

**Chapter 19 Air Pressure and Wind**

**Section 19.3 Regional Wind Systems**

*This section discusses local winds and how wind is measured. It also explains El Niño and La Niña.*

**Reading Strategy**

Before you read, use Figure 17 on page 547 to locate examples of the driest and wettest regions of Earth. After you read, identify the dominant wind system for each location. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

Precipitation	Location	Dominant Wind System
Extremely low	a.	b.
Extremely high	c.	d.

**Local Winds**

- \_\_\_\_\_ are small-scale winds produced by a locally generated pressure gradient.
- 👉 List two causes of local winds. \_\_\_\_\_  
\_\_\_\_\_

*Match each description with its local wind.*

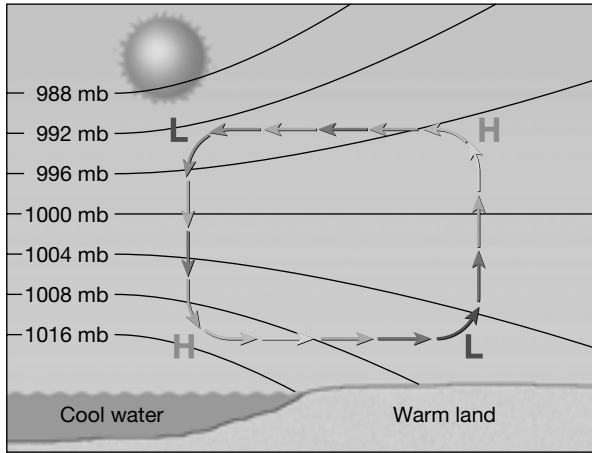
Description	Local Wind
_____ 3. During the day, heated air along mountain slopes rises.	a. land breeze b. sea breeze
_____ 4. During the day, heated air over land rises, allowing cooler air to move in from over water.	c. valley breeze d. mountain breeze
_____ 5. At night, air over land cools and moves out over water.	
_____ 6. At night, cooled air along mountain slopes moves downward.	

- Circle the letter of the locations where the coldest air pockets usually can be found.
 

a. valley floors	b. mountain peaks
c. mountainsides	d. plains

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8. Does the figure show a land breeze or a sea breeze? Explain your answer. \_\_\_\_\_



**How Wind Is Measured**

9. What is a prevailing wind? \_\_\_\_\_

10. In the United States, the \_\_\_\_\_ move weather from west to east.

11. Circle the letter of the instrument used to measure wind speed.

- a. thermometer
- b. barometer
- c. anemometer
- d. wind vane

**El Niño and La Niña**

12. An episode of ocean warming that affects the eastern tropical Pacific is called \_\_\_\_\_.

13. Is the following sentence true or false? El Niño episodes occur at irregular intervals of 3 to 7 years. \_\_\_\_\_

14. What conditions trigger a La Niña episode? \_\_\_\_\_

**Global Distribution of Precipitation**

15. How are rain forests related to wind patterns? \_\_\_\_\_

16. Is the following sentence true or false? Areas dominated by subtropical low-pressure cells are often deserts. \_\_\_\_\_

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**WordWise**

Use the clues below to identify vocabulary terms from Chapter 19. Write the terms, putting one letter in each blank. Use the circled letters to find the hidden word.

**Clues**

1. pressure exerted by the weight of air above a certain point
2. pressure changes occurring over a given distance
3. device used to measure air pressure
4. change in movement of winds resulting from Earth's rotation
5. center of low air pressure
6. stormy belt where westerlies encounter polar easterlies
7. seasonal change in wind direction due to summer heating of landmasses
8. easterly wind belts on either side of the equator
9. prevailing winds of the middle latitudes

**Vocabulary Terms**

1. ○ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_
2. \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ ○ \_
3. \_ \_ \_ \_ \_ \_ \_ ○ \_ \_ \_
4. \_ \_ \_ \_ ○ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_
5. ○ ○ ○ \_ \_ \_ \_ \_
6. \_ \_ \_ \_ ○ \_ \_ \_ \_ \_ \_ \_ \_ \_
7. \_ \_ \_ \_ \_ \_ \_ ○ \_
8. \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ ○ \_ \_ \_
9. \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ ○ \_

**Hidden Word:** \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

**Definition:** \_\_\_\_\_