

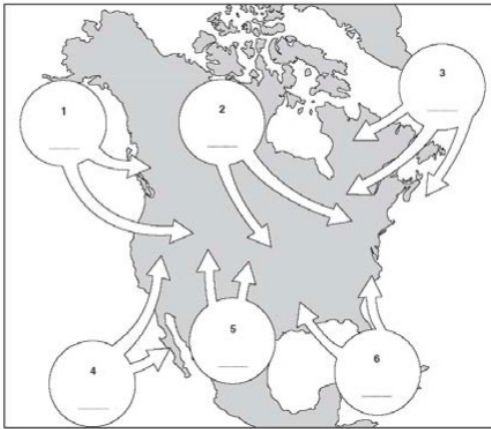
Air Masses and Weather Fronts

1. Along a front, which air is always forced up?

- A. The wettest air
- B. Warmer, less dense air
- C. The fastest moving air
- D. The driest air

2. High-pressure systems usually are associated with ____ and low-pressure systems are associated with ____.

- A. Clouds and precipitation, fair weather
- B. The jet stream, fronts
- C. Fair weather, clouds and precipitation
- D. Fair weather, fair weather

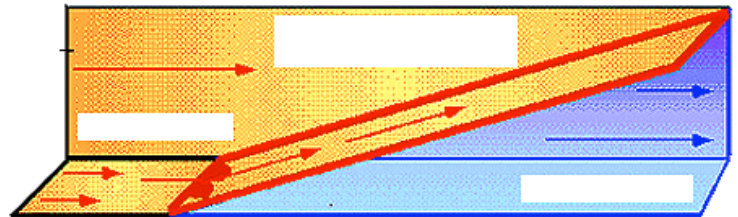
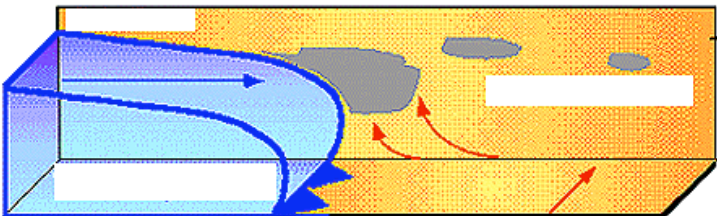


3. The map below shows six source regions for different air masses that affect the weather of North America. The directions of movement of the air masses are shown. Using the standard two-letter air-mass symbols, label the air masses by writing the correct symbol in each circle on the map.

- marine Polar, mP
- continental Polar, cP
- marine Tropical, mT
- continental Tropical, cT

Precipitation Along Cold Fronts: [http://ww2010.atmos.uiuc.edu/\(Gh\)/guides/crclm/act/fpr.xml](http://ww2010.atmos.uiuc.edu/(Gh)/guides/crclm/act/fpr.xml)

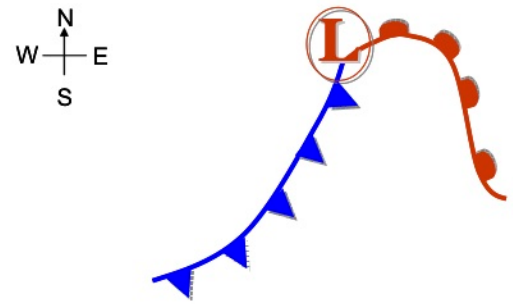
4. The diagrams below are vertical cross-sections through air masses and the frontal boundary separating them. Fill in the missing components (the white boxes) of this diagram.



5. Using the information and animations in the website, describe how precipitation develops along a cold front and a warm front. Be sure to keep in mind the following points:

- shape of the front (vertical structure)
- strength of upward motions
- location and intensity of precipitation
- types of precipitation that commonly develop along these fronts

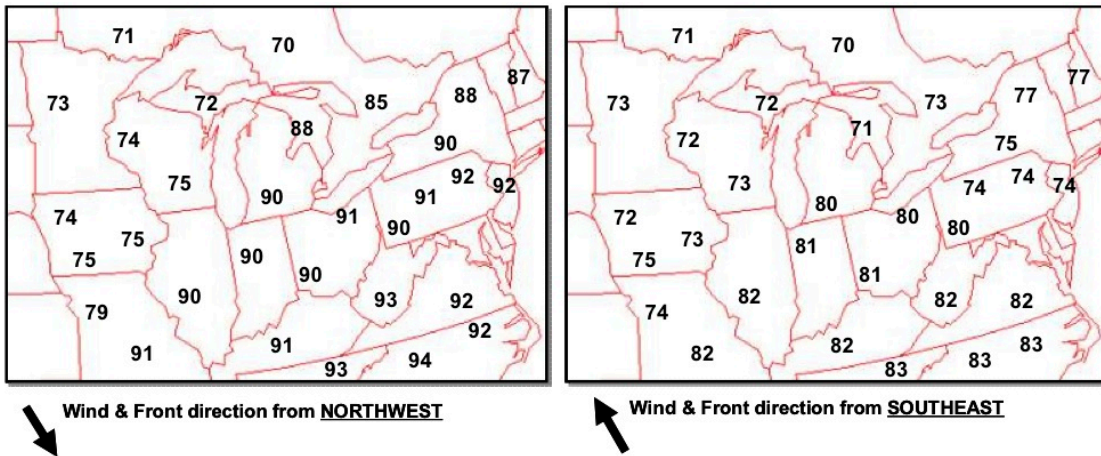
6. To show where the warm and cold air masses are located, write the words “WARM” and “COLD” on the proper side of each front on the right.



a. Which direction is the warm front moving? _____.

b. Which direction is the cold front moving? _____.

