

DROUGHT

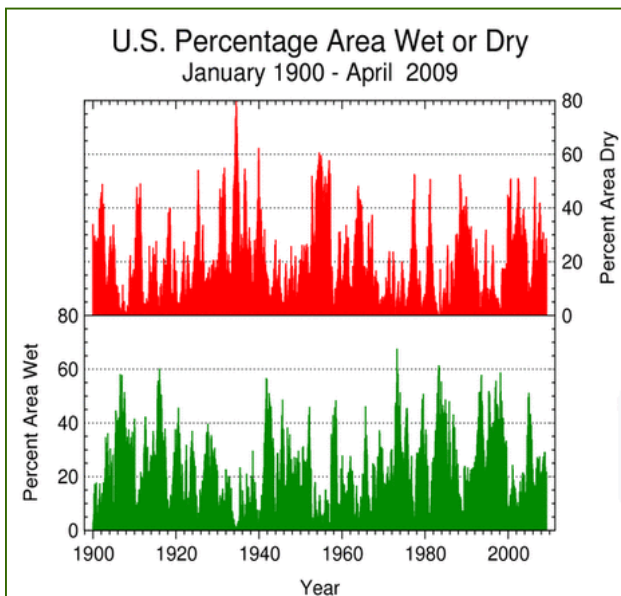
Drought is one of the most complex of all natural hazards, and it affects more people than any other natural hazard. It occurs somewhere in the United States each year and results in serious economic, social, and environmental impacts. Annual losses associated with drought have been estimated at \$6 to \$8 billion (FEMA, 1995), making it one of the most costly natural hazards in the country. The worst drought in 50 years affected at least 35 states in 1988, causing an estimated \$40 billion in economic losses and 5,000 to 10,000 deaths.



Drought is a persistent and abnormal moisture deficiency that has adverse impacts on water supply, water quality, hydropower, vegetation, soils, animals, and people. It results from large-scale disruptions of atmospheric circulation patterns that may persist for months or years. All droughts originate from too little precipitation (i.e., meteorological drought), but vulnerability is increasing as land- and water-use patterns change. Droughts may also be getting longer and more intense.

The Congressional Hazards Caucus encourages all citizens and communities to be aware of drought hazards and take appropriate steps to reduce their vulnerability to this natural hazard.

What Communities Can Do to Reduce the Impacts of Drought



This graph depicts the percentage of the U.S. in either dry or wet periods from 1900 to 2009.

National Climatic Data Center www.ncdc.noaa.gov

- **Prepare a drought mitigation plan.** Drought plans commonly have four critical elements: risk assessment, early warning, mitigation and response.
- **Understand the drought hazard.** It is important to know the probability or frequency of drought at different levels of severity. Studies of the historical occurrence of drought can provide a better understanding of your exposure to the hazard and your “drought of record.”
- **Recognize that vulnerability to drought is increasing.** In recent years the magnitude and complexity of drought impacts have increased in association with increasing population, the shift of population to drier regions of the country, urbanization, changes in land use, and increased environmental awareness.
- **Conduct a risk assessment.** It is important to know who and what is at risk and why. The risks associated with drought will vary from one community or group to another and from one region to another. An analysis of the impacts of previous droughts will provide valuable information about what sectors, communities, or regions are most vulnerable.

- **Involve stakeholders in the planning process.** People and organizations affected by drought should have a voice in the drought planning process.
- **Identify appropriate mitigation actions.** Adopting mitigation actions before drought occurs can effectively reduce the impacts and hardships associated with drought. Examples of drought mitigation actions include water supply augmentation, water demand reduction, improved monitoring, improved public education, and the development of comprehensive drought plans. Effective mitigation and preparedness require the involvement of all levels of government from local to federal.

Drought Information Resources

National Oceanic and Atmospheric Administration

Drought Information

www.drought.noaa.gov

Climate Prediction Center

www.cpc.ncep.noaa.gov

National Integrated Drought Information System

www.drought.gov

University of Nebraska, Lincoln

National Drought Mitigation Center

drought.unl.edu

U.S. Geological Survey

U.S. Water Monitor

watermonitor.gov

U.S. Department of Agriculture

Drought Assistance

disaster.usda.gov/drought_jump.htm

U.S. Bureau of Reclamation

www.usbr.gov



Drought can quickly reduce storage in reservoirs which supply cities and farmland with water. A prolonged drought reduced the volume of Lake Powell to 33% of capacity in April 2005. In addition to limits on water consumption, this caused a significant reduction in energy generation from Glen Canyon Dam. *Photograph by the National Park Service*

Secondary Effects of Drought

- Reduced agricultural productivity
- Increased risk of fire
- Increased wildlife, livestock and fish mortality
- Soils become more vulnerable to wind erosion
- Economic strain
- Population loss in rural areas
- Increased energy consumption
- Navigating rivers and waterways becomes more difficult



Corn stressed from a prolonged drought in 2001.

Photograph by the U.S. Department of Agriculture

Monitoring Drought

Drought's slow onset characteristics make monitoring its inception and severity a difficult task. It is important to understand and illustrate its intensity, duration, and spatial extent. Although all types of drought originate from a reduction in precipitation, it may take several weeks or months for this deficiency to appear in surface and subsurface water supplies.

The National Drought Mitigation Center at the University of Nebraska, the U.S. Department of Agriculture, and the National Oceanic and Atmospheric Administration prepare a weekly map or snapshot of drought conditions across the United States. The U.S. Drought Monitor classifies drought conditions according to severity levels based on many drought indicators and climate indices, with substantial input from local and regional experts. This product is widely used by decision makers at all levels. Reference the weekly drought monitor at www.drought.gov

Drought Facts

- Since 2000, parts of the western U.S. have been affected by eight consecutive years of drought. In the summer of 2006, 60% of the country was abnormally dry or in drought.
- In 1934, more than 60% of the nation was affected by severe to extreme drought.
- On average, drought affects 15% of the U.S. each year.

The **Congressional Hazards Caucus** is co-chaired by Senators Mary Landrieu (LA), Ben Nelson (NE), and Lisa Murkowski (AK) and Representatives Dennis Moore (KS), Jo Bonner (AL) and Zoe Lofgren (CA). The Caucus helps individuals, businesses, and communities better prepare for and mitigate the costs of disasters. The Caucus seeks to foster dialogue on steps that government and citizens can take to lessen the severity of these disasters. To learn more about the Caucus, visit www.hazardiscaucus.org.