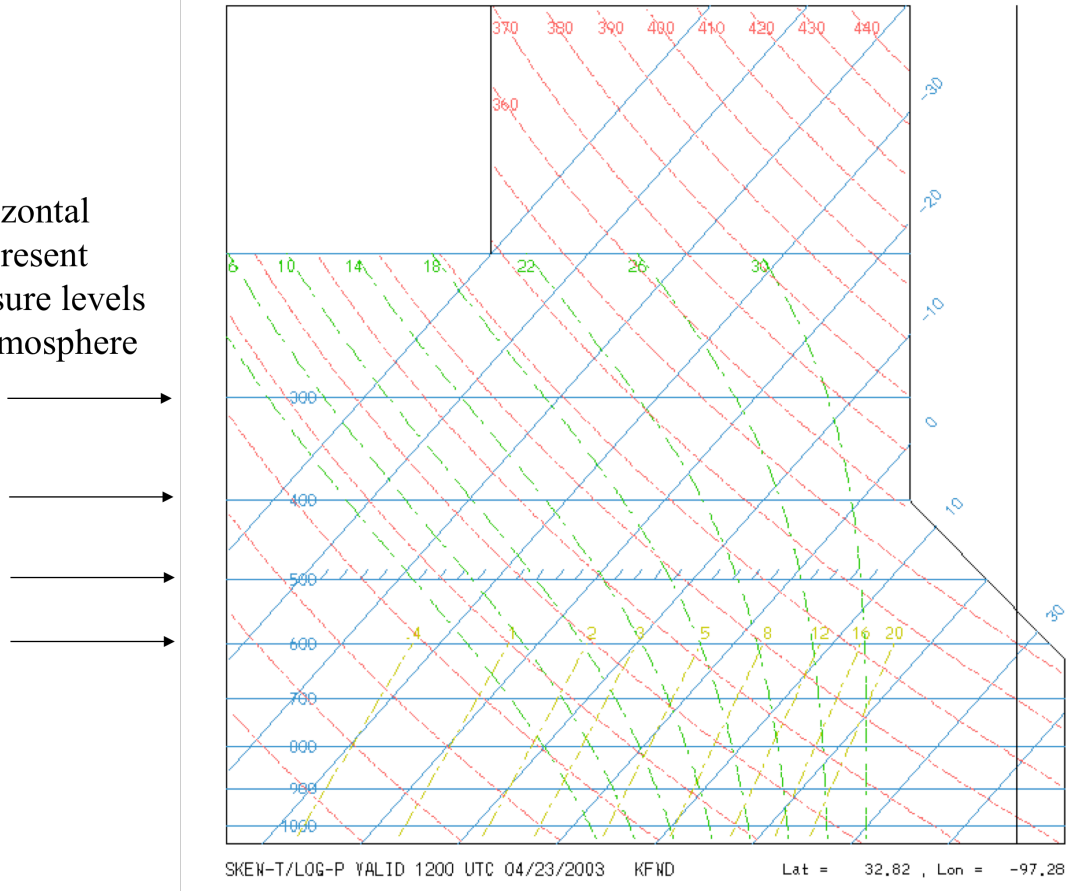
Week 6 - Map Assignment: Upper Air Soundings

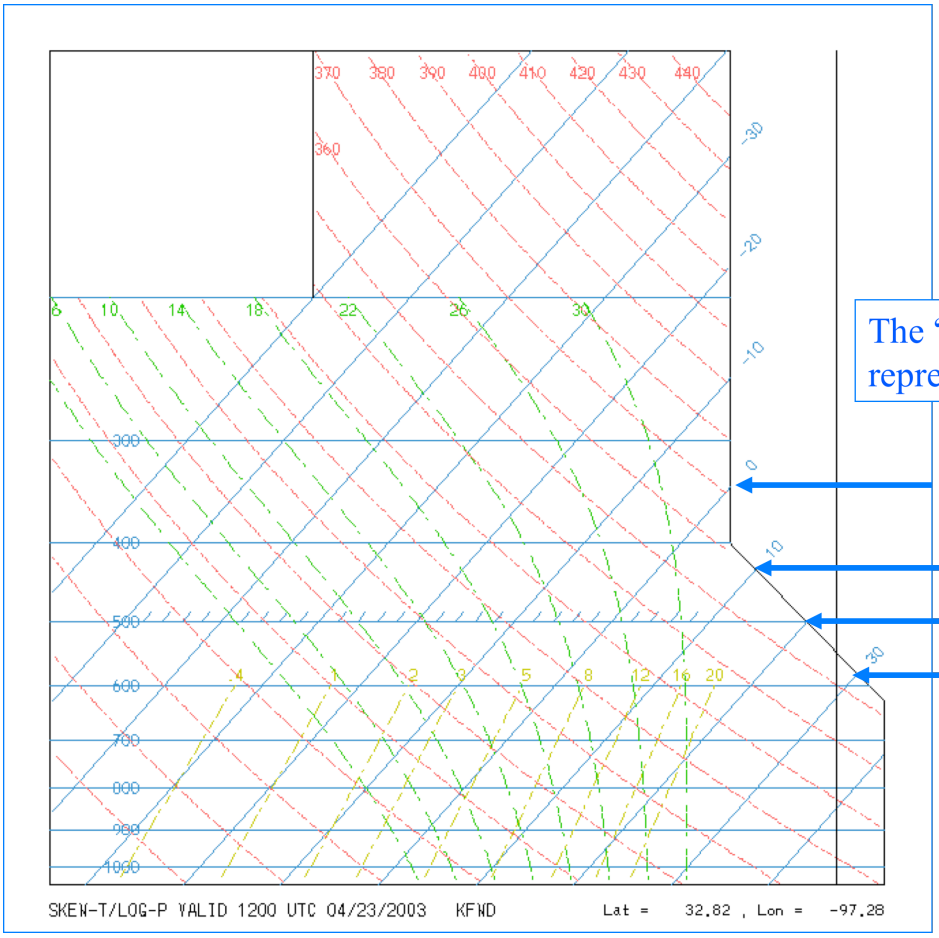
As noted on page 249 of Ahrens, atmospheric soundings provide an important snapshot of our atmosphere. This proves useful to forecasters who are looking at certain atmospheric variables for short term forecasting.

