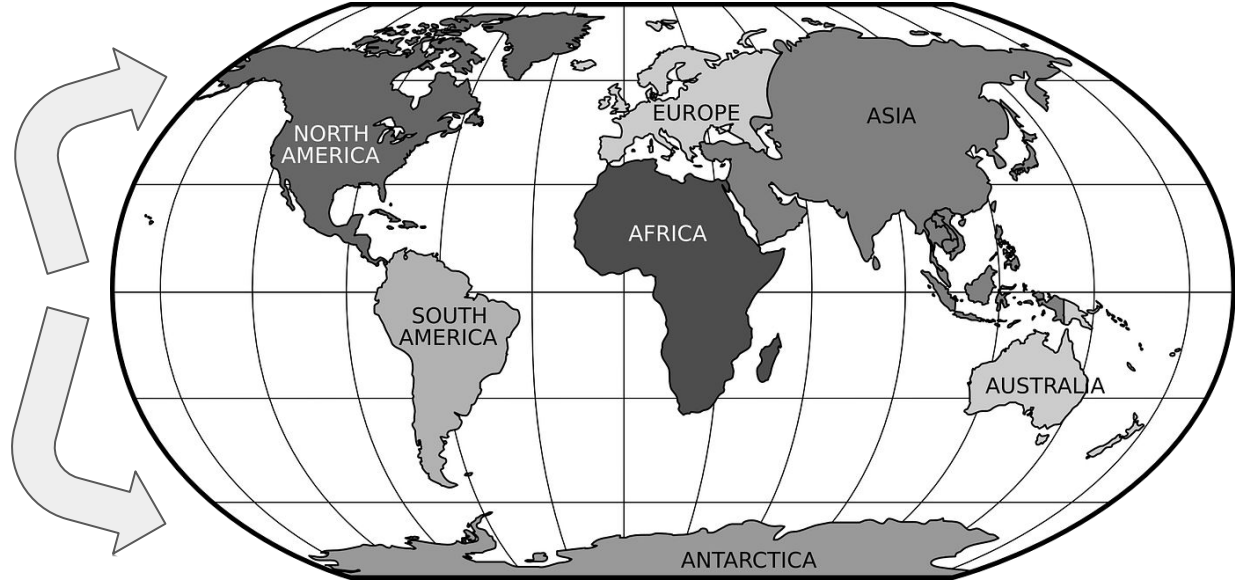# Factors That Can Influence Climate

Extension Climate Learning Lab

Latitude

How far North or South of the equator a place is located.

Generally, it is warmest and wettest near the equator and gets cooler to the North and South.

Proximity to water

How close a location is to an ocean, lake or river.

Generally being close to water leads to more precipitation.

Topography

How flat, hilly or mountainous a place is.

Elevation

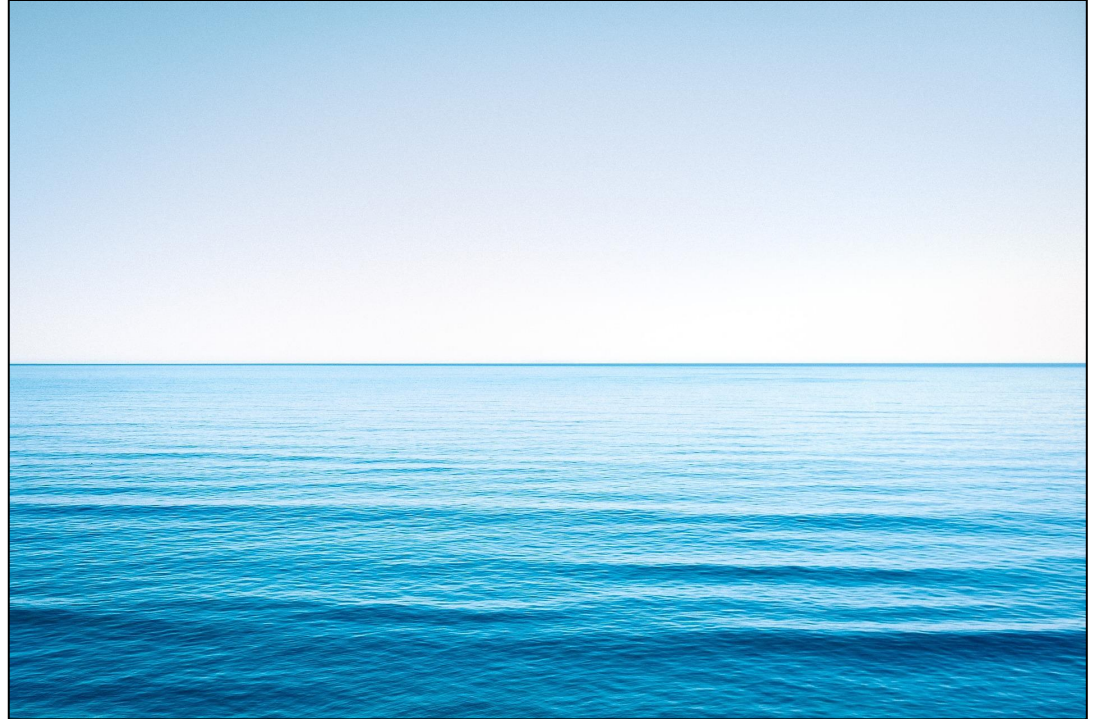How high above sea level a place is located.

