



Climate:

**The average weather
conditions in a region over
a long period of time**

**Two major aspects
of climate are
Temperature and Rainfall**

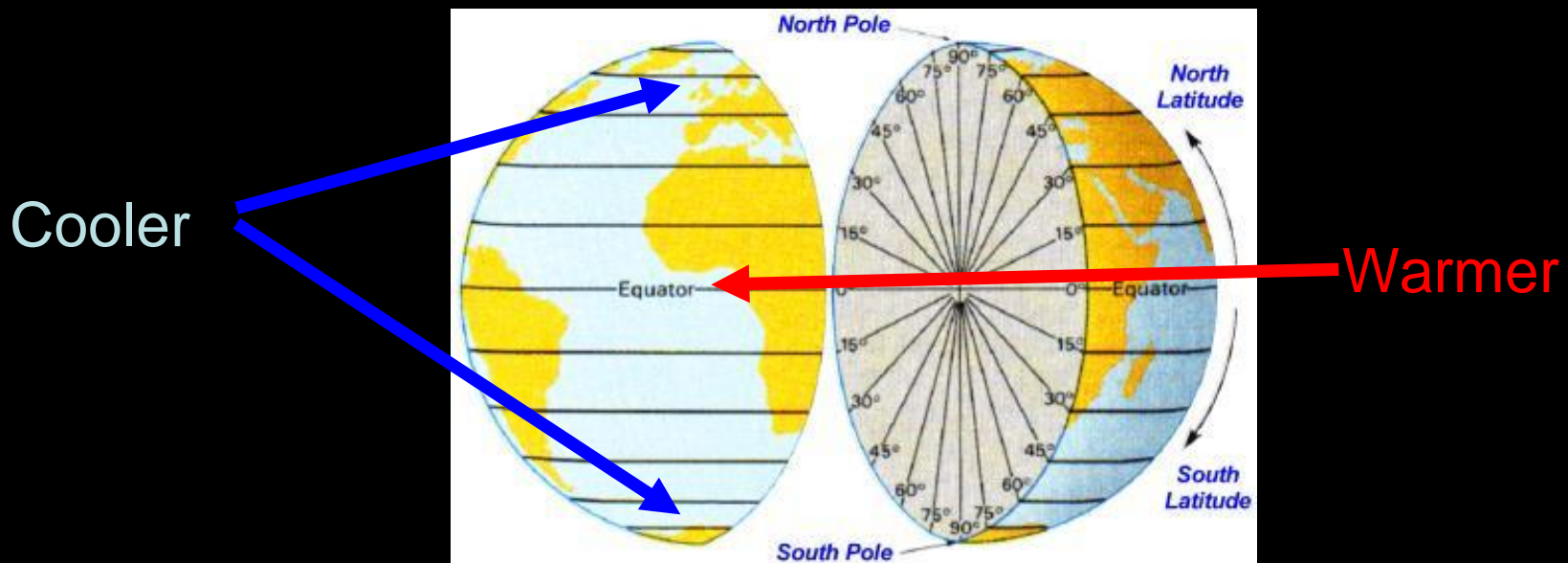
Factors that Affect Climate

- Latitude
- Elevation
- Ocean Currents
- Geographic Features

Latitude Affects Climate

Latitudes by the equator are WARMER

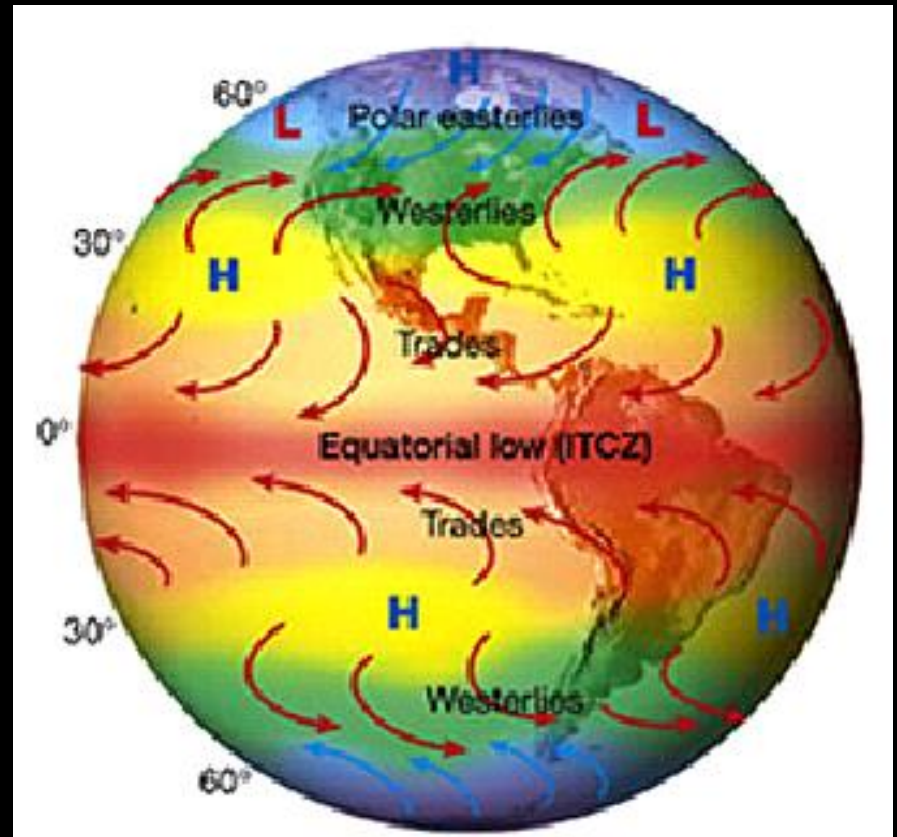
Latitudes by the poles are COLDER



Latitude Affects Rainfall

At 30° N and S, and 90° N and S, there is HIGH pressure causing the climate to be dry.

At the equator and 60° N and S, there is LOW pressure, air is rising, forming clouds and rain to make the climate humid.

