resource Composite



Data can help you prepare fundable proposals!

## **Regional Resilience Toolkit**

- <https://www.epa.gov/smartgrowth/regional-resilience-toolkit>

## **EPA Environmental Justice Grants**

- <https://www.epa.gov/environmentaljustice/environmental-justice-grants-funding-and-technical-assistance>

## **Indian Environmental General Assistance Program (IGAP)**

- <https://www.epa.gov/tribal/indian-environmental-general-assistance-program-gap>
- [EPA Region 10 GAP Climate Change Workplan Template](#)

## **Wildfire Smoke Guide – 2019 update**

- [www.airnow.gov/wildfire-guide](http://www.airnow.gov/wildfire-guide)

## **Clean Water State Revolving Fund**

- <https://www.epa.gov/cwsrf>

## **Smart Growth Technical Assistance**

- <https://www.epa.gov/smartgrowth>

## **Disaster Debris Management Federal Resource Guide**

- Available on FTP Site <ftp://newftp.epa.gov/Region10/EcoLearn/>.

## **Air Pollution Training Institute (APTI-Learn) Courses Related to Climate Adaptation**

- <https://www.apti-learn.net>

## **Denali Commission (July 2018). Community Resilience in Alaskan Communities:**

### **Catalog of Federal Programs**

- <https://www.denali.gov/wp-content/uploads/2018/10/Catalog-of-Federal-Programs-for-Alaskan-Communities-27Jul2018-Final.pdf>

## **Erosion Resources – Creating a Road Map Forward**

- <https://www.commerce.alaska.gov/web/Portals/4/pub/Understanding&EvaluatingErosionPub.pdf>

## **Clean Diesel Tribal Grants**

- <https://www.epa.gov/cleandiesel/clean-diesel-tribal-grants>

## **Wetland Program Development Grants**

- <https://www.epa.gov/wetlands/tribal-wetland-program-development-grant-request-applications>

## **FEMA's Pre-Disaster Mitigation Grant Program**

- <https://www.grants.gov/web/grants/view-opportunity.html?oppId=320395>

## **EcoLearn Lesson Plans**


- <ftp://newftp.epa.gov/Region10/EcoLearn/>



# EPA's National Tribal Science Council

The Tribal Science Council is a forum for interaction between Tribal and Agency representatives to work collaboratively on environmental science issues.


The Tribal Science Council is committed to the development of sound scientific approaches to meet the needs of Tribes.

 **EPA** United States Environmental Protection Agency

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Science in Indian Country

## Science in Indian Country



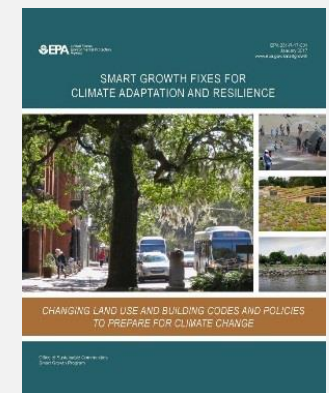
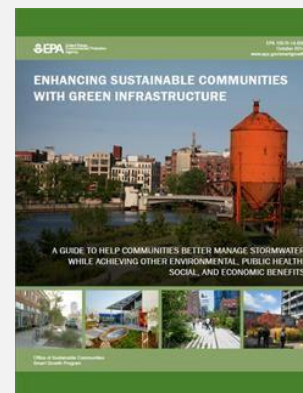
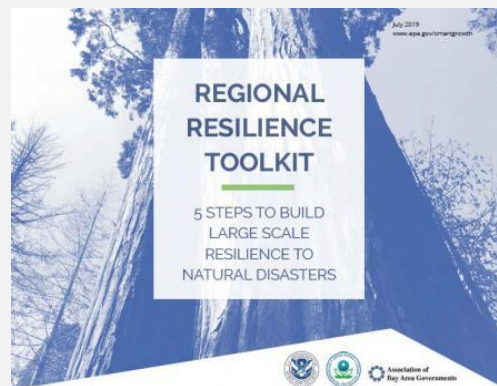
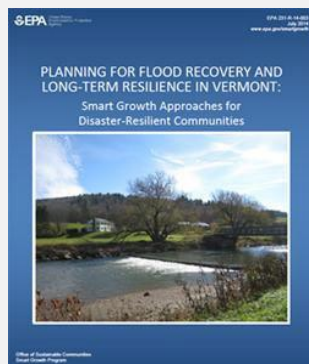
*Building bridges between Tribal and EPA programs  
by collaborating on priority tribal science issues.*