Denver, CO is called the mile-high city because it is about 1 mile above sea level.

Generally, the higher elevation a location is the cooler its climate will be.

Ocean currents and temperatures

Movement of warm and cold ocean water, like those driven by El Niño and La Nina conditions, influence temperatures on land.
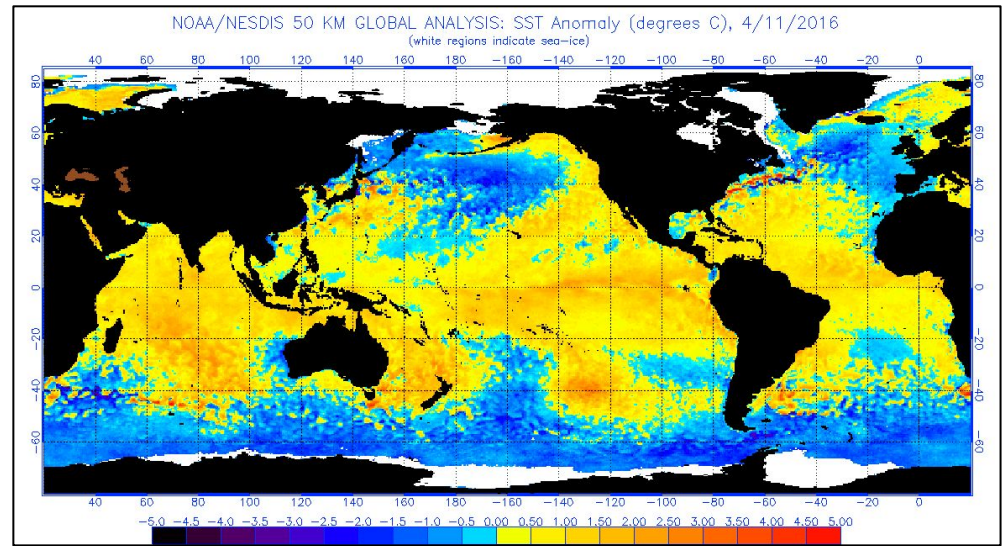
El Niño

NOAA/NESDIS 50 KM GLOBAL ANALYSIS: SST Anomaly (degrees C), 4/11/2016
(white regions indicate sea-ice)

⇑ El Niño = trade winds push warm water towards South America...

⇑ Ocean temperature data from El Niño ocean currents

… which causes the jet stream to dip South leading to warmer, dryer winters in the US West ⇒
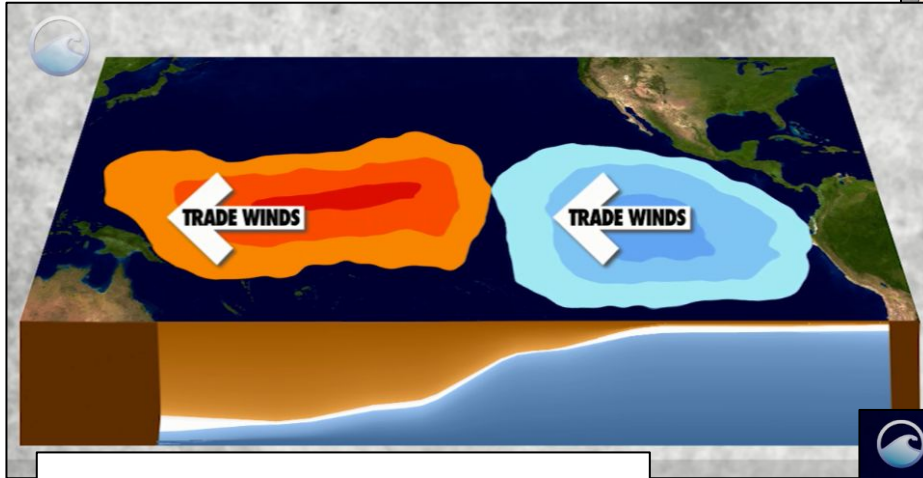
Jet Stream

La Niña

⇑ La Niña = strong trade winds push warm water towards Asia ...

… which pushes the jet stream North leading to colder, wetter winters in the US West ⇒