

Chapter 2.6

Dew point and wet bulb

Dew Point Temperature

If the temperature of the air reduces until 100% relative humidity occurs, the air is at the DEWPOINT temp.

$$T_{dew\ point} = T_{sat,at\ partial\ pressure}$$

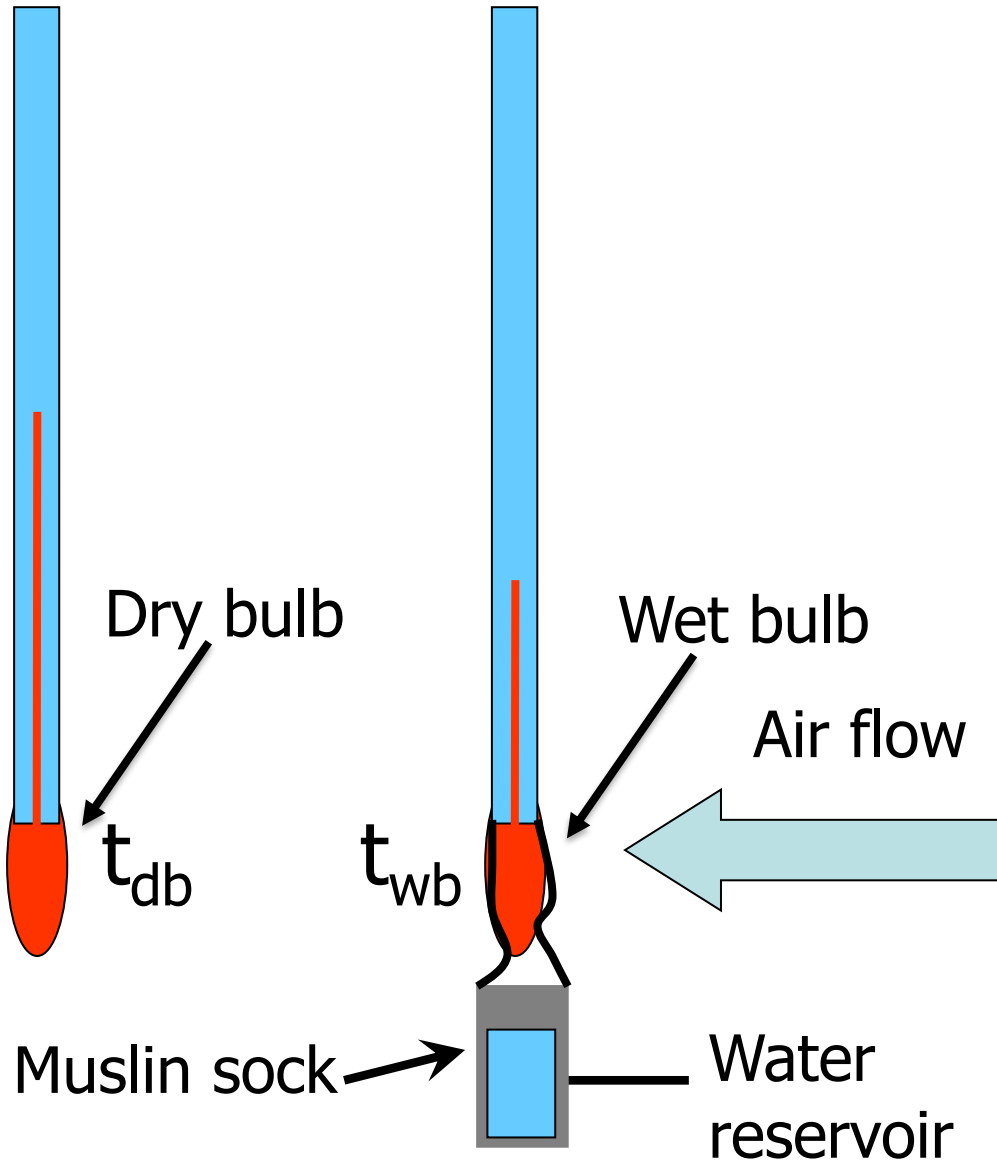
it is the point at which air temperature reaches the saturation temperature corresponding to the partial pressure of water vapour in the air (since absolute humidity, $\omega = \text{constant}$, p_s is constant during cooling).

Humid air case: reaches dew point



<https://www.youtube.com/watch?v=725T0DeeZxM>

Wet bulb/dry bulb thermometers a method of measuring humidity



If humidity is less than 100%, water will evaporate from the sock and cause the temperature of the bulb to drop and the thermometer to register a lower temperature than the dry bulb. This temperature relates to the relative humidity.

State diagram for phase change

T-v diagram for steam/water

