

S6E4  
Weather & Climate  
Review

The \_\_\_\_\_ is the source of all energy  
in our atmosphere.

# ■ The Sun



Reflection and absorption by the atmosphere prevent some \_\_\_\_\_ from reaching Earth's surface.

## ■ Radiation



■ Which layer contains ozone?

# ■ Stratosphere

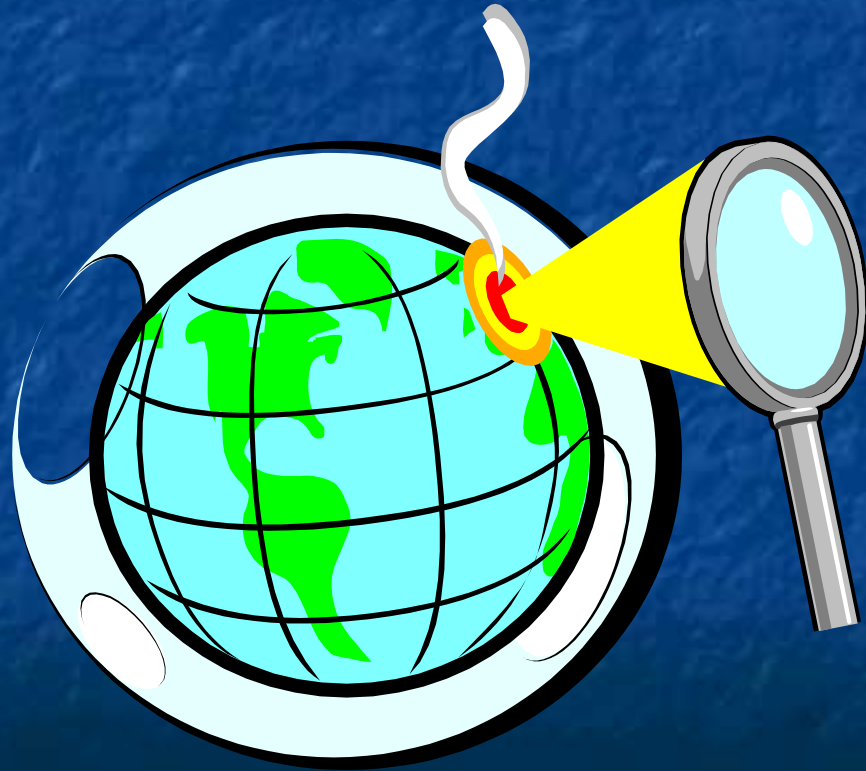


Which of the following is NOT characteristic of the troposphere?

- a. contains a high level of water vapor
- b. contains a high level of atmospheric gases
- c. contains a high level of ozone
- d. extends from the surface to about 10 km



- c. contains a high level of ozone



Plants and animals thrived on Earth after the ozone was formed. It protects us from \_\_\_\_\_.

## ■ Radiation



The troposphere is the layer of the atmosphere closest to Earth's surface. Which of these would you expect to find in the troposphere?

- a. a shooting star
- b. clouds and rain
- c. extremely high temperatures
- d. the ionosphere

## b. clouds and rain



Which of the following is NOT one of the solids found in the atmosphere?

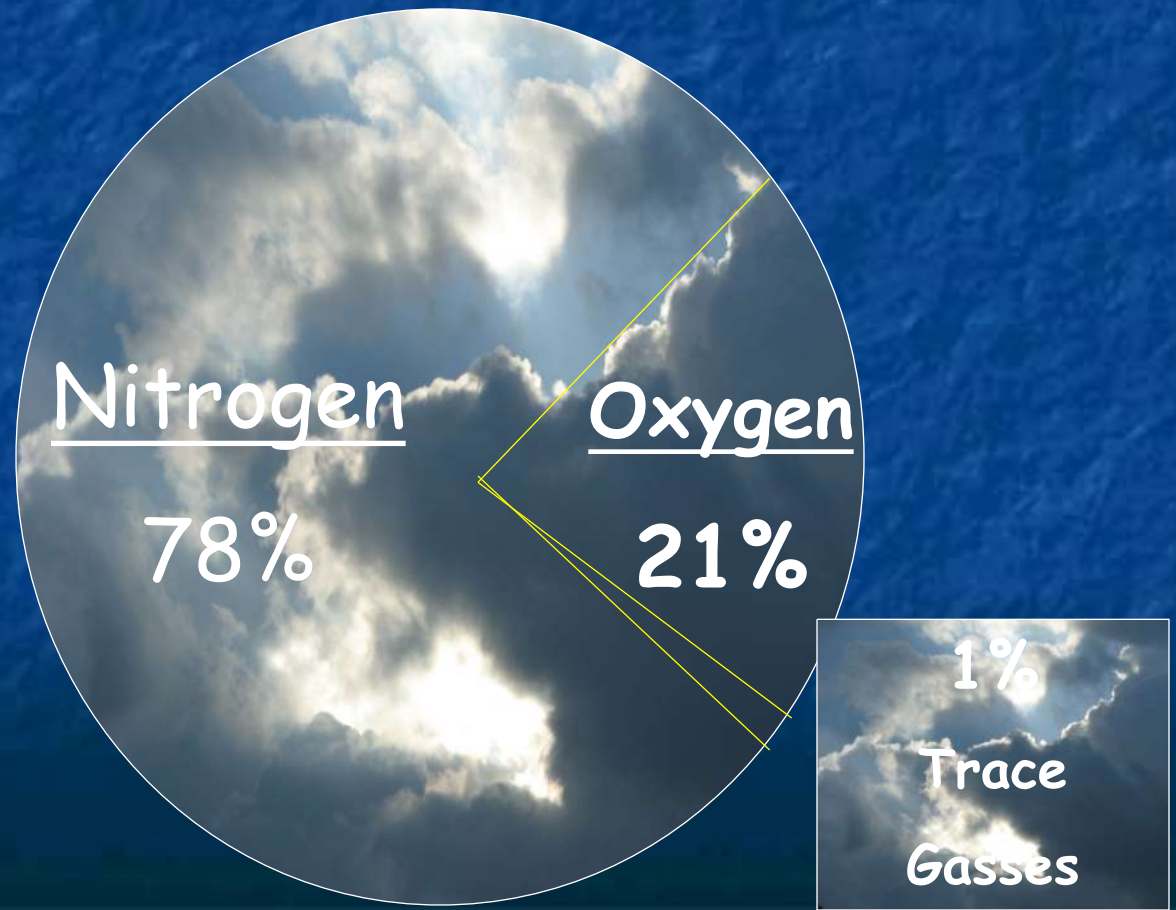
- a. pollen
- b. Salt
- c. dust
- d. sand

■ d. Sand

What are the two major gases in the atmosphere?

