Oklahoma Climate Adaptation Planning Kick-Off Meeting

Summary Report

Introduction:

In December 2009, the Oklahoma Climatological Survey (OCS) and the Southern Climate Impacts Planning Program (SCIPP) hosted a half-day planning workshop regarding climate adaptation in Oklahoma. The purpose of the meeting was to: 1) begin a dialogue to collaboratively and incrementally make Oklahoma communities more resilient to weather extremes; 2) learn from participants about their concerns and needs for information; 3) identify projects that can be done easily with existing resources; and 4) identify long-term research needs that can be addressed through partnerships. The meeting drew 41 participants from 17 state agencies, 10 Native American Tribes, 3 cities, and 2 federal agencies. Twenty-one people from the University of Oklahoma and/or OCS also participated. Tribal representatives also attended an informational meeting regarding National Weather Center programs earlier in the day.

Figure 1: Participants listen to a talk about climate adaptation planning.

State Agency Participants:
Office of the Secretary of the Environment
Oklahoma Association of Conservation Districts
Oklahoma Biological Survey
Oklahoma Conservation Commission
Oklahoma Department of Agriculture, Food, and Forestry
Oklahoma Department of Education
Oklahoma Department of Emergency Management
Oklahoma Department of Transportation
Oklahoma Department of Wildlife Conservation
Oklahoma Geological Survey
Oklahoma Insurance Department
Oklahoma State Department of Health
Oklahoma State University - Experiment Station
Oklahoma State University - Extension Division
Oklahoma Water Resources Board
Oklahoma Wheat Commission
University of Oklahoma Health Sciences Center

Native American Tribe Participants:
Chickasaw Nation
Delaware Nation
Iowa Tribe
Kiowa Tribe
Muscogee (Creek) Nation
Osage Nation
Pawnee Nation
Seminole Nation
Seneca-Cayuga Tribe
United Keetoowah Band of Cherokee Indians

City Participants:
City of Enid, OK
City of Norman, OK
City of Oklahoma City, OK

Federal Agency Participants:
Federal Highway Administration - Oklahoma Division
United States Geological Survey

The first half of the workshop included an overview of climate change and its implications for Oklahoma as well as a review of climate adaptation planning in other states. During the second half of the workshop, participants were divided into eight groups, each comprised of four to six practitioners. They discussed the impacts of weather, climate, and climate variability on their organization and its activities in a break-out session. This document summarizes the results of the session.

Planning Activities:

At the beginning of the break-out session participants were asked about the kinds of planning activities in which their organizations are involved. It was clear by the discussion that weather and climate issues impact planning activities across various sectors including agriculture, ecosystems, education, emergency response and preparedness, energy, health, transportation, and water resources. Several issues emerged as important foci for the participants who attended the meeting and are listed in the table below.

Planning Sector	Stakeholder Issues
Agriculture:	Invasive species; crop tolerance; carbon sequestration
Ecosystems:	Whether to keep red cedar trees (require a lot of water but have cultural meaning)
Emergency Response & Preparedness:	Preparing and responding to floods, tornadoes, ice storms, and wildfires; Checking on elderly adults after storms
Energy:	Utility costs; fleet management; alternative energy (e.g., wind)
Health:	Urban heat island effects; heat stress; disease outbreaks
K-12/Higher Education:	Standards, curriculum, & assessments
Transportation:	Traffic patterns associated with population changes; alternative fuels (e.g., natural gas); aging infrastructure
Water Resources:	Storm runoff; groundwater aquifer recharge; water rights; fire suppression

A couple of the participants mentioned that they do not have any long-term plans or are not allowed to discuss the implications of climate change in their plans. In addition, many of the participants said that weather-, water-, and climate-related stresses play a significant role in their long-term planning activities; however they do not always know how to address the issues.

Climate Impacts:

Most of the participants recognized that weather extremes, climate variability, or climate change have a strong impact on their organization, its mission, and its customers. For example, a representative from the Oklahoma Insurance Department said that weather extremes have a "dramatic impact" on the insurance industry and that insurance rates continue to rise due to

weather-related losses. Weather also impacts school systems because extreme events may disrupt classes and school days are lost. Furthermore, intense precipitation events increase storm water runoff which necessitates costly water treatments. A number of participants also voiced their concern about how a changing climate may affect crop varieties and support an environment for invasive species.

Some participants said their organizations were currently assessing climate impacts in Oklahoma by studying and tracking changes in plant and tree species, air quality, water quality, and crops. Other participants said they had just begun to think about climate change or indirectly assess the impacts through OCS, while the rest said they did not assess climate impacts.

