



Tribal Approaches to Adapt to Climate Change Impacts

U.S. EPA Climate Change Division

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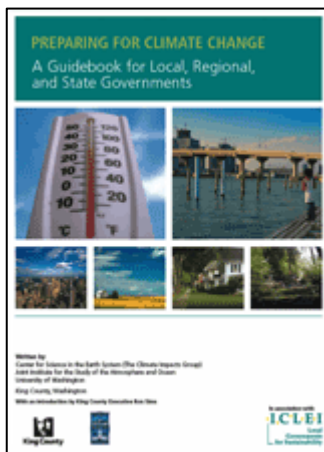
What is Adaptation?



Preparing for the projected changes in climate.

Adaptation Planning Process

- This is one example of a process. These steps can vary depending on the needs, resources, etc. of your tribe.
 1. **Build and maintain support to prepare for climate change**
 2. **Scope projected climate impacts on programs and planning areas**
 3. **Assess vulnerability and risk**
 4. **Set preparedness goals and actions**
 5. **Implement your plan and evaluate effectiveness**



Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments. By the Climate Impacts Group; King County, Washington; and ICLEI-Local Governments for Sustainability USA.

<http://www.cses.washington.edu/db/pdf/snoveretalgb574.pdf>



ITEP's Tribal Climate Change Adaptation Plan Template. Available upon request from Sue Wotkyns. (susan.wotkyns@nau.edu)

Build and maintain support to prepare for climate change



- The support of your tribal council and community is key.
 - Obtain the tribal council's commitment for a climate change planning effort. This might be in the form of a tribal proclamation, resolution, or declaration.
 - Create a climate change planning team to lead the planning effort.
 - Engage the tribal community in the planning process.
- Make the case for being proactive in preparing for climate change impacts.
 - Tribes are often on the front lines of climate change.
 - Planning for future changes can benefit tribal government today.
 - Proactive planning is more effective and less costly than reacting to impacts as they occur.

Scope projected climate impacts on programs and planning areas



Some examples include:

Health

- More heat-related illness, less cold-related impacts
- Increases in wildfires may worsen particulate matter (PM) pollution
- Increased production of ground-level ozone in certain regions may worsen local air quality

Economy and Infrastructure

- Sea level rise and increases in heavy precipitation/flooding may affect infrastructure in coastal areas or floodplains
- Increases in extreme weather events may result in higher insurance premiums

Housing

- Heavy precipitation events may contribute to increases in indoor dampness and building deterioration

Natural Resources

- Temperature and precipitation changes may adversely affect fish and wildlife species that are traditional food sources

Assess vulnerability and risk



- How susceptible are your programs and planning areas to harm from climate change impacts?
- Example vulnerability and risk assessment questions:
 - How sensitive is the planning area to the impacts of climate change?
 - How well does the planning area cope with environmental change today? Are there existing stresses that would limit its ability to cope with future climate change?
 - How likely is it that an impact will occur to the planning area?
 - What are the known or estimated consequences (economic, ecological, cultural, legal, etc.) if a particular impact does occur?
- How comprehensive these assessments are will vary from tribe to tribe, depending on a number of factors including staff time and funding for the planning process, goals for the plan, etc.

Set Goals and Implement Plan



- Set preparedness goals and actions
 - Develop, select, prioritize preparedness actions
 - Write a plan to meet the goals you have set
- Implement your plan and evaluate effectiveness
 - Monitor and measure progress towards preparedness goals
 - Regularly revisit and modify as new science becomes available and as priorities and needs of the tribe change.

For More Information



Institute for Tribal Environmental Professionals (ITEP)

- ITEP Tribes & Climate Change Website. www4.nau.edu/tribalclimatechange/index.asp
- ITEP Tribal Climate Change e-newsletter. Contact Susan.Wotkyns@nau.edu to be added to the email distribution list.
- Tribal Climate Change Adaptation Plan Template and Template for a Tribal Council Resolution. Available upon request from Susan.Wotkyns@nau.edu

Federal Government Climate Impacts and Adaptation Resources

- Interagency U.S. Global Change Research Program: Global Climate Change Impacts in the U.S. <http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts>
- EPA: Climate Change Impacts and Adapting to Change. <http://www.epa.gov/climatechange/impacts-adaptation/index.html>. Adaptation Tools for Public Officials <http://www.epa.gov/climatechange/impacts-adaptation/adapt-tools.html>
- National Oceanic and Atmospheric Administration: Regional Integrated Science & Assessments. http://www.climate.noaa.gov/cpo_pa/risa/projects.html
- U.S. Department of Agriculture Forest Service: Climate Change Resource Center. <http://www.fs.fed.us/ccrc/>
- U.S. Department of the Interior: Climate Science Centers. <http://www.doi.gov/csc/index.cfm>
- U.S. Fish and Wildlife Service: Landscape Conservation Cooperatives <http://www.fws.gov/landscape-conservation/lcc.html>

For More Information



Adaptation Information Clearinghouses

- CASES Database and Adaptation Library. Climate Impacts Group, Univ. of Washington. <http://cases.washington.edu/cig/cases>
- CAKE – Climate Adaptation Knowledge Exchange. www.cakex.org/
- Georgetown Climate Center Adaptation Clearinghouse. <http://www.georgetownclimate.org/adaptation/clearinghouse>

Other Climate Impacts and Adaptation Resources

- U.S. Fish and Wildlife Service in collaboration with National Wildlife Federation: *Scanning the Conservation Horizon* Climate Change Vulnerability Assessment Guide and training workshops. http://training.fws.gov/EC/Resources/climate_change/vulnerability.html
- National Wildlife Federation
 - Facing the Storm: Indian Tribes, Climate-Induced Weather Extremes, and the Future for Indian Country, 2011. <http://www.bia.gov/cs/groups/xnifc/documents/text/idc015951.pdf>
 - Other guidebooks and reports on regional adaptation strategies. <http://www.nwf.org/What-We-Do/Energy-and-Climate/Climate-Smart-Conservation/Adaptation-Reports.aspx>
- Natural Resource Defense Council: Climate Change and Health. <http://www.nrdc.org/health/climate/>
- ICLEI—Local Governments for Sustainability USA: Climate Adaptation Guidance. http://www.icleiusa.org/climate_and_energy/Climate_Adaptation_Guidance

Contact Information



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