### Key Links

<a href="#">Tribal Science Council</a>	<a href="#">National Tribal Science Priorities</a>
<a href="#">Tribal-FERST</a>	<a href="#">Events &amp; Meeting Minutes</a>

# Adaptation and Resilience Publications from EPA's Office of Community Revitalization

- *Smart Growth Fixes for Climate Adaptation and Resilience: Changing Land Use and Building Codes and Policies to Prepare for Climate Change* (2017)
  - <https://www.epa.gov/smartgrowth/smart-growth-fixes-climate-adaptation-and-resilience>
- *Planning Framework for a Climate-Resilient Economy* (2016)
  - <https://www.epa.gov/smartgrowth/planning-framework-climate-resilient-economy>
- *Creating Safe Growth Strategies for the San Francisco Bay Area* (2015)
  - <https://www.epa.gov/smartgrowth/creating-safe-growth-strategies-san-francisco-bay-area>
- *Enhancing Sustainable Communities With Green Infrastructure: A Guide to Help Communities Better Manage Stormwater While Achieving Other Environmental, Public Health, Social, and Econ Benefits* (2014)
  - <https://www.epa.gov/smartgrowth/enhancing-sustainable-communities-green-infrastructure>
- *Flood Resilience Checklist* <https://www.epa.gov/smartgrowth/flood-resilience-checklist>



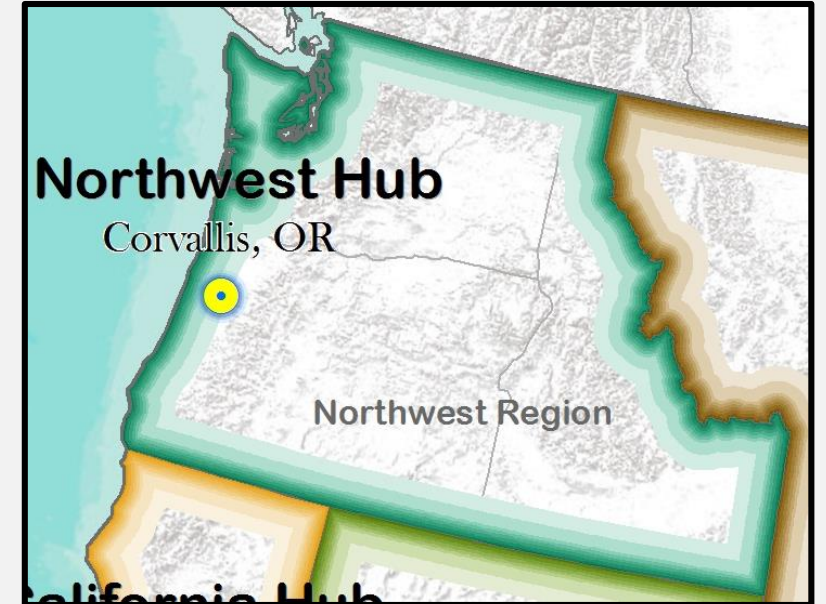


# Your GAP Project Officer!!

Your most important resource



# Many other Federal Resources e.g. USDA Northwest Climate Hub







## USDA Programs and Resources to Assist with Adaptation to Climate Change

### Introduction:

This searchable guide is a compilation of over 140 USDA programs and resources that provide financial or technical assistance, insurance, or services to assist with adaptation and mitigation of climate change. These programs and resources are accessible to eligible Tribes, Tribal governments, Tribal citizens, farmers, ranchers, forest land owners, businesses, state agencies, institutions, and non-government organizations. This guide has been reviewed and approved by the [USDA Office of Tribal Relations](#).

Disclaimer: Details of programs and resources listed are from the 2014 Farm Bill and will be updated to reflect the [2018 Farm Bill](#).

### Instructions:

Select items from any of the three drop-down lists for Keyword, Eligibility, and/or Category and select the Apply button to conduct a search. Selecting from the Keyword menu alone will maximize results, while adding additional criteria from the Eligibility and/or Category menus will narrow the search and reduce results. Results will appear in table format at the bottom of the page with ten results visible per page and additional pages viewed by clicking the arrow or page number. Click on the program title in the leftmost column to access additional information for each program or resource.

