

FIGURE 1.1 Typical variation of temperature with altitude at mid-latitudes as a basis for the divisions of the atmosphere into various regions. Also shown is the variation of total pressure (in Torr) with altitude (top scale, base 10 logarithms) where 1 standard atmosphere = 760 Torr.

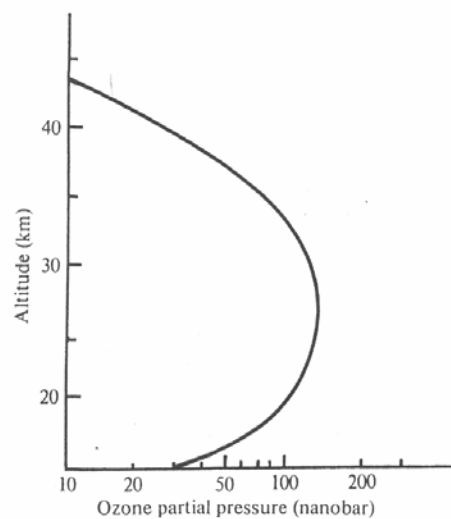


FIG. 1.2 Variation of atmospheric ozone concentration with altitude, as measured with instruments carried aloft by a balloon. (Hudson, R., ed.-in-chief, *The stratosphere 1981*. World Meteorological Organization, Geneva, 1981).

- Is there a correlation between $[O_3]$ and $[ClO]$ in the Antarctic stratosphere?
- O_3 : absorption of 254-nm light from a Hg lamp
ClO: (1) Titration: $ClO + NO \rightarrow Cl + NO_2$
(2) Detect Cl by resonance fluorescence
(308-nm light from a laser)
- Fly an old spy plane (an ER-2)
- Raw Data $\Rightarrow [O_3] \pm 5\%$ and $[ClO] \pm 25\%$ as a function of latitude
- Anticorrelation between $[O_3]$ and $[ClO]$
 \Rightarrow The Molina and Rowland mechanism is correct
- 1989-: Montreal Protocols: Banned CFC production