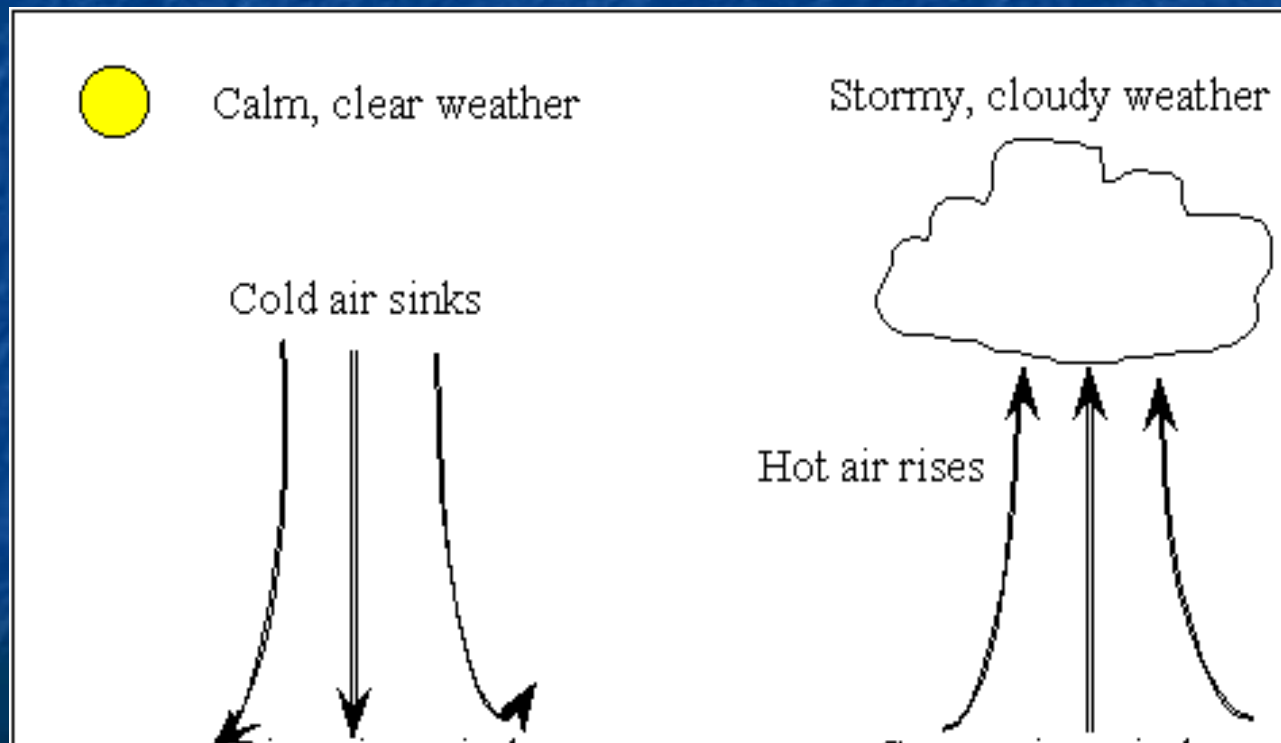


## ■ Nitrogen (N) & Oxygen (O)



Cold air is denser than warm air; therefore,  
it has \_\_\_\_\_ pressure.

## ■ Higher



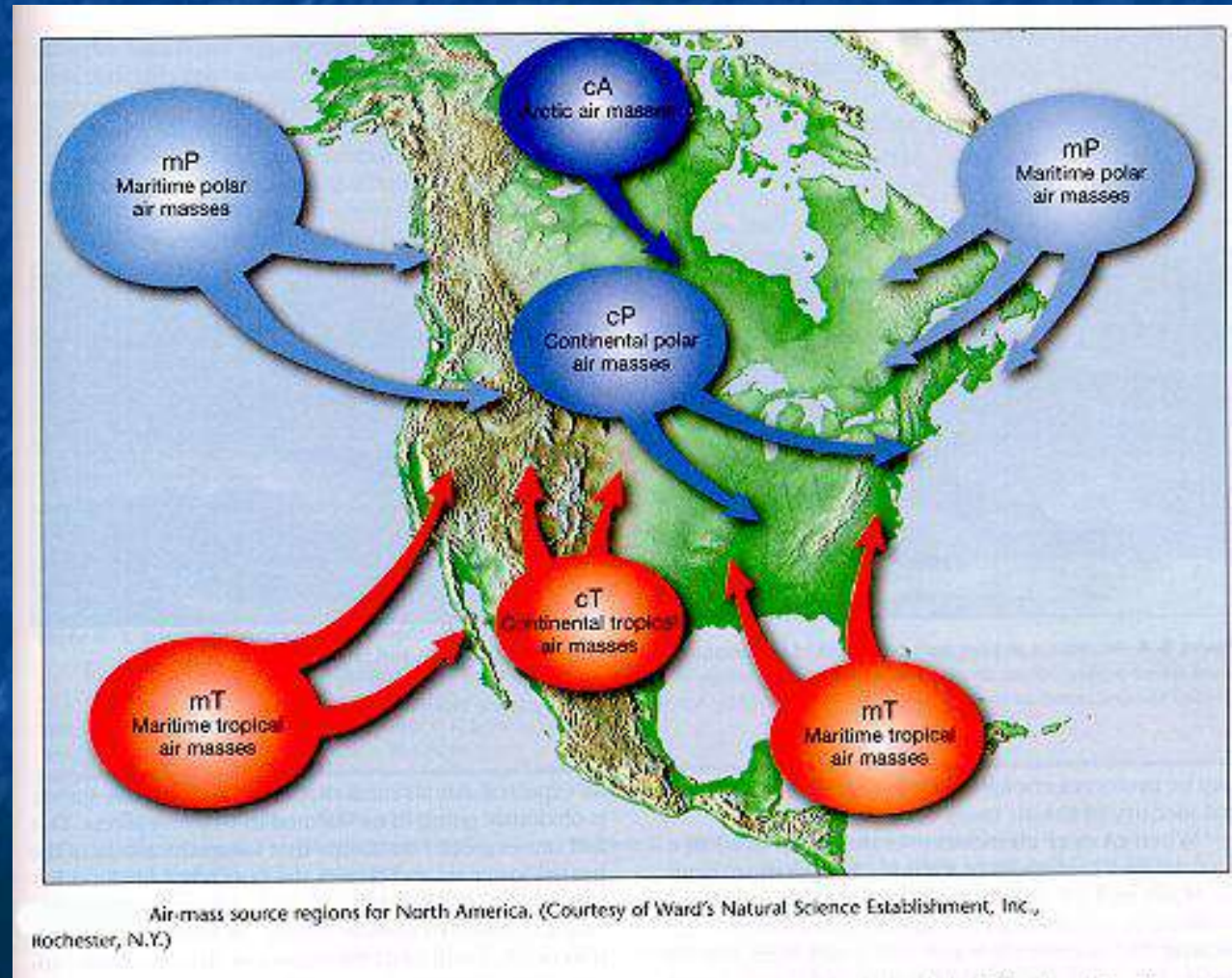
Wind results when two air masses collide that have a difference in \_\_\_\_\_.

