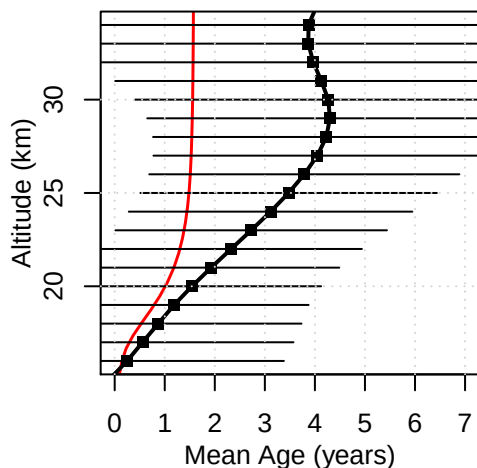
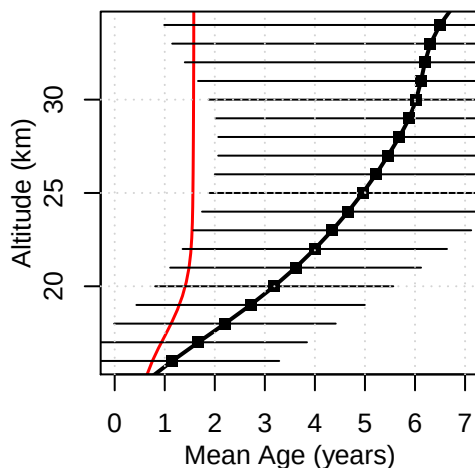


UKCA xhklk Mean Age of Air

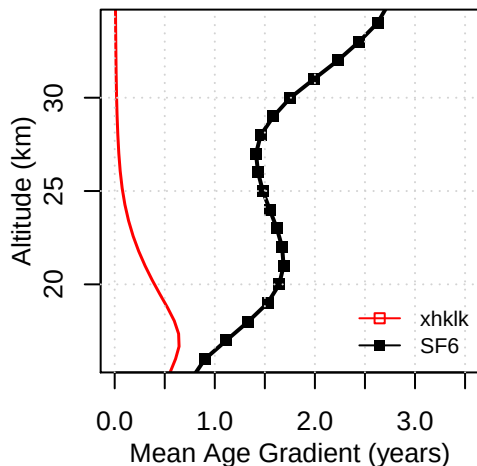
Tropical Mean Age Profile



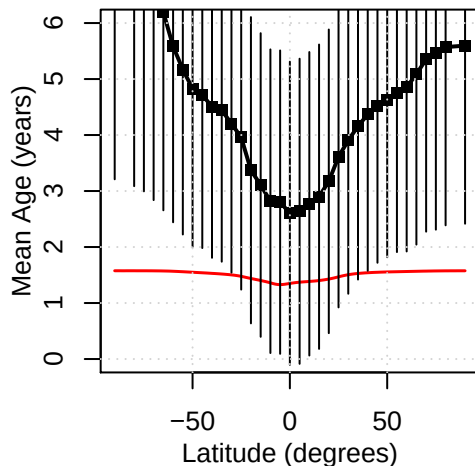
Midlatitude Mean Age Profile



Trop-Midlat Mean Age Gradient Prof



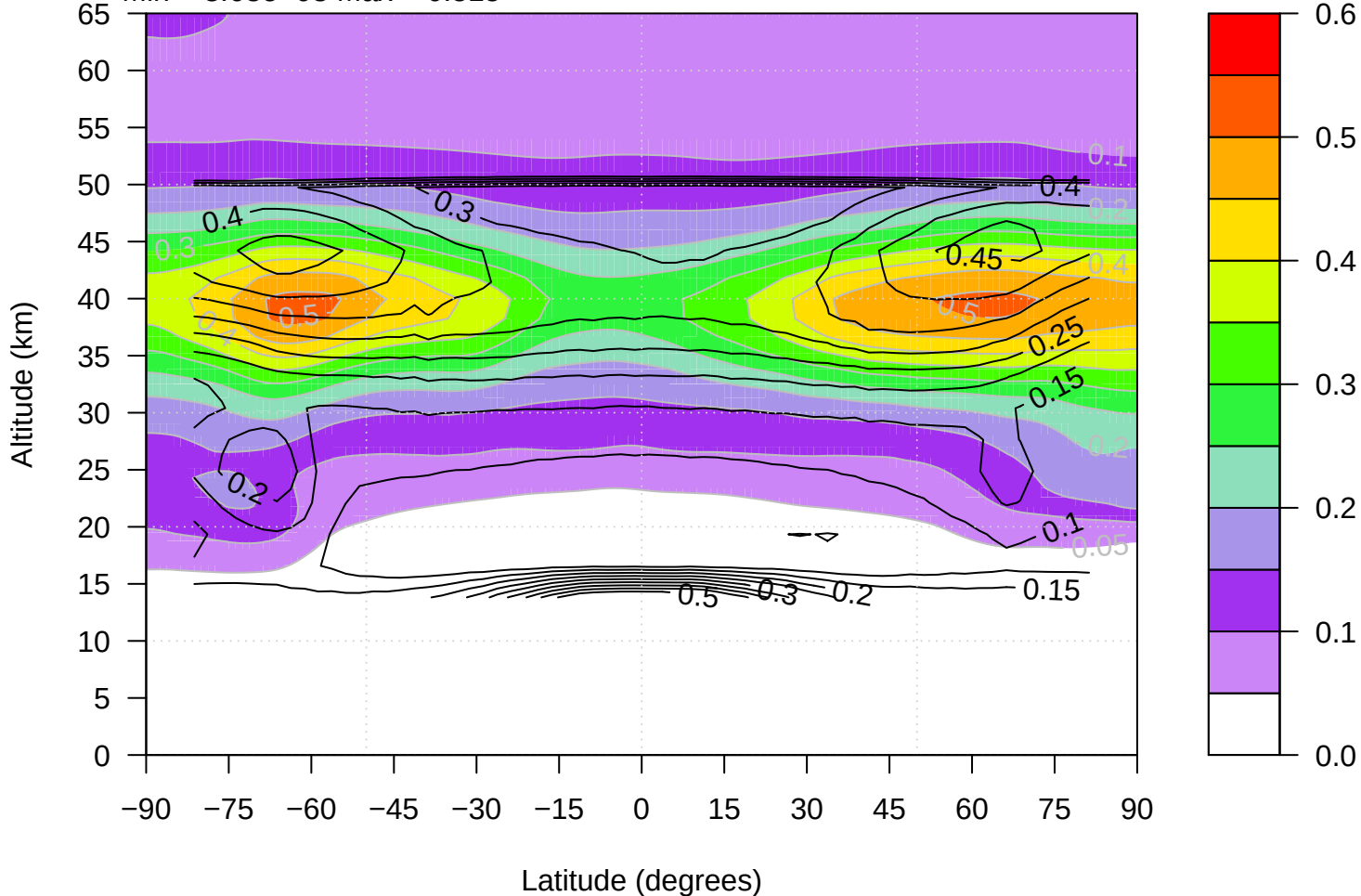
Mean Age, 23km (~50hPa)