### Additional Tips:

If you are interested in climate change adaptation topics related to: Conservation, consider using the following Keyword: conservation as many conservation practices often double as adaptation to climate change as they aim to build landscapes that are more resilient to climate change.

Human health, consider using any of the following Keywords: nutrition, disease, food security, drinking water, and waste disposal.

Rural or remote infrastructure and economics, consider using any of the following Keywords: community, housing, infrastructure, extension, and energy.

Keyword

Holly Prendeville  
Coordinator  
USDA Northwest  
Climate Hub  
[holly.prendeville@usda.gov](mailto:holly.prendeville@usda.gov)

<https://www.climatehubs.usda.gov/tribal-resources>



# TRIBAL CLIMATE ADAPTATION GUIDEBOOK

VERSION 1.0

November 2018

<https://toolkit.climate.gov/reports/tribal-climate-adaptation-guidebook-version-10>



# Funding <http://envs.uoregon.edu/tribal-climate/>

## Tribal Climate Change Funding and Program Guide

Last update: September 16, 2013. The Funding Guide is intended to provide up-to-date information on grants and programs that may assist tribes in addressing climate change through a broad range of sectors. The Guide for Tribes summarizes key U.S. government programs addressing climate change, opportunities for tribal engagement and contacts for each agency. In addition to its immediate value to tribes and their partners, this information will provide a groundwork for research on understanding and improving the tribal consultation processes in the context of climate change. You can search this guide with keywords in the descriptions bar, or use the drop down menu to search by agency or geography. You can refine your search by using multiple drop-down menus and/or search terms in the description category. The [PNW Tribal Climate Change Project](#) at the University of Oregon and the Environmental Protection Agency, Region 10 Tribal Program Office developed this guide collaboratively. We will update this guide regularly, so please check back often. If you have questions or updates for this guide, email: [kathy@uoregon.edu](mailto:kathy@uoregon.edu).

Type:  Agency:  Description:  Category:  Geography:   [Reset](#)

Type	Grant/Program	Agency/ Organization	Deadline	Description	Category	Funding Amount	Eligibility	Matching Funds
Grant	<a href="#">NOAA Coastal and Estuarine Land Conservation Program Grant</a>	NOAA	11/15/2013	The Coastal and Estuarine Land Conservation Program (CELCP) was authorized for the purpose of protecting important coastal and estuarine areas that have significant conservation, recreation, ecological, historical, or aesthetic values, or that are threatened by conversion from their natural, undeveloped, or recreational state to other uses. This announcement solicits applications for land acquisition projects (fee simple interest or conservation easements) that are expected to be completed within 18 months from the start date of the award. NOAA-NOS-OCRM-2014-2003828.	Estuarine Conservation	Varies	Eligibility includes Native American tribal governments (Federally recognized).	Unknown
Grant, Fellowship	<a href="#">NSF Science, Engineering and Education for Sustainability Fellowship</a>	NSF	11/21/2013	Through the SEES Fellows Program, NSF seeks to advance science, engineering, and education to inform the societal actions needed for environmental and economic sustainability and human well-being while creating the necessary workforce to address these challenges. The Program's emphasis is to facilitate investigations that cross traditional disciplinary boundaries and address issues of sustainability through a systems approach, building bridges between academic inquiry, economic growth, and societal needs. The Fellow's proposed investigation must be interdisciplinary and allow him/her to obtain research experiences beyond his/her current core disciplinary expertise.	Education, Research	Unknown; \$7,000,000 in total funding	Post-doc, see website for details	Not required
Grant	<a href="#">BIA 2013 Tribal Climate Change Adaptation Grant Program</a>	BIA, DOI	11/29/2013	This grant is intended to support tribes adapting to climate change; funds may be used to support adaptation planning, trainings as well as travel and conference planning.	Adaptation	Less than \$150,000 per project	Tribes, inter-tribal organizations, non-profits with tribal support	Unknown
				The new National Ocean Policy calls for actions to improve understanding of and capacity to respond to ocean acidification, recognizing the potential adverse impacts of an acidifying sea upon marine ecosystems. The effects of ocean acidification could significantly affect strategies for developing practices towards the sustainability of ocean resources. Basic research concerning the nature, extent and impact of ocean acidification on oceanic environments in the				