## ■ Pressure

An air mass gets its temperature and humidity from \_\_\_\_\_.

- a. the land or water over which it forms
- b. the latitude at which it forms
- c. changes in the upper atmosphere
- d. the air masses that surround it

# a. the land or water over which it forms

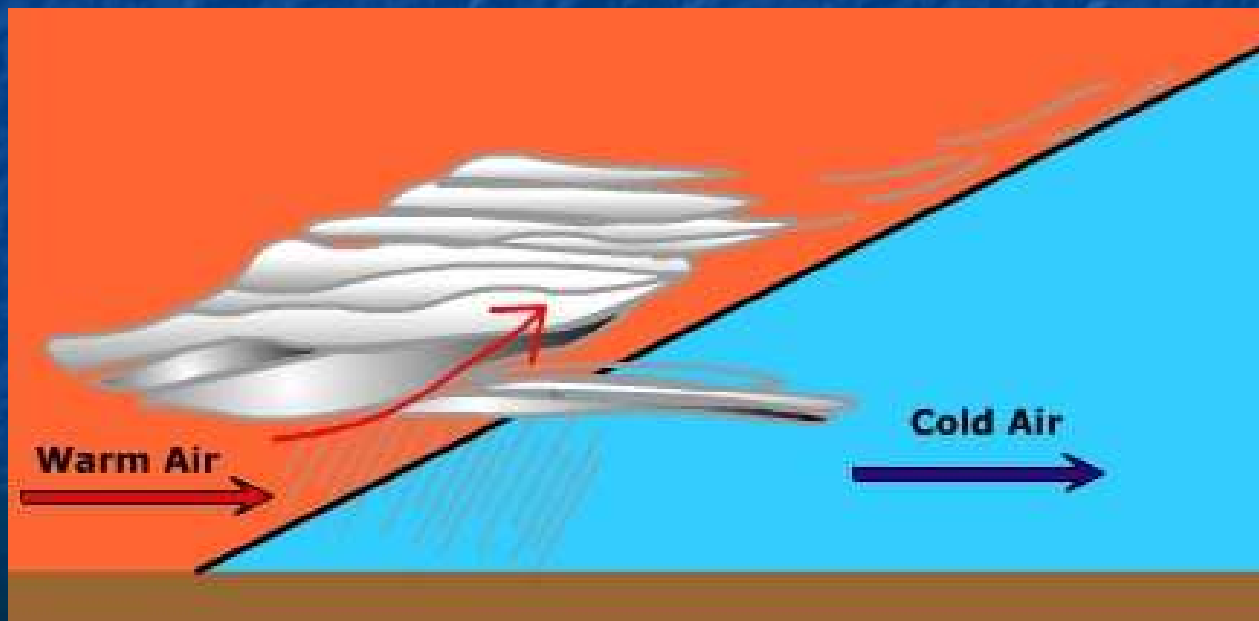


Warm air is less dense than cold air. When a warm air mass moves into a cold air mass the warm air mass\_\_\_\_. This results in a warm front.

- a. is compressed into a smaller mass, as it becomes even warmer
- b. is squeezed downward which causes clouds and rain
- c. slides up and over the cold air leading to gentle rain or light snow
- d. pushed quickly upward where there is the possibility of a thunderstorm



