

CLIMATE PATTERNS

Name _____

Partners _____

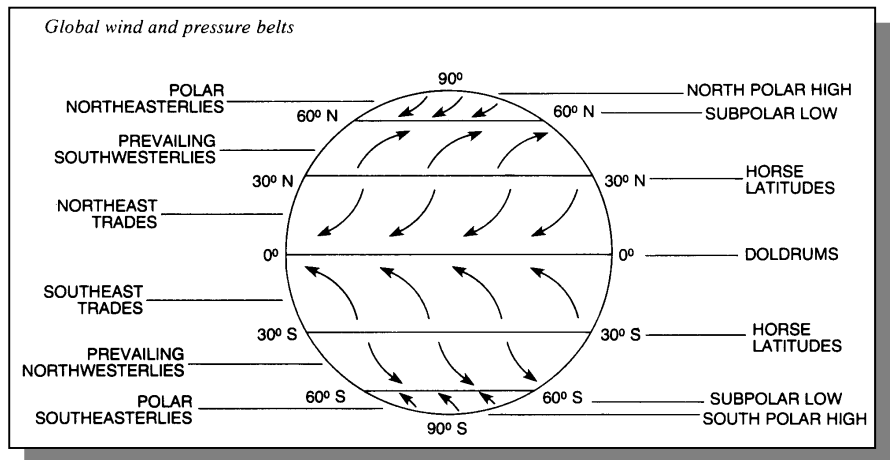
Define the following terms.

marine climate -	continental climate -	orographic effect -
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Give the best answer to the following.

- The most important factor affecting climate is _____, because of its influence on _____.
- Temperatures remain fairly constant at HIGH / LOW latitudes throughout the year, whereas seasonal changes are more pronounced at HIGH / LOW latitudes. This is because of the difference in angle and duration of _____.

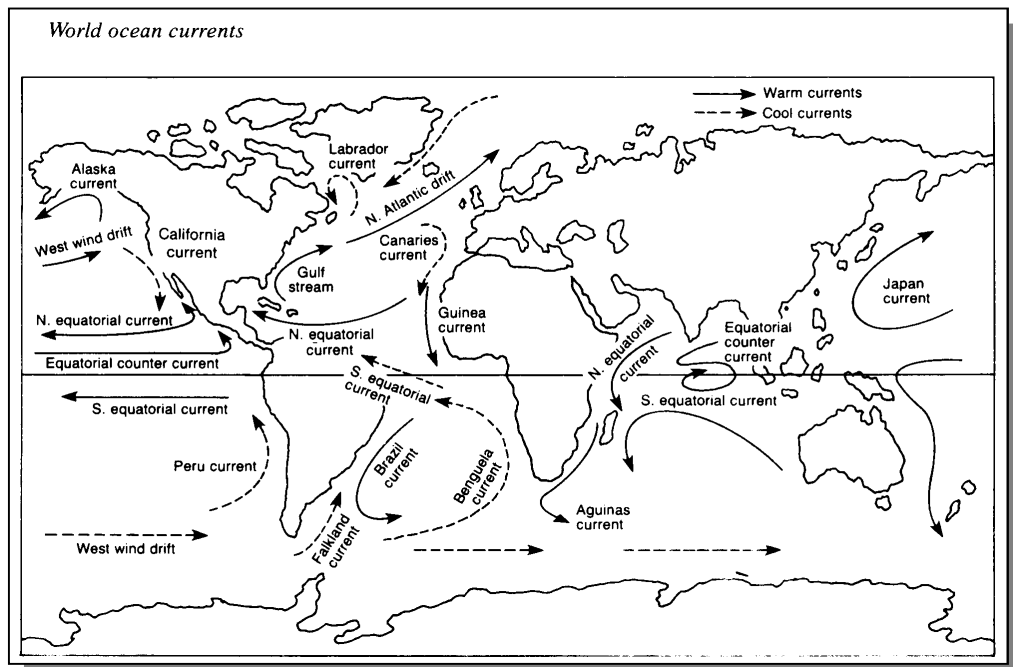
3. The diagram at right depicts the global wind and pressure belts. The large amount of solar radiation around the Equatorial Low results in various forms of severe weather, (like hurricanes), as well as calms (periods of no wind) that can strand sailing vessels for weeks. These latitudes are called the _____, and have WET / DRY weather.



- Why do you think the winds can be so calm at the doldrums? _____
- The Horse Latitudes (possibly from Spanish golfo de las yeguas, mares' sea - also called the subtropical highs), are at around _____ latitudes, and have WET / DRY weather.
- The _____ Winds move between the Horse Latitudes and the Doldrums around the Equator.
- The Prevailing Westerlies blow between _____ and _____ latitudes.
- At 60° N and S lie the _____ lows, also called the Mid-Latitude lows. Here, the weather tends to be WET / DRY. At the poles are the _____ highs, where the weather is WET / DRY.

9. Adirondackers know that as you climb Mount Algonquin, it's like traveling hundreds of miles north into Canada.
Explain why! _____
10. As you go up in elevation, temperatures _____ and moisture levels _____.
11. In the Southern Hemisphere, summers are hotter and winters are warmer than ours, because the Northern Hemisphere has MORE / LESS land area, and land has a HIGHER / LOWER specific heat than water.
12. Locations near water have a _____ climate, with MODERATE / EXTREME seasonal variations.
13. Inland locations have a _____ climate, with MODERATE / EXTREME seasonal variations.
14. Compared to Ballston Spa, why is it that Boston has both warmer winters and cooler summers? _____
- _____

15. This map of the world ocean currents shows that the Gulf Stream modifies New England's weather by bringing WARM / COOL and MOIST / DRY air from lower latitudes.
16. The west coast of the U.S. receives WARM / COOL air from the _____ current.
17. The bottom diagram shows the _____ effect, where



mountain ranges modify the weather around them. The side of the mountains facing the prevailing wind is called the WINDWARD / LEEWARD side, where moist air is forced to RISE / SINK and WARM / COOL.

18. On the leeward side of the range, the air RISES / SINKS and WARMS / COOLS due to _____ compression.

19. The leeward side of the mountain is usually WARMER / COOLER than the windward side, and is also usually more MOIST / DRY than the windward side. This lack of rain "in the lee" of the mountain is called a _____