7. Draw a warm or cold front on the maps below. Use the wind and front direction arrows to help you decide which type of front to draw, and the direction it is moving.

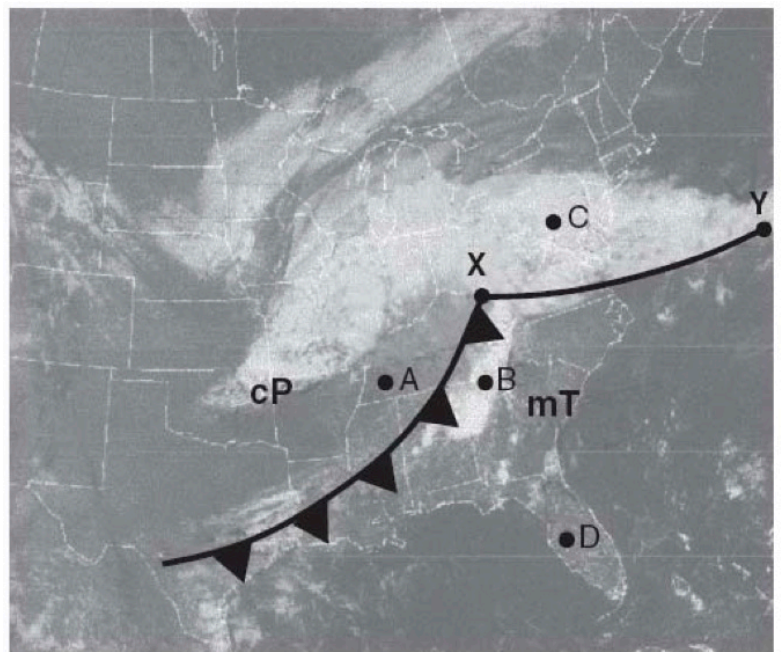


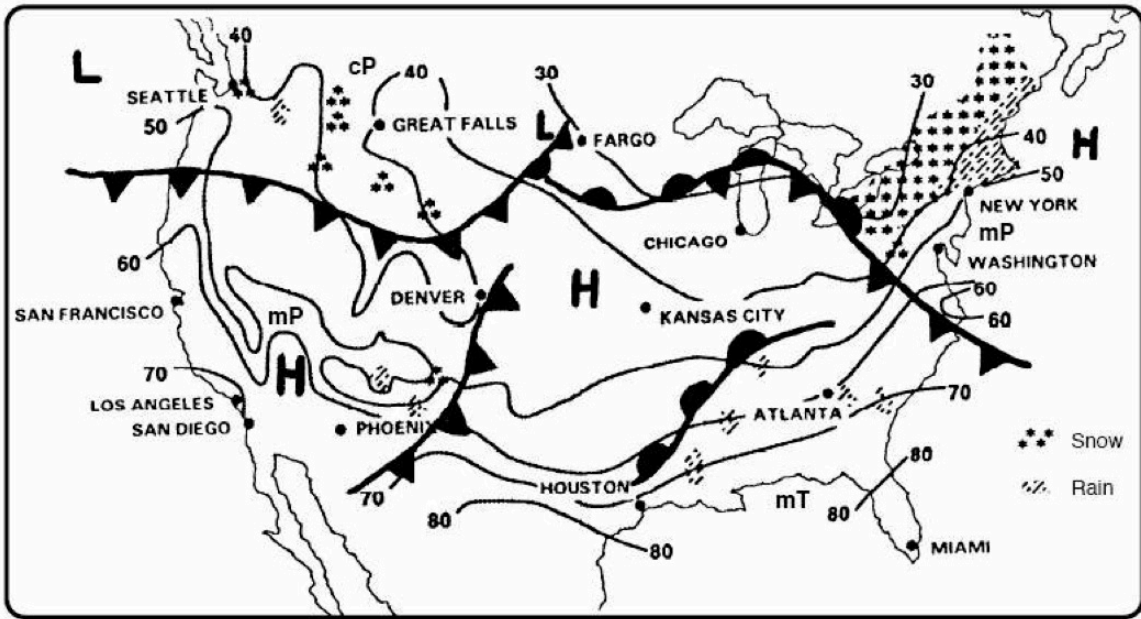
Base your answers on the satellite image shown below. The satellite image shows a low-pressure system over a portion of the United States. Air-mass symbols and frontal boundaries have been added. Line XY is one frontal boundary. Points A, B, C, and D represent surface locations. White areas represent clouds.

8. Draw the proper symbol to represent the most probable front on line XY.

9. Describe one piece of evidence shown on the map that suggests location A has a lower relative humidity than location B.

10. Explain why location C most likely has a cooler temperature than location D.





11. List the different fronts shown on the weather map.

12. Which kind of air mass would the north Atlantic be in?

13. In what direction is the front near Phoenix moving?

14. What kind of front is near Denver?

15. What kind of front is north of Chicago?

16. What kind of air mass would be over Great Falls?

17. Would Los Angeles have clear or cloudy skies? Explain your answer.

18. What kind of air mass would Washington D.C. experience?