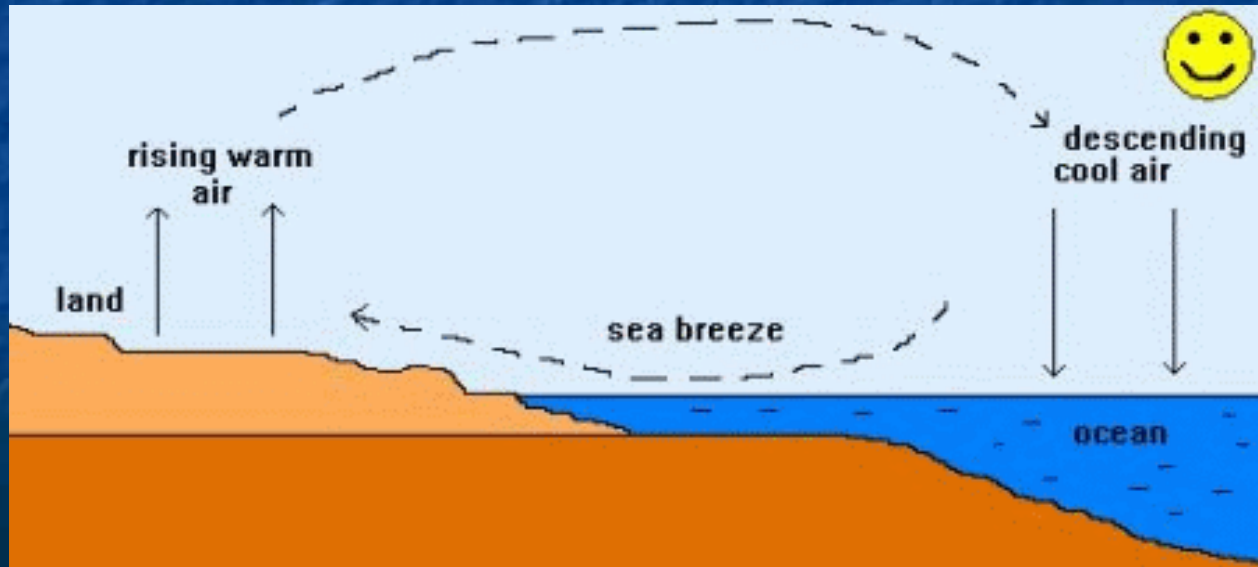
c. slides up and over the cold air leading to gentle rain or light snow



At the seashore late in the afternoon on a hot, sunny day, a person often feels a strong breeze coming in from the ocean. Which of the following is the reason for the breeze?

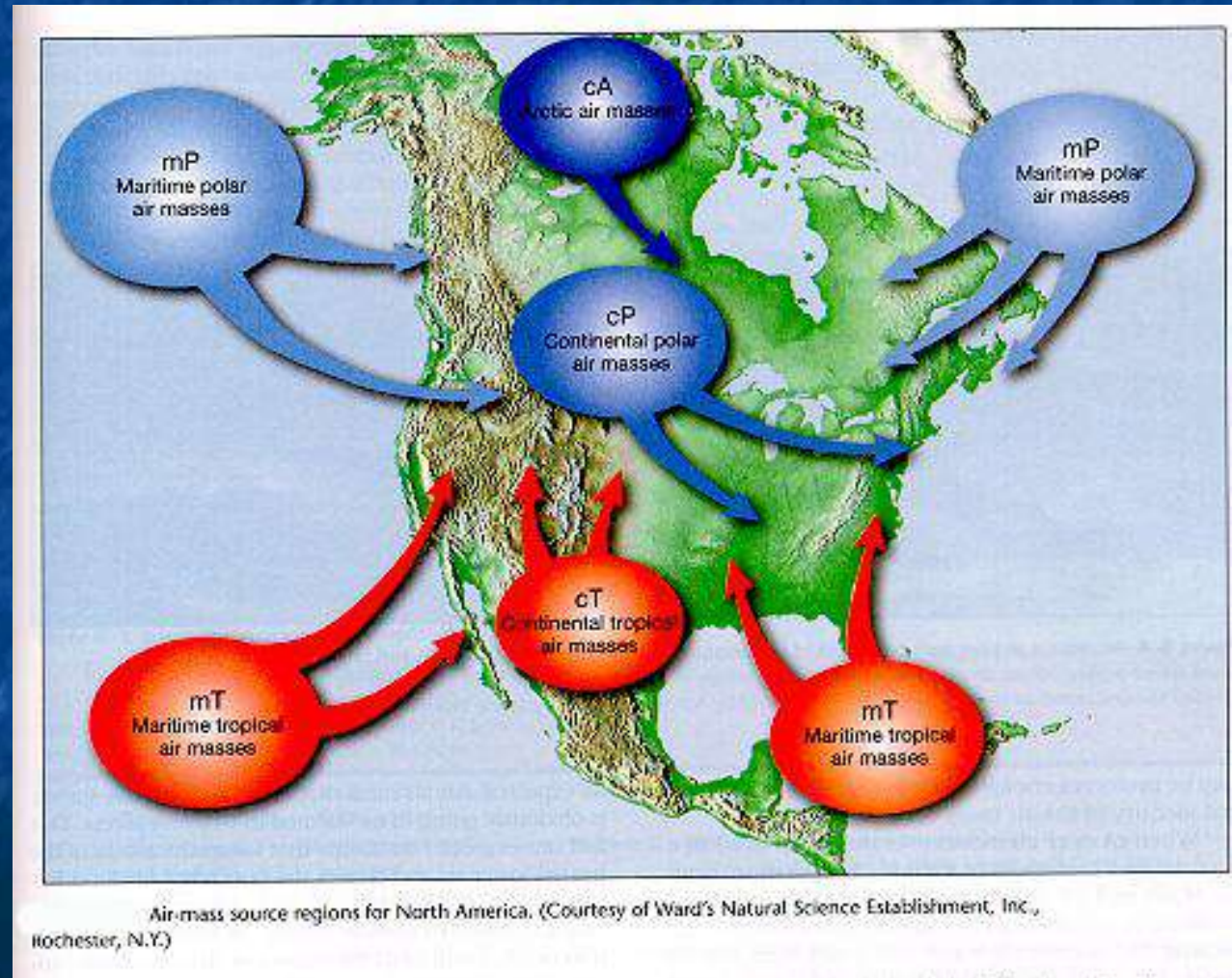
- a. There are no clouds to block the wind coming in from the ocean.
- b. The cool air over the ocean rushes in to replace that warm air rising over the land.
- c. The pounding of waves generate air currents.
- d. The warm air over the ocean rushes in to replace the cool air rising over the land.

b. The cool air over the ocean rushes in to replace that warm air rising over the land.



An air mass forms over the Gulf of Mexico and moves northeast across Georgia. What weather conditions are likely to occur in Georgia?

## ■ Warm and humid



Which of the following is NOT a characteristic of a snowstorm?