*Putting it  
together into  
your  
GAP Work Plan*

*What are you  
adapting to?*

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Fire

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Drought

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Flood

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Sea Level Rise

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Costal erosion

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Food security and access to cultural resources

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Temperature/Heat or Freeze events

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Water Security

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Air Quality

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Health Impacts

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Changes in seasonality

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Permafrost/Snowpack/Glacier melt

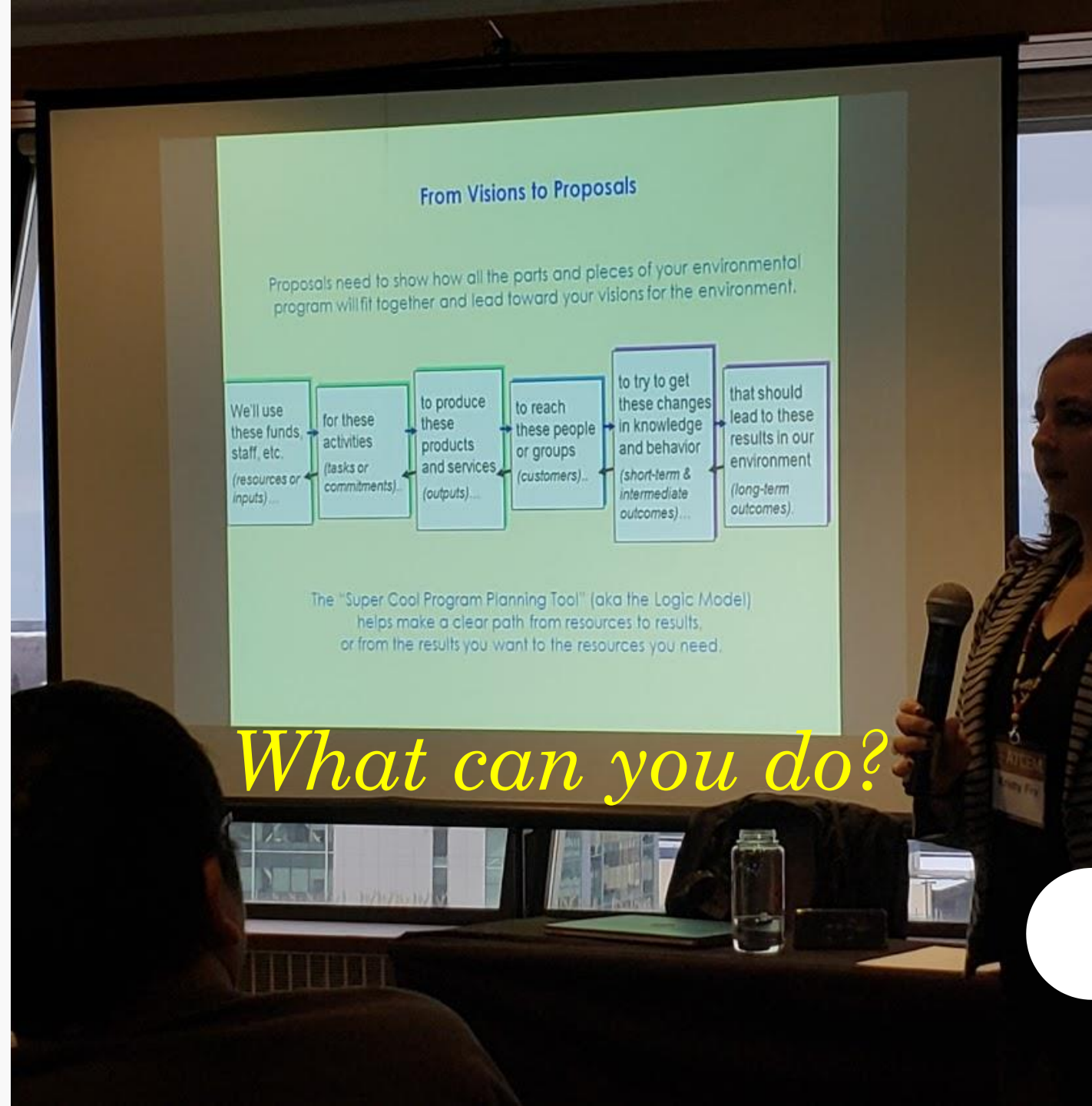
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Ecological impacts

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# *What are your Activities*

