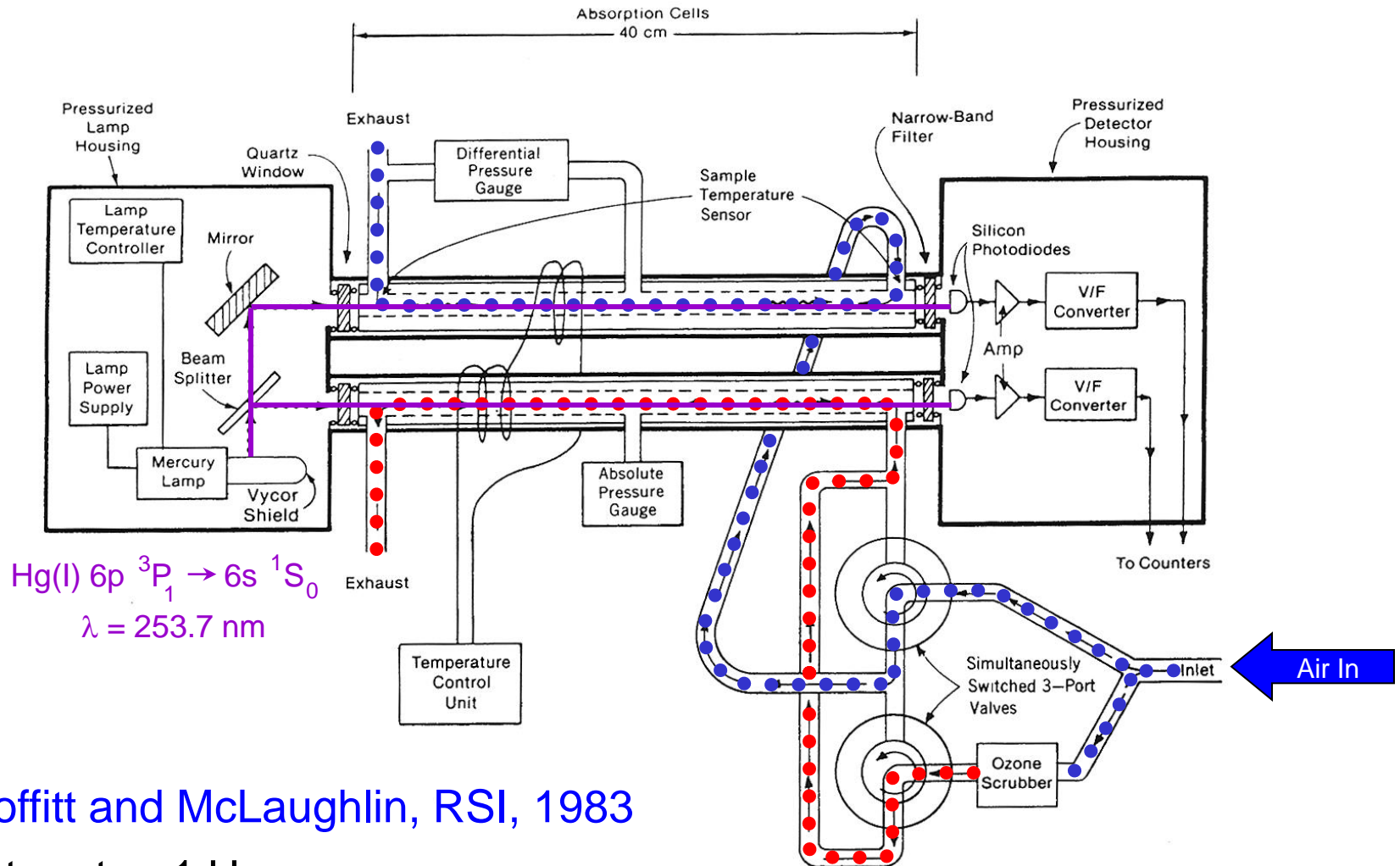


NOAA Ozone Photometer

Ru-Shan Gao and Laurel Watts

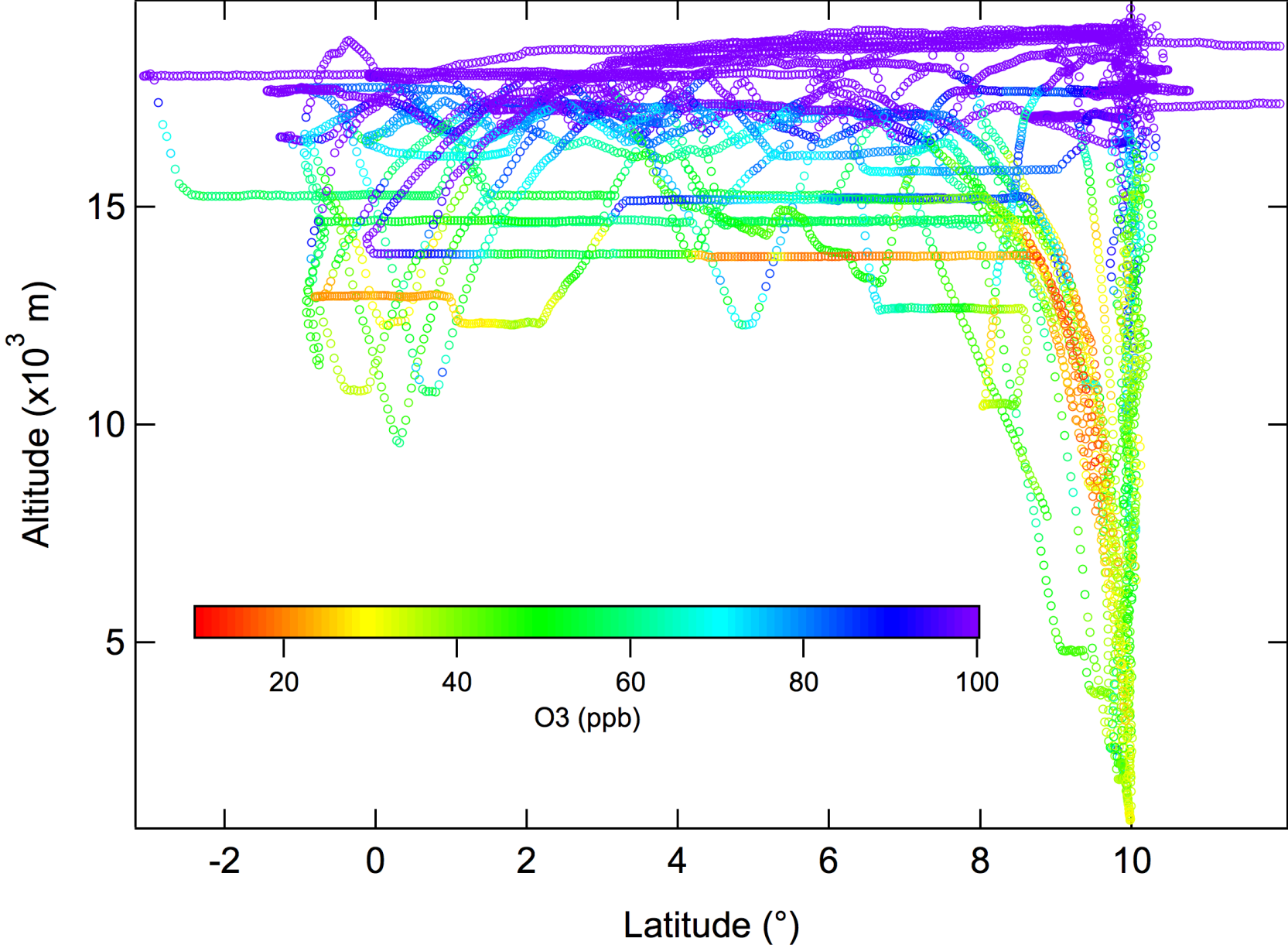
NOAA Earth System Research Laboratory, Chemical Sciences Division
and
Cooperative Institute for Research in Environmental Sciences
Boulder, Colorado