- a. air is below freezing all the way to the ground
- b. heavy snowfall blocks roads
- c. blowing winds make people lose their way
- d. a sudden increase in humidity

d. a sudden increase in humidity

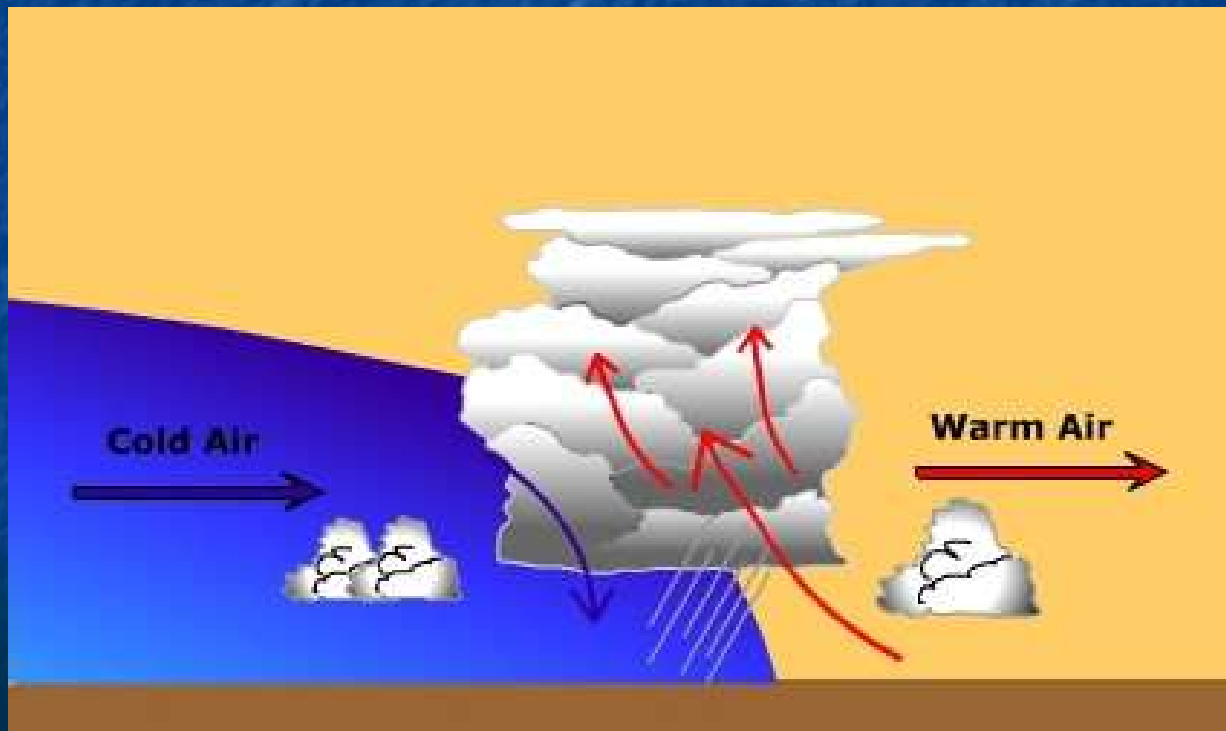


On a hot summer day, the wind suddenly starts to blow, clouds start to form, there is a brief thunderstorm, and it becomes cooler. What probably happened?

- a. a seasonal change began
- b. a warm front passed through
- c. a stationary front passed through
- d. a cold front passed through



- d. Cold front passed through



Currents in the Atlantic Ocean flow from the equator where they are warmed towards areas to the Arctic Ocean where they are cooled. As they flow back towards the equator, what is the effect on the nearby land?

- a. The land is dried
- b. The land becomes a rainforest
- c. The land is cooled
- d. The land is warmed

c. The land is cooled.

What is a large, swirling storm that forms over warm, tropical water called?

# Hurricane



Severe weather can be very dangerous. What does it mean when the National Weather Service issues a tornado warning?

- a. There is a small chance of a tornado forming.
- b. A tornado might occur the next day.
- c. A tornado is a nearby area, but it is not severe enough cause damage.
- d. A tornado has been sighted and immediate action should be taken.

d. A tornado has been sighted and immediate action should be taken.

