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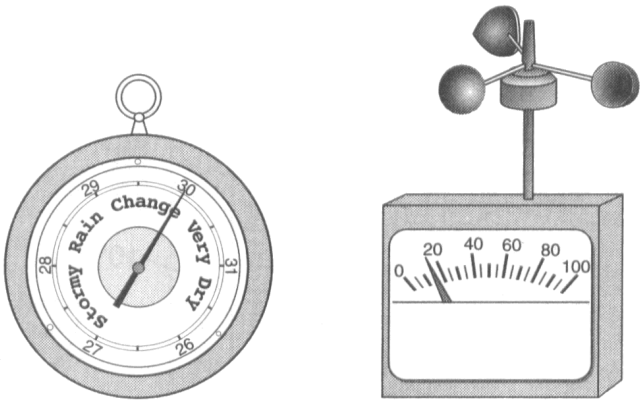
1. The diagram below shows weather instruments A and B.



A B

Which table correctly indicates the name of the weather instrument and the weather variable that it measures?

A)

Instrument		Weather Variable Measured
Letter	Name	
A	thermometer	humidity
B	wind vane	wind direction

B)

Instrument		Weather Variable Measured
Letter	Name	
A	thermometer	wind direction
B	wind vane	humidity

C)

Instrument		Weather Variable Measured
Letter	Name	
A	barometer	wind speed
B	anemometer	air pressure

D)

Instrument		Weather Variable Measured
Letter	Name	
A	barometer	air pressure
B	anemometer	wind speed

2. Which weather change is most likely indicated by rapidly falling air pressure?

A) Humidity is decreasing.
B) Temperature is decreasing.
C) Skies are clearing.
D) A storm is approaching.

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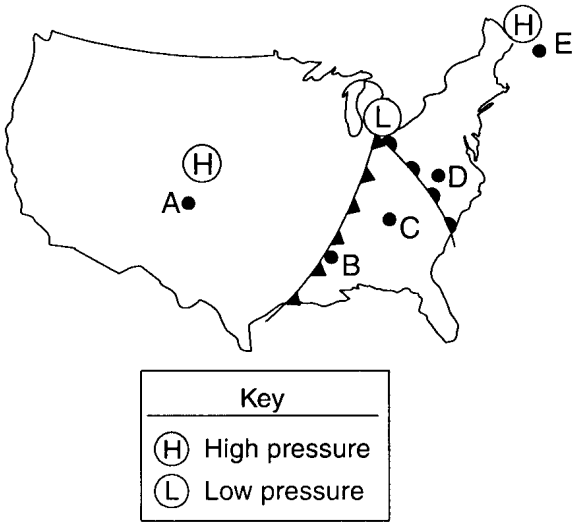
3. The map below shows high-pressure and low-pressure weather systems in the United States.

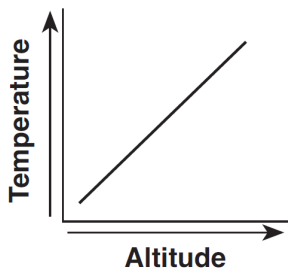


Which two lettered positions on the map are most likely receiving precipitation?

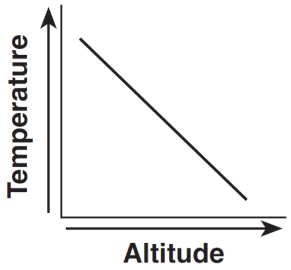
A) A and B
B) B and D
C) C and E
D) A and D

4. Which graph best shows the general relationship between altitude and temperature in the troposphere?

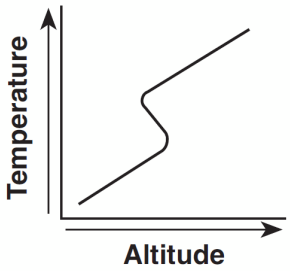
A)



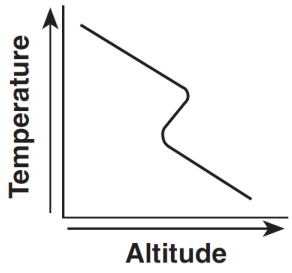
B)



C)



D)



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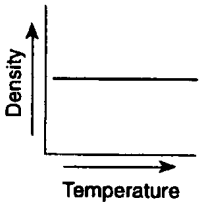
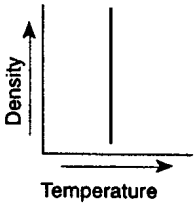
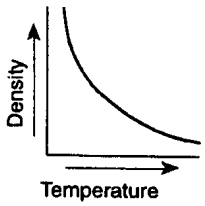
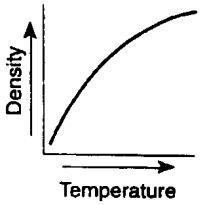
5. Which graph best represents the relationship between air temperature and air density in the atmosphere?