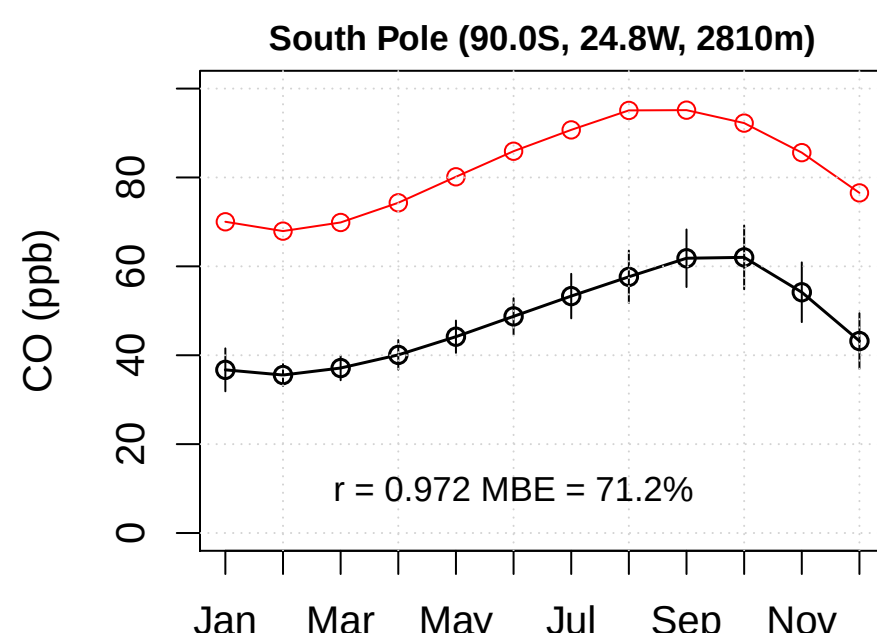
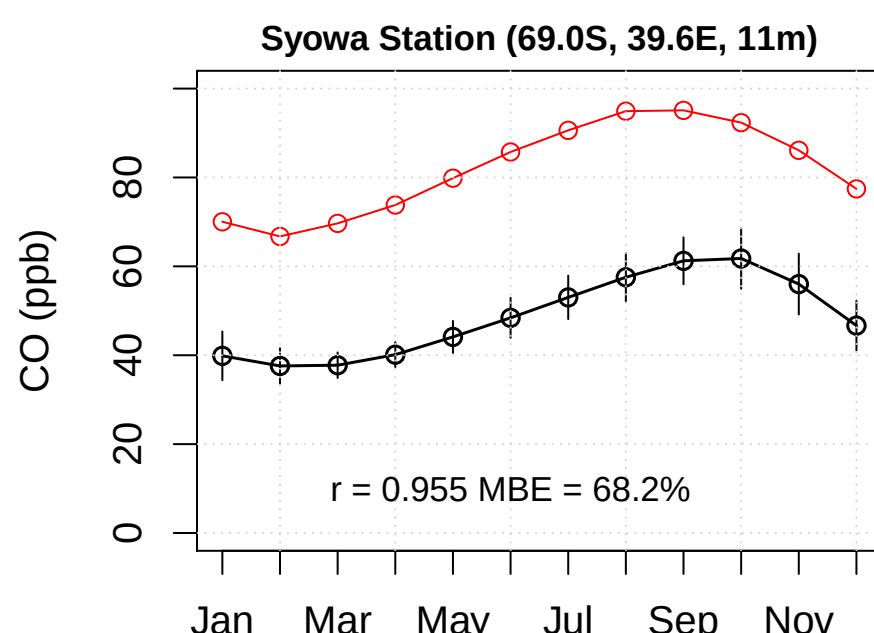
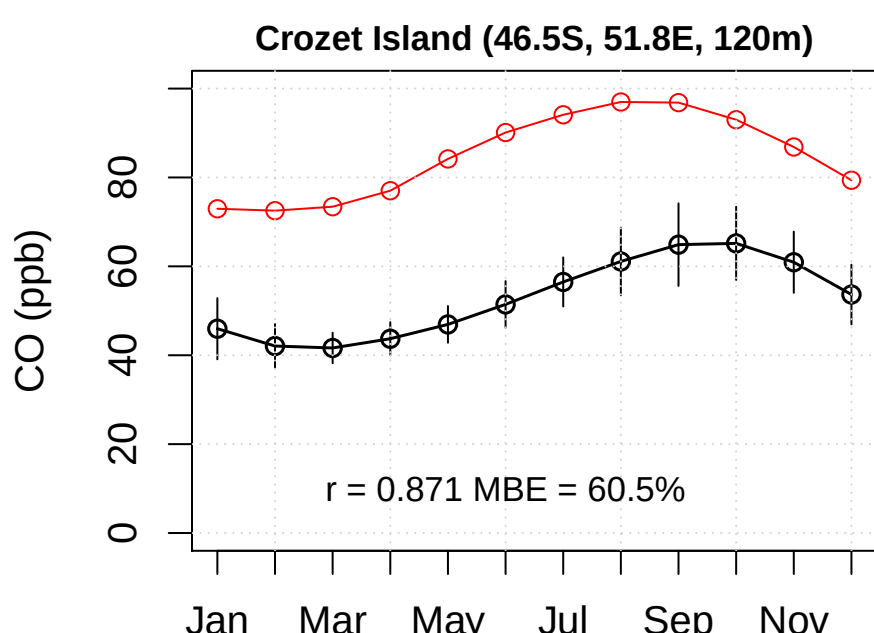
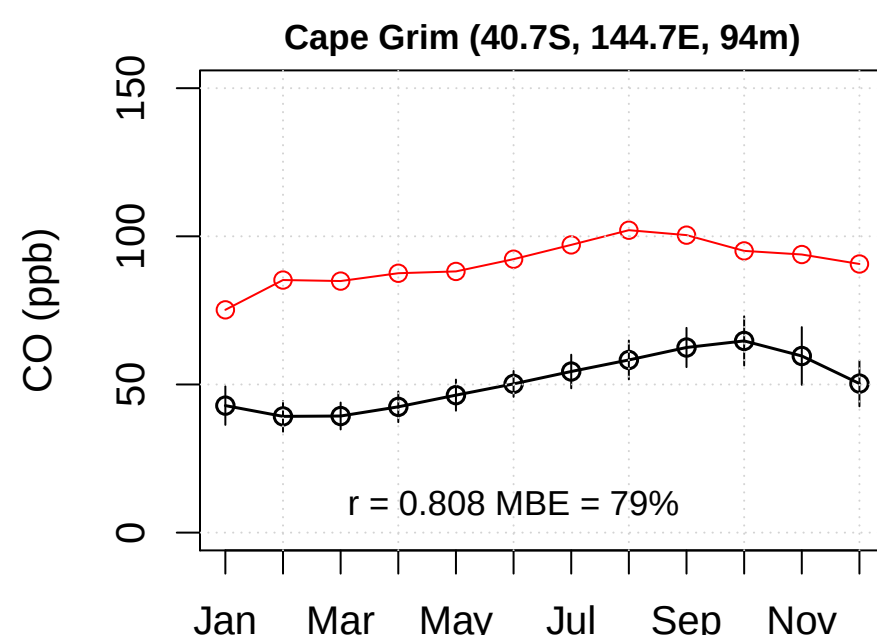
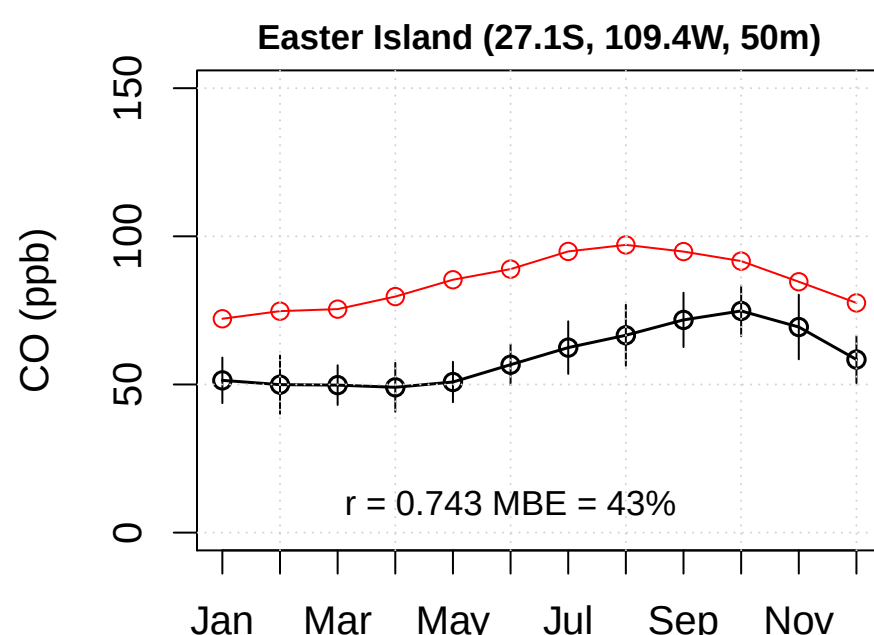
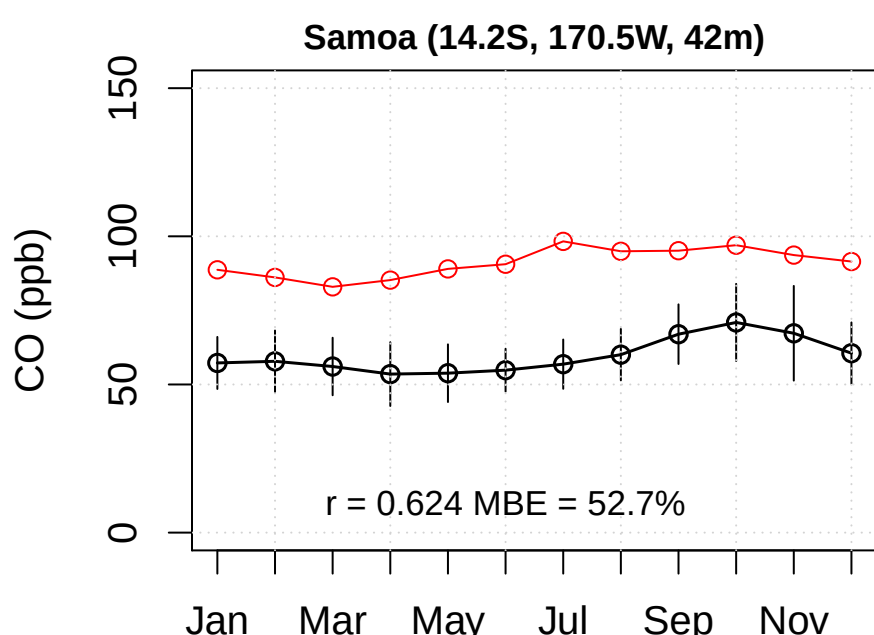
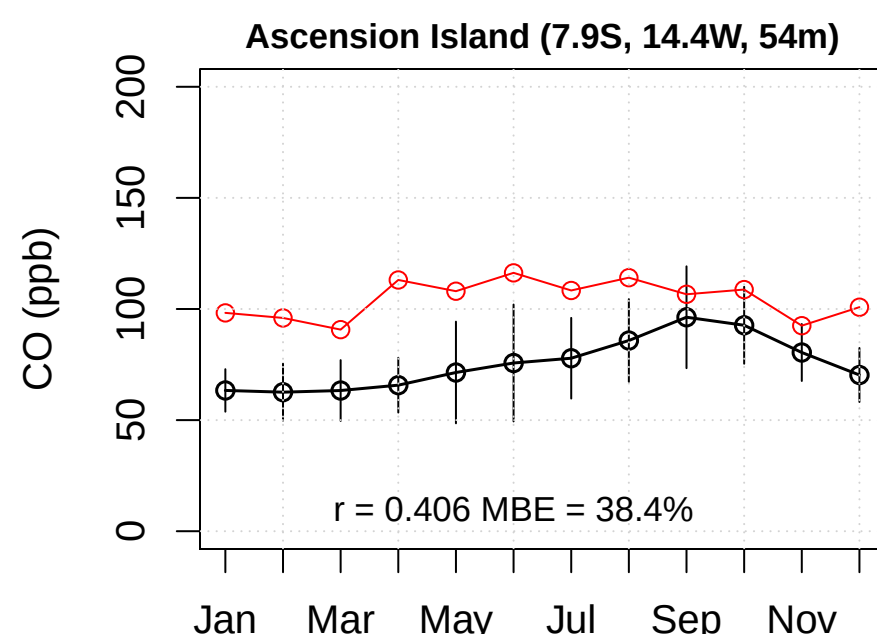
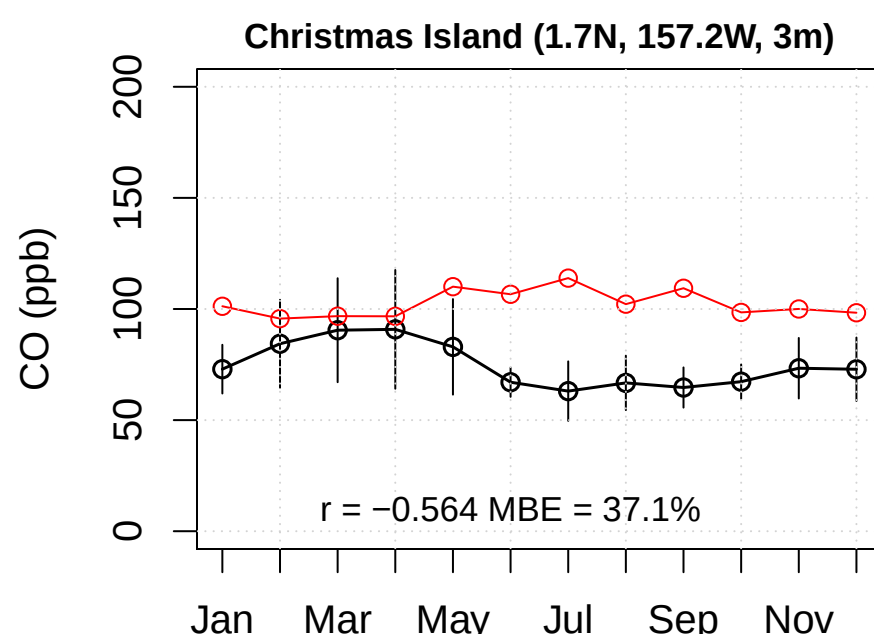
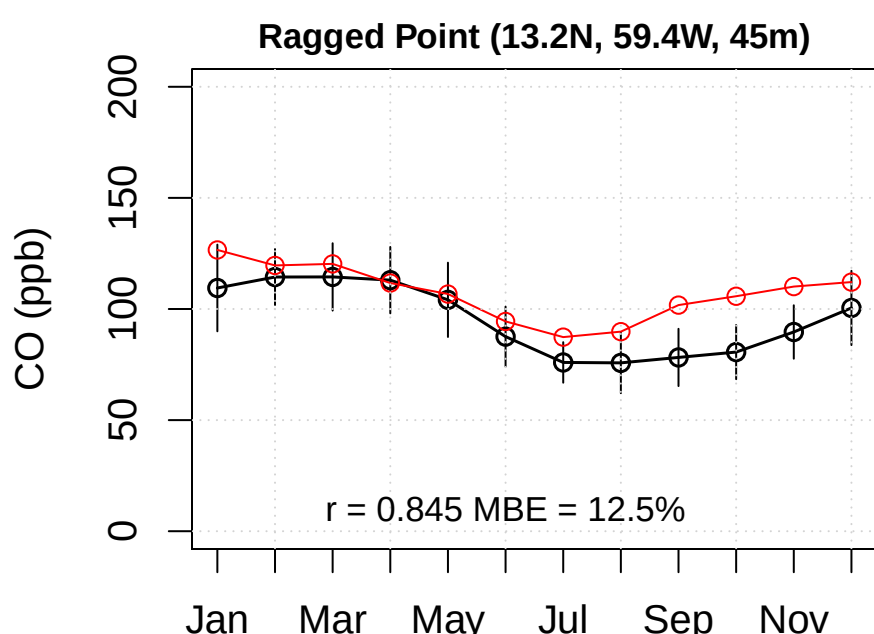