Information Needs:

While most of the participants said that climate variability could and/or does impact their organization, some said that they do not necessarily have the proper information to make informed decisions. The participants discussed their water-, weather-, and climate-related needs, which were divided into three categories: data/resources, education, and modeling.

Data/Resource Needs	
Data Portal:	A free "one stop shop" for weather and climate information; a mechanism for sharing ideas; comprised of data from all state agencies; includes comprehensive datasets (e.g., temperatures, water quality, soil, unpermitted small emissions); with the ability to incorporate GIS maps
Manpower:	Assistance from other agencies to offset resource limitations
Weather/Climate Data:	Groundwater monitoring network (e.g., LIDAR); a more dense observing network
Societal Data:	Uninsured losses due to wildfires, flood, hail, tornadoes, etc…; data on individual/single family travel plans; integrate climate information with transportation planning processes

Education Needs	
Weather/ Climate:	Long term climate trends; how to predict the weather; educate teachers on how to incorporate climate information into curricula
Building Codes:	Recommended construction for storm shelters and houses to withstand weather extremes; wind generator sizes; heat pump regulations
Adaptation/ Mitigation:	Carbon sequestration potential in Oklahoma; entry level renewable/clean technologies for tribes and single entities; interdisciplinary graduate programs in climatology & biology

Modeling Needs	
Climate:	Climate projections at state/regional level; determine whether climate changes happen most dramatically in a particular season (e.g., wildlife very sensitive to climate March-July); ability to anticipate ice storms 12-18 months in advance

Adaptation Planning Involvement:

The comments during the break-out session indicated that the participants were generally receptive to the idea that weather, water, and climate impact their job duties and that they would like to be involved in future conversations pertaining to climate change adaptation and mitigation.

In addition to the numerous organizations present at the Kick-Off Meeting, the participants noted several other organizations whom they would like to see involved in the climate change adaptation conversation:

Agriculture Commodity Groups
Army Corps of Engineers
Association of County Commissioners
Cattlemen's Association
Environmental Protection Agency
Housing and Urban Development
Metropolitan Planning Organization in Tulsa
Oklahoma City, Lawton, & Fort Smith
Sustainable Oklahoma City
Transition Town Oklahoma City
Oklahoma Corporation Commission
Oklahoma Municipal League
Oklahoma Sustainability Network
Private Sector Companies
United States Department of Agriculture
Wheat Growers Association

Despite their enthusiasm, however, numerous participants mentioned that political pressures and funding limitations may inhibit their involvement in climate adaptation planning and vulnerability assessments. A few participants felt that while they were enthusiastic about the potential for improving their organizational actions, they were concerned that the people who have the power to make the most substantial changes are not yet ready to engage. Other concerns included having equal relationships between tribal and non-tribal entities, the inability to communicate with the people who can make the changes (e.g., congressional representatives, tribal chiefs), and that in formal documents, a plan should be called a "guideline" because as one participant mentioned, "you won't be able to deviate from [a plan]."

Priorities Activity:

Following the break-out session, participants were asked to distribute a hypothetical $100 between 12 stated climate-related needs to represent the issues on which they prefer there would be focus. The distribution of funds varied depending on the decision-maker and the needs of their organization; however the average funds were distributed as follows:

1. Climate change education and training programs for agency decision-makers (regional or national) ($11.61)
2. Habitat conservation and/or restoration ($11.10)
3. More science to study climate ecosystems connections ($10.68)
4. Climate change education programs for the public ($10.10)
5. Improve climate model projections ($8.97)
6. Identify practical climate change adaptation options for natural resource managers ($8.52)
7. Improve data access and climate change information sharing ($7.42)
8. Improve communication and collaboration with partners ($6.62)
9. Improve climate monitoring ($6.55)

10. Pilot projects to demonstrate climate change adaptation strategies at a landscape scale ($6.48)
11. Landscape-scale conservation planning ($4.74)
12. Improve ecosystem monitoring ($4.32)

Conclusions:

The Oklahoma Climate Adaptation Planning Kick-Off Meeting provided a foundation for engagement on which to build. It is clear that decision-makers in Oklahoma have a variety of climate-related needs. Some of those needs may be met by existing resources and some needs may require prolonged engagement and more research. Because of the diversity of the needs, SCIPP will begin to work with practitioners and communities on an in-depth basis to learn the exact role they can play. Thus, the next phase of engagement will include in-depth interviews. SCIPP will also provide climate change education and training (addressing the #1 priority stated on page 4) to participants who request it throughout the interview process as well as conduct a large-group workshop or symposium within the next year.