Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_\_

**Oklahoma & Air Mass Movement**

**Overview:**

1. You have 2 maps of Oklahoma, one with air temperaturse and the other with dew point temperatures.
2. You will identify areas of the maps with the highest/lowest temperatures and dew points.
3. You will compare the two maps and determine which of the 4 main types of air masses are present.

**Prelab Questions:**

1. Review of Chapter 2: Define contour line.
2. On a topographic map, can 2 contour lines cross? Explain.
3. Define dew point.
4. If the air temperature is close to the dew point temperature, describe what the relative humidity would be like.
5. Locate the highest temperature on each map and put an X next to it.

**Directions**:

**Air Temperature Map:**

1. On the **Air Temperature** map, **draw contour lines** that connect temperatures every 10 degrees.
   1. 1st, draw a line that separates all the temperatures of 60F and above from the rest of the temperatures.
   2. 2nd draw a line that separates all the temperatures in the 50’s from the temperatures below 50
   3. Draw lines that separate the 40s, the 30s and the 20s.
2. Identify the area of the map that contains the **highest** temperatures
   1. Color this area red. (Color the appropriate side of the contour line separating the highest temperatures from the rest of the map.)
   2. Label the area with a large “H”.
3. Identify the area with the **lowest** temperatures.
   1. Color this area blue. (Color the appropriate side of the contour line separating the lowest temperatures from the rest of the map.)
   2. Label the region with a large “L”.

**Dew Point Temperature Map:**

1. On the **Dew Point Temperature** map, you will draw just **TWO contour lines**.
   1. 1st, find the HIGHEST temperature on the map. Draw a contour line that separates all the temperatures of that “10 degree” range from the rest of the temperatures.
      1. Example if the highest temp was 45, draw a line that separates all temperatures in the 40s from the lower temperatures.
      2. Color this area green.
      3. Label it with a large “H”.
   2. Now, find the LOWEST dew point temperature on the map. Draw a contour line that separates all the temperatures of that “10 degree” range from the higher temperatures.
      1. Example if the lowest temp was 25, draw a line that separates all temperatures in the 20s from the higher temperatures on the map.
      2. Color this area orange.
      3. Label it with a large “L”.

**Analysis**

1. Compare the **region of the Air Temperature map** with the **highest temperatures, labelled H**, to the Dew Point map.
   1. Compared to the rest of the dew point map, are the dew points in this area high or low?
   2. Approximately how many degrees apart are the air temperatures and dew point temperatures?
   3. Which of the following best describes the region?
      1. Warm and dry
      2. Warm and moist
      3. Cool and dry
      4. Cool and moist
   4. In class we have discussed the **4 main types of air masses** in the United States. **What type** of air mass does this region most closely resemble? **Explain** your choice.
2. Compare the **region of the Air temperature map** with the **lowest temperatures**, labelled L, to the dew point map.
   1. Compared to the rest of the dew point map, are the dew points in this area high or low?
   2. Approximately how many degrees apart are the air temperatures and dew point temperatures?
   3. Which of the following best describes the region?
      1. Warm and dry
      2. Warm and moist
      3. Cool and dry
      4. Cool and moist
   4. In class we have discussed the **4 main types of air masses** in the United States. **What type** of air mass does this region most closely resemble? **Explain** your choice.