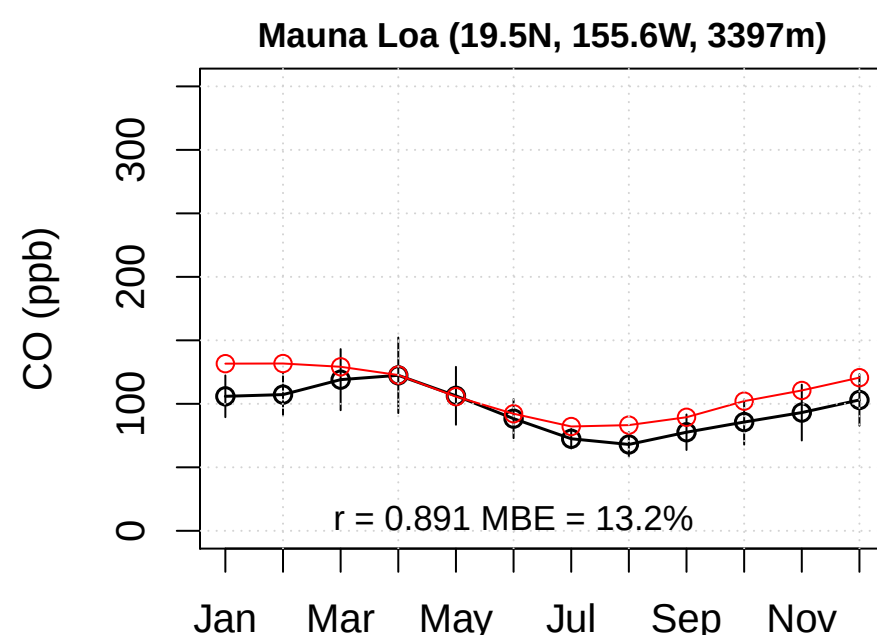
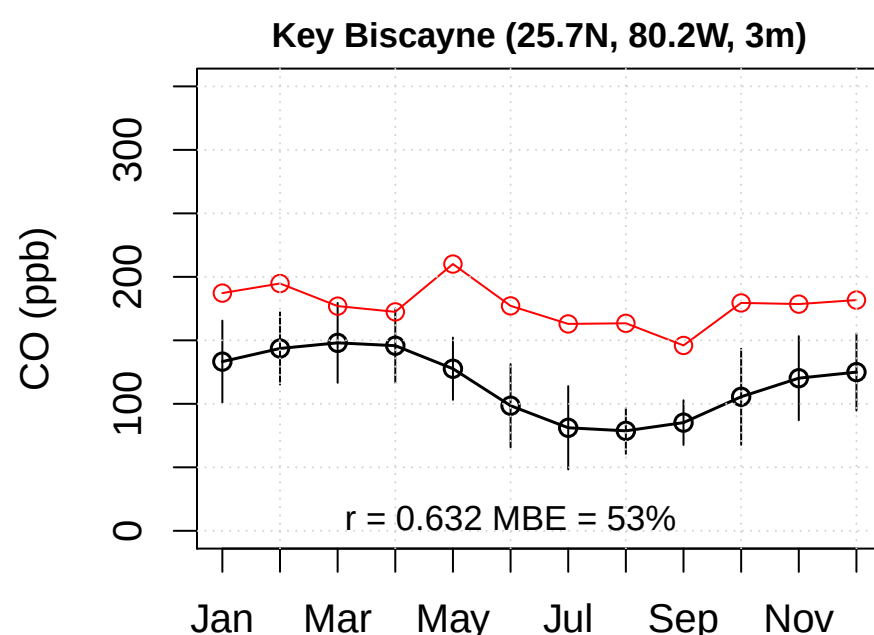
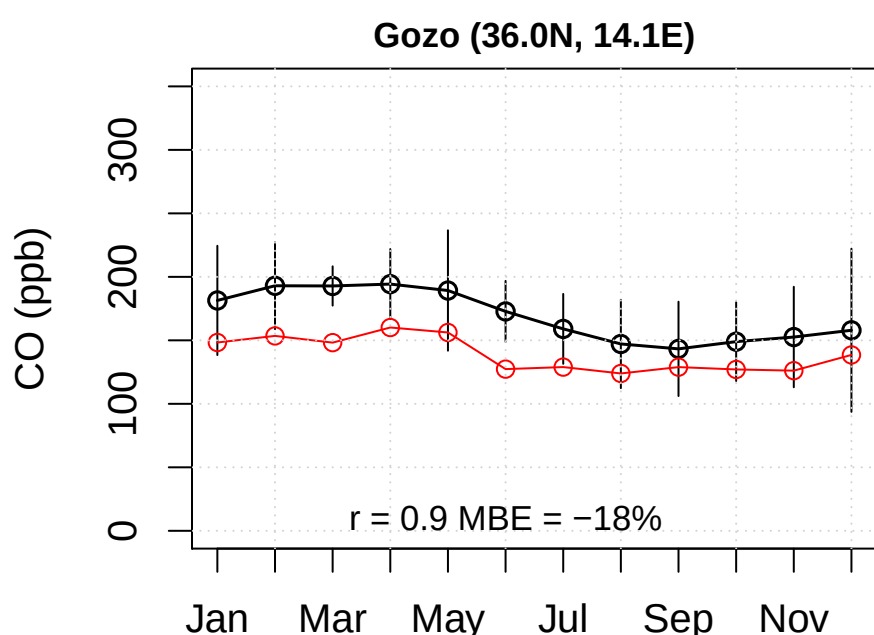
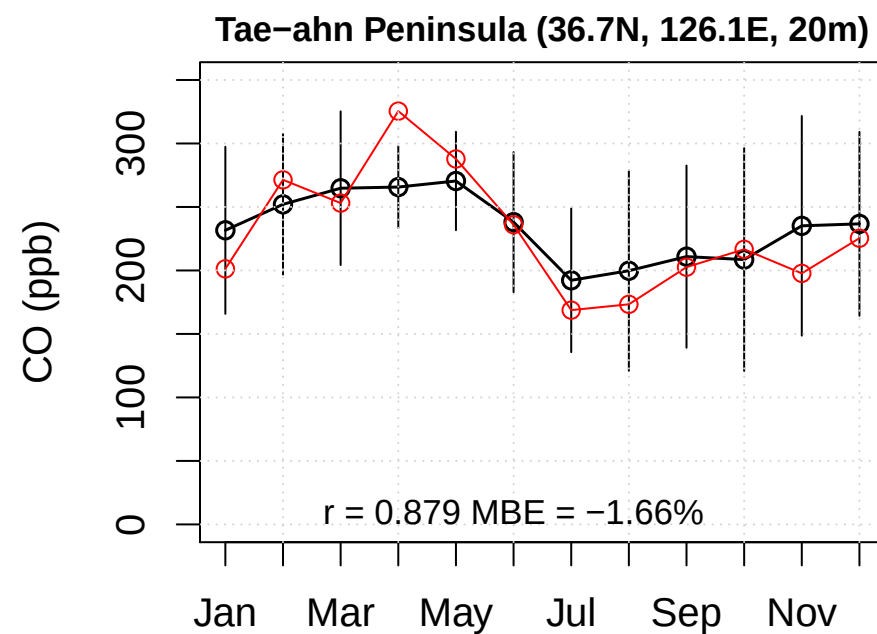
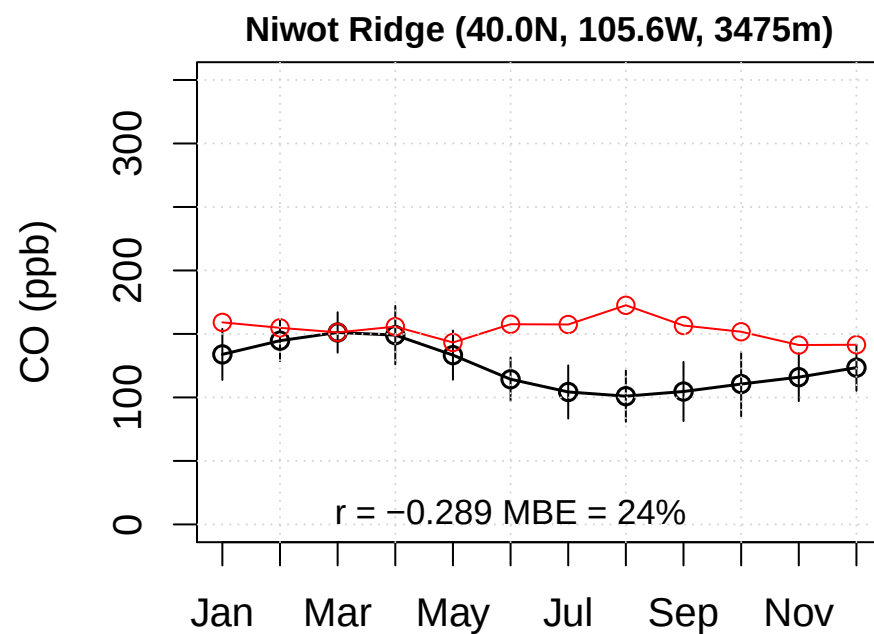
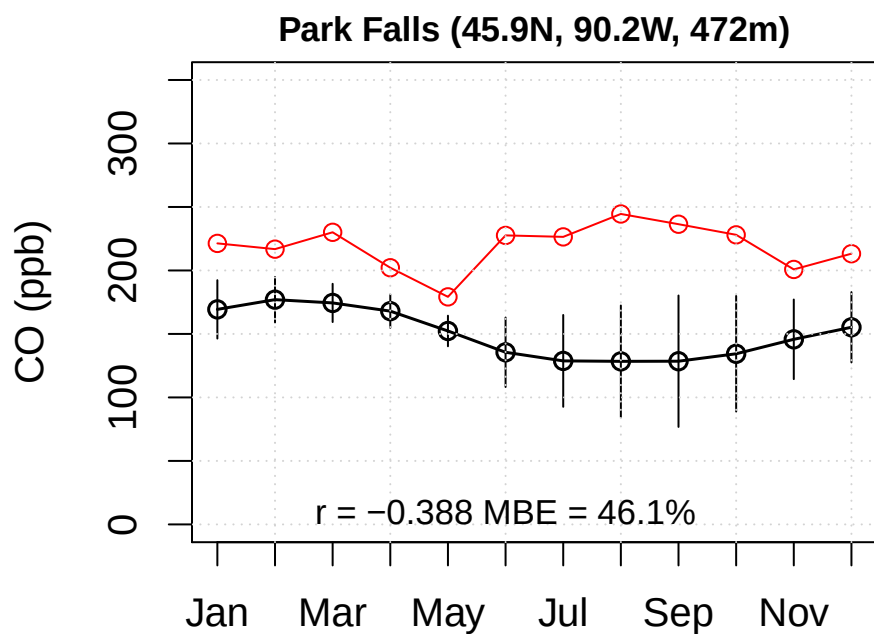
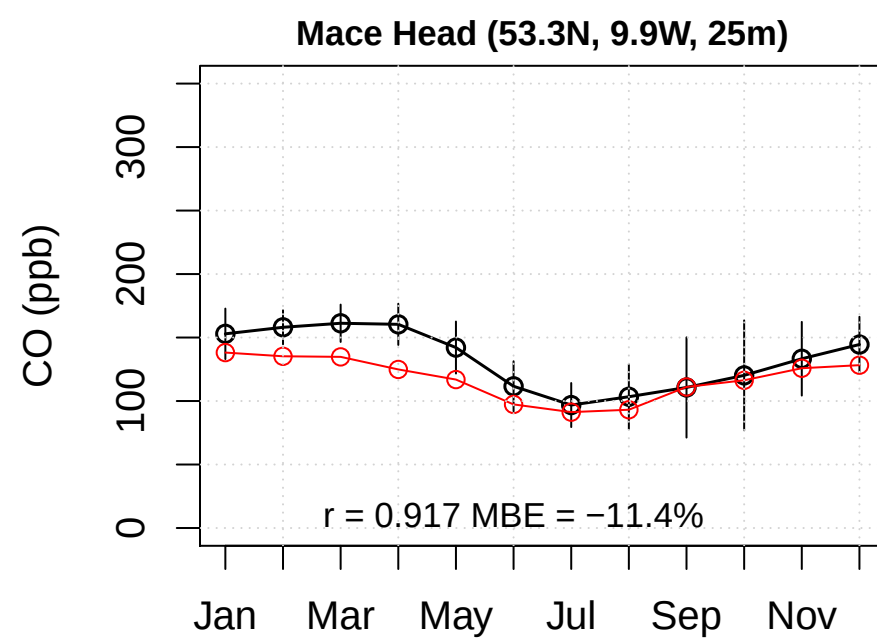
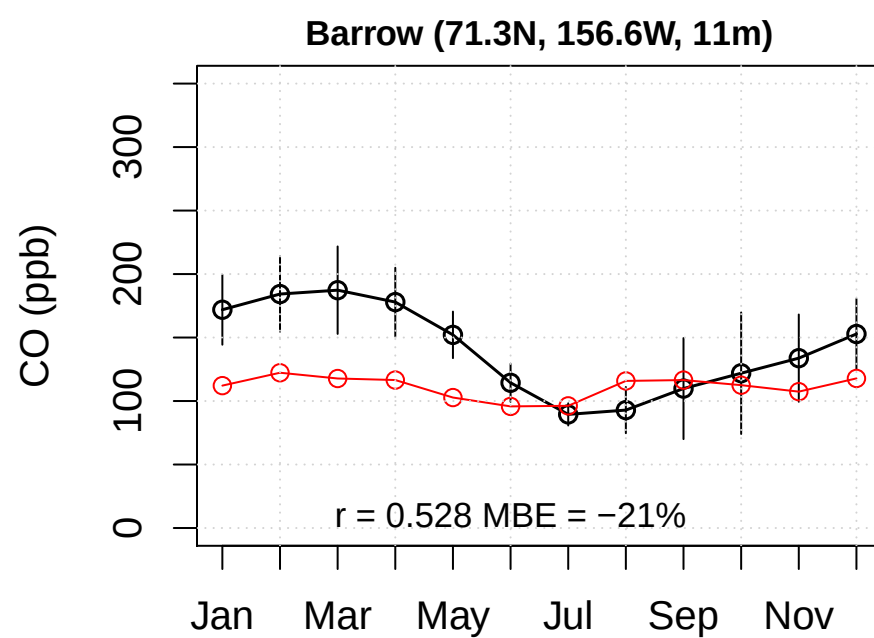
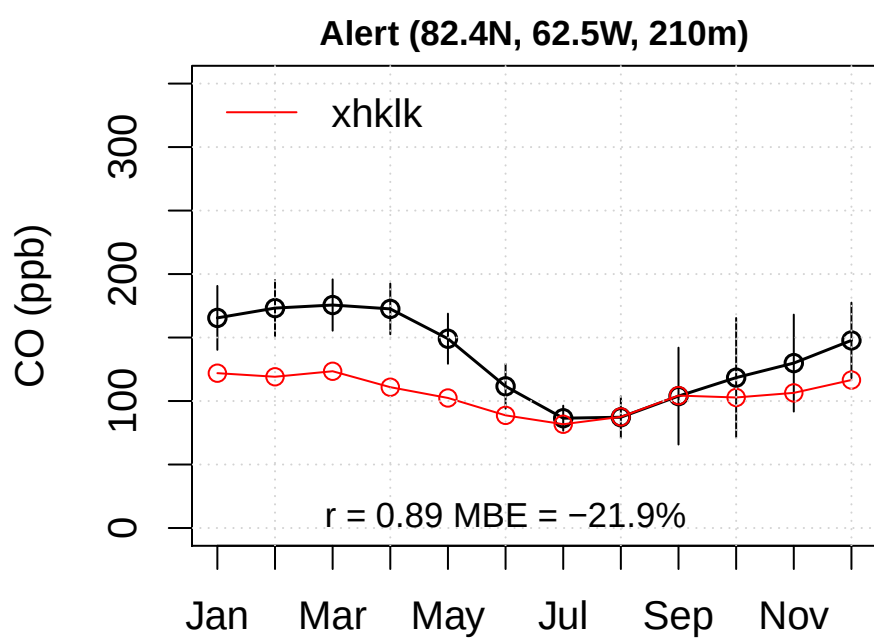