A) 

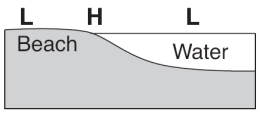
B) 

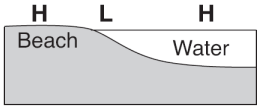
C) 

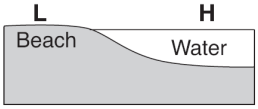
D) 

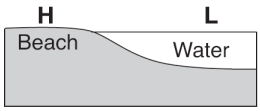
6. Which cross section below best shows the locations of high air pressure and low air pressure near a beach on a hot, sunny, summer afternoon?

Key	
H	High air pressure
L	Low air pressure

A) 

B) 

C) 

D) 

7. Air pressure is usually highest when the air is

A) cool and humid B) cool and dry
C) warm and humid D) warm and dry

8. Which weather variable would most likely decrease ahead of an approaching storm system?

A) wind speed B) air pressure
C) cloud cover D) relative humidity

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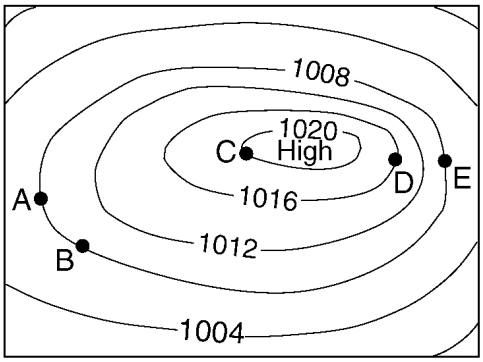
9. The air-pressure field map below represents a high-pressure system over the central United States. Isobars show the air pressure, in millibars. Letters A through E represent locations on Earth's surface.



Between which two locations is the wind speed greatest?

A) A and B
B) B and C
C) C and D
D) D and E

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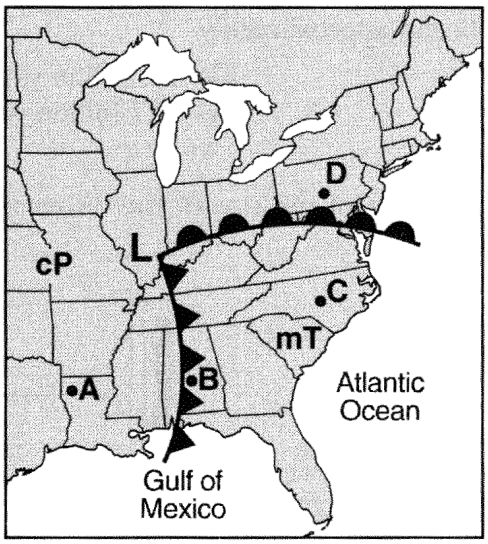
10. Base your answer to the following question on the weather map below and on your knowledge of Earth Science. The map shows a low-pressure system with two fronts extending from its center (**L**). Points A, B, C, and D represents locations on Earth's surface. Two different air masses are labeled.



Which atmospheric conditions describe the air mass that is influencing weather conditions at location C?

