Attached are three pages containing maps and soundings that will be used to complete this assignment. All data is real model forecast data and was valid at noon local time on 23 April 2003. The first page contains three soundings on skew-T diagrams labeled A, B, and C. The following pages contain 7 maps:

1. Surface temperature, winds, and MSLP
2. Surface dewpoint (shaded), lifted index (contours)
3. Convective available potential energy (CAPE)
4. Convective inhibition (CINH)
5. 250 mb heights and winds
6. 500 mb heights and winds
7. Storm-relative helicity

1. The three soundings (A-C) are from southwest Oklahoma, the western Texas panhandle, and southern Texas. Identify the location of each sounding and provide three reasons how you determined this. (6 points)
   a. Sounding A –
   b. Sounding B –
   c. Sounding C –

2. Which location is most likely to see the development of severe weather? Why? (3 points)
3. Why is the development of severe weather less likely in the other two locations? (2 points)

4. Which sounding best favors a right-moving thunderstorm? Explain. (2 points)

5. Which sounding is most conducive for producing a dry microburst? Why? (2 points)

6. What type of atmospheric boundary lies between the western Texas panhandle site and the southwest Oklahoma site? How might this boundary influence severe weather? (2 points)

7. Where in the country might ordinary (i.e., non-supercellular) thunderstorms develop? Why? (2 points)

8. Verify where severe weather occurred by attaching a map of the severe weather reports for this day from the Storm Prediction Center website. Did severe weather occur where you thought it would? (1 point)