### *Watch versus Warning*

**CAUTION**

Watch the Sky

**DANGER**

Take Cover Now

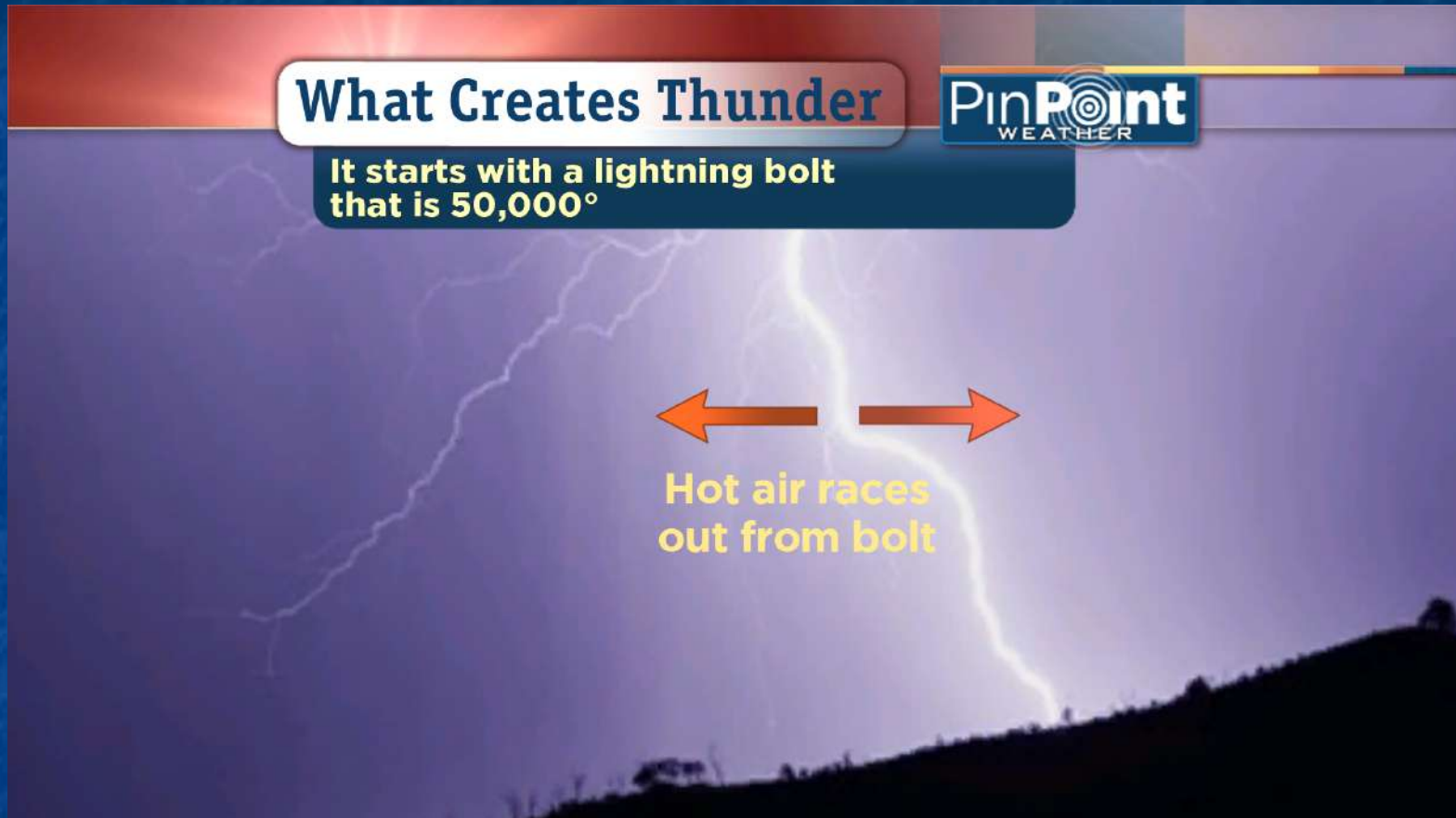
- Watch
  - Conditions are favorable for severe weather in or near the watch area. Watches are issued for tornadoes, severe thunderstorms and flash floods.
- Warning
  - The severe weather event is imminent or occurring in the warned area. Warnings are issued for tornadoes, severe thunderstorms, flash floods and river flooding.

Which of the following statements is correct?

- a. Thunder is electricity.
- b. Lightning causes thunder.
- c. Thunder comes before lightning.
- d. Air molecules change into lightning.



## b. Lightning causes thunder.



- (Lightning heats the air around the bolt causing the sound of thunder.)



- Lightning McQueen comes first and Chick “Thunder” Hicks follows behind.

Large, dark clouds that produce different types of severe weather such as thunderstorms and tornadoes are called \_\_\_\_\_.

## ■ Cumulonimbus



What must be present for a hurricane to develop?

Warm, moist water



Whirling columns of air that extend from the ground to the base of a thunderstorm are called a \_\_\_\_\_.

## ■ Tornadoes

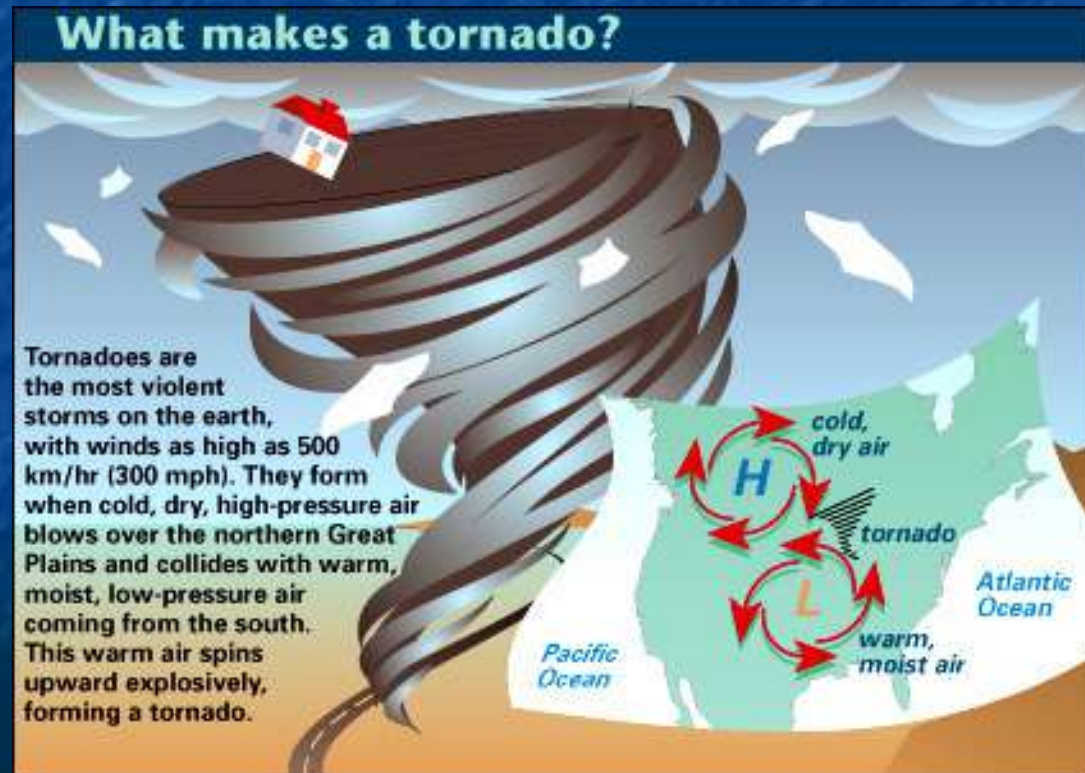




Which of the following factors create favorable conditions for a tornado?