A) cool and dry
B) cool and moist
C) warm and dry
D) warm and moist

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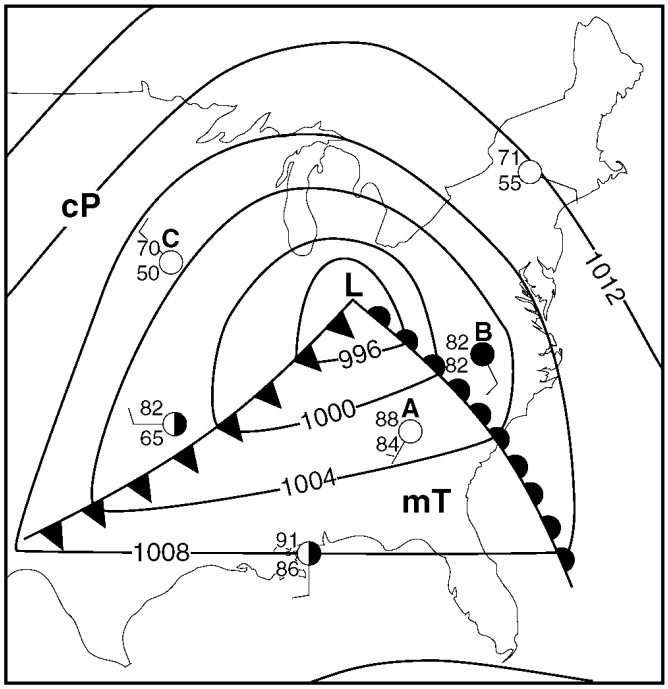
11. Base your answer to the following question on the weather map below. The map shows a low-pressure system and some atmospheric conditions at weather stations A, B, and C.



Which type of weather is usually associated with a cP air mass, as shown near weather station C?

A) moist and cool
B) moist and warm
C) dry and cool
D) dry and warm

12. Which combination of climate factors generally results in the coldest temperatures?

A) low elevation and low latitude
B) low elevation and high latitude
C) high elevation and low latitude
D) high elevation and high latitude

13. Mt. Marcy often has the coldest nighttime temperatures in New York State because of its

A) latitude and planetary winds
B) latitude and elevation
C) longitude and planetary winds
D) longitude and elevation

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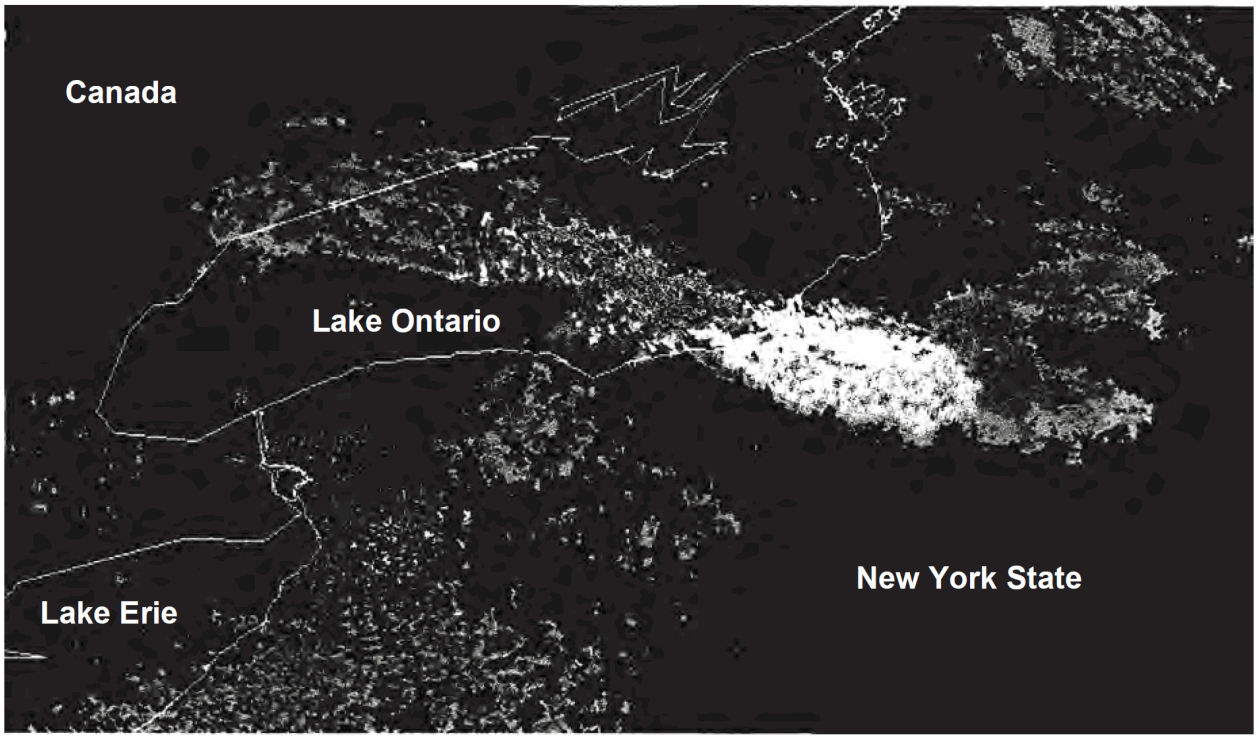
14. Base your answer to the following question on the reading passage about lake-effect snow and the radar image map below, and on your knowledge of Earth science. The radar map shows areas where snowfall was occurring. The whitest area indicates where snowfall was heaviest.

