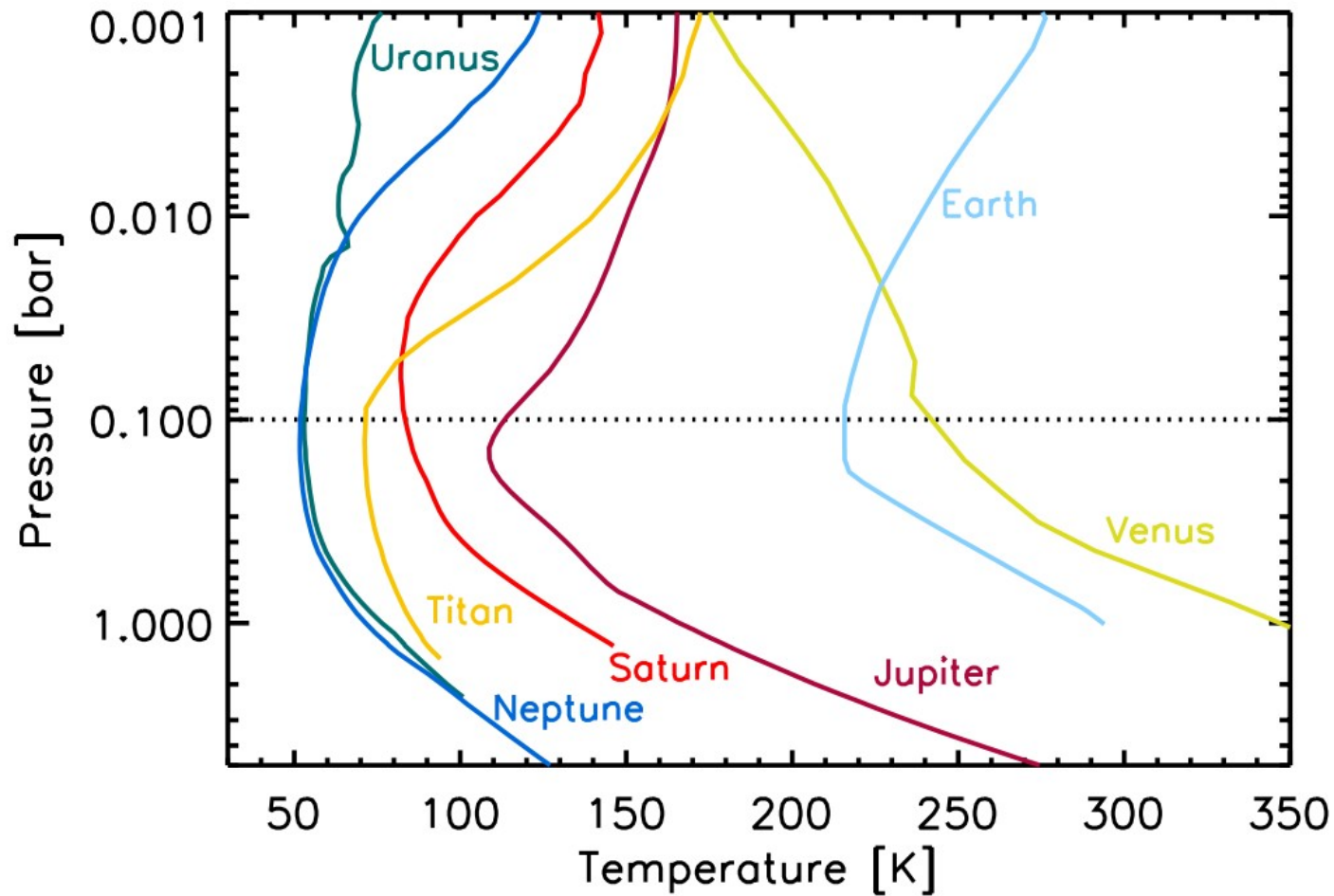


W13L1

ASTR 691:  
Convection

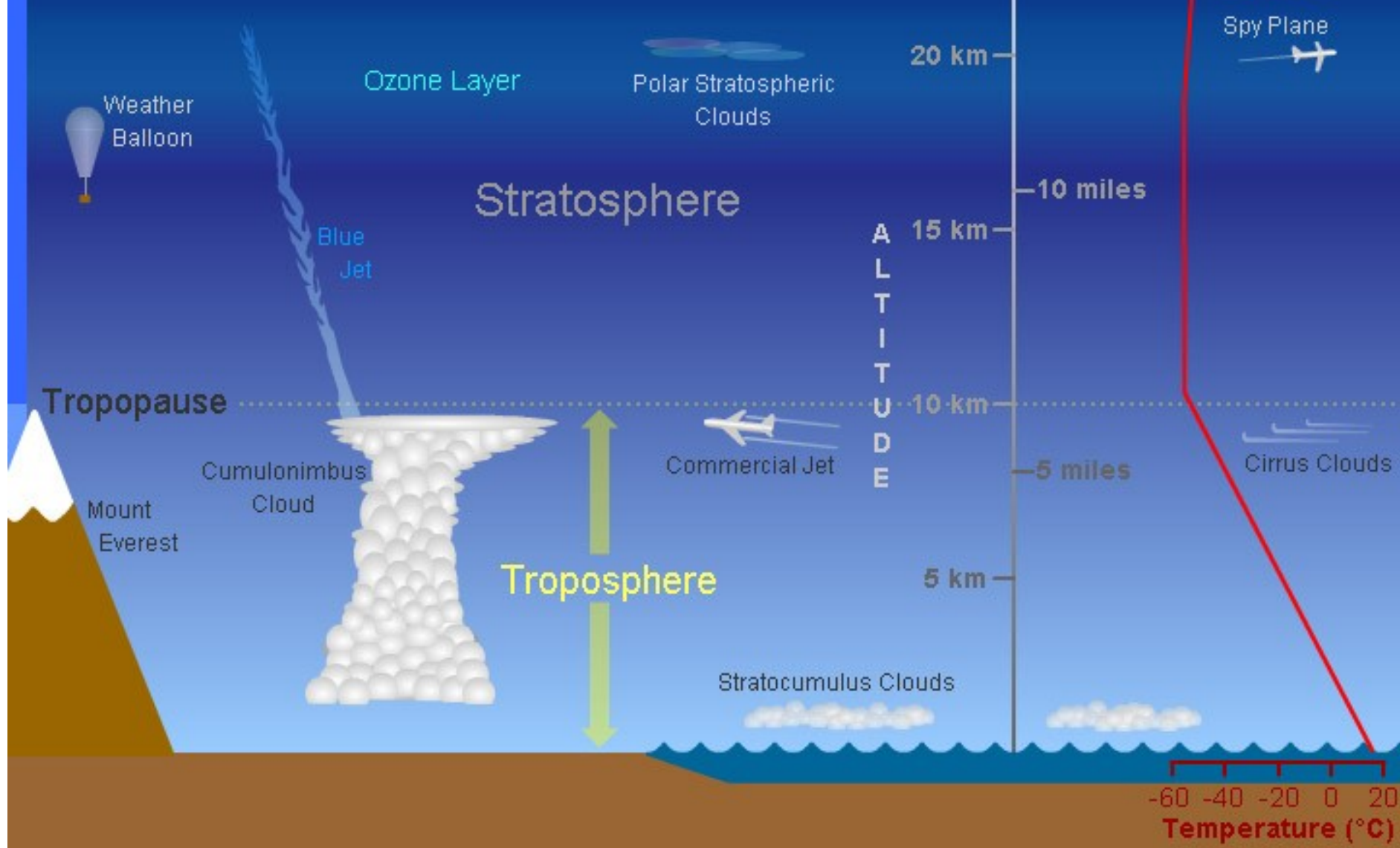


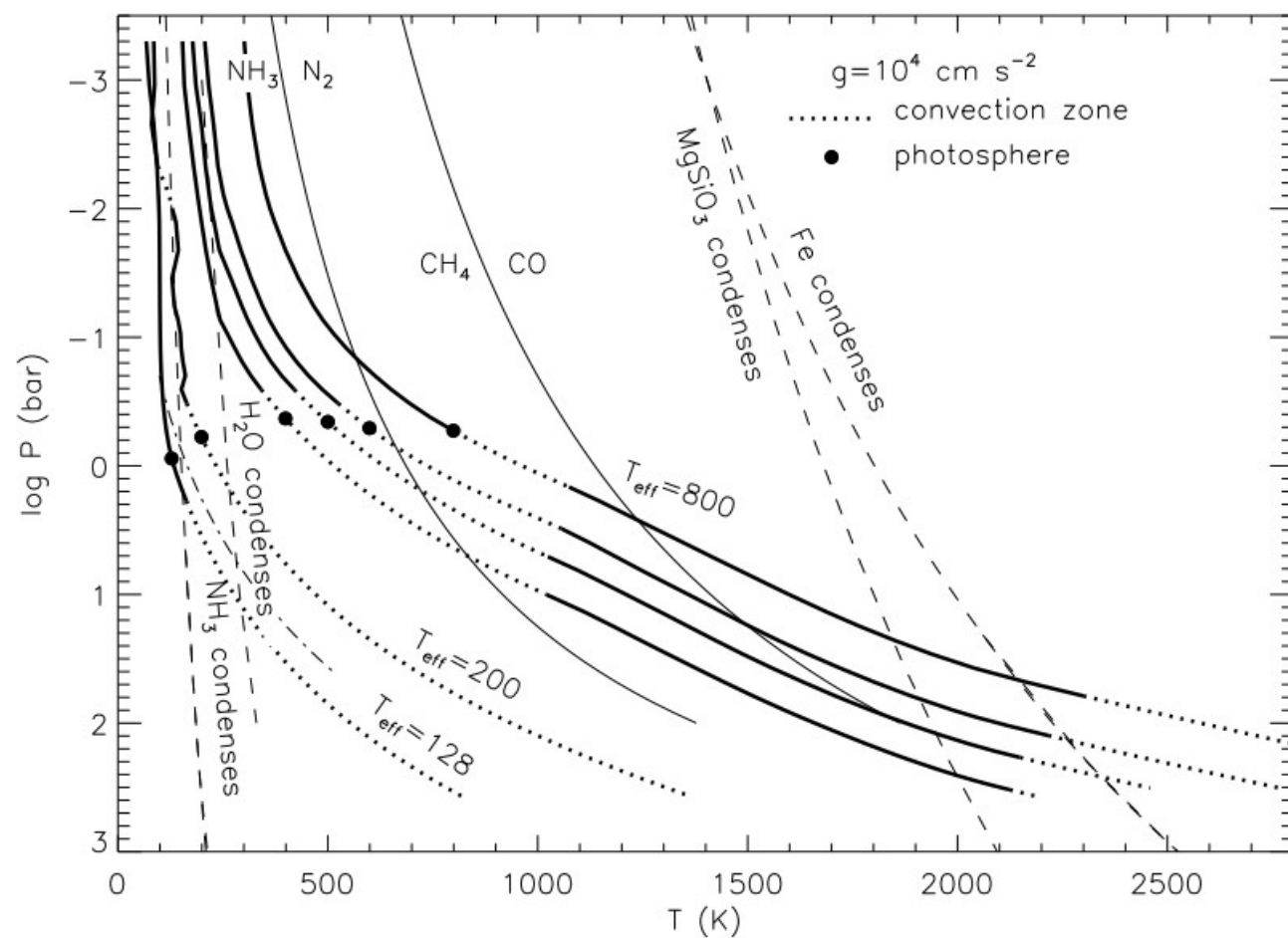
No convection  
higher up

Convection  
dominates  
lower down

Robinson &  
Catling (2014)

**Figure 1 | Temperature-pressure profiles for worlds in the Solar System with thick atmospheres<sup>1-4,28</sup>.** *Temperature minima commonly occur around 0.1 bar. Venus has a very weak 0.1 bar tropopause in the global mean (see text). More information regarding data sources is given in the Supplementary Materials.*





Young, hot gas giants may have multiple convective & radiative zones.

FIG. 3.—Atmospheric pressure-temperature profiles for EGPs with surface gravity fixed at  $10^4 \text{ cm s}^{-2}$  and  $T_{\text{eff}} = 800, 600, 500, 400, 200,$  and  $128 \text{ K}$ .