- a. cumulonimbus clouds with winds at different heights
- b. warm, moist air evaporating from the ocean
- c. clear winter weather
- d. freshwater melting off glaciers

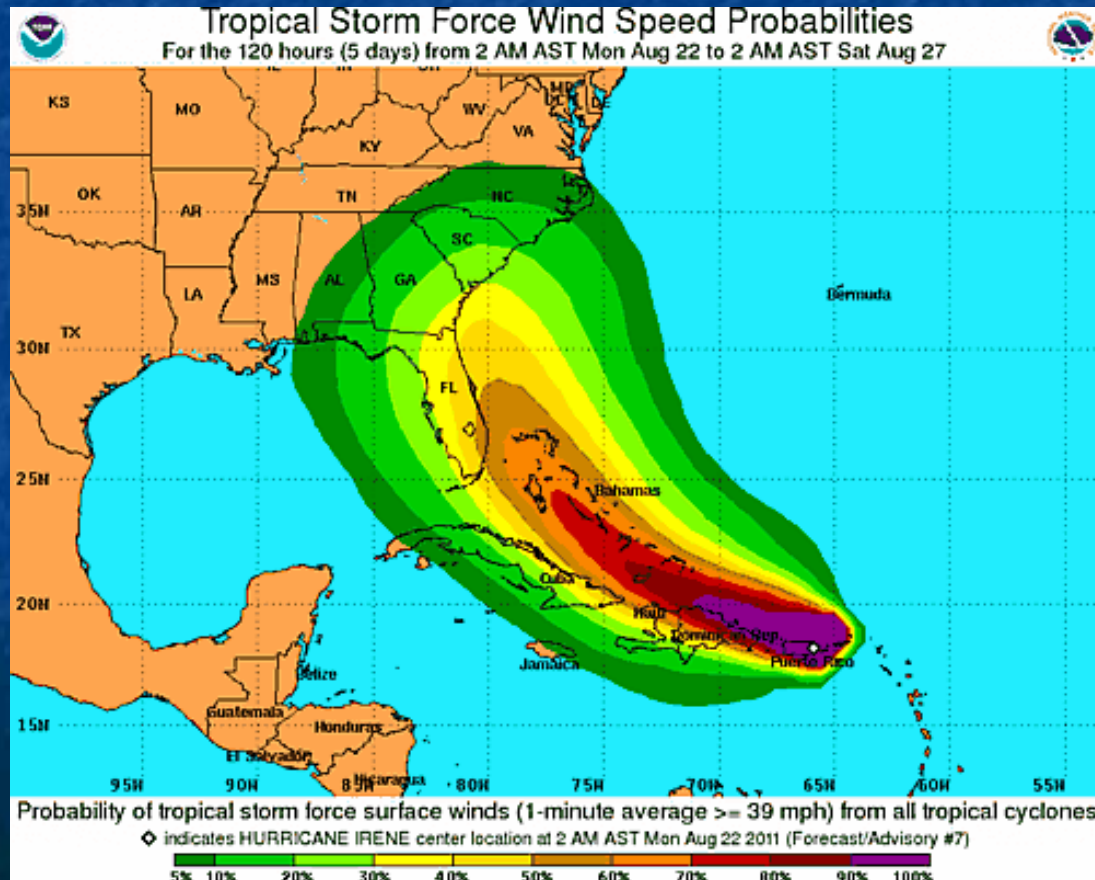
a. cumulonimbus clouds with winds at different heights



A hurricane that hits the coast of the southeastern United States is most likely formed \_\_\_\_.

- a. in the Pacific Ocean near Hawaii
- b. near the equator in the Atlantic Ocean
- c. in the Arctic Ocean north of Canada
- d. in the Atlantic Ocean off the New England coast

b. near the equator in the Atlantic Ocean



Tornado Alley consists of Iowa, Kansas, Oklahoma, Missouri, Nebraska, and Texas. It is the setting for numerous tornadoes each year. This is because of \_\_\_\_\_.

- a. the mixing of high and low pressure systems, especially in the spring
- b. high pressure systems coming in from the Gulf of Mexico
- c. low pressure systems coming in from Canada
- d. low pressure systems blowing in from the Rocky mountains

a. the mixing of high and low pressure systems, especially in the spring



On a hot summer day, a girl lying on the beach feels the sun's warmth even though she cannot touch the sun. She can feel this heat because of which method of heat transfer?

# Radiation



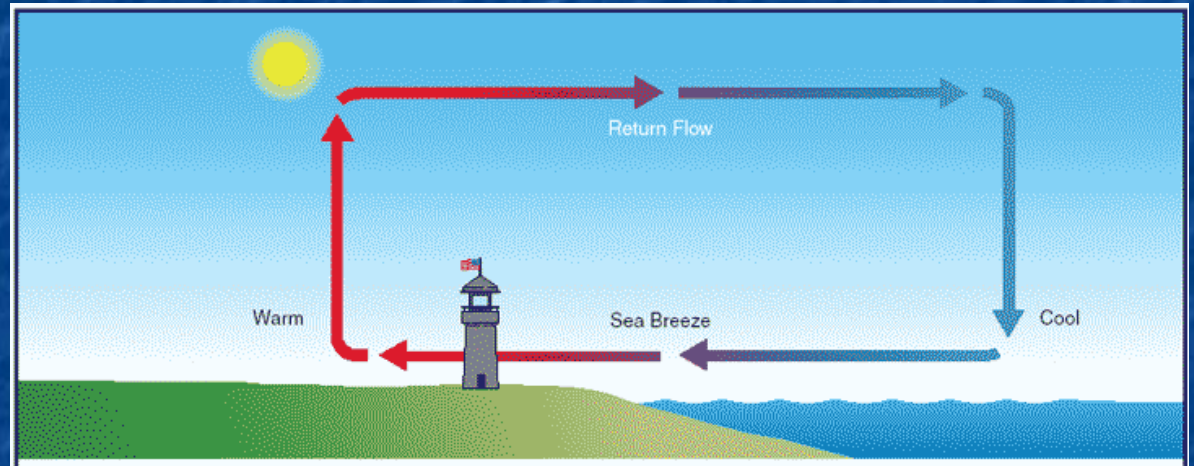


The uneven heating of the Earth's surface by the Sun causes some areas to be warmer than others resulting in the formation of \_\_\_\_\_.

