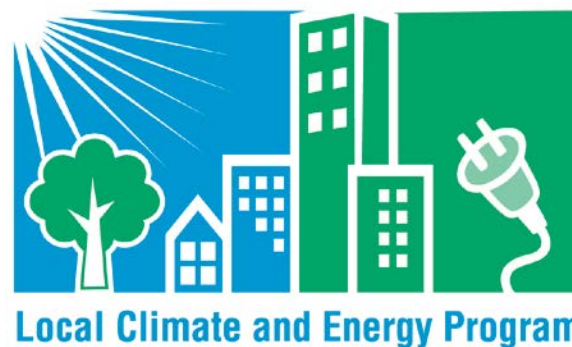


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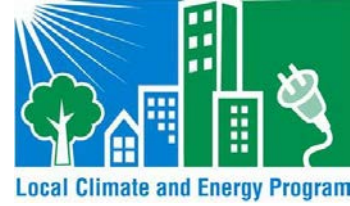
Tribal Approaches to Adapt to Climate Change Impacts

U.S. EPA Climate Change Division

Tuesday, December 11, 2012

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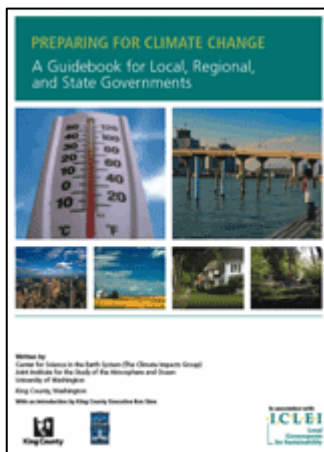
What is Adaptation?



Preparing for the projected changes in climate.

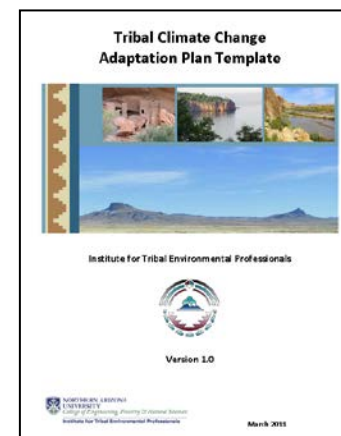
Adaptation Planning Process

- 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/snoveretalg574.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://cses.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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