Setting the Stage

Impacts of drought on the Colorado River in the Southwest U.S.
Photo Credit: USGS https://pubs.usgs.gov/fs/2004/3062/

https://cires.colorado.edu/outreach/
Driving Question:
What can we learn from past drought events to prepare for future drought?

Learning Goals:
• Analyze drought data to identify patterns of drought history and risk in Colorado.
• Communicate information about the causes and effects of drought in your community. Explain what community members should do in response to a drought.
Part 1: Drought, wildfire, and weather: What’s the connection in Colorado?

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<th>KWL Chart</th>
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Drought, wildfire, and weather: What’s the connection in Colorado?

Watch: [Drought News Clip](https://cires.colorado.edu/outreach/)

[https://cires.colorado.edu/outreach/](https://cires.colorado.edu/outreach/)
Drought, wildfire, and weather: What’s the connection in Colorado?

Watch: Assessing Drought in the United States

https://cires.colorado.edu/outreach/
# Drought Categories

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<th>Category</th>
<th>Description</th>
<th>Possible Impacts</th>
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| **D0**   | Abnormally Dry    | Going into drought:  
• short-term dryness slowing planting, growth of crops or pastures  
Coming out of drought:  
• some lingering water deficits  
• pastures or crops not fully recovered |
| **D1**   | Moderate Drought  | • Some damage to crops, pastures  
• Streams, reservoirs, or wells low, some water shortages developing or imminent  
• Voluntary water-use restrictions requested |
| **D2**   | Severe Drought    | • Crop or pasture losses likely  
• Water shortages common  
• Water restrictions imposed |
| **D3**   | Extreme Drought   | • Major crop/pasture losses  
• Widespread water shortages or restrictions |
| **D4**   | Exceptional Drought | • Exceptional and widespread crop/pasture losses  
• Shortages of water in reservoirs, streams, and wells creating water emergencies |

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**United States Drought Monitor Drought Classification**

[https://cires.colorado.edu/outreach/](https://cires.colorado.edu/outreach/)
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What is drought?

Droughts differ from most other natural hazards because of their gradual onset and accumulation of impacts over months, seasons, and even years.

Drought is a deficiency in precipitation over an extended period, usually a season or more, resulting in a water shortage causing adverse impacts on vegetation, animals, and/or people. Drought is different from aridity, which is a permanent feature of climate in regions where low precipitation is the norm, as in a desert.

Read: NOAA [Drought in America: Slow moving, far reaching](https://cires.colorado.edu/outreach/)
Jigsaw Station 1: Drought Causes and Impacts

A lack of essential rains can devastate crops, pastures, and ecosystems while severe heat waves that often accompany summer droughts can increase demands for energy and water resources, heighten wildfire risks, and contribute to a wide range of human health impacts. Drought ranks as the second most common type of billion-dollar weather disaster over the past three decades, surpassed only by tropical storms/hurricanes.

In addition to the toll it places on the economy, drought also affects the environment and society. Plants, animals and fish depend on water, just as people do. Drought can shrink their food supplies and damage their habitats. Sometimes this damage is only temporary, and other times it is irreversible.

Drought can also affect people’s health and safety. Examples of drought impacts on society include crop or farmed animal loss, anxiety or depression about economic losses, conflicts among individuals, communities or even countries when there is not enough water, reduced incomes, fewer recreational activities, higher incidence of heat stroke, and even loss of human life.