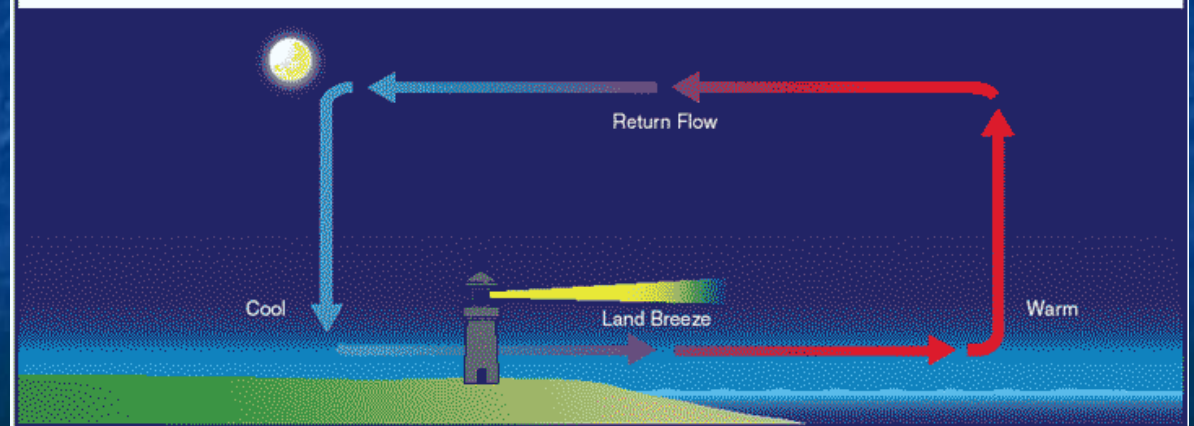
- a. sea breezes
- b. land breezes
- c. tail streams
- d. both A & B

■ d. both A & B

Sea breeze



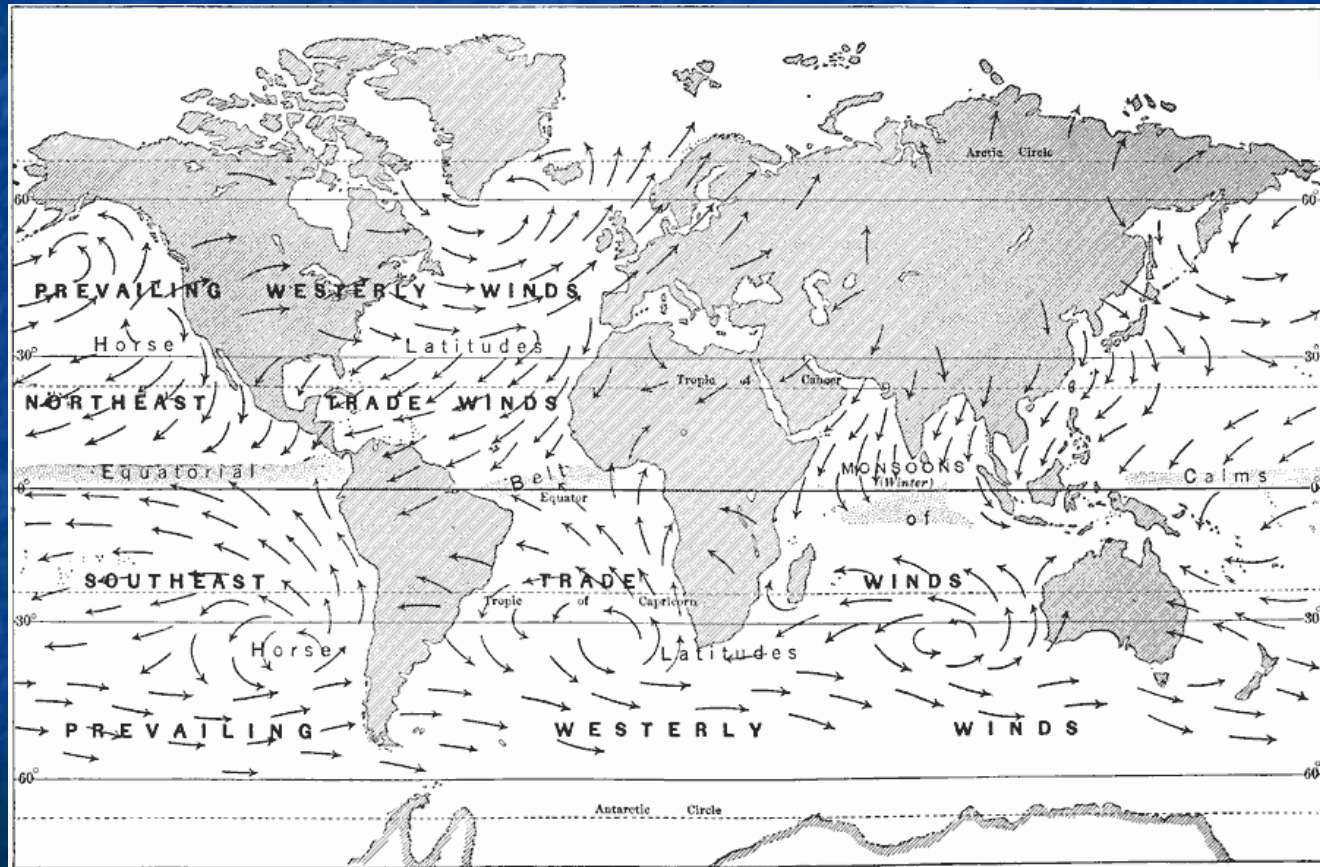
Land breeze



Which global wind system moves weather across North America?

- a. Trade Winds
- b. Polar Easterlies
- c. Prevailing Westerlies
- d. Jet Stream

# c. Prevailing Westerlies



Around mid-December, a low-pressure system began to develop near the equator. Over time it increased in strength and began to move in a clockwise direction headed for North America. What is responsible for the movement of this system in this direction?

- a. Surface currents
- b. Air pressure
- c. Coriolis effect
- d. Fronts

## c. Coriolis effect