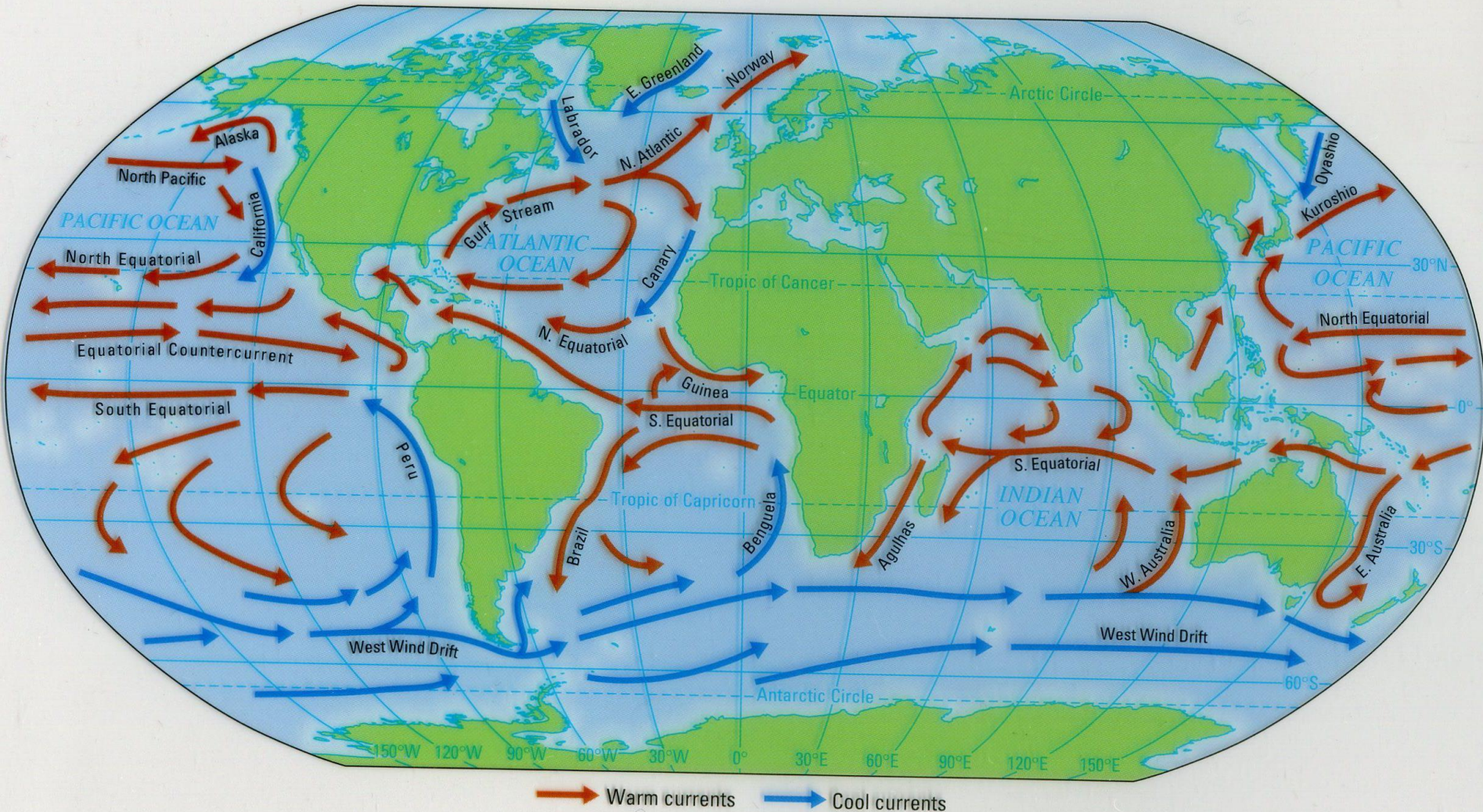


Elevation affects Temperature

Elevation: The higher the altitude, the cooler the average temperatures.