- Climate Vulnerability Assessments
  - Climate Adaptation Plans
- Documenting Traditional Knowledge on climate change
  - Climate Education
  - Youth Programs
- Community Engagement
- Protecting a clean and healthy environment to protect traditional foods.
  - Hazard Mitigation/Resiliency Planning
  - Infrastructure related adaptation activities
  - Air, Water, Waste, Superfund specific climate adaptation activities



*What can you do?*



**Work Plan Period: Begin:**

**End:**

**Work Plan Component:** Climate Change Adaptation Planning, emergency response emphasis

**Primary Capacity Area Developed:**

C.3.14 Tribe has developed a climate change vulnerability/risk assessment.

F.3.9 Tribe has established a program to conduct emergency response training and exercises for community.

C.3.19 Tribe has established community outreach/education programs, including air quality advisory.

Contact: Michelle Davis

Tribe: Enter Tribe's Name  
Region: 10

Work Plan Period: Begin

Work Plan Component:

Primary Capacity Area

C.3.14 Tribe has

F.3.9 Tribe has

C.3.19 Tribe has

Long-Term Outcome(s)

- Assess potential

- Build Tribal

Intermediate Outcome(s) (this work plan period):

- Tribal Council and Tribal members will better understand potential impacts to human health and the environment from climate change in their region.
- Tribe will increase its capacity to participate in emergency response programs.
- Tribal environmental program will have the required plans and assessments to access other state and federal programs.
- Tribe will be able to assess and protect ecosystem and watershed and ecosystem health.

ESTIMATED COMPONENT COST:

ESTIMATED COMPONENT WORK YEARS:

COMMITMENTS	CAPACITY AREA DEVELOPED	ESTIMATED COMMITMENT COST (optional)	END DATE	OUTPUTS AND DELIVERABLES
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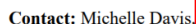
**Long-Term Outcome(s) (Changes in the Environment, Public Health, Behavior or Knowledge):**

X.5	Add information about climate to tribal newsletter. Contact regional and national tribal non-profits for information and articles.	Communication		Quarterly	4 articles related to tribal climate adaptation activities.
X.6	Coordinate with the local governments, including the City and Borough, the Alaska Department of Military & Veterans Affairs (DMVA) Division of Homeland Security and Emergency Response (DHS&EM) to either develop a new Emergency Operations Plan or determine what revisions may be necessary in existing plan. (Coordinator)	Technical		Start second 2 <sup>nd</sup> quarter, finish by fourth quarter	Conference call notes & summaries, gap analysis, and list of needs. Updated or completed plan included in 4 <sup>th</sup> quarter report to EPA.
X.7	Present information about Alaska Youth for Environmental Action to Tribal Council.	Communication		2 <sup>nd</sup> quarter	Council action on starting a youth environmental program.

<https://www.epa.gov/sites/production/files/2018-12/documents/r10-gap-tools-climate-change-workplan-template.pdf>

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**Work Plan Period:** Be

Work Plan Component	How to Measure Success
1. <b>Identify the problem or goal.</b>	Define the problem or goal in measurable terms.
2. <b>Identify the stakeholders.</b>	Identify the individuals or groups affected by the work plan.
3. <b>Identify the resources.</b>	Identify the personnel, equipment, and materials needed.
4. <b>Identify the tasks.</b>	Identify the specific activities to be completed.
5. <b>Identify the timeline.</b>	Identify the start and end dates for each task.
6. <b>Identify the risks.</b>	Identify the potential obstacles or challenges.
7. <b>Identify the communication plan.</b>	Identify the methods and frequency of communication.
8. <b>Identify the evaluation plan.</b>	Identify the methods and frequency of evaluation.

**Primary Capacity Area:**

C.3.14 Tribe has

F.3.9 Tribe has c

C.3.19 Tribe has

Long-Term Outcome(s)
<p>1. <b>Improved Quality of Life:</b> Patients often report a significant improvement in their overall quality of life, including reduced pain, increased energy, and better sleep.</p> <p>2. <b>Reduced Reliance on Pain Medication:</b> Many patients experience a decrease in their need for long-term painkillers, which can lead to fewer side effects and lower healthcare costs.</p> <p>3. <b>Enhanced Mobility and Function:</b> Physical therapy and targeted exercises can lead to improved range of motion and functional ability, allowing patients to perform daily tasks more easily.</p> <p>4. <b>Psychological Benefits:</b> Chronic pain can take a toll on mental health. Successful treatment can lead to reduced anxiety, depression, and stress, improving emotional well-being.</p> <p>5. <b>Long-Term Stability:</b> For many patients, the treatment provides lasting relief, preventing the recurrence of severe pain and the need for further invasive procedures.</p>

- Assess potential
- Build Tribal

### Intermediate Outcome

- Tribal Councils are the governing body of their region.