Dual-Beam UV Absorption Ozone Photometer

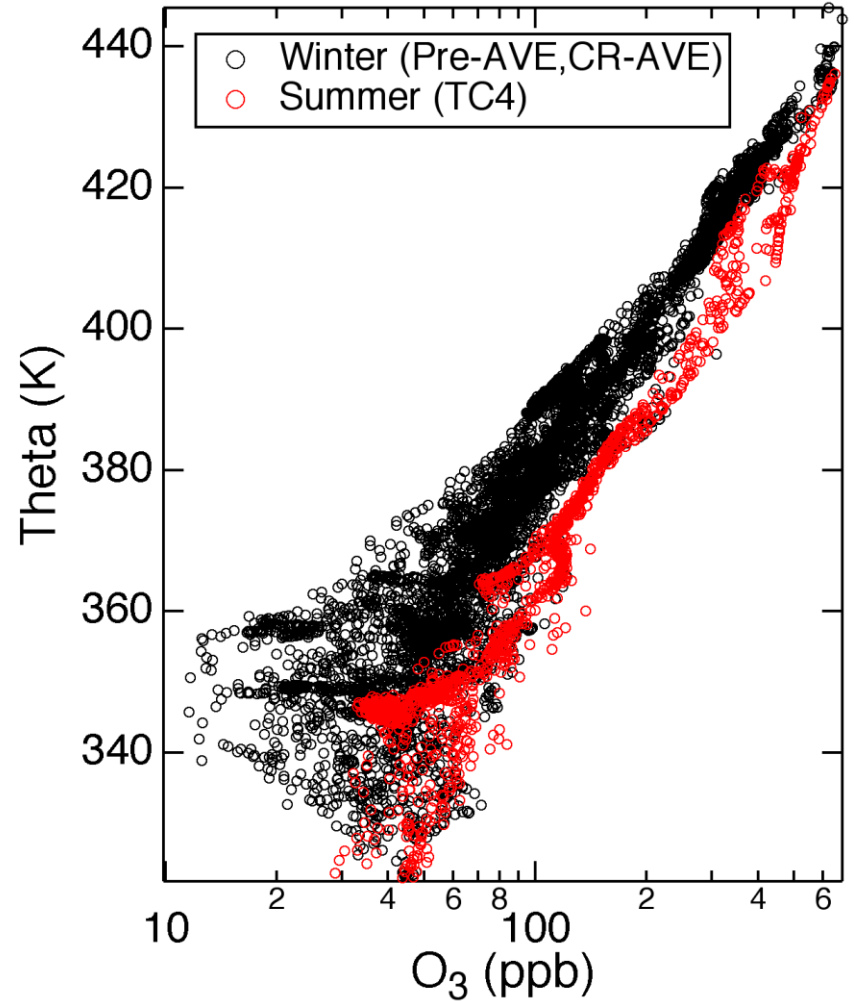
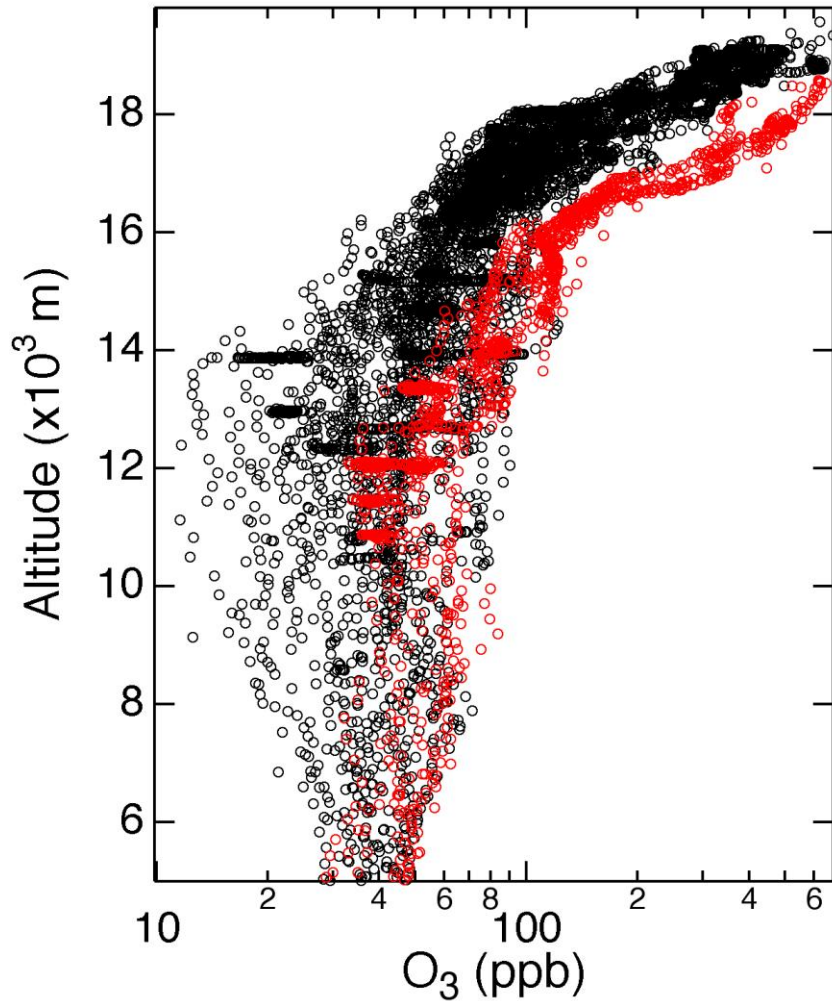