MLS – UKCA xhklk ClO comparison

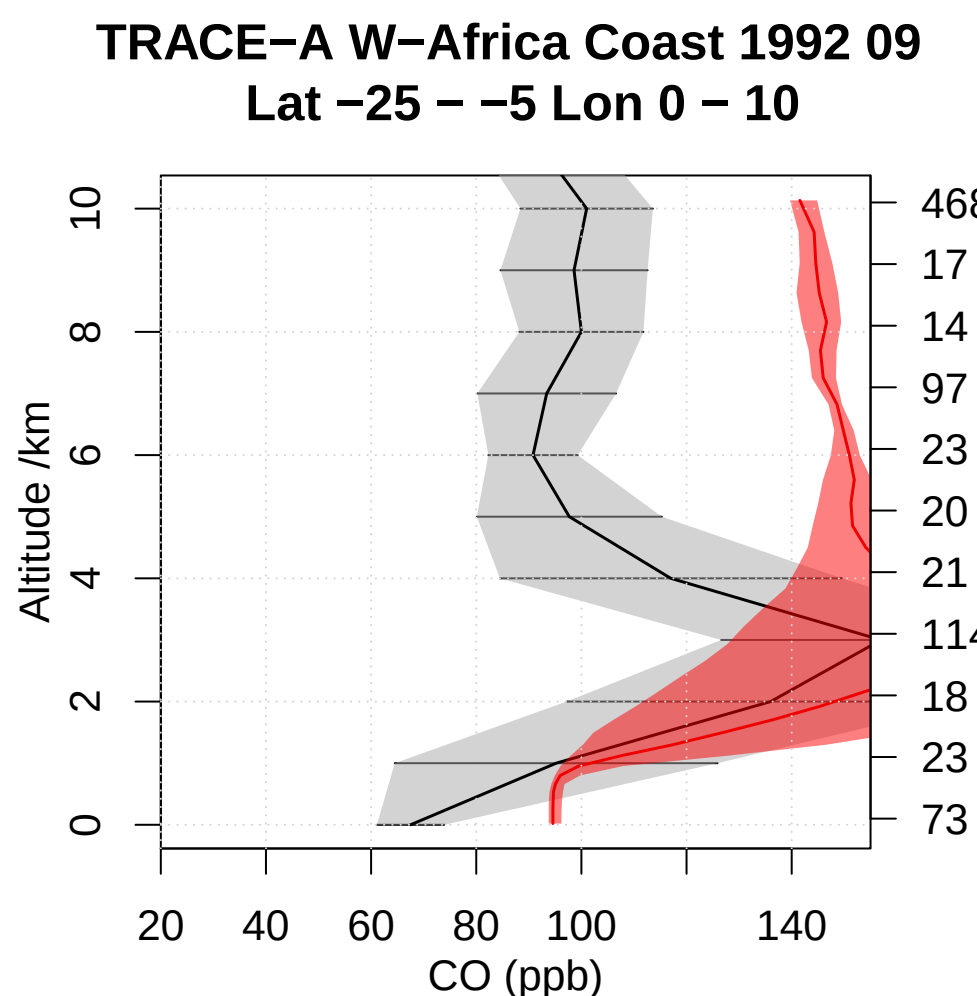
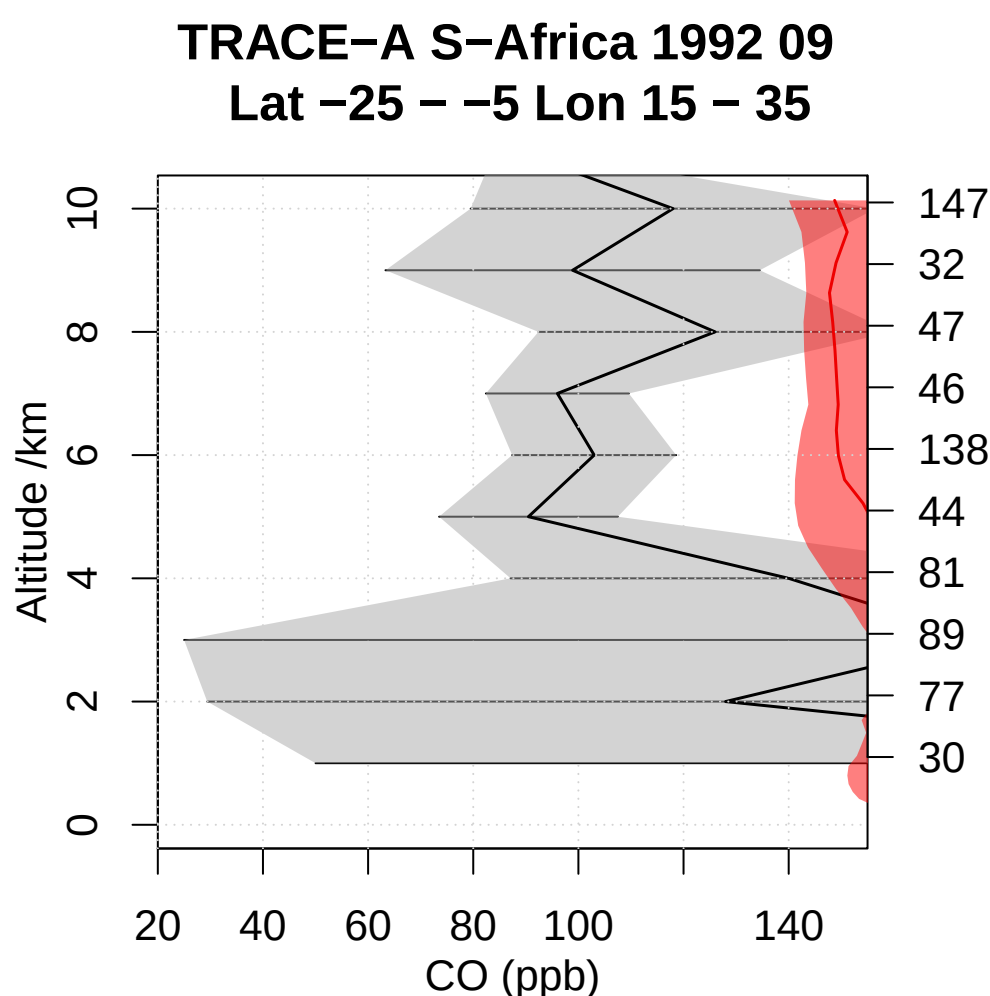
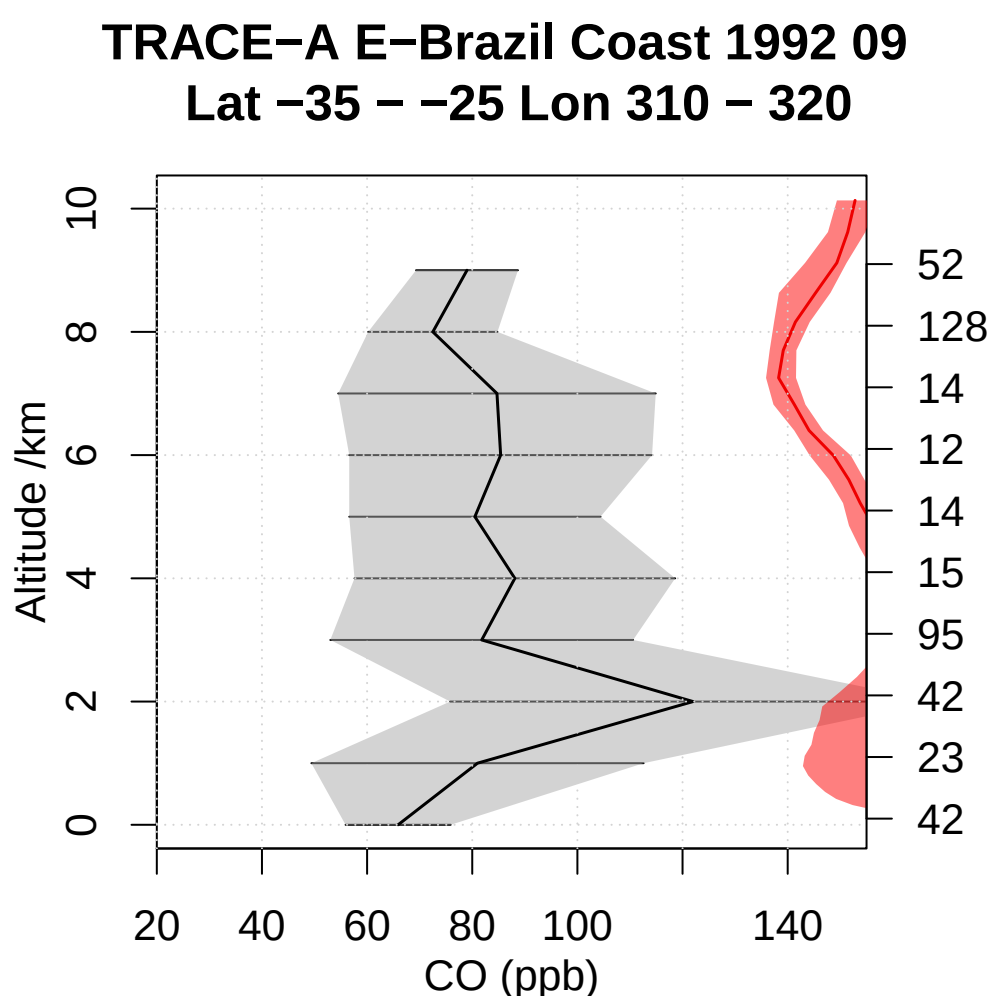
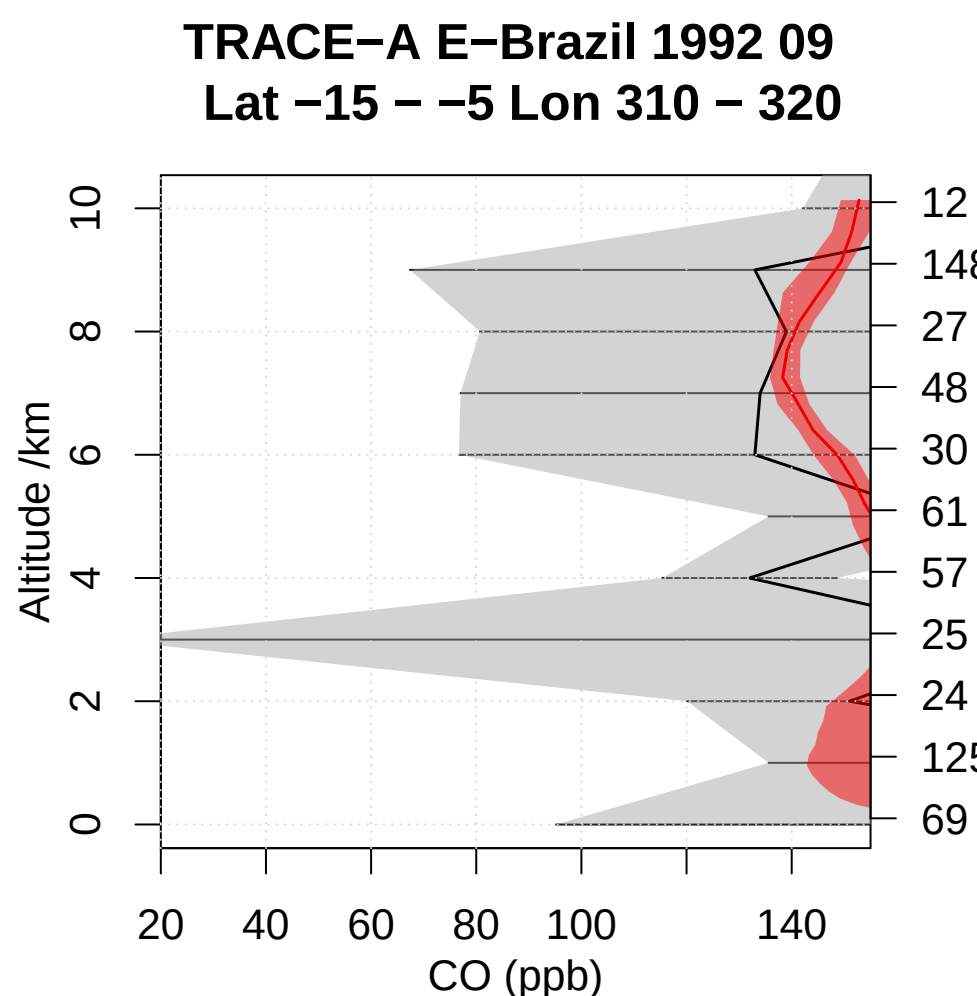