- Tribe will increase its capacity to participate in emergency response programs.
- Tribal environmental program will have the required plans and assessments to access other state and federal programs.
- Tribe will be able to assess and protect ecosystem and watershed and ecosystem health.

**ESTIMATED COMPONENT COST:****ESTIMATED COMPONENT WORK YEARS:**

COMMITMENTS	CAPACITY AREA DEVELOPED	ESTIMATED COMMITMENT COST (optional)	END DATE	OUTPUTS AND DELIVERABLES
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X.6	Coordinate with the local governments, including the City and Borough, the Alaska Department of Military & Veterans Affairs (DMVA) Division of Homeland Security and Emergency Response (DHS&EM) to either develop a new Emergency Operations Plan or determine what revisions may be necessary in existing plan. (Coordinator)	Technical		Start second 2 <sup>nd</sup> quarter, finish by fourth quarter	Conference call notes & summaries, gap analysis, and list of needs. Updated or completed plan included in 4 <sup>th</sup> quarter report to EPA.
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GA

Contact: Michelle Davis, [Davis.MichelleV@epa.gov](mailto:Davis.MichelleV@epa.gov), EPA Region 10

Tab St	
<p><b>Tribe:</b> Enter Tribe's Name here  <b>Region:</b> 10  <b>Work Plan Period: Begin:</b>      <b>End:</b>  <b>Work Plan Component:</b> Climate Change Adaptation Planning</p>	
<p><b>Primary Capacity Area Developed:</b>          C.3.14 Tribe has developed a climate change vulnerability assessment          F.3.9 Tribe has established a program to conduct emergency response planning          C.3.19 Tribe has established community outreach/education</p>	
<p><b>Long-Term Outcome(s) (Changes in the Environment, Public Health, etc.):</b></p> <ul style="list-style-type: none"> <li>Assess potential environmental impacts and develop mitigation measures</li> <li>Build Tribal environmental capacity to prepare for climate change</li> </ul> <p><b>Intermediate Outcome(s) (this work plan period):</b></p> <ul style="list-style-type: none"> <li>Tribal Council and Tribal members will better understand climate change in their region.</li> <li>Tribe will increase its capacity to participate in emergency response planning</li> <li>Tribal environmental program will have the required resources</li> <li>Tribe will be able to assess and protect ecosystem health</li> </ul>	
ESTIMATED COMPONENT COST:	
COMMITMENTS	C/DE

X.1	Gather information on existing planning and assessment efforts at both regional and local levels. (Coordinator)	Technical		1 <sup>st</sup> quarter	Presentation to Council, information for beginning emergency response planning.
X.2	Obtain training in emergency response for Tribal staff and tribal responders. (Coordinator and/or local emergency responders)	Technical		Ongoing	Completed training certificates.
X.3	Work with elders, tradition bearers, knowledgeable hunters and gatherers to gather traditional knowledge of past and existing environmental conditions, such as ice conditions, local animal and plant species, invasive species and other information that will help establish the baseline for the community. (Coordinator, potentially with contractor support).	Technical		Begin 1 <sup>st</sup> quarter, complete 4 <sup>th</sup> quarter	Completed interviews will be kept on CD and on external hard drives for future use. Some will be transcribed to support assessment and planning efforts.
X.4	Contact Alaska Youth for Environmental Action (AYEA) to discuss forming a local chapter. (Assistant)	Technical		1 <sup>st</sup> quarter	Formation of local AYE chapter, meeting minutes included in quarterly report.
X.5	Add information about climate to tribal newsletter. Contact regional and national tribal non-profits for information and articles.	Communication		Quarterly	4 articles related to tribal climate adaptation activities.
X.6	Coordinate with the local governments, including the City and Borough, the Alaska Department of Military & Veterans Affairs (DMVA) Division of Homeland Security and Emergency Response (DHS&EM) to either develop a new Emergency Operations Plan or determine what revisions may be necessary in existing plan. (Coordinator)	Technical		Start second 2 <sup>nd</sup> quarter, finish by fourth quarter	Conference call notes & summaries, gap analysis, and list of needs. Updated or completed plan included in 4 <sup>th</sup> quarter report to EPA.
X.7	Present information about Alaska Youth for Environmental Action to Tribal Council.	Communication		2 <sup>nd</sup> quarter	Council action on starting a youth environmental program.