- Proffitt and McLaughlin, RSI, 1983
- Data rate: 1 Hz
- Accuracy: 3% + precision
- Precision: $1.5 \times 10^{10} \text{ molecules cm}^{-3}$ (1.7 ppb at 10 km)

O₃ in Costa Rica

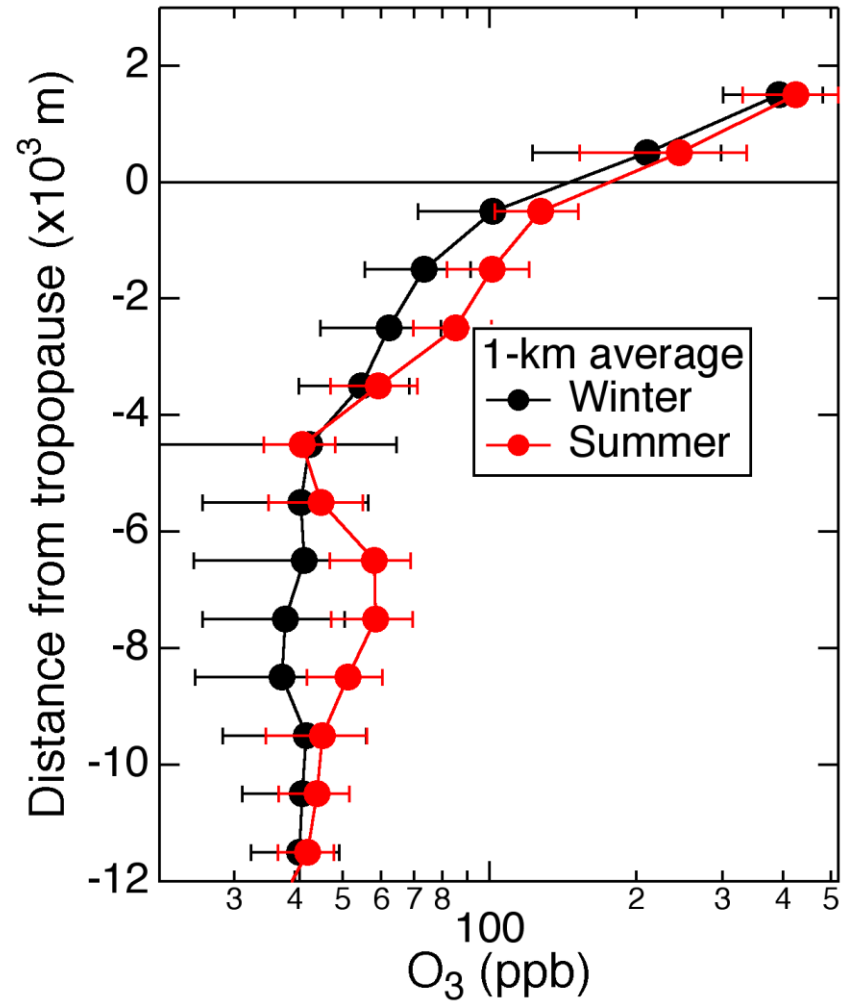
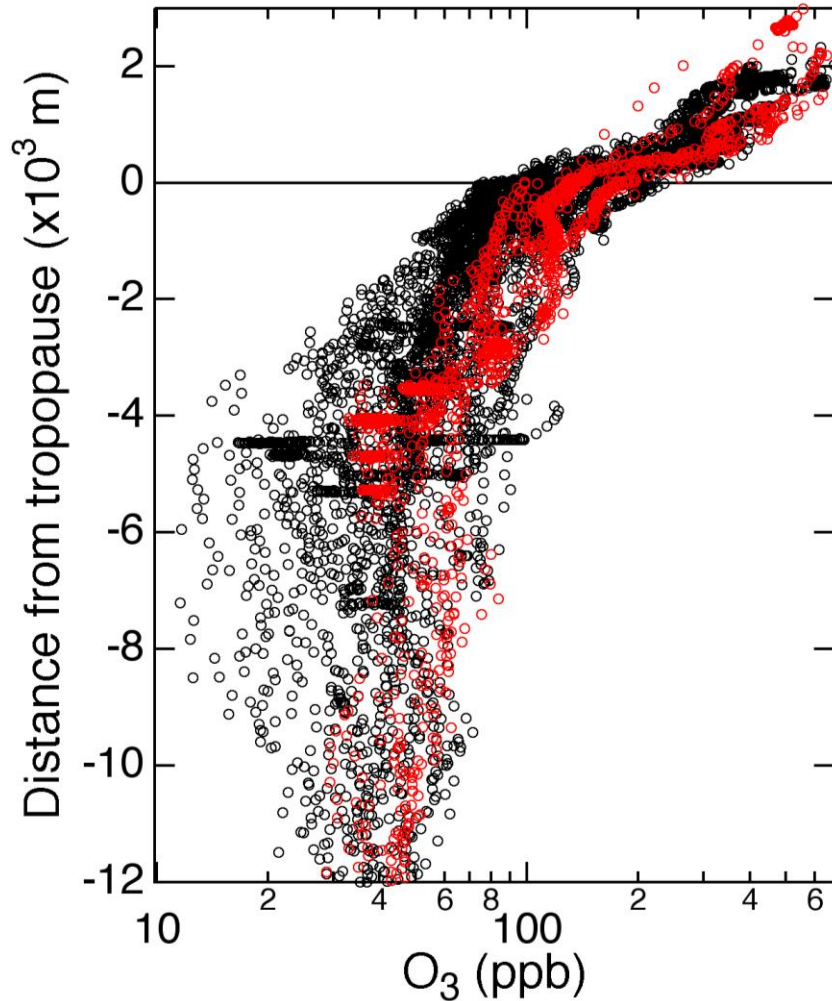


