weather sites; perhaps the easiest to use is rucsoundings.noaa.gov. The appropriate plot for any of the reporting sites can be found by typing in the closest reporting station identifier (usually an airport), and allowing the graphic to load.

There is a wealth of information that may be derived from the Skew-T plot (or "sounding," as it may be referred to), but this discussion will be limited to those features of immediate interest to the average balloon pilot.

Some of the information that may be derived from the Skew-T, using the example in *Figure 4-35:*

- The two lines running vertically through the center of the graphic (red and blue) show the temperature and dew point at ascending pressure altitudes. The temperature is always plotted to the right of the dew point because temperature is almost always greater than the dew point temperature.
- The right side margin shows wind speed and direction, using the standard "barbed" system common in weather reporting. The scale (in this case, 0 to 40 knots) can be changed, but this setting provides the best resolution.
- The left margin of the chart indicates the pressure altitude for a particular reading. Pressure altitude readings correspond generally to certain altitudes. For example, the reading at 850 mb equates roughly to an altitude of 5,000 feet above MSL. That may not appear to be useful; however, this is where the dynamics of the application come into play. If the computer cursor is moved over the graphic part of the diagram, indicators as to the specific information for that altitude may be seen (not depicted in *Figure 4-35*). A pilot may be able to get information for varying altitudes as close at 125 feet apart, depending on the resolution of the original sounding information.

There is a tutorial available to fully explain the data interpretation of the Skew T plot at www.met.tamu.edu/class/ATMO151/tut/sound/soundmain.html.

Velocity Azimuth Display (VAD) Winds

Velocity Azimuth display (VAD) winds are derived from the output of the 160 WSR-88 radar sites located throughout the United States. These radar systems are used by weather professionals to produce many different products, including the weather radar depictions found on many of the web sites previously discussed, as well as various television station weather reporting. *[Figure 4-36]*

The WSR-88 radar systems can be configured to produce radar returns from dust and other particulate matter that may be in the air. These radar returns can be processed to indicate wind direction and speed at different altitudes. VAD winds are generally reported in 1,000 foot increments, although at

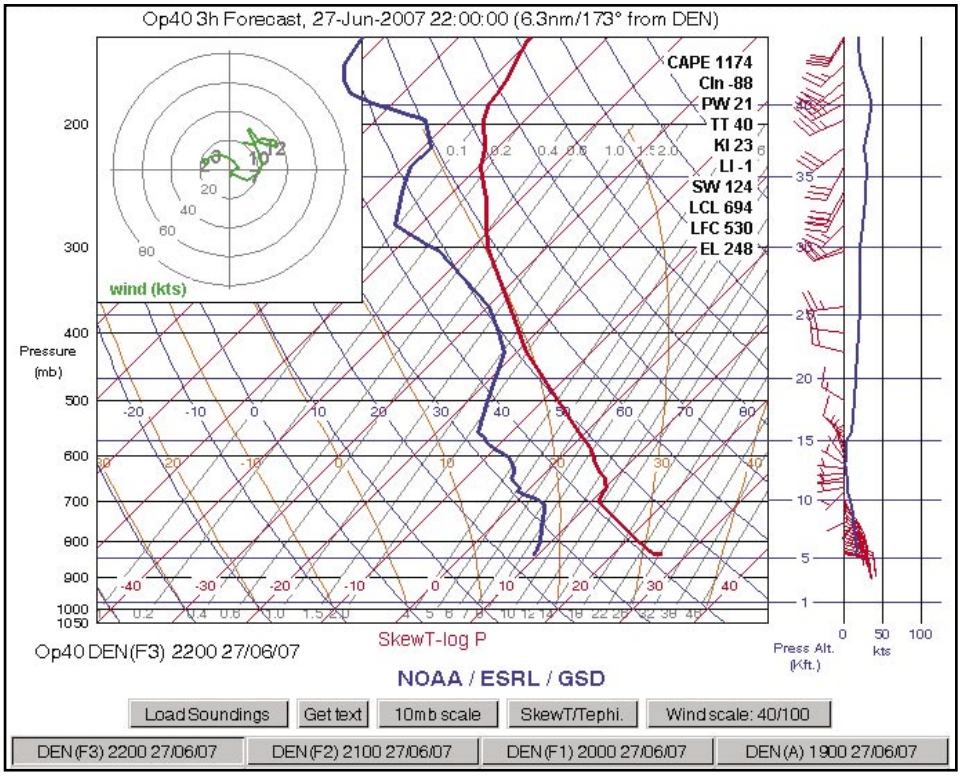

Figure 4-35. *Example of a Skew-T plot.*