<https://www.epa.gov/sites/production/files/2018-12/documents/r10-gap-tools-climate-change-workplan-template.pdf>

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# GAP Climate Adaptation Workplan Template

Contact: Michelle Davis, [Davis.MichelleV@epa.gov](mailto:Davis.MichelleV@epa.gov), EPA Region 10 Tribal Climate Change Advisor

Table 1: General Assistance Program Standardized Work Plan Format Sample C				
<b>Tribe:</b> Enter Tribe's Name here <b>Region:</b> 10 <b>Work Plan Period: Begin:</b> <b>End:</b>				
<b>Work Plan Component:</b> Climate Change Adaptation Planning, emergency response emphasis				
<b>Primary Capacity Area Developed:</b> C.3.14 Tribe has developed a climate change vulnerability/risk assessment. F.3.9 Tribe has established a program to conduct emergency response training and exercises for community members. C.3.19 Tribe has established community outreach/education programs, including air quality advisory system (e.g., climate change).				
<b>Long-Term Outcome(s) (Changes in the Environment, Public Health, Behavior or Knowledge):</b> <ul style="list-style-type: none"> <li>Assess potential environmental impacts and develop corresponding adaptation strategies.</li> <li>Build Tribal environmental capacity to prepare for climate change impacts through assessment and planning.</li> </ul>				
<b>Intermediate Outcome(s) (this work plan period):</b> <ul style="list-style-type: none"> <li>Tribal Council and Tribal members will better understand potential impacts to human health and the environment from climate change in their region.</li> <li>Tribe will increase its capacity to participate in emergency response programs.</li> <li>Tribal environmental program will have the required plans and assessments to access other state and federal programs.</li> <li>Tribe will be able to assess and protect ecosystem and watershed and ecosystem health.</li> </ul>				
<b>ESTIMATED COMPONENT COST:</b>			<b>ESTIMATED COMPONENT WORK YEARS:</b>	
<b>COMMITMENTS</b>	<b>CAPACITY AREA DEVELOPED</b>	<b>ESTIMATED COMMITMENT COST (optional)</b>	<b>END DATE</b>	<b>OUTPUTS AND DELIVERABLES</b>

X.1	Gather information on existing planning and assessment efforts at both regional and local levels. (Coordinator)	Technical		1 <sup>st</sup> quarter	Presentation to Council, information for beginning emergency response planning.
X.2	Obtain training in emergency response for Tribal staff and tribal responders. (Coordinator and/or local emergency responders)	Technical		Ongoing	Completed training certificates.
X.3	Work with elders, tradition bearers, knowledgeable hunters and gatherers to gather traditional knowledge of past and existing environmental conditions, such as ice conditions, local animal and plant species, invasive species and other information that will help establish the baseline for the community. (Coordinator, potentially with contractor support).	Technical		Begin 1 <sup>st</sup> quarter, complete 4 <sup>th</sup> quarter	Completed interviews will be kept on CD and on external hard drives for future use. Some will be transcribed to support assessment and planning efforts.
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X.5	Add information about climate to tribal newsletter. Contact regional and national tribal non-profits for information and articles.	Communication		Quarterly	4 articles related to tribal climate adaptation activities.
X.6	Coordinate with the local governments, including the City and Borough, the Alaska Department of Military & Veterans Affairs (DMVA) Division of Homeland Security and Emergency Response (DHS&EM) to either develop a new Emergency Operations Plan or determine what revisions may be necessary in existing plan. (Coordinator)	Technical		Start second 2 <sup>nd</sup> quarter, finish by fourth quarter	Conference call notes & summaries, gap analysis, and list of needs. Updated or completed plan included in 4 <sup>th</sup> quarter report to EPA.
X.7	Present information about Alaska Youth for Environmental Action to Tribal Council.	Communication		2 <sup>nd</sup> quarter	Council action on starting a youth environmental program.