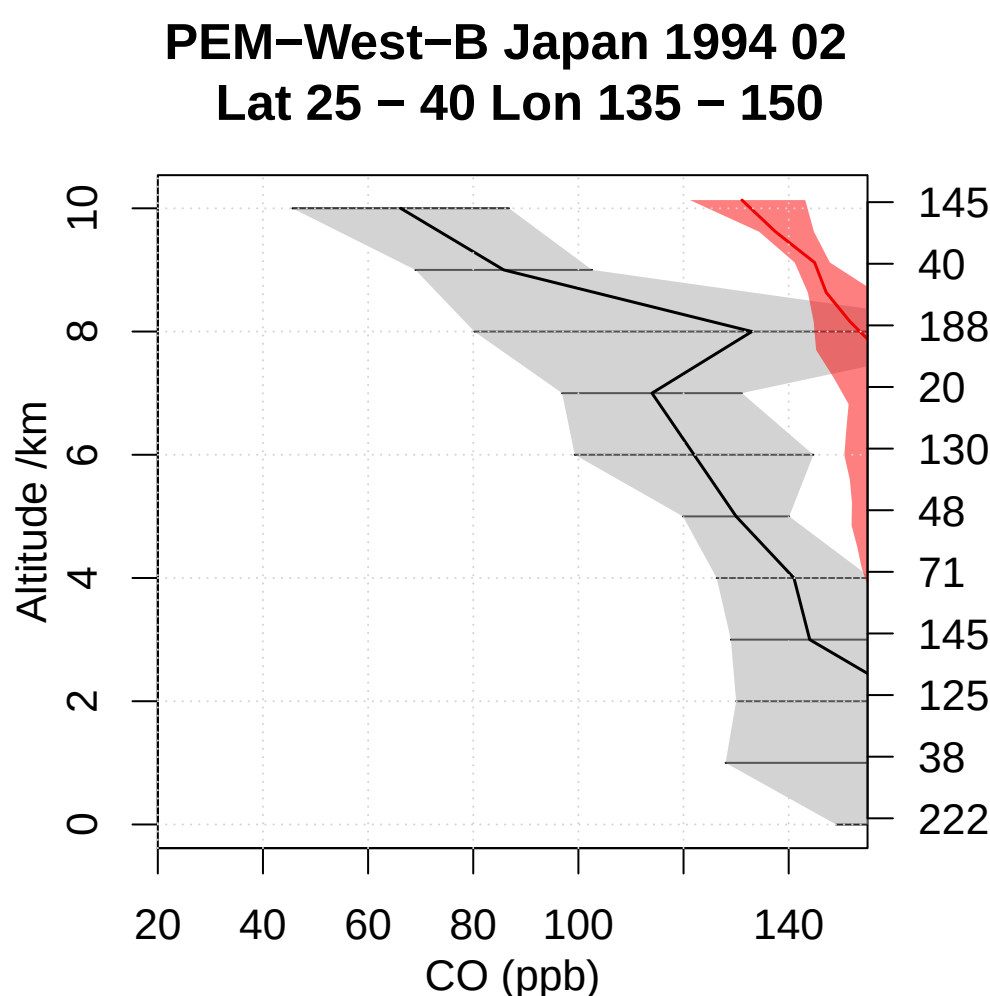
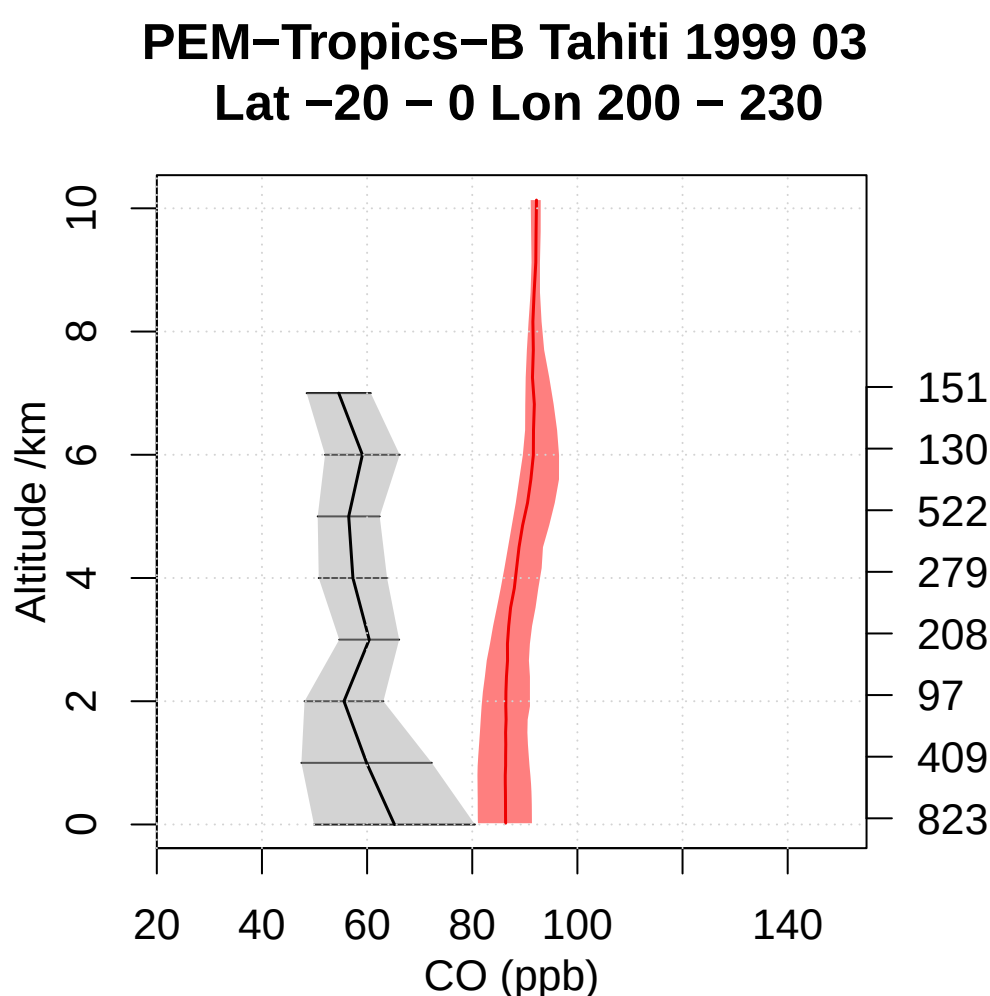
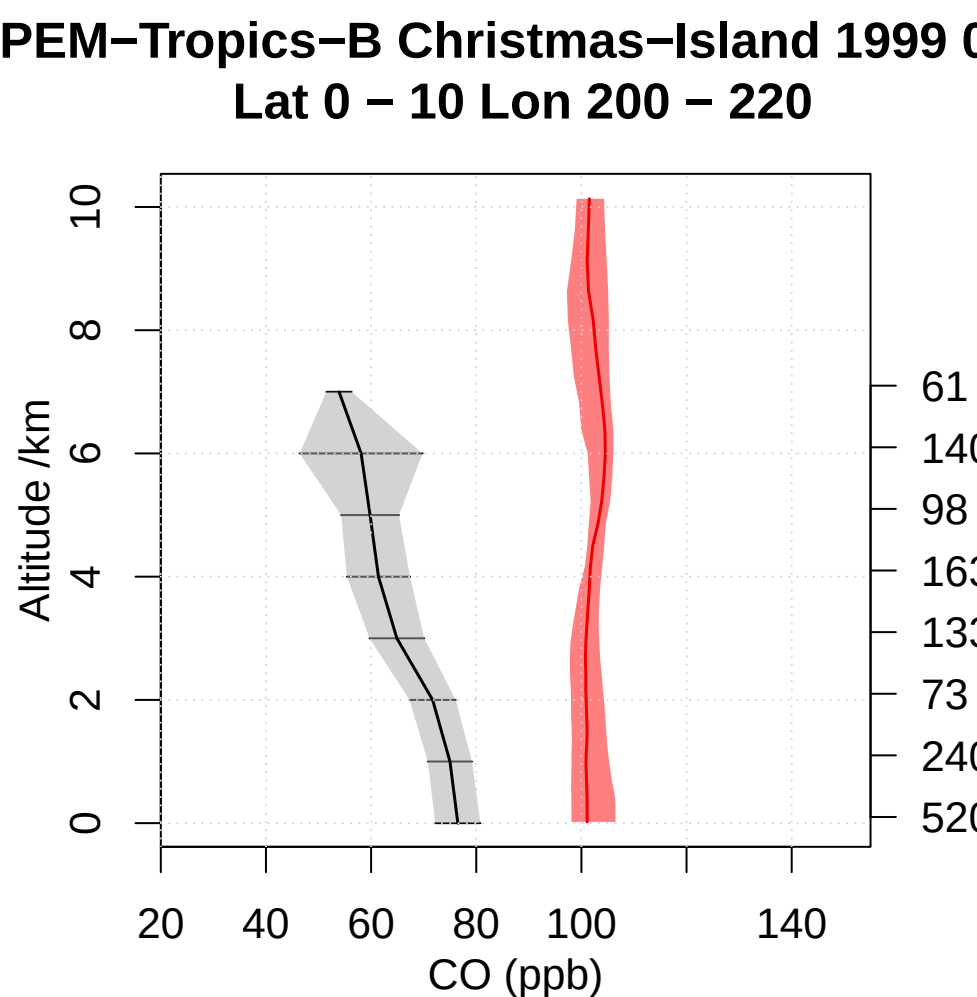
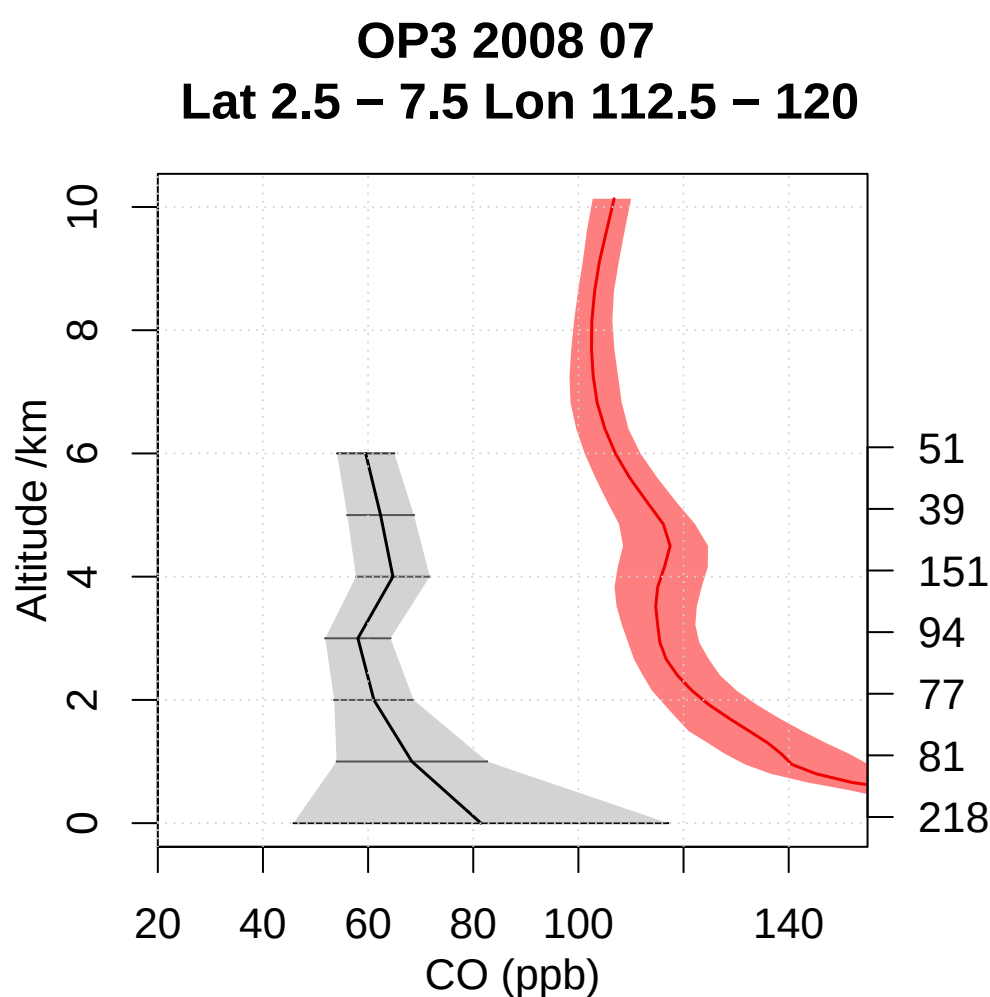
