

Skew-T / Log-P diagrams: The Skew-T/Log-P diagrams allow for intensive analysis of the vertical structure of the atmosphere and are commonly used to plot rawinsonde observations taken from ascending balloon-borne sensors.

The vertical axis is pressure, plotted logarithmically and decreasing upward, while temperature contours are aligned at approximately 45 degree angle from the vertical and decreasing towards the upper left. Potential temperature contours are oriented at approximately 90 degree angles from the temperature contours and increase towards the upper right.

A standard depiction is used here, with the temperature profile in red and the dewpoint profile in blue. The sounding is constructed from the model vertical column over the point in question, with temperature and dewpoint values interpolated from the model vertical sigma levels.

Wind barbs are plotted according to typical convention along the right hand side of the diagram, with the barb (values in meters/sec) indicating the direction the wind is coming from.

At the upper left of the diagram a hodograph is plotted as an alternative way of viewing the wind fields. The surface corresponds to the center of the diagram, with vertical distance increasing radially.

At the lower left, a series of convective index values for the sounding in question are presented. These include the surface temperature and dewpoint, the lifted index (LI), lifting and convective condensation level (LCL and CCL), the level of free convection (LFC), the K and Total Totals (TT) indices, the severe weather index (SWI), the SWEAT index, the total precipitable water (PW), the convective available potential energy (CAPE), convective temperature (Tc), equilibrium level (EL) and the convective inhibition (CIN). We refer the interested reader to the meteorological literature for a description of these indices and their applications.