<https://www.epa.gov/sites/production/files/2018-12/documents/r10-gap-tools-climate-change-workplan-template.pdf>

Blank template <https://www.epa.gov/sites/production/files/2019-11/r10-gap-fy21-attachment-d1-work-plan-template-blank.docx>



# Thank you!

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For any questions and comments, please contact:

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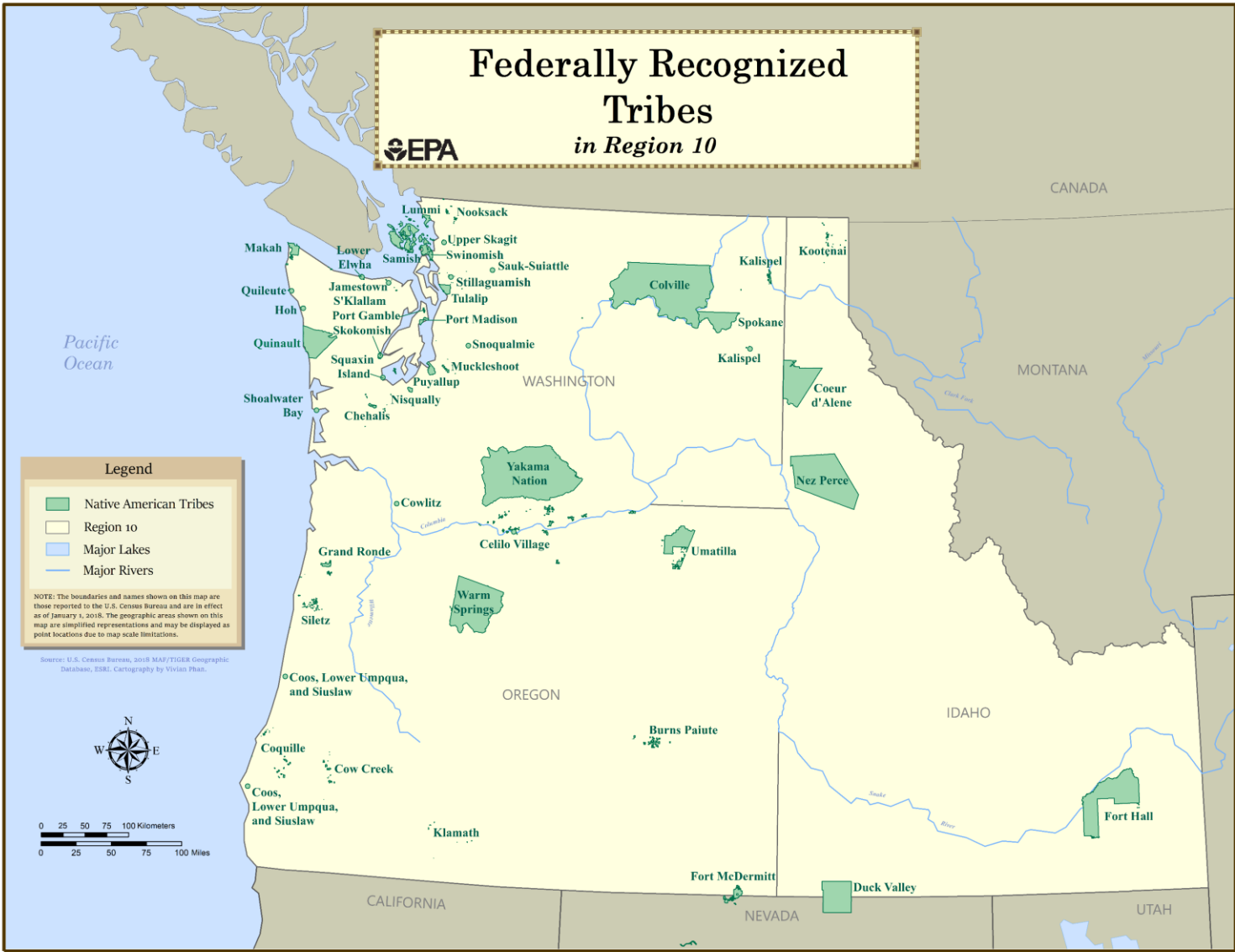
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Presentations and resources available on FTP Site <ftp://newftp.epa.gov/Region10/EcoLearn/>.

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# Tribes in Lower Region 10



# Tribes in Alaska

