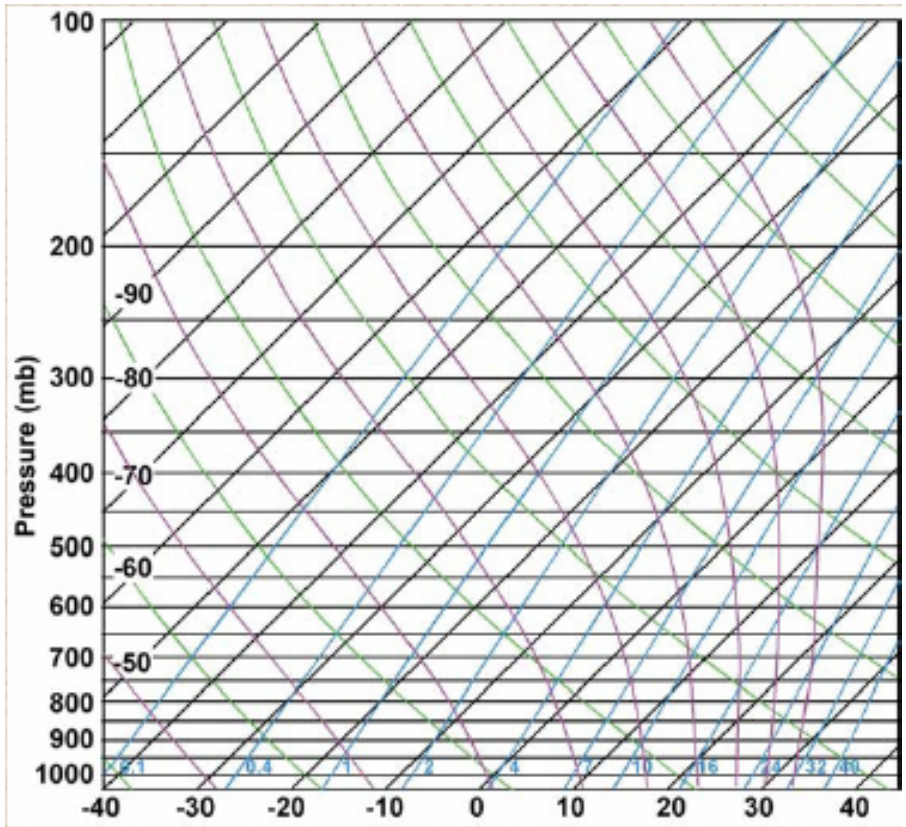
The “Skew-T Log-P” diagram is the most commonly used thermodynamic diagram for operational weather forecasting in the United States.

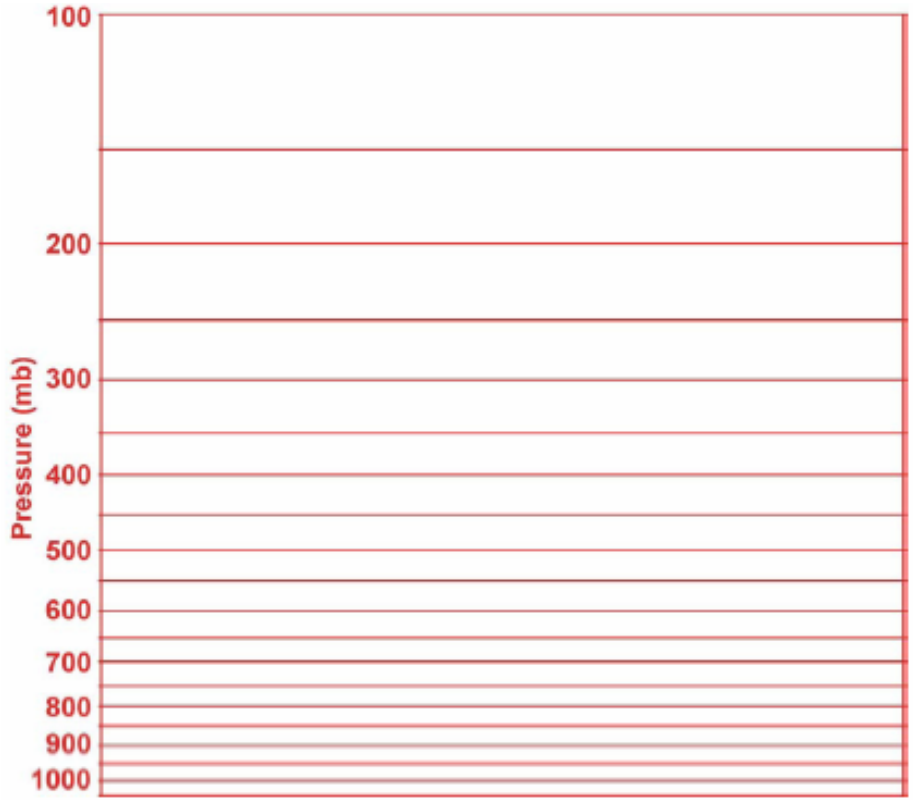
- shows isobars, isotherms, saturation mixing ratio lines, dry adiabats, and saturation adiabats.
- area on diagram is proportional to energy.
- current, archived, and modeled soundings are available in Skew-T Log-P format at several web sites and in analysis programs such as GARP.



Skew-T Log-P Diagram

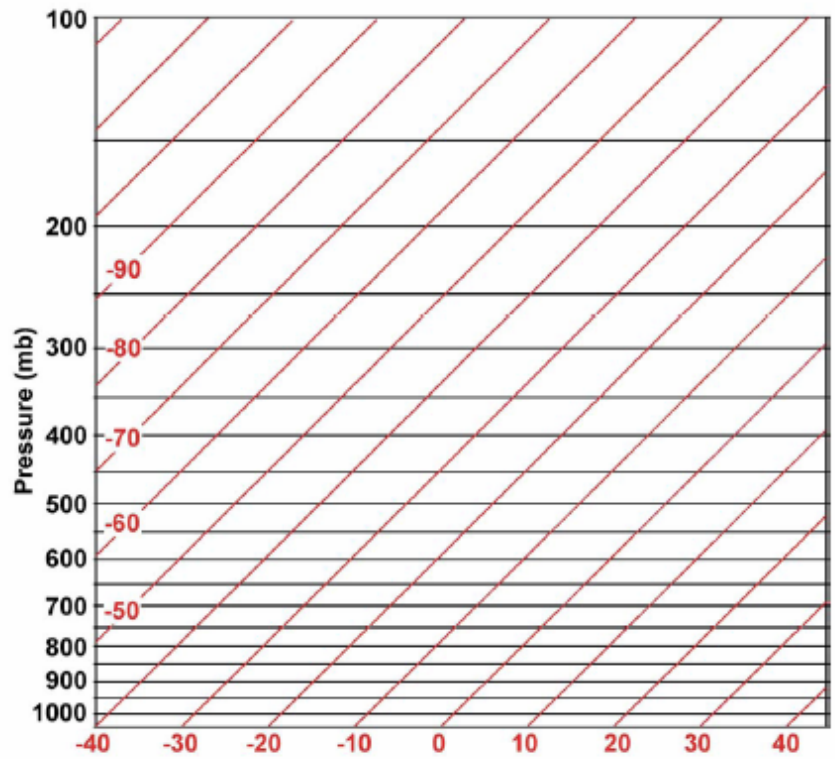
Skew-T Log-P Thermodynamic Diagram

- The vertical coordinate is pressure in millibars (mb).
- The vertical scale is logarithmic, making it similar to the real atmosphere.



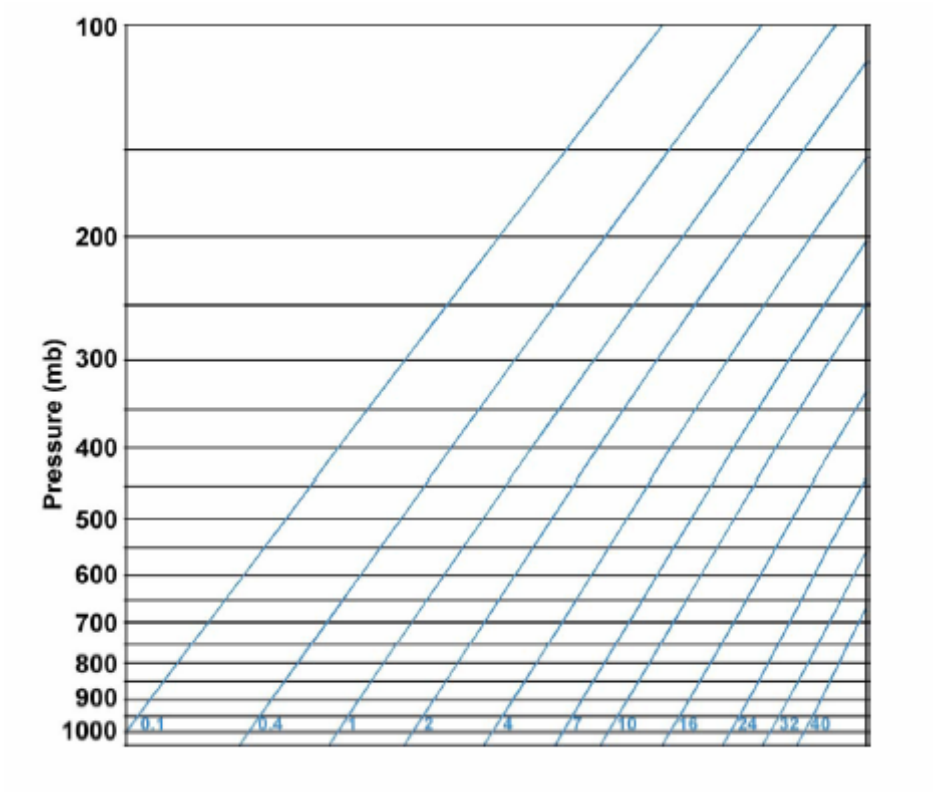
Skew-T Log-P Thermodynamic Diagram

- Temperature lines are “skewed” from the vertical. (red lines here)
- Units are in degrees Celsius (° C)



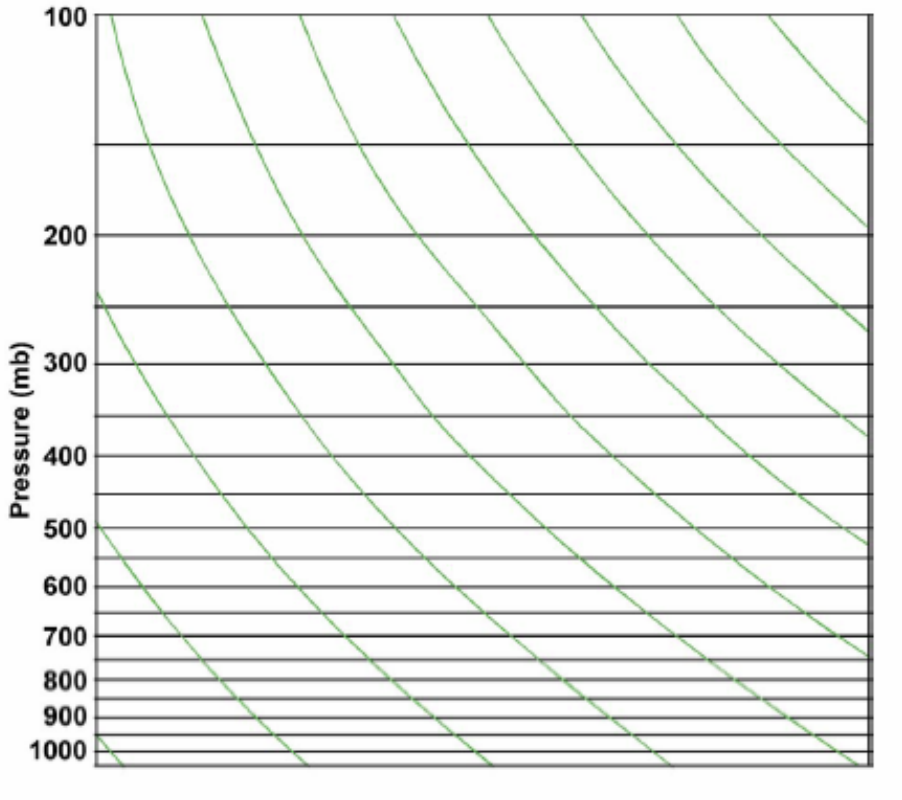
Skew-T Log-P Thermodynamic Diagram

- Saturation mixing ratio lines (blue here) are also skewed and have units of g/kg.



Skew-T Log-P Thermodynamic Diagram

- Dry adiabats (green here) are curved.
- Represent **air parcel path** when ascending or descending dry adiabatically.



Skew-T Log-P Thermodynamic Diagram

- Saturation (moist) adiabats (purple here) are also curved but are more vertical than dry adiabats, especially at warmer temperatures and higher pressures.
  - At lower pressures and colder temperatures, moist adiabats tend to be parallel to dry adiabats.
- Represent air parcel path when ascending or descending under saturated conditions.
- Pseudo-(moist)-adiabats: additional assumption that all condensed moisture immediately falls out.