Lake-Effect Snow

In late fall, cold air originating in Canada and then moving over the Great Lakes often produces lake-effect snow in New York State.

When the cold air mass moves across large areas of warmer lake water, water vapor enters the cold air. When this moist air moves over the cooler land, the moisture comes out of the atmosphere as snow. The effect is enhanced when the air that flows off the lake is forced over higher land elevations. The areas affected by lake-effect snow can receive many inches of snow per hour. As the lakes gradually freeze, the ability to produce lake-effect snow decreases.

Radar Image Map



Adapted from: www.erh.noaa.gov

Which statement best explains why lake-effect snow decreases when lakes freeze gradually?

A) The ice prevents liquid water from evaporating into the atmosphere.

B) The lower temperature of ice makes liquid water condense at a slower rate.

C) More water is available to evaporate.

D) Ice speeds up the air moving above it, so less water can evaporate.

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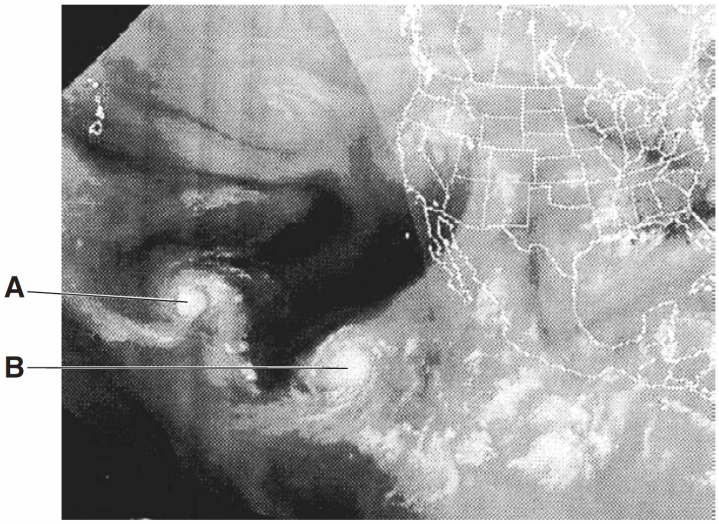
15. The weather satellite image below shows two large swirl-shaped cloud formations, labeled A and B, over the Pacific Ocean.



These large swirl-shaped cloud formations most likely represent

A) polar air masses B) warm fronts

C) tornadoes D) hurricanes

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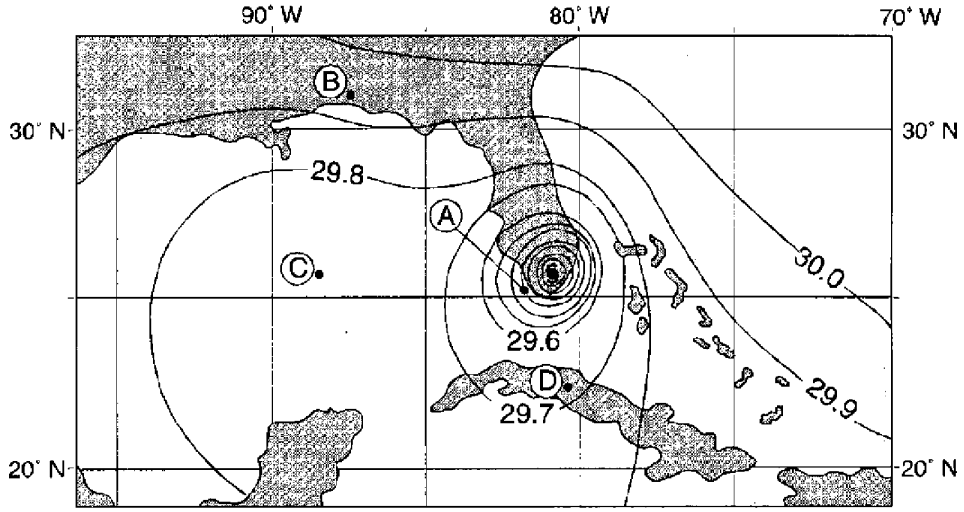
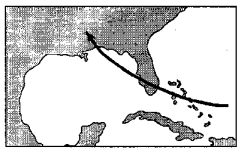
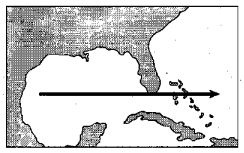
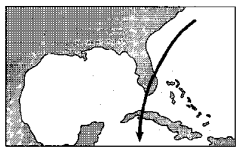
16. Base your answer to the following question on the weather map below, which shows a hurricane that was located over southern Florida. The isobars show air pressure in inches of mercury. Letters A through D represent four widely separated locations.



