
Latitude & Wind

What factors contribute to a region's climate?

Weather vs Climate?

- **Weather:** Atmospheric conditions (temperature, rainfall, etc...) at a specific point in time
- **Climate:** Atmospheric conditions (temperature, rainfall, etc...) of a region over a long period of time

El Niño

- The natural warming of waters off the west coast of South America about every 2 - 7 years due to a reversal of wind direction.
- El Niño causes floods and mudslides in the Americas.
- El Niño causes droughts in Australia and Asia.

Elevation

- Elevation is height above sea level
- The higher the elevation the cooler the temperature.



Rain Shadows

- Mountains create orographic rainfall.
- The windward side = rainy
- Leeward = very dry.

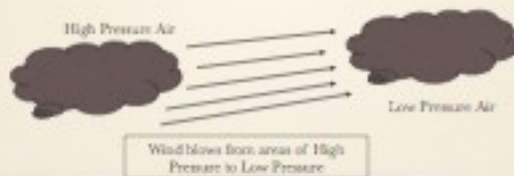


Which side is the leeward side, the right or the left?

Which side is the windward side, the right or the left?

Wind Currents

- Wind currents help distribute the sun's heat from one part of the world to another.
- Warm air currents make areas warmer than normal. Cold air currents make areas cooler than normal.

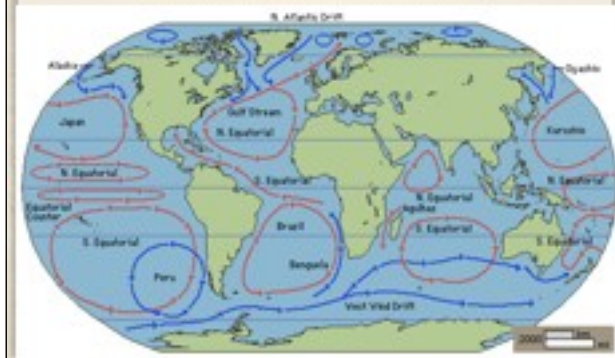


Ocean Currents

- Ocean currents move in large circular systems
- Ocean currents affect temperature and precipitation of an area.
- Warm ocean currents make surrounding areas warmer and rainier.
- Cool ocean currents make surrounding areas cooler and drier.

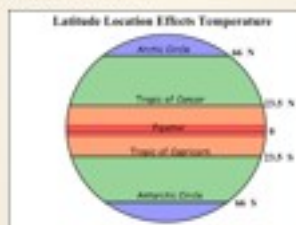


Ocean Currents



Zones of Latitude

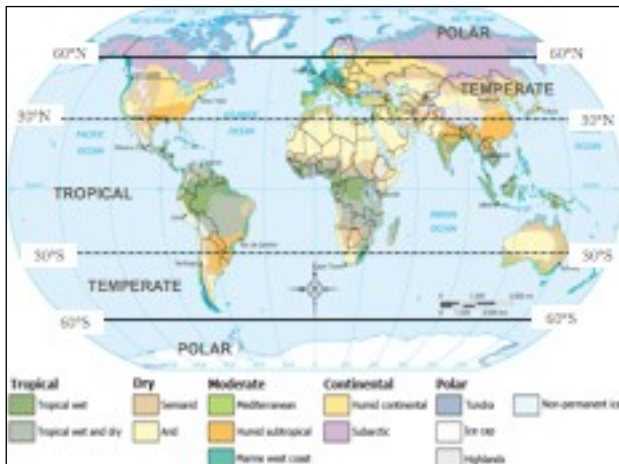
- A region's latitude (distance from the equator) can impact its climate.
- Sketch the diagram below.

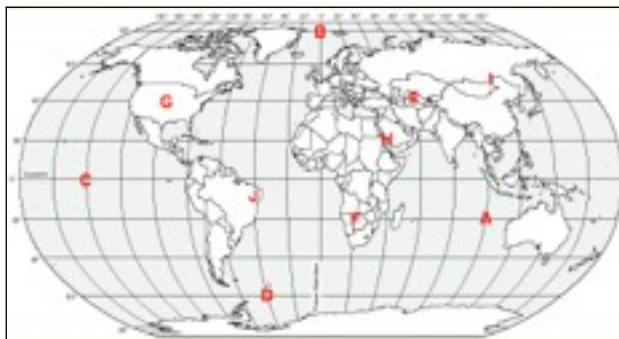


Zones of Latitude

- **Low/Tropical Zones:** Warm weather year round. Area between the Tropic of Cancer (23 1/2 ° N) and the Tropic of Capricorn (23 1/2 ° S).
- **Middle/Temperate Zones:** Warm summers and cold winters (four seasons). Between Tropic of Cancer (23 1/2 ° N) and Arctic Circle (66 1/2 ° N) and Tropic of Capricorn (23 1/2 ° S) and the Antarctic Circle (66 1/2 ° S).
- **High/Polar Zones:** Cold year round. Areas north of the Arctic Circle and south of the Antarctic Circle.

1. High Latitude = _____ zone, _____ ° N _____ ° S, where is it?
2. Middle Latitude = _____ zone, _____ ° N _____ ° S, where is it?
3. Low Latitude = _____ zone, _____ ° N _____ ° S, where is it?





1. Which cities will have a temperate climate?

2. Which cities are warm year-round? What is this zone of latitude called?

3. Which cities are in the polar zone?