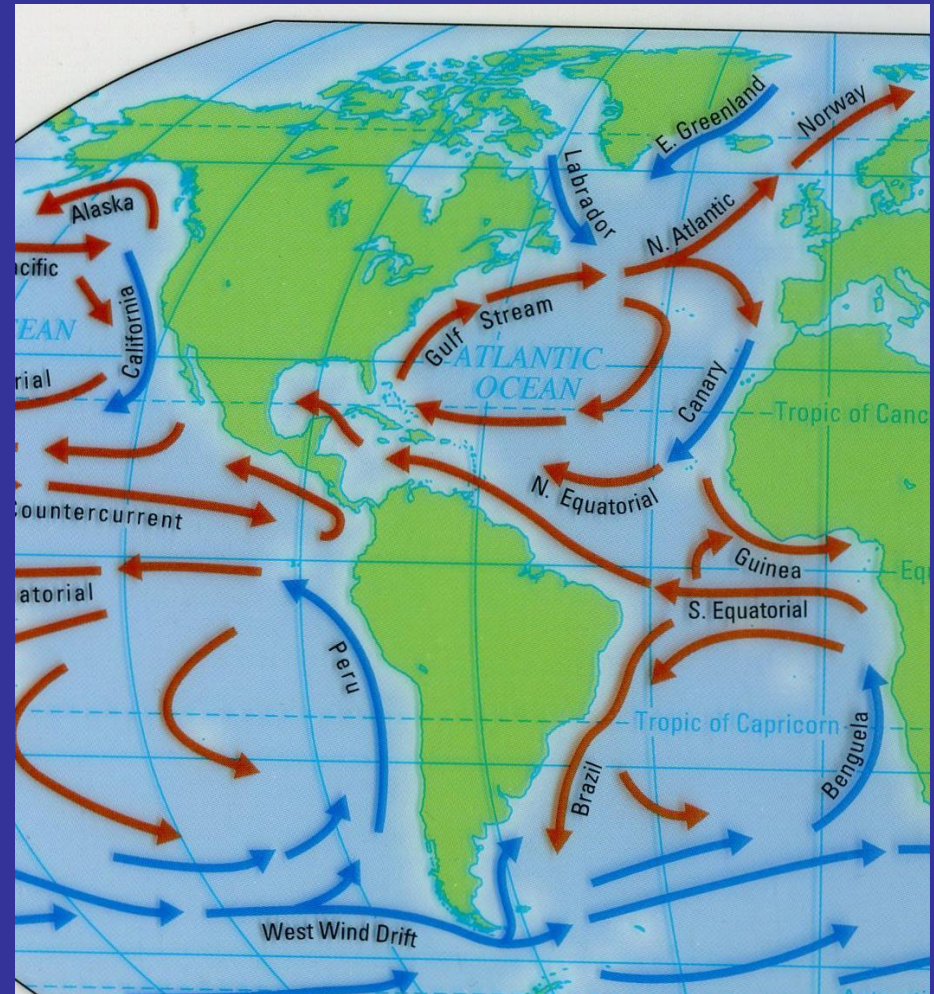


Ocean Currents affect Temperature



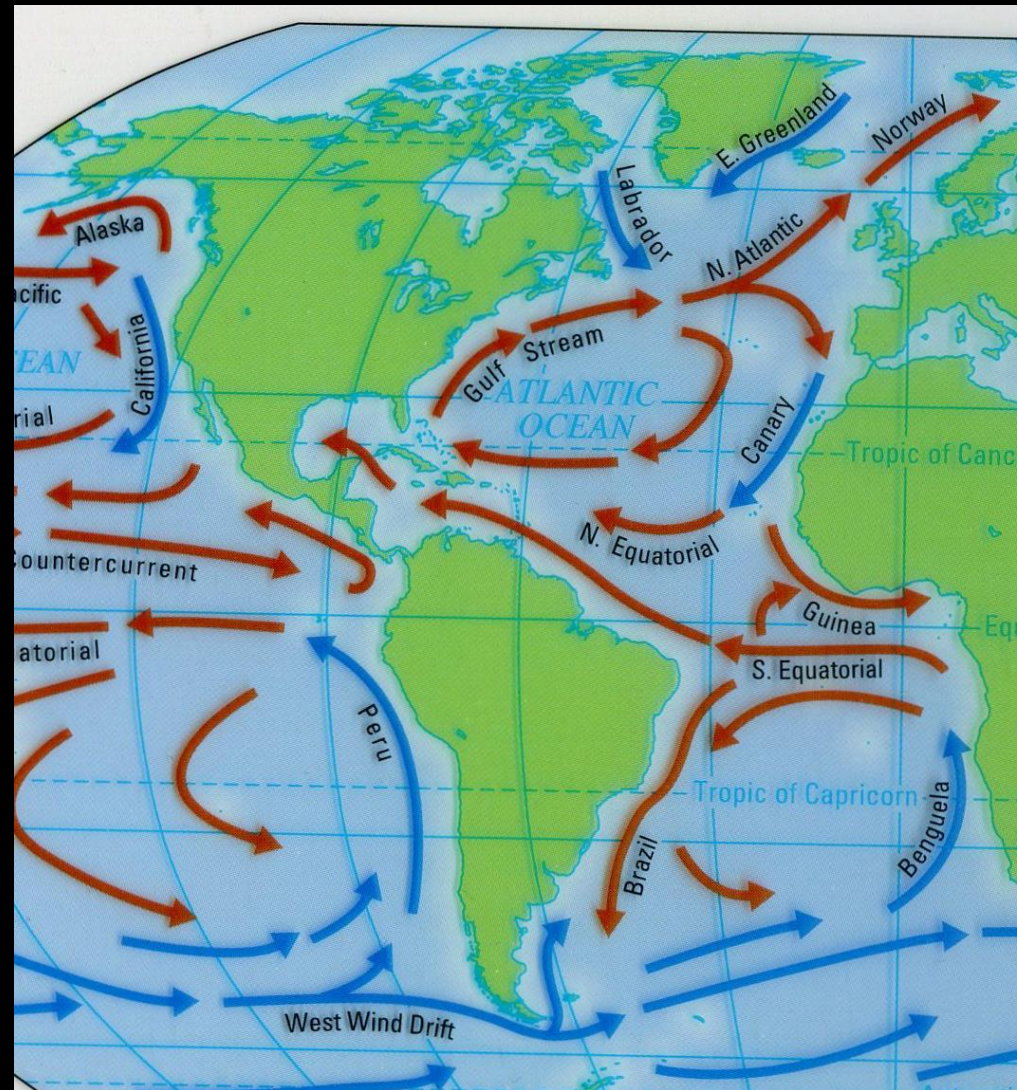
Ocean currents influence climate by transferring heat from the equator and moving it toward the poles

Ocean Currents greatly affect the temperature of the landmasses that they pass.



