

# Mini-Lecture

Key thermodynamic variables for the atmosphere are:

- $T$  = temperature in ( $^{\circ}\text{C}$ ) or (K), where  $\text{K} = ^{\circ}\text{C} + 273.15$
- $P$  = pressure in (kPa), where  $1 \text{ kPa} = 1000 \text{ N/m}^2$
- $\rho$  = density in ( $\text{kg/m}^3$ )

Typical values:  $(T, P, \rho) = 15^{\circ}\text{C}, 100 \text{ kPa}, 1.2 \text{ kg/m}^3$

Humidity (moisture content):

- $r$  = mixing ratio =  $(g_{\text{water vapour}} / g_{\text{dry air}})$

Typical value:  $r = 0.01 \quad g_{\text{water vapour}} / g_{\text{dry air}}$