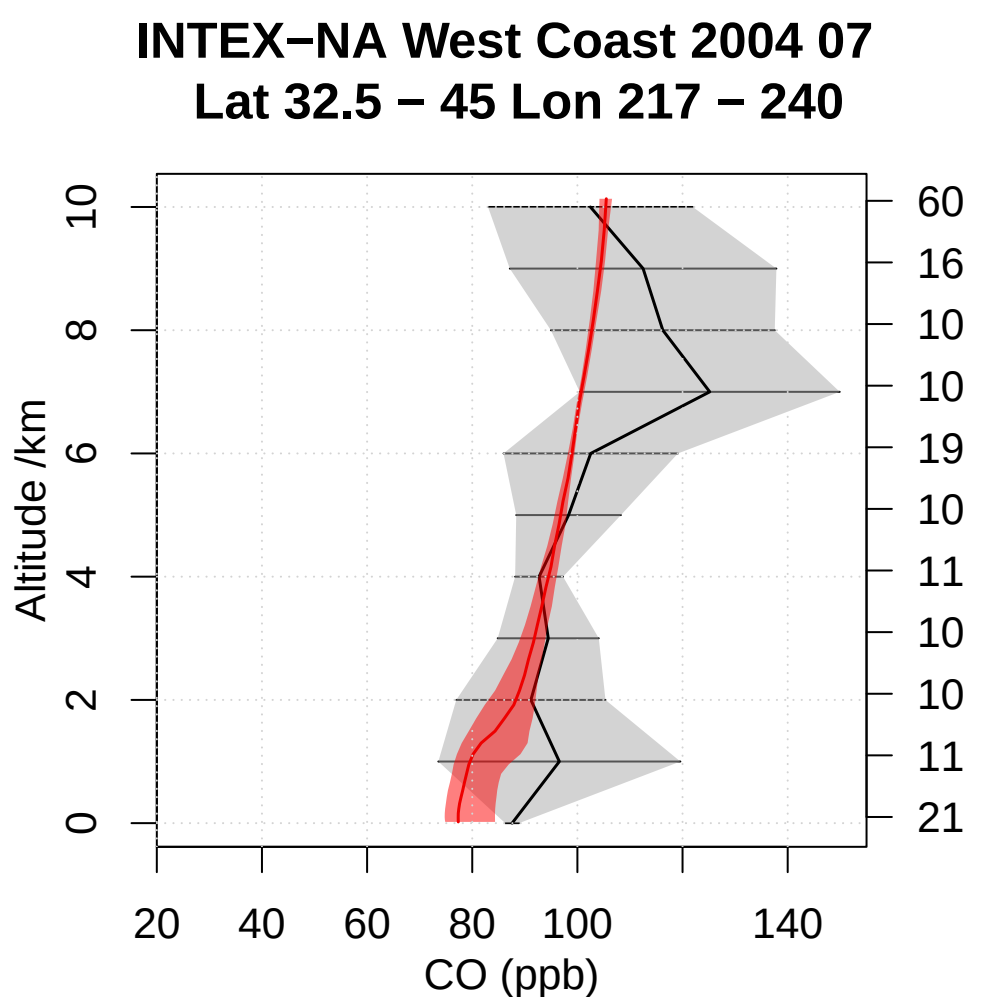
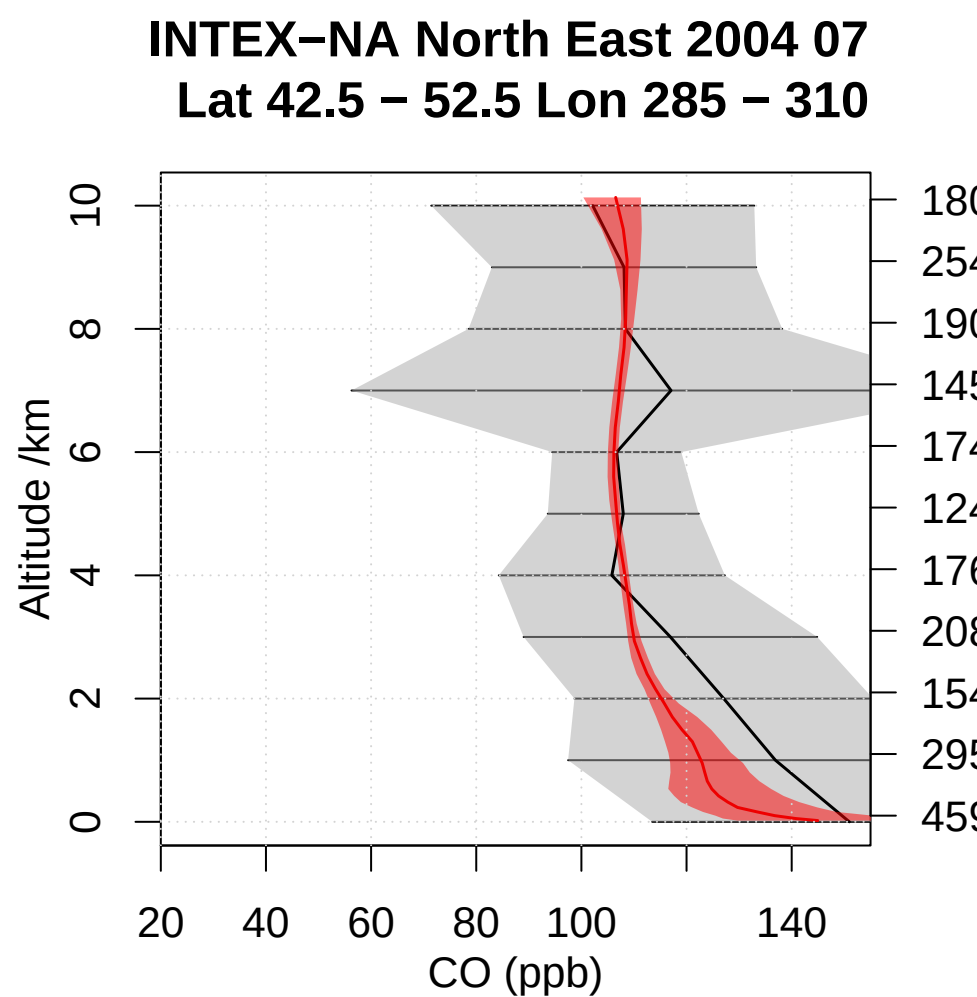
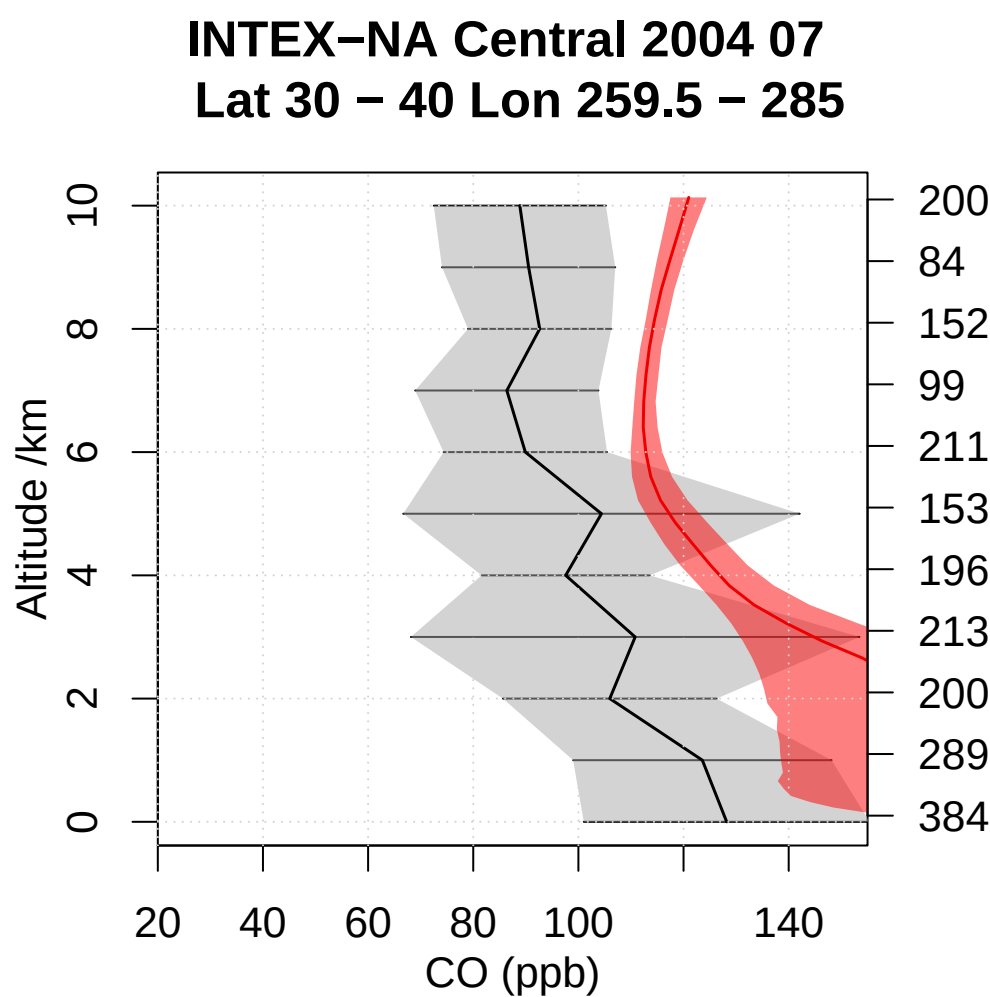
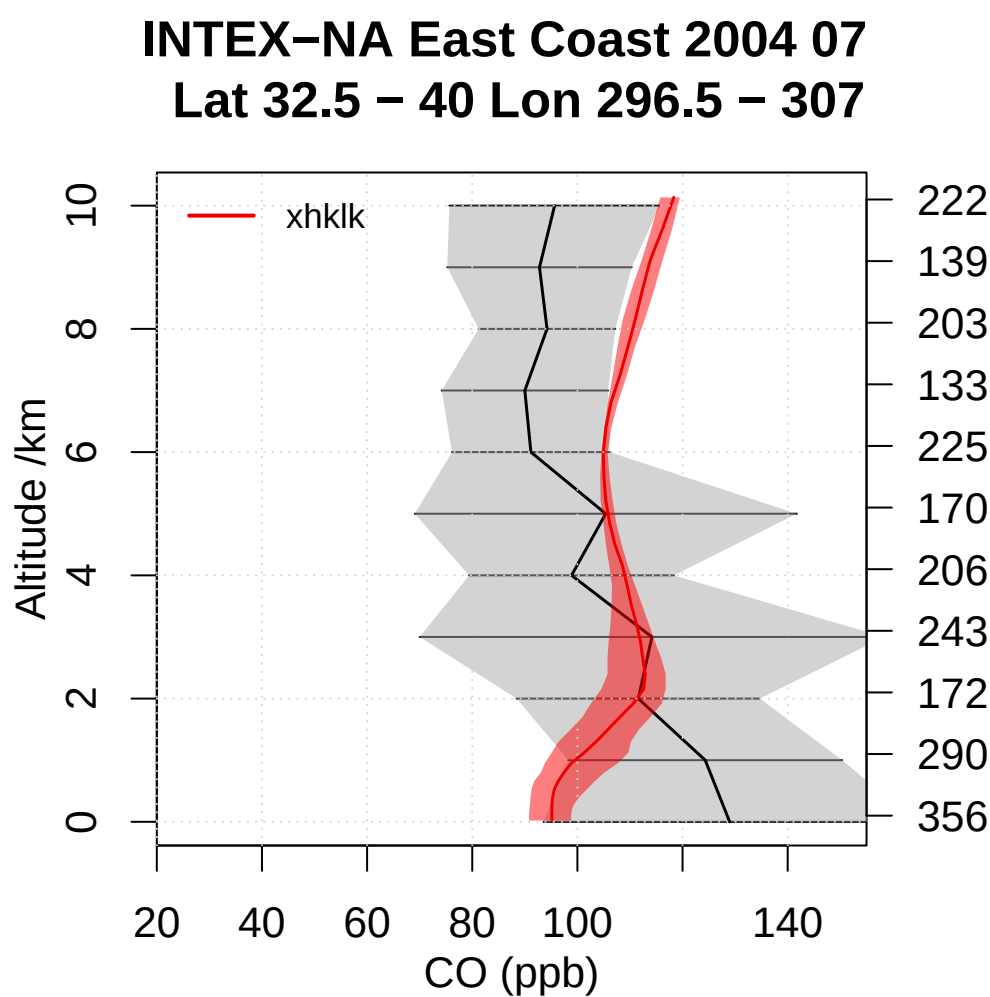
ppm

