DOCUMENT
GSM-AUS-CPL.024

DOCUMENT TITLE

METEOROLOGY FOR AUSTRALIA

CHAPTER 8 – DEW POINT LAPSE RATE

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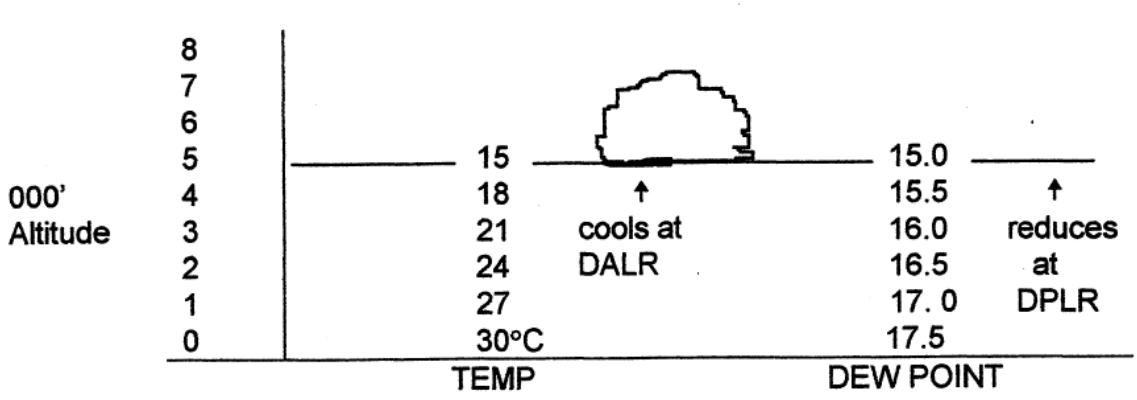
DEW POINT LAPSE RATE

As we have seen, dew point is defined as the temperature to which moist air must be cooled to produce saturation. Any further cooling below the dew point will produce condensation.

When a parcel of air rises, it expands. This expansion will cause the pressure in the parcel of air to reduce. The partial pressure of the water vapour will also reduce and this reduces the dew point. The Dew Point Lapse Rate (DPLR) is 0.5°C/1,000 ft. for unsaturated air.

For example, if the surface temperature is 30°C and the Dew Point is 17.5°C, what height is the condensation level?



Answer: 5,000 ft.

$$\frac{\text{Temp – dew point}}{2.5} \times 1{,}000\text{s} = \text{cloud base (000's of feet)}$$