Read: NOAA Drought in America: Slow moving, far reaching

https://cires.colorado.edu/outreach/
Jigsaw Station 1: Drought Preparation & Response

View: NOAA To Escape Drought, Slow and Steady Wins the Race

https://cires.colorado.edu/outreach/
Interpret: Drought History in Colorado graph

https://cires.colorado.edu/outreach/
Jigsaw Station 2: Drought History in Colorado

US Drought Monitor Map: Colorado, 12/4/2018

Interpret: [US Drought Monitor Map](https://cires.colorado.edu/outreach/)}
Jigsaw Station 3: 2018 American Southwest Drought

US Drought Monitor Map: 1/2/2018

View and Read: Intense drought in the U.S. Southwest persisted throughout 2018
Jigsaw Station 3: 2018 American Southwest Drought

US Drought Monitor Map: 12/25/2018

View and Read: Intense drought in the U.S. Southwest persisted throughout 2018

https://cires.colorado.edu/outreach/
View and Read: Intense drought in the U.S. Southwest persisted throughout 2018

https://cires.colorado.edu/outreach/
Jigsaw Station 4: Observations of the 2018 Drought in Colorado

Explore: CoCoRAHS [Drought Condition Monitoring Map](https://cires.colorado.edu/outreach/)
Jigsaw Station 5: Current Drought Conditions in Colorado

Explore: Drought.gov

https://cires.colorado.edu/outreach/
Jigsaw Station 5: Current Drought Conditions in Colorado

Explore: [Drought.gov](https://drought.gov)

https://cires.colorado.edu/outreach/
Jigsaw Station 6: Drought Preparation and Response

Explore: National Weather Service Drought Safety

Drought is a shortage of water over an extended period of time. Droughts are a normal part of a climate cycle. They occur in all climate zones. Drought can be short or span years. There have been at least three major U.S. droughts in the last 100 years. Two of these, the 1930s Dust Bowl drought and the 1950s drought, each lasted 5-7 years and covered large areas of the country with devastating results. Although hurricanes and tornadoes are more dramatic, droughts are among the most costly weather related events and the most far reaching. From 1980–2014, there were 22 drought events with losses exceeding $1 billion (CPI-Adjusted) each across the United States.

Drought may require safety precautions just like other weather hazards. Dry conditions often lead to brush fires or wildfires. Local officials may ask that you not burn brush or trash during dry conditions and comply with other safety precautions. In extreme fire conditions, officials may issue mandatory evacuation orders to protect your life. Always follow these directives. They could save your lives and the lives of your family.

https://cires.colorado.edu/outreach/
Jigsaw Station 6: Drought Preparation and Response

Explore: National Weather Service Drought Safety

https://cires.colorado.edu/outreach/
Jigsaw Station 6: Drought Preparation and Response

**Take Action**

- **Drought Safety**
- **Monitoring, Forecasts**
- **Take Action**
- **Drought Impacts**
- **Types of Droughts**

**Be Green, Conserve Water**

- Check plumbing for leaks and promptly repair leaks found.
- When you update appliances in your home or office, select ones that are more energy and water efficient.
- Replace toilets, shower heads, faucets, etc., with low-flow versions.

**During a Drought Be Vigilant**

**Conserve water**

- Take shorter showers.
- Turn off the water while brushing your teeth or shaving.
- Run the washer less frequently and only when you have a full load.
- Water your lawn less frequently and do so when the temperature is cooler in the early morning or late evening.
- When you run the tap to heat or cool water, keep a pitcher to store the water and use it to water plants.
- Avoid washing your car.

**Practice fire prevention**

- Don’t set off fireworks when conditions are dry.
- Deposit cigarette butts in the proper receptacle to avoid starting a fire.
- Pour water over camp fires and backyard fire pits to ensure they are completely out before leaving them unattended.

**Follow directions from local officials**

- If there are restrictions on water usage, be sure to heed them.
- Follow burn bans.

Explore: National Weather Service [Drought Safety](https://cires.colorado.edu/outreach/)
Part 3
Drought Expert Interview

Watch: Drought Expert Video

https://cires.colorado.edu/outreach/
Local Drought News Story

Prompt: Create a local news story in a format of your choice (see options below), that summarizes important information for people in your community to prepare for and understand drought.

The format choices for the local drought news story include:

- Newspaper article with one picture and one graph or map (one page)
- Radio story (2-3 minutes in length)
- Video newscast (2-3 minutes in length)

Use the outline in your worksheet to compile information for your news story.