Soundings are plotted on “skew-t” diagrams. These diagrams get the name from the fact that the temperature scale is skewed to the right.

Here is a quick tutorial on the important aspects of a skew-t diagram:

The horizontal lines represent the pressure levels of the atmosphere

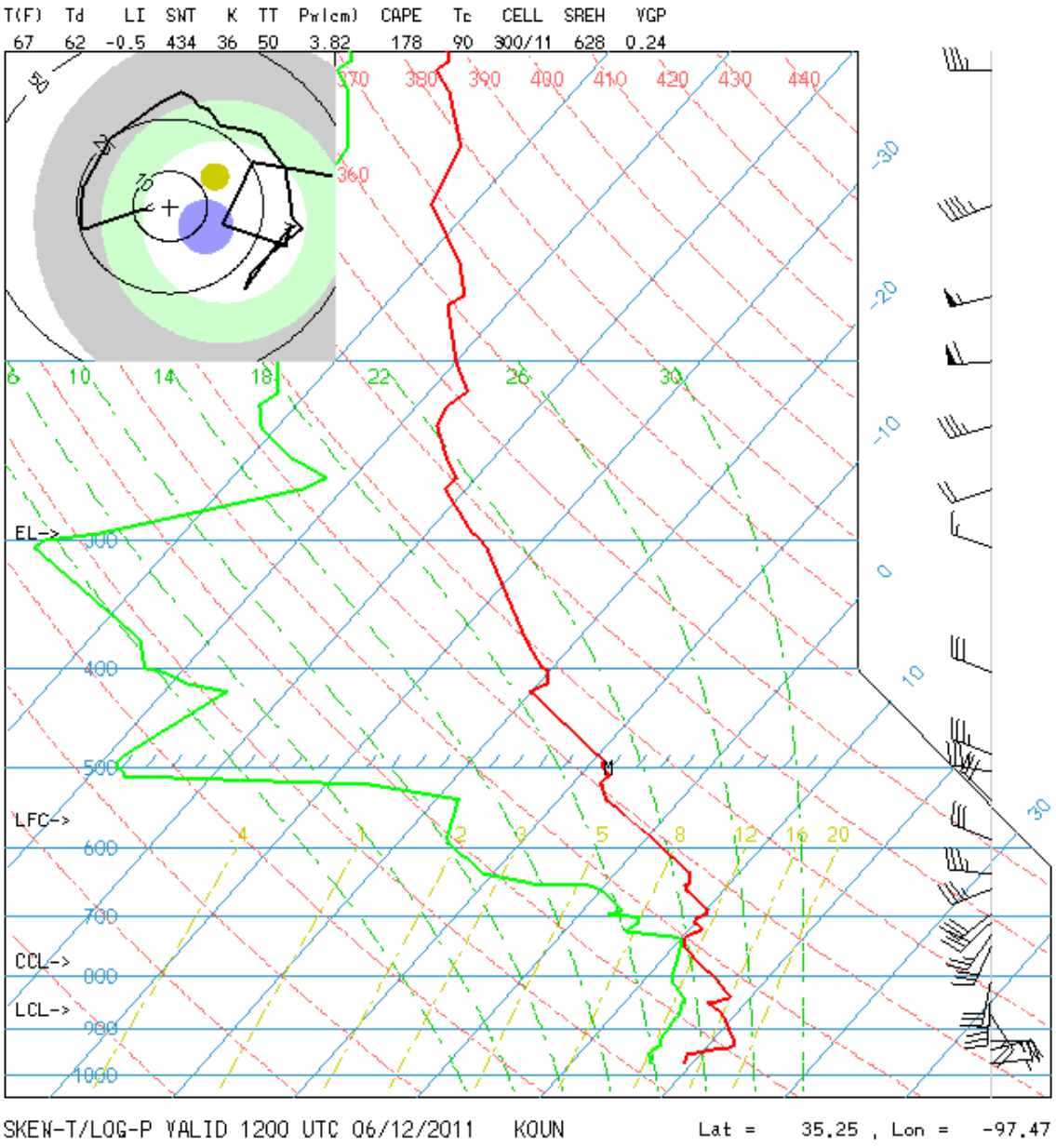




The "skewed" lines represent the temperature

Now, the assignment will focus on interpreting a diagram. Please note: The red trace represents the air temperature through the atmosphere, the green trace is dewpoint. Winds are represented on the right hand side as wind barbs.

1.) Here is the skew-t in question:



Please provide the following information (1pt each)

Temperature at the surface:

Dewpoint at the surface:

Winds near the surface:

Temperature at 700 mb:

Dewpoint at 700 mb:

Winds at 700 mb:

Temperature at 500 mb:

Dewpoint at 500 mb:

Winds at 500 mb:

Describe the shear in this atmospheric profile: