

# INSTABILITY, CONVECTION AND CUMULONIMBUS CLOUD

ELR

Environmental Lapse rate

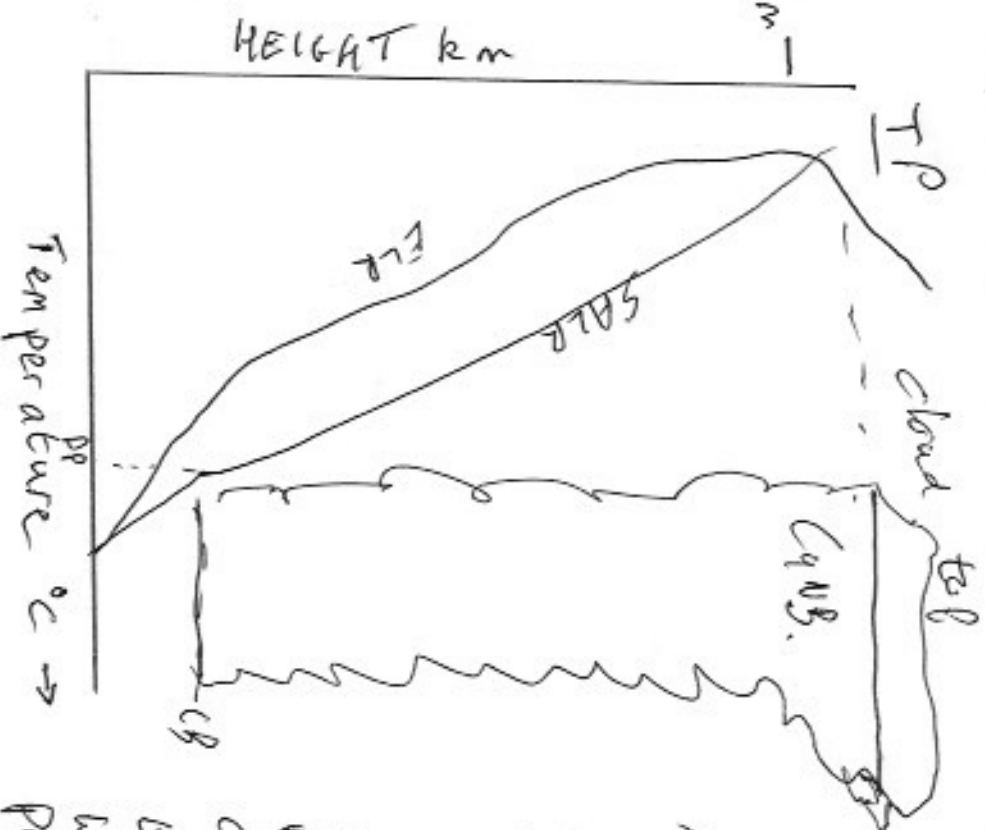
The fall of temperature with height for an air mass (environmental air)

Here there is a deep unstable atmosphere

up to 10km, the Tropopause inversion.

The Tropopause inversion (TI)

is where temperature increase with height



The whole of the Troposphere is unstable as rising air remains warmer than the environmental air and continues to rise.

Convection unequal heating of the ground surface causes bubbles of air to be heated and rise.

This rising air cools at the Adiabatic lapse rate. Caused by rising, expanding and cooling.

Eventually dry rising air will cool to its dew Point temperature, (DP) condensation occurs at the condensation level or cloud base (CB) The air then cools at the saturated rate