

CH 19: STUDY GUIDE

Vocabulary

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

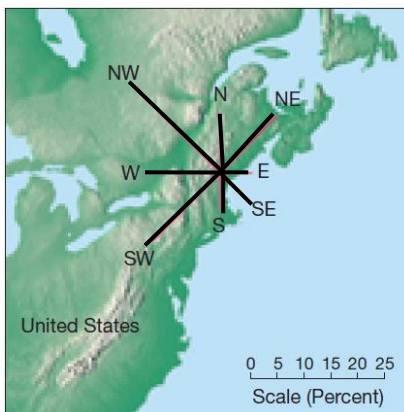
Understanding Concepts

1. In a mercury barometer, when air pressure increases, the mercury in the tube _____.
2. Pressure decreases from the outer isobars toward the center in what type of air pressure?
3. What are the most prominent features of airflow above the friction layer?
4. In the Northern Hemisphere, the Coriolis effect applied to low-pressure centers produce winds that blow in which direction?
5. Describe the weather that usually accompanies a
 - a. drop in barometric pressure.
 - b. rise in barometric pressure.
6. How does the Coriolis effect modify air movement?
7. The trade winds flow in which direction?
8. List and briefly describe three examples of local winds.
9. What is an instrument commonly used to measure wind speed?

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?
11. What differences in the biosphere would you predict for areas dominated by low-pressure systems compared to those dominated by high-pressure systems?

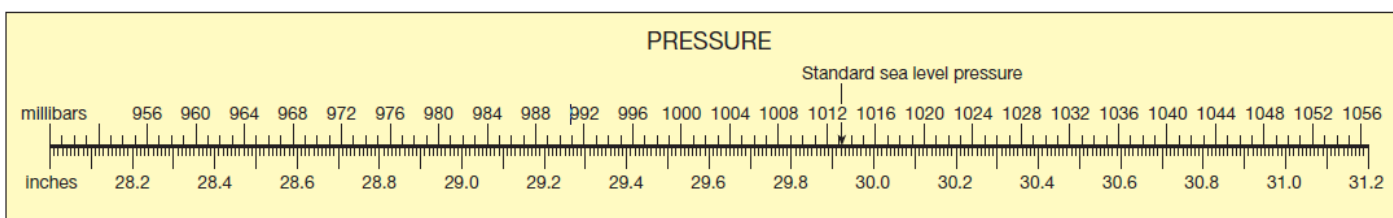
Map Skills



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

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

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.
15. What is the corresponding pressure, in millibars, for a pressure measurement of 30.30 inches of mercury?