

CH 19: STUDY GUIDE

Vocabulary

air pressure, barometer pressure gradient, Coriolis effect, jet stream, cyclone, anticyclone, trade winds, westerlies, polar easterlies, prevailing wind, anemometer

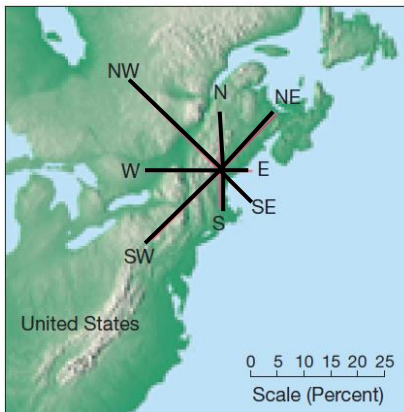
Understanding Concepts

1. In a mercury barometer, when air pressure increases, the mercury in the tube **Increases**.
2. Pressure decreases from the outer isobars toward the center in what type of air pressure? **Low Pressure**
3. What are the most prominent features of airflow above the friction layer? **Jet Stream**
4. In the Northern Hemisphere, the Coriolis effect applied to low-pressure centers produce winds that blow in which direction?
Counter-clockwise around the low pressure.
5. Describe the weather that usually accompanies a
 - a. drop in barometric pressure. **Unsettled weather, cloudy, rainy or snowy.**
 - b. rise in barometric pressure. **Fair weather, nice, clear skies.**
6. How does the Coriolis effect modify air movement? **Curves the wind to the right in the northern hemisphere.**
7. The trade winds flow in which direction? **East to west.**
8. List and briefly describe three examples of local winds. **Sea breeze, land breeze, valley breeze, mountain breeze.**
9. What is an instrument commonly used to measure wind speed? **anemometer**

Critical Thinking

10. If you were looking for a location to place a wind turbine to generate electricity, how would you use the spacing of isobars in making your decision? **Looking for close together isobars, or steep pressure gradient.**
11. What differences in the biosphere would you predict for areas dominated by low-pressure systems compared to those dominated by high-pressure systems? **Low pressure = cloudy, rainy, lots of vegetation**
High pressure = clear skies, desert conditions

Map Skills



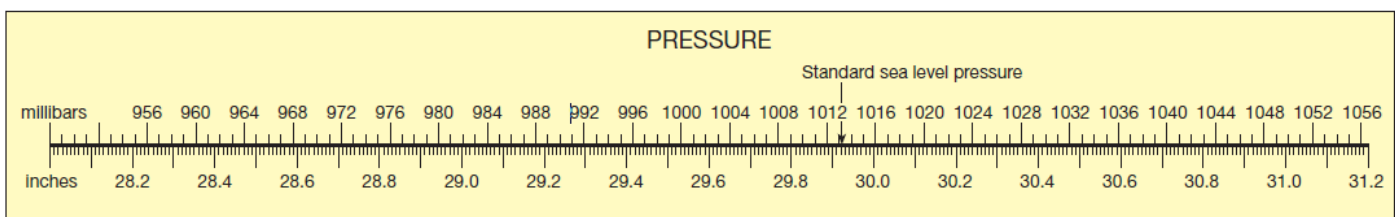
12. According to the map, which winds dominate this region?

1 = NW
2 = SW
3 = W

13. About what percent of the time do winds blow from the east?

About 6%

Use the illustration below to answer Questions 13 & 14



14. Using this scale, determine the standard sea level pressure in millibars and inches of mercury. Express your answers to the nearest millibar and to the nearest hundredth of an inch. **1013 mb or 29.92 inches**
15. What is the corresponding pressure, in millibars, for a pressure measurement of 30.30 inches of mercury?
1026 mb