

# Earth's Climate *Learning Guide*



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Phone: 800-507-0966

Fax: 800-507-0967

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# CLIMATE & ITS CAUSES

## What Is Climate?

The **weather** is the condition of the atmosphere at a specific time and place. The **climate** is the average weather of a region over an extended period of time. If you travel around the world, you will find many different climates.

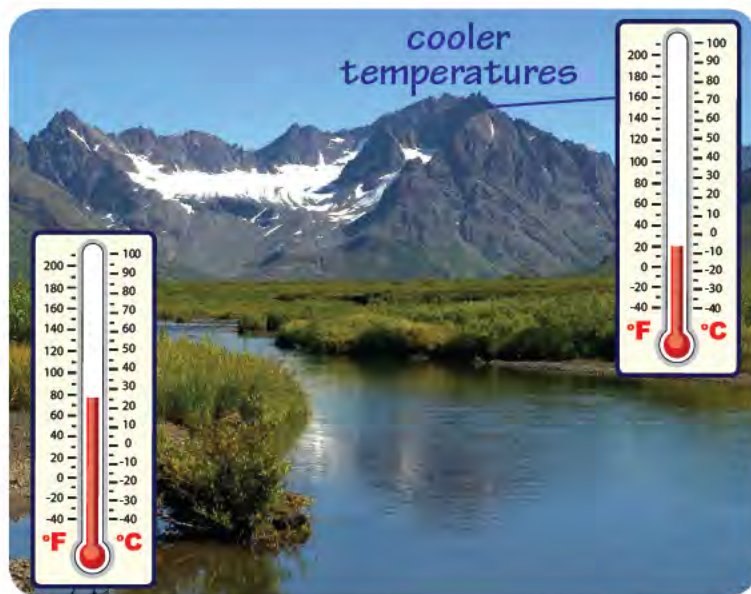
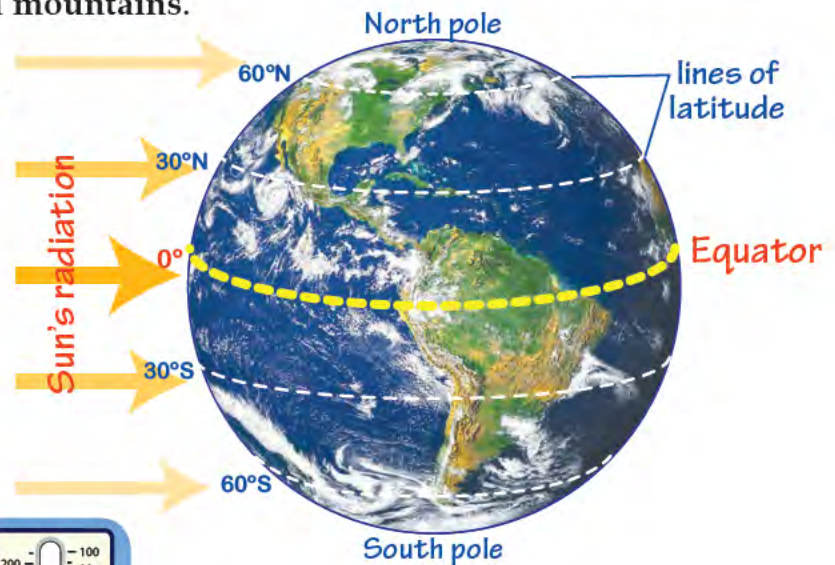


## Causes of Climate

Temperature and precipitation are the most important factors that impact climate. Temperature is influenced by **latitude**, **altitude**, large bodies of **water**, and **ocean currents**. Precipitation is influenced by **winds** and **mountains**.

### Latitude Affects Temperature

The **latitude** of a region affects temperature. The **Sun's radiation** is most concentrated at the **equator**, resulting in warm temperatures. In **polar** regions, temperatures are much colder because the same amount of energy is spread across a larger amount of land.



### Altitude Affects Temperature

Regions that are located at **higher altitudes** experience **cooler temperatures**. The air on top of a mountain is much cooler than the air at the base of a mountain because air temperature gets colder as you move to higher elevations in the **troposphere**.

### Oceans & Lakes Affect Temperature

Oceans and large lakes influence the climate. **Water** heats and cools more slowly than land, helping moderate the temperature of nearby land. The California coast has mild temperatures due to warm air blowing from the Pacific Ocean.