Which map best shows the most likely track of this hurricane?

A) 

B) 

C) 

D) 

17. Which two processes lead to cloud formation in rising air?

A) compressing and cooling
B) compressing and warming
C) expanding and cooling
D) expanding and warming

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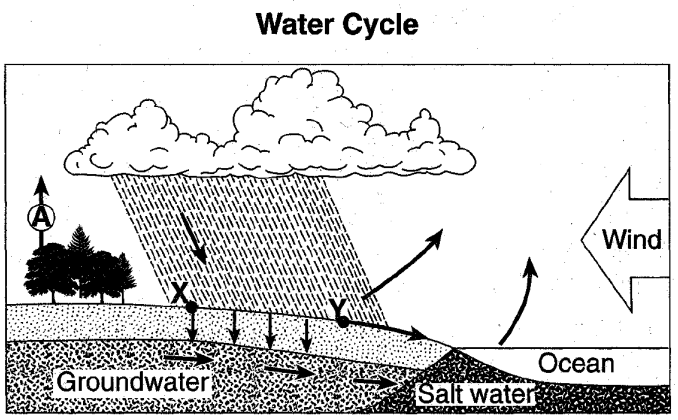
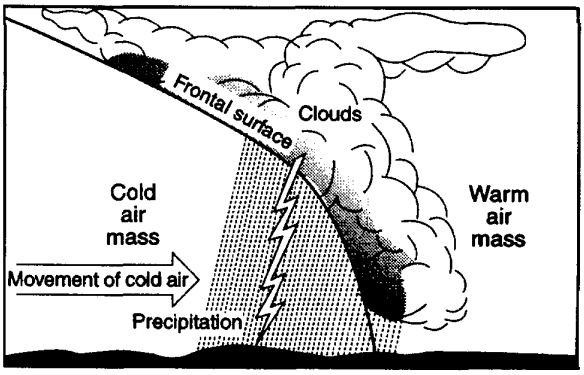
18. Base your answer to the following question on the diagram of the water cycle below. Letter A represents a process in the water cycle. Points X and Y represent locations on Earth's surface.



Which process in the water cycle is directly responsible for cloud formation?

A) condensation B) infiltration
C) precipitation D) evaporation

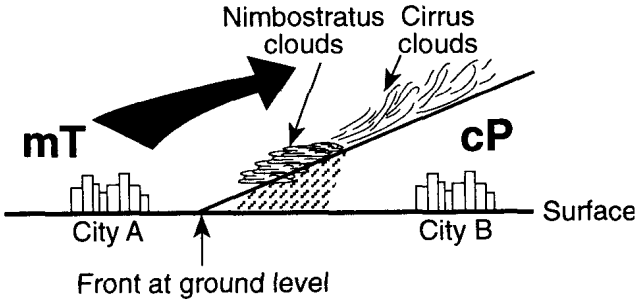
19. The diagram below shows a cross section of a cold front.



The cloud formation and precipitation shown in the cross section are caused by the

A) rising of cold, moist air
B) sinking of cold, moist air
C) rising of warm, moist air
D) sinking of warm, moist air

20. Base your answer to the following question on the diagram below, which shows the frontal boundary between mT and cP air masses.



Why do clouds and precipitation usually occur along the frontal surface?

A) The warm air rises, expands, and cools.
B) The warm air sinks, expands, and warms.
C) The cool air rises, compresses, and cools.
D) The cool air sinks, compresses, and warms.