

# Weather Extremes



Name:

Date:

**Test your knowledge: Match the words with the descriptions.**

Tornado

a rapidly rotating column of air extending from a thunderstorm to the ground

Blizzard

a prolonged period of abnormally low rainfall, leading to a shortage of water

Hurricane

a large tropical storm system with strong winds and heavy rain

Heatwave

a weather condition where balls or lumps of ice fall from the sky

Flood

a mature tropical cyclone that develops in the western part of the North Pacific Ocean

Drought

an overflow of water that submerges land which is usually dry

Typhoon

a prolonged period of excessively hot weather, often accompanied by high humidity

Hailstorm

a severe snowstorm characterized by strong winds and low visibility

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## Weather extremes in detail

Now take a closer look at a weather extreme and answer the related questions.

### Drought

A drought is a prolonged period of drier-than-normal conditions that can last for days, months, or even years. This weather extreme often arises due to several factors, including a deficiency of precipitation, high atmospheric pressure, climate change, and human activities such as deforestation and over-farming. Droughts can occur anywhere in the world, but they are most frequent in regions like the Amazon basin, Australia, the Sahel in Africa, and parts of India. These areas are particularly vulnerable due to their climatic conditions and geographical features.

The frequency of droughts is increasing globally, influenced by climate change, which raises temperatures and evaporative demand in the atmosphere. This exacerbates drought conditions, making them more severe and less predictable. Droughts can be categorized into meteorological, hydrological, and agricultural droughts, each with distinct causes and impacts.

Droughts pose significant dangers to humans, animals, and the environment. For humans, drought can lead to food shortages, malnutrition, and water scarcity, which in turn can cause stress, economic loss, and even displacement or migration. Health issues may arise from excessive heat waves and water pollution. Animals face habitat degradation and may have to migrate in search of water and food. The environment suffers from a loss of biodiversity, increased wildfire risks, and the drying up of wetlands. To protect against drought, various strategies can be implemented. These include efficient water management practices, irrigation systems, and crop rotations tailored to less water-dependent crops. Building dams and reservoirs can provide additional water supply during dry periods. Additionally, techniques such as rainwater harvesting and desalination are becoming increasingly important in drought-prone areas. While cloud seeding has been attempted to induce rainfall, its effectiveness remains a topic of debate. By adopting these measures, communities can better mitigate the impacts of drought and safeguard their resources.



**For each statement, choose if it is true or false.**

**Droughts can last for days, months, or even years.**

True  False

**High atmospheric pressure is a factor that can lead to droughts.**

True  False

**The Amazon basin is immune to droughts due to its climatic conditions.**

True  False

**Climate change has no impact on the frequency of droughts.**

True  False

**Meteorological, hydrological, and agricultural droughts are categorized based on their causes and impacts.**

True  False

**Droughts only affect humans and have no impact on animals or the environment.**

True  False

**Building dams and reservoirs is a strategy to protect against drought.**

True  False

**Cloud seeding is widely accepted as an effective method to induce rainfall.**

True  False

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## California's Drought: Nature's Reminder

The drought in California, spanning from 2011 to 2017, serves as a stark reminder of nature's unpredictability. This period was marked by critically low precipitation levels, leading to one of the driest spells in the state's recorded history. The drought was primarily attributed to a combination of natural climate variability and human-induced global warming, which amplified the extreme weather conditions. Governor Jerry Brown's administration implemented mandatory water restrictions, emphasizing the urgent need for conservation as reservoirs dwindled and millions of trees perished.

Socially, the drought provoked a widespread re-evaluation of water usage, impacting agricultural practices and urban living. Farmers faced the harsh reality of reduced water allocations, leading to significant shifts in crop choices and irrigation methods. Politically, the crisis underscored the necessity for long-term environmental policies, challenging institutions to prioritize sustainable water management. The state's response included investments in water recycling and storage technologies, lay-



*A farmer welcoming rain during the 1976 drought. Source: Los Angeles Times*

Economically, the drought inflicted substantial losses on California's agricultural sector, the largest in the nation. Reduced crop yields and increased operational costs strained farmers and local economies, prompting calls for federal aid. However, the adversity also spurred innovation, as the agricultural industry explored drought-resistant crops and efficient water use technologies. By 2017, the lessons learned had paved the way for a more adaptive approach to managing California's precious water resources.

Ultimately, California's drought served as a catalyst for change, prompting awareness and action across social, political, and economic spheres. The subsequent decade saw significant advancements in water conservation efforts, ensuring that future generations are better equipped to handle nature's challenges. The historical drought not only reshaped policies but also instilled a deeper respect for the delicate balance between human activity and the environment.

ing the groundwork for future  
resilience.

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## Weather extremes in the news

Carefully read the newspaper article about the extreme weather event on the previous page. Then conduct your own research: Can you find a similar event with the same weather extreme? This page can help you with your research: <https://www.loveexploring.com/gallerylist/84422/dramatic-weather-events-from-1900-to-today>

Then note the similarities and differences between the two events in the table.

Similarities	Differences

**What do you notice when looking at the list of weather extremes? What do you think the future development will look like?**

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