**Ocean currents
flowing toward the
poles bring warm
water**

**Ocean currents
that flow toward
the equator bring
cool water**



Geographic Features Affect Climate

Large bodies of water:

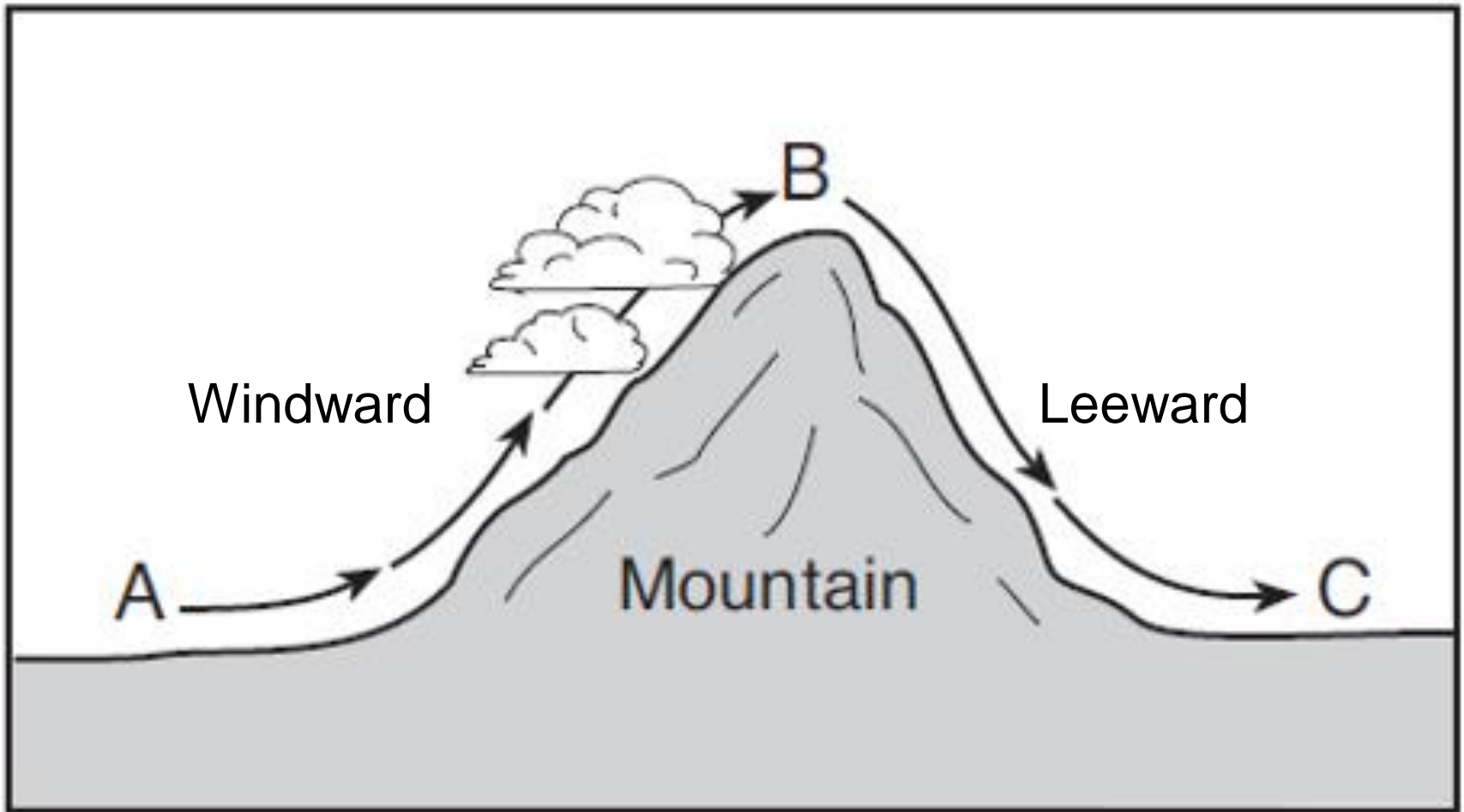
- Keeps the land surrounding it from heating and cooling quickly.
(Water has a high specific heat)
- Causes less change in temperature between seasons.