O₃ in Costa Rica



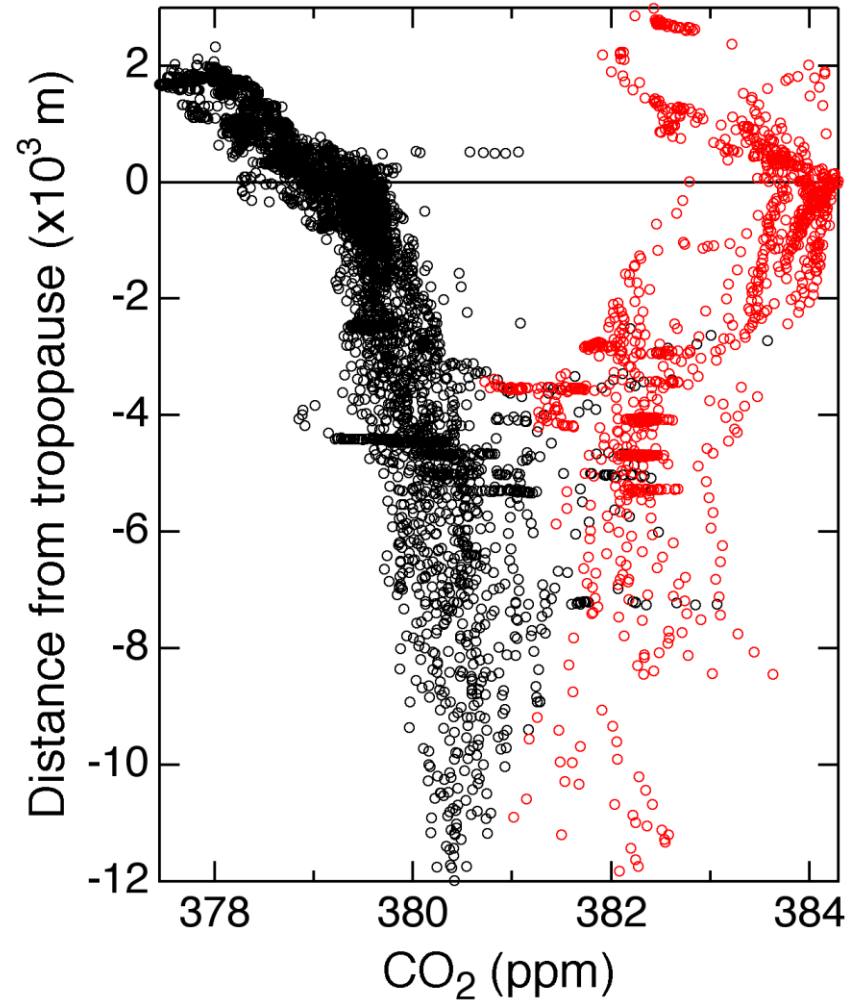
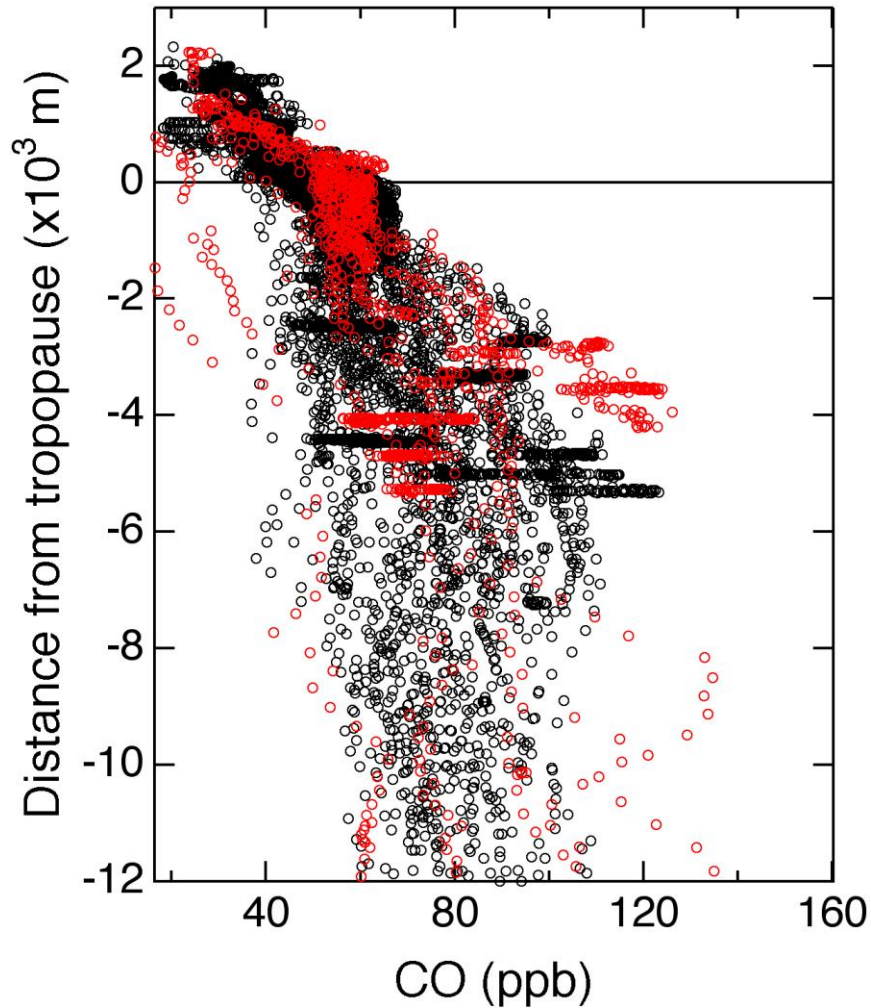
- Significant vertical seasonal shift with both vertical coordinates
- Shift is due to tropopause height difference

O₃ in Costa Rica



- Tropopause might a better reference - tropopause determination here is crude.
- In the UT/LS the O₃ mixing ratios are higher in summer than they are in winter
 - consistent with the DC-8 finding in the UT.
- No dramatic latitudinal dependence. O₃ MRs might be a little lower near the equator.

CO and CO₂ in Costa Rica



- No significant seasonal change in
- Fuzzier CO₂ in the summer - convection? Less well-defined TTL layer?