Min = 3.63×10^{-8} Max = 0.515



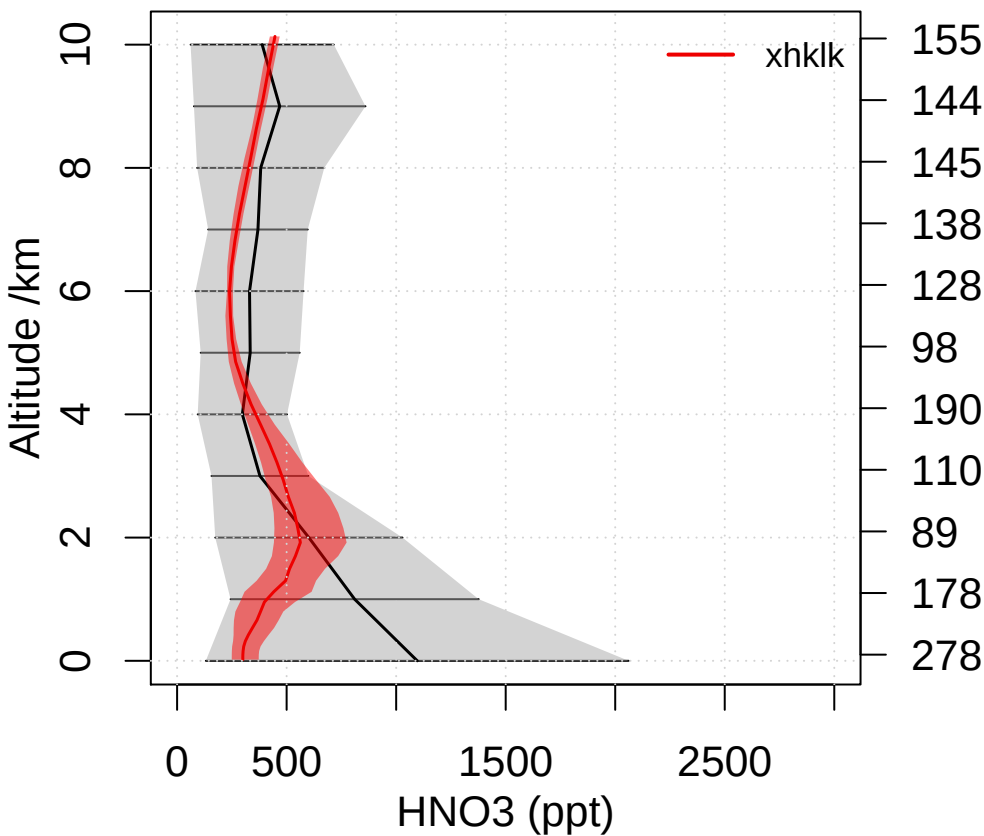


Emmons CO comparison

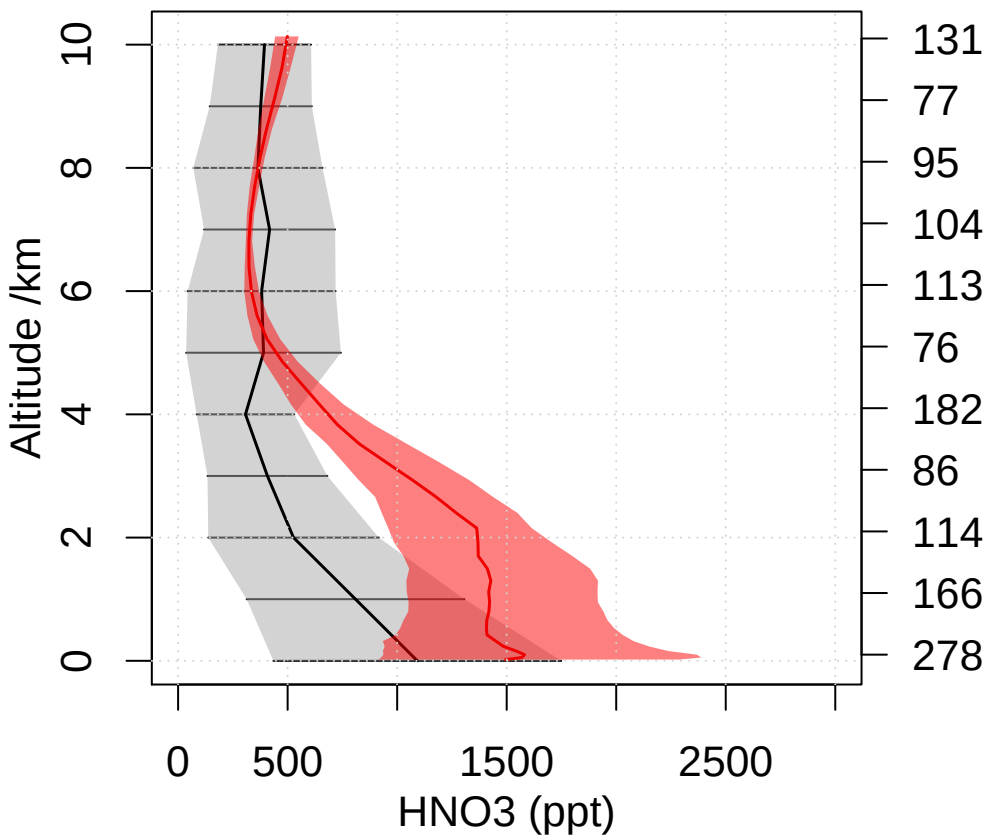


Emmons HNO3 comparison

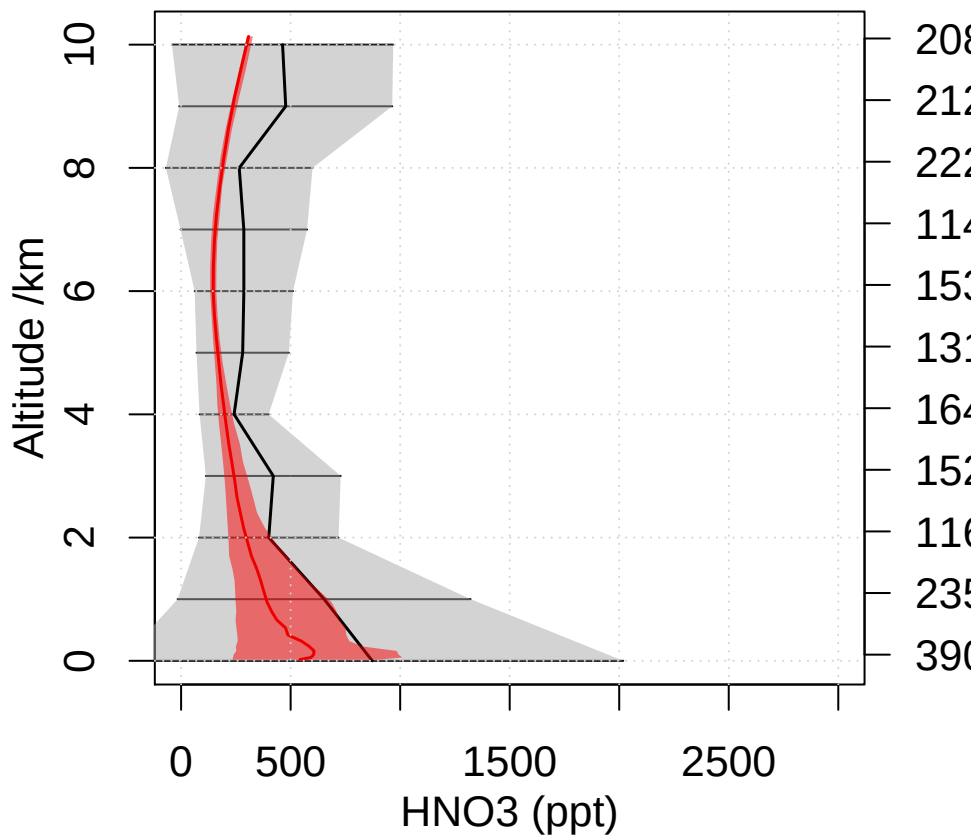
INTEX-NA East Coast 2004 07
Lat 32.5 – 40 Lon 296.5 – 307



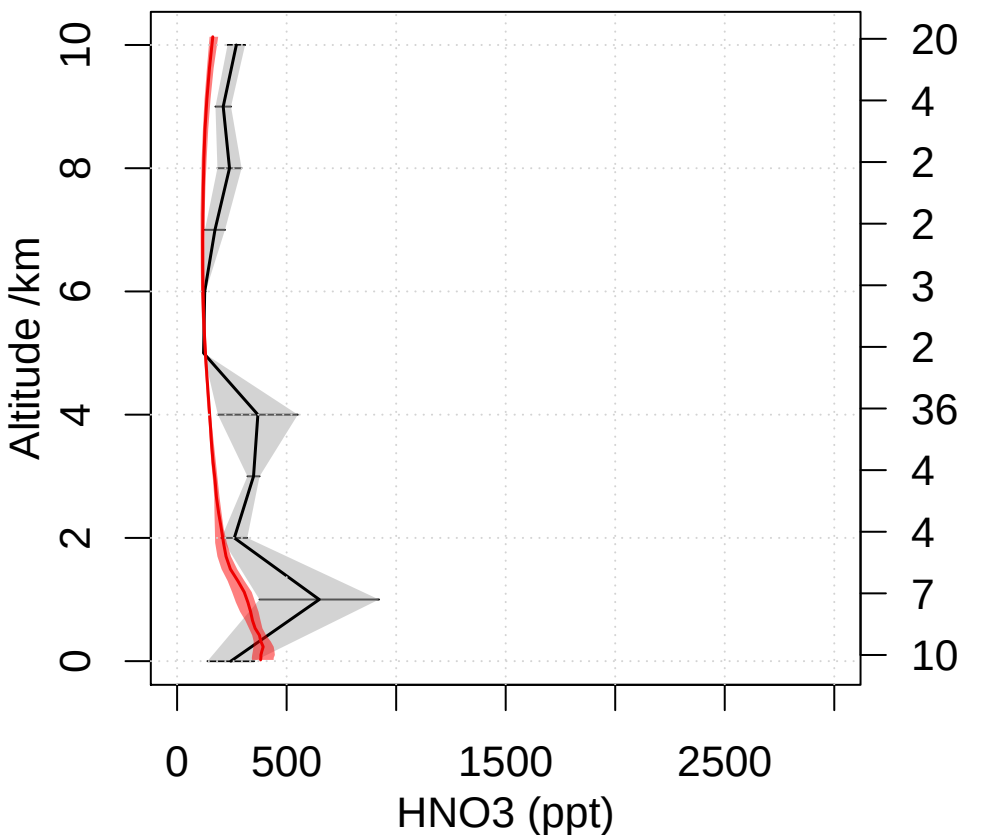
INTEX-NA Central 2004 07
Lat 30 – 40 Lon 259.5 – 285



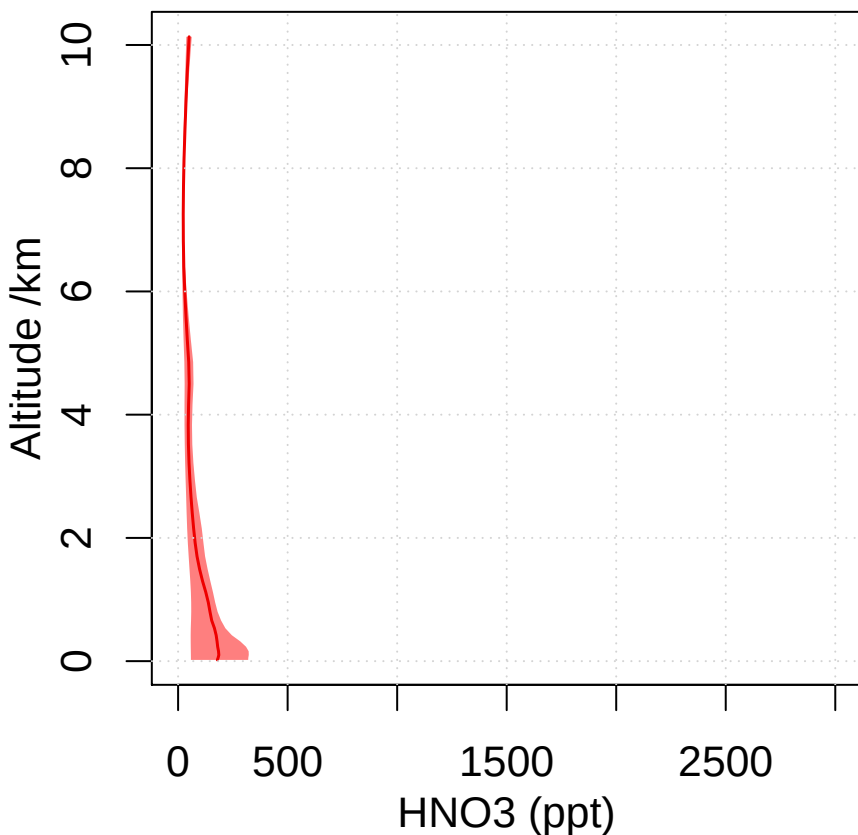
INTEX-NA North East 2004 07
Lat 42.5 – 52.5 Lon 285 – 310