Mountains: The windward side has a cooler wetter climate while the leeward side is warmer and dry.



Rain Shadow



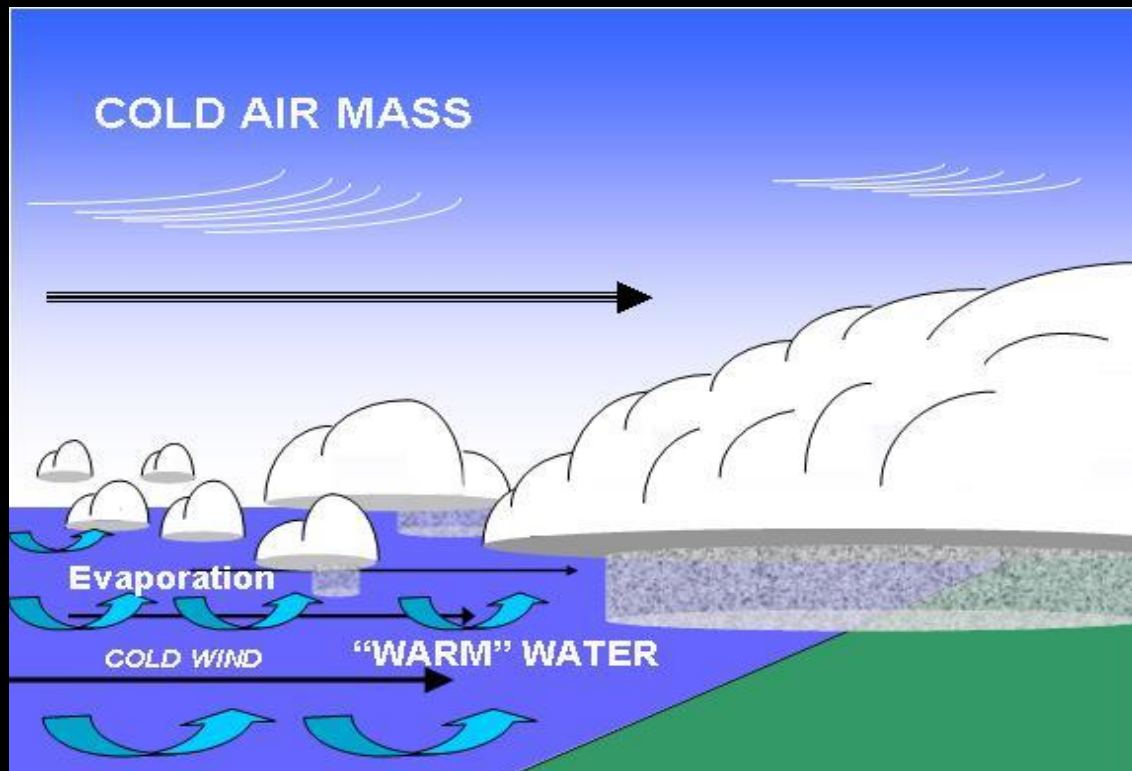
A to B: Windward side of Mountain. Air rises leading to cloud formation and rain.
B to C: Leeward side of Mountain. Air sinks leading to warmer dryer conditions.

Lake Effect Snow:

Cold Dry air blowing across the Great Lakes absorbs heat and water vapor from the lake.

When the air reaches the cold land on the other side clouds form leading to snow

Lake effect snow can cause heavy snowfall





On the map below, dark-gray areas represent regions of lake-effect snow on a December day.

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