

Preparing for Climate Change

It's complicated.

Michelle Davis, US EPA

Region 10 Tribal Coordinator

ITEP/ANTHC Climate Change workshop,

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The background image is a landscape photograph. It shows a calm body of water, possibly a lake or a wide river, under a soft, hazy sky of sunset or sunrise. The sky transitions from a pale blue at the top to a warm orange and pink near the horizon. In the distance, a range of low mountains or hills is visible. The foreground is dominated by dark, out-of-focus vegetation, likely grass or reeds, which adds a sense of depth and tranquility to the scene. The text is overlaid on the upper half of the image in a clean, white, sans-serif font.

The world is our one and only home. We are all on a long road and it will take all of our best efforts to preserve this beautiful world for our children's children."

Wilson Justin, Orator, Fire Watcher, Elder in Training

So, here we are.

- Federal programs are beginning to address climate change, but need to do more.
- However, impacts are being seen now.
- Once programs are created to address local impacts, there will be many applicants.

How do you prepare?

- ❖ Remember who your people are.
- ❖ Look to the past, but start to plan for the future.
- ❖ Talk to Elders who remember where people used to hunt, fish, gather and live.

Vision

A vision is a dream of what is possible. It is picture of what the Tribe wants to be and how it wants to look in the future. Before starting climate change work, the planning team & tribal community members should develop a vision. For example, that all the children are healthy and have safe places to play, live and learn.

Be daring. You may not be able to achieve everything, but a vision gives focus and direction.

All Tribal community members need to be invited to all stages of the visioning process. Projects have stronger support if the community is fully involved. Encourage children, adults and elders to participate.

“Imagine Yourselves Richly”

*Victoria Hykes Steere, Inupiaq, Professor, Alaska
Pacific University, Known trouble maker.*



Painting by Ken Lisbourne

Unique and yet shared

- ❖ The experience and impacts for each Tribe will be unique.
- ❖ Yet, there are common themes that will be shared.
 - Water
 - Safety and food security
 - Emergency response
 - Ecosystem changes

Look first at home.







GAP guidance and capacity building to respond to climate change

- ❖ Vulnerability/Risk Assessments
- ❖ Climate Preparedness Program (building codes, zoning rules, emergency management)
- ❖ Education and Outreach programs
- ❖ Intergovernmental Partnerships
- ❖ Green building codes

Capacity Indicators

Tribal climate change work with GAP will have capacity indicators, just as any other environmental issues the Tribe addresses.

Climate Change is included with Air Quality Program Capacities

Program-Specific Indicators of Tribal Environmental Program Capacity

- The indicators (Appendix I) help identify capacity development goals and measure the status of tribal environmental program capacity.
- These indicators provide examples of “road-maps” for building a tribal environmental program and will help tribes and EPA identify both short-term and long-term goals and activities.
- Other indicators of capacity may be identified on a tribe-by-tribe basis, reflecting the unique priorities and program development goals of a particular recipient.

Examples of Climate Capacity Indicators

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

C.3.15 Tribe has developed a climate change preparedness/adaptation program (e.g., zoning rules and regulations; tax incentives; building codes/design standards; utility rates/fee setting; public safety rules and regulations; outreach and education; emergency management powers).

Climate Outreach and Education

C.3.19 Tribe has established community outreach/education programs, including air quality advisory system (e.g., indoor air quality, radon, diesel emissions reduction, burn barrels, wood smoke, anti-idling, greenhouse gas and ozone-depleting substance reduction, **climate change**, and radiation hazards).



Intergovernmental Partnerships

C.3.20 Tribe has established intergovernmental partnerships with federal, state, local, and tribal governments to address air quality issues, including **climate change**, and radiation hazards (e.g., memoranda of understanding, interagency agreements).

Energy Efficiency Policies and Programs

C.3.17 Tribe has established energy efficiency policies and program(s) (e.g., building design standards/codes, ENERGY STAR initiatives for government operations and tribal housing).



Air Toxics

C.3.18 Tribe has established an air toxics program

- capacity to: monitor for acid and mercury deposition;
- **sample subsistence food sources to measure the accumulation of toxics;**
- partner with other jurisdictions on assessment projects;
- **communicate potential threats to community members;**
- implement actions to reduce sources of air toxics pollution.



Ensure Emergency Preparedness

As the climate becomes more unpredictable, emergency preparedness becomes more crucial to Tribal safety and timely responses. **Enroll in one of FEMA's trainings for Tribal managers and leadership.**

These courses include Continuity of Operations, Emergency Management Framework, and Mitigation of Risk training. These trainings could lead to formation of Local Emergency Planning Committee which manages the organization and funding.

