

DROUGHT



DESCRIPTION

The Colorado Water Conservation Board defines “drought” as a shortage of water associated with a lack of precipitation (*Drought*, n.d.c). Compared with sudden-onset hazards like earthquakes or fires, drought hazards often unfold over years, and it may be difficult to quantify when a drought begins or ends.

According to the National Drought Mitigation Center (NDMC), a drought is operationally defined by its various effects:

- *Meteorological drought* is a period of below-average precipitation.
- *Agricultural drought* occurs when there is an inadequate water supply to meet the needs of the state’s crops and other agricultural operations like livestock.
- *Hydrological drought* is a deficiency in surface and subsurface water supplies, generally measured as stream flow, snow pack, groundwater levels, or the level of lakes and/or reservoirs.
- *Socioeconomic drought* impacts health, well-being, and quality of life, or has an adverse economic impact on a region (*Types of Droughts*, 2016b).

DROUGHT IN COLORADO

Drought is one of the most serious hazards affecting Colorado (Colorado Water Conservation Board). Colorado’s water supply comes entirely from precipitation, in the form of rain, snow, and hail, because there are no major rivers that flow into the state (*State Drought Planning*, n.d.g). With the semiarid conditions in Colorado, drought is a natural part of the climate and can directly or indirectly affect the entire population of the state. Since 2010, every county in the state has experienced drought impacts (*Colorado Natural Hazards Mitigation Plan*, 2013, p. 3-21). Droughts in Colorado can be short or long-lived, and their impacts come in many forms, particularly in water-intensive sectors such as agriculture, municipal water supplies, recreation, tourism, and wildfire protection.

The 2014 Climate Change in Colorado Report finds that warming temperatures in Colorado have worsened some drought indicators over the past 30 years. The report also predicts that droughts and wildfires will increase in frequency and severity by the mid-21st century because of projected warming (*Climate Change in Colorado*, 2008).

RELATED HAZARDS

Droughts are associated with several other hazards in Colorado. They are an ongoing cause of expansive/shrinking soils, subsidence (the gradual sinking of land), and pest infestation. Droughts can also create conditions conducive to wildfires and flash flood events.

AVAILABLE DATA SOURCES

Colorado Water Conservation Board

- Statewide drought and water supply assessment - cwc.state.co.us/water-management/drought/Pages/main.aspx
- Drought planning toolbox - cwc.state.co.us/technical-resources/drought-planning-toolbox/Pages/main.aspx

National Drought Information System

The National Drought Information System operates the U.S. Drought Portal at www.drought.gov, which includes a range of resources made available by the National Drought Policy Commission.

National Drought Mitigation Center

The National Drought Mitigation Center at the University of Nebraska-Lincoln provides a host of information and tools for drought planning and monitoring. drought.unl.edu/AboutUs.aspx. The U.S. Drought Monitor, jointly produced by the National Drought Mitigation Center, the National Oceanic and Atmospheric Administration, and the U.S. Department of Agriculture, provides current drought condition data for Colorado. droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?CO

Colorado Drought Mitigation and Response Plan

The Colorado Drought Mitigation and Response Plan (2013) was developed to “provide an effective and systematic means for the State of Colorado to reduce the impacts of water shortages over the short and long term” (p. vii). The plan contains information about drought hazards, drought risk assessment, drought history in Colorado, and potential mitigation actions at the state and local level. cwc.state.co.us/water-management/drought/Pages/StateDroughtPlanning.aspx

Colorado Climate Center

The Colorado Climate Center at Colorado State University provides numerous resources on drought including evaporation data, precipitation maps, and a drought index. climate.colostate.edu/drought.php

APPLICABLE PLANNING TOOLS AND STRATEGIES

The table below cites applicable planning tools and strategies that are profiled in this guide.

APPLICABLE PLANNING TOOLS AND STRATEGIES – DROUGHT	
Addressing Hazards in Plans and Policies	<ul style="list-style-type: none"> • Comprehensive plan • Climate plan • Hazard mitigation plan • Parks and open space plan • Pre-disaster planning
Strengthening Incentives	N/A
Protecting Sensitive Areas	<ul style="list-style-type: none"> • 1041 regulations
Improving Site Development Standards	<ul style="list-style-type: none"> • Stormwater ordinance • Subdivision and site design standards
Improving Buildings and Infrastructure	<ul style="list-style-type: none"> • Building code
Enhancing Administration and Enforcement	N/A