

## What is the difference between weather and climate?

Look outside. Is it sunny, rainy, windy, cloudy, or snowing? What happens outside each day is weather. Climate is the average weather in a place over many years.

To find out the climate of a certain place you have to look at how often it is sunny, rainy, windy, cold, and hot. Yet, it is much more difficult to figure out *why* a place has that climate.

Some of the things that can impact climate of a place are how far north or south it is, how close water is, whether

it is flat or mountainous, and how high up it is. Even ocean temperatures and currents in faraway places can have an impact on climate because they have a strong influence on weather patterns.

A lot of exciting new climate research will be happening in Montana in the years to come because Montana State University and the University of Montana are starting a new Institute of the Environment that will help scientists do innovative research on climate science.



### Try this!

Look at the map above. It is a Koppen-Geiger climate classification map made by scientists using real data about long-term weather patterns like rain and temperatures. Look at the map to see how many climates you have around where you live.

Think of the climate where you live. Describe it and draw what it looks like. Can you think of a different climate nearby? Draw what it looks like and describe it. A great way to tell if it is a different climate is to see if the plants are different. Scientists who study climate look for things like what plants are growing, how much snow falls, and how much water is in lakes. What are some of the things that cause the places you chose to have different climates?

