

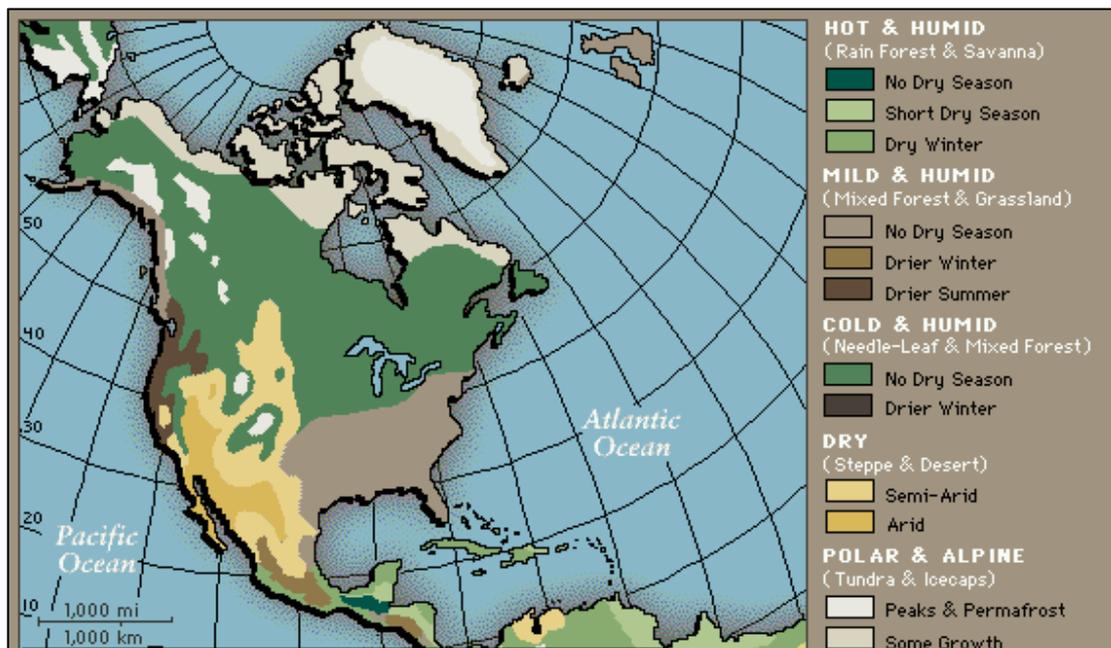
29. America – climate and hydrology

Climate

North America

6 principal climatic regions:

1. *Polar (Arctic) climatic zone* = N 2/3 of Canada and Alaska + Greenland = long, dark, cold winters alternate with brief, mild summers. Little precipitation, snow and ice during much of the year + boreal zone of taiga.
2. *Temperate climatic zone* = E 2/3 of the USA and S Canada = humid climate, 4 seasons, frequent weather changes. Florida = warmer average temperature (subtropical climate).
3. *Arid regions* (mountains and deserts) = W USA + N Mexico, small amounts of precipitation, but with significant local variations due to altitude and exposure (aspect).
4. *Boreal zone of Pacific coast* = narrow zone from S Alaska to S California, relatively mild but wet winters and almost rainless summers.
5. *Subtropical climatic zone* = Caribbean Sea + Gulf of Mexico (Central American countries)
6. *Tropical climatic zone* = most of S Mexico, with year-round warmth and considerable precipitation, especially in summer.



South America

= relatively warm climatic zones:

1. *Equatorial climatic zone* = along the equator, great belt of humid climate that gradually changes to the north and south into broad zones where the length of the rainy season and the amount of rainfall diminish.
2. *Subequatorial climatic zone* = droughts – serious problem in NE Brazil and along the northern coast of Venezuela and Colombia.
3. *Arid regions* = coastal area of Peru and N Chile (Atacama desert – 1 of the driest places in the world). In the northern half of South America the Andes constitute the only region with a cool climate.

4. *Subtropical climatic zone* = in the Pampas and southern Brazilian Highlands, however, summers tend to be humid, and in the winter cyclonic storms may penetrate, bringing rain and chilly weather.
5. *Temperate climatic zone* = S Chile receives heavy precipitation ⇔ the cyclonic storms that move off the Pacific Ocean from the W. Moderate climate also in Uruguay and Argentina.



Hydrology

North America

= 2 great drainage basins:

- E = water flows towards the Arctic Ocean, Hudson Bay, Atlantic Ocean and the Gulf of Mexico
- W = rivers flow towards the Pacific Ocean.

= 2 main river/water systems:

- *Great Lakes – St Lawrence system* (Lake Superior, Michigan, Huron, Erie, and Ontario)
- *Mississippi-Missouri system* draining NE to the Atlantic Ocean via short St. Lawrence River

Mississippi and the Missouri tributary = the longest river in North America. *Mackenzie river system* of W Canada. Numerous rivers flow into Hudson Bay.

W = relatively few major rivers (Colorado, Columbia, Fraser, and Yukon)

Lakes: Superior, the world's largest freshwater lake in area Great Salt Lake (Utah) known for its highly saline water.

South America

Sea-drainage area of Atlantic Ocean by 3 river systems:

- ❖ Amazon (the most powerful river in the world)
- ❖ Orinoco
- ❖ Paraguay-Paraná.

Each of these also provides access to the interior. Short Andean rivers have sustained agriculture for centuries in Peru, Chile and NW Argentina. Considerable hydroelectric power potential exists in the rivers of the Andes and in those of the Guiana and Brazilian highlands.

Lakes: in the Andes, e.g. Titicaca