<http://www.fema.gov/government/tribal/training.shtm>

Funding

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

Tribal Climate Change Funding and Program Guide

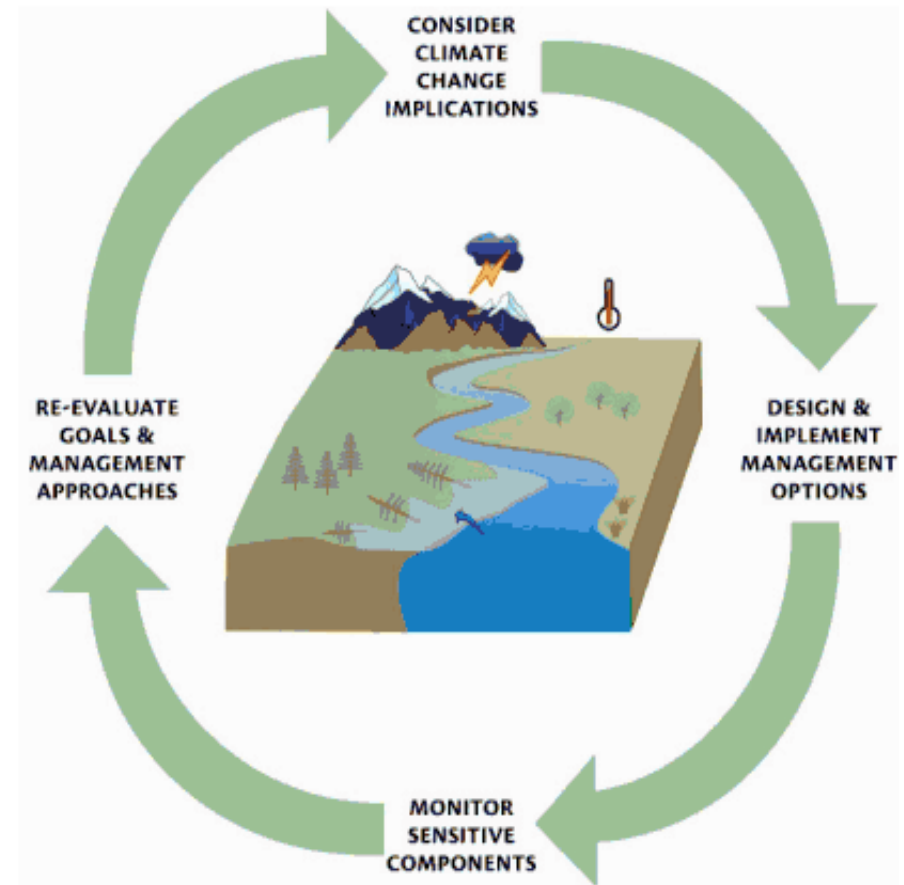
Last update: September 16, 2013. The Funding Guide is intended to provide up-to-date information on grants and programs that may assist tribes in addressing climate change through a broad range of sectors. The Guide for Tribes summarizes key U.S. government programs addressing climate change, opportunities for tribal engagement and contacts for each agency. In addition to its immediate value to tribes and their partners, this information will provide a foundation 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.

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

Type	Grant/Program	Agency/ Organization	Deadline	Description	Category	Funding Amount	Eligibility	Matching Funds
Grant	NOAA Coastal and Estuarine Land Conservation Program Grant	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	NSF Science, Engineering and Education for Sustainability Fellowship	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	BIA 2013 Tribal Climate Change Adaptation Grant Program	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				

What can EPA do to assist Tribes to adapt to climate change?

- Model adaption plans that were effective.
- Further integration of TEK and LEOs.
- TEK + Western Science = EPA Climate Change Response



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

Tribal Science Council	National Tribal Science Priorities
Tribal-FERST	Events & Meeting Minutes



Resources

- EPA's guide to developing a vulnerability assessment

https://www.epa.gov/sites/production/files/2014-09/documents/being_prepared_workbook_508.pdf

- Generations of Self Reliance

https://accap.uaf.edu/sites/default/files/resources/epa_tribal_adaptation.pdf

- GAP Guidance

https://accap.uaf.edu/sites/default/files/resources/epa_tribal_adaptation.pdf

Michelle Davis

davis.michelle@epa.gov

907 271-3434

Demonstration Projects

- We will all need new ways of thinking, new technologies to adapt to changing environment.
- Tribes are already beginning this work. Native Village of Kivalina has partnered with artists, engineers, architects from around the world.
- This has led to seen and unseen benefits.
 - Unseen; new ways of thinking and planning community spaces, built around western science, tribal knowledge and traditional way of life.
 - Seen; an innovative “Bio-char” waste conversion project that could be a game changer for rural communities.



Restoration

- Will help to bring back resiliency to traditional land and waters.
- May help with ecosystem preservation.
- Some Tribes are using restoration and reforestation to participate in carbon sequestration efforts.
- Healthy marine ecosystems may be essential to providing some protections against ocean acidification.

Nez Perce Tramway Restoration Project