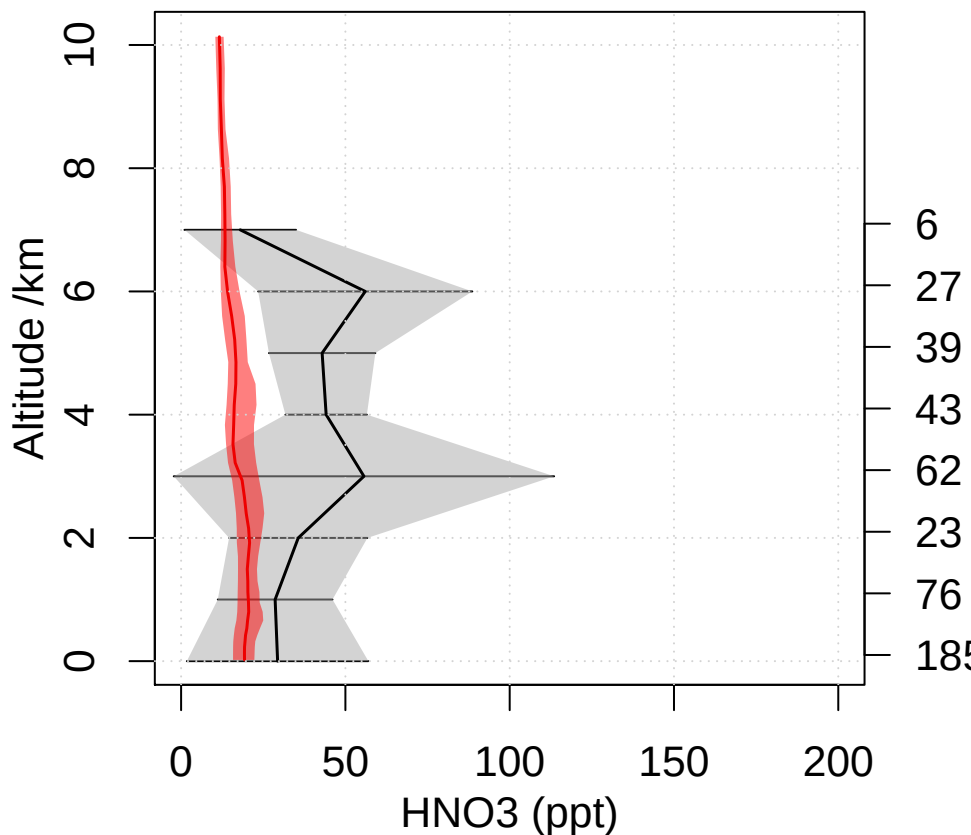
INTEX-NA West Coast 2004 07
Lat 32.5 – 45 Lon 217 – 240



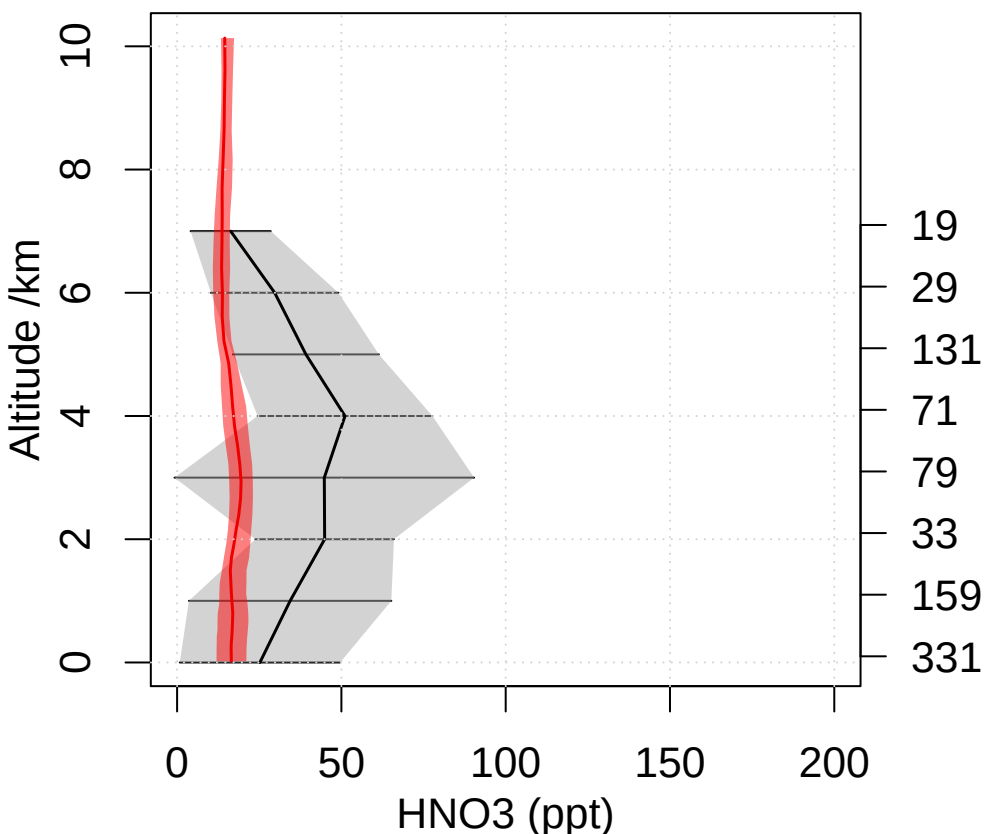
OP3 2008 07
Lat 2.5 – 7.5 Lon 112.5 – 120



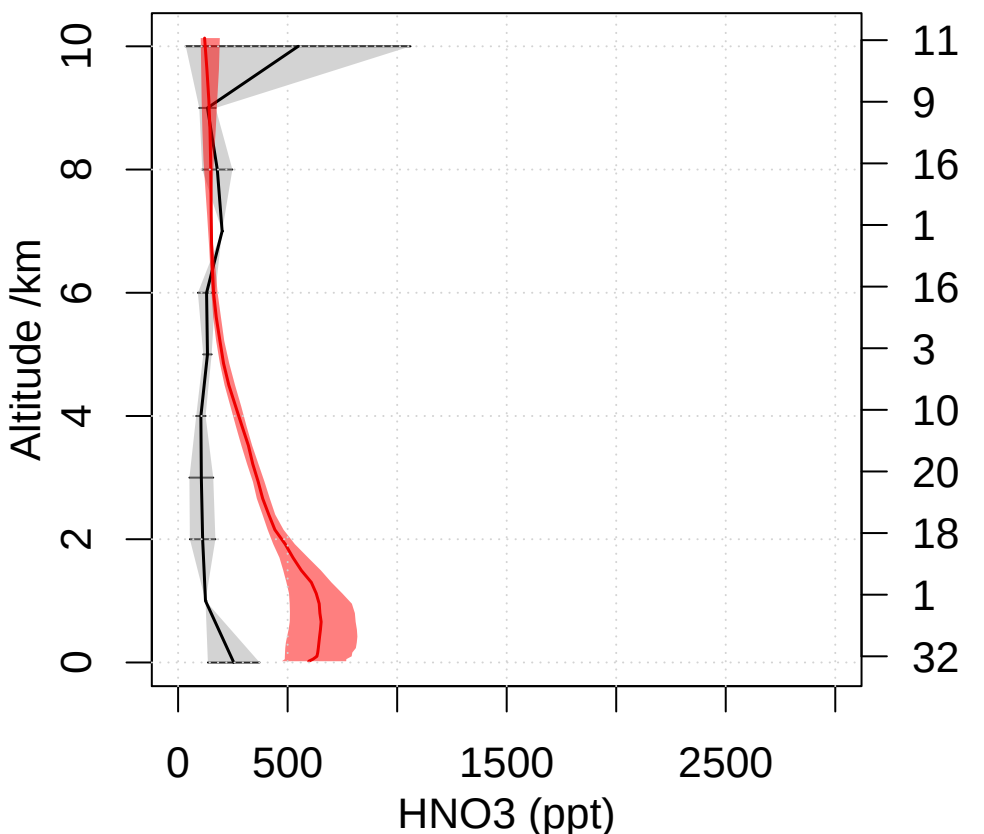
PEM-Tropics-B Christmas-Island 1999 07
Lat 0 – 10 Lon 200 – 220



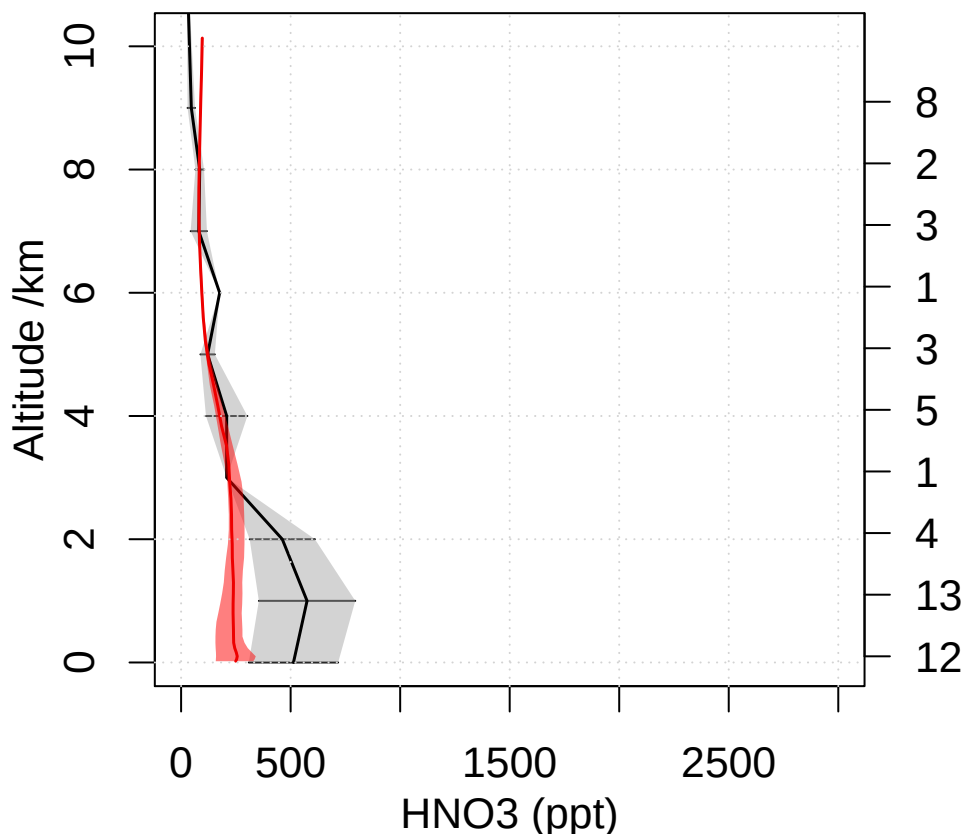
PEM-Tropics-B Tahiti 1999 03
Lat -20 – 0 Lon 200 – 230



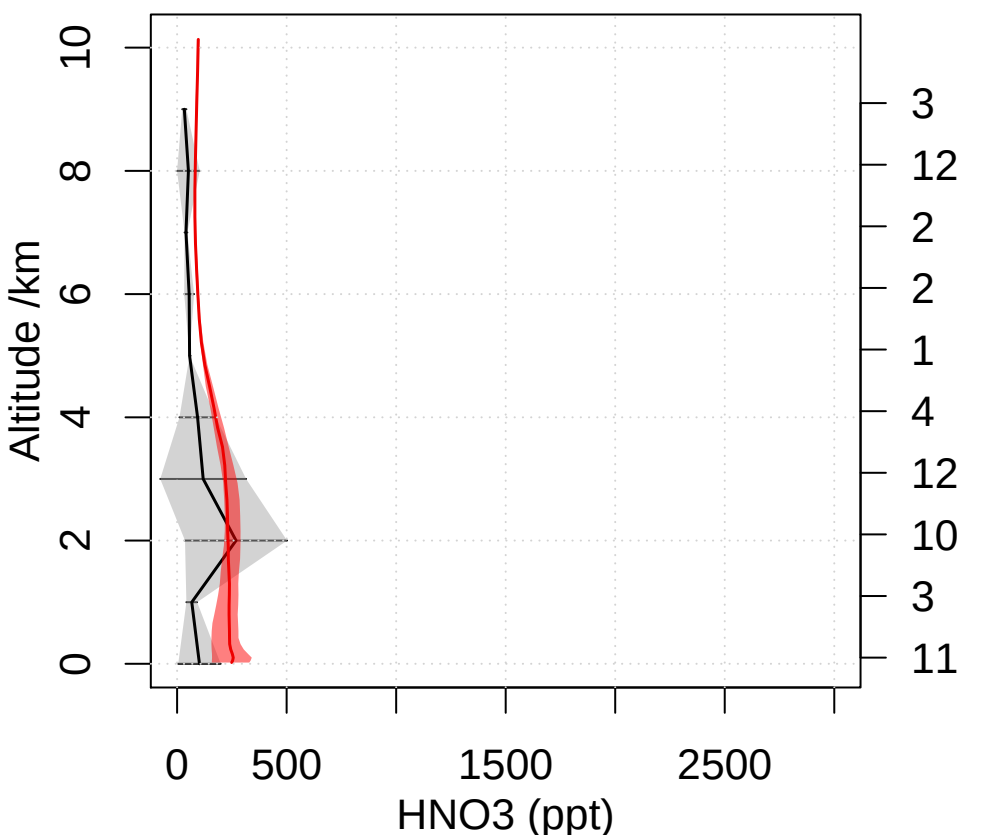
PEM-West-B Japan 1994 02
Lat 25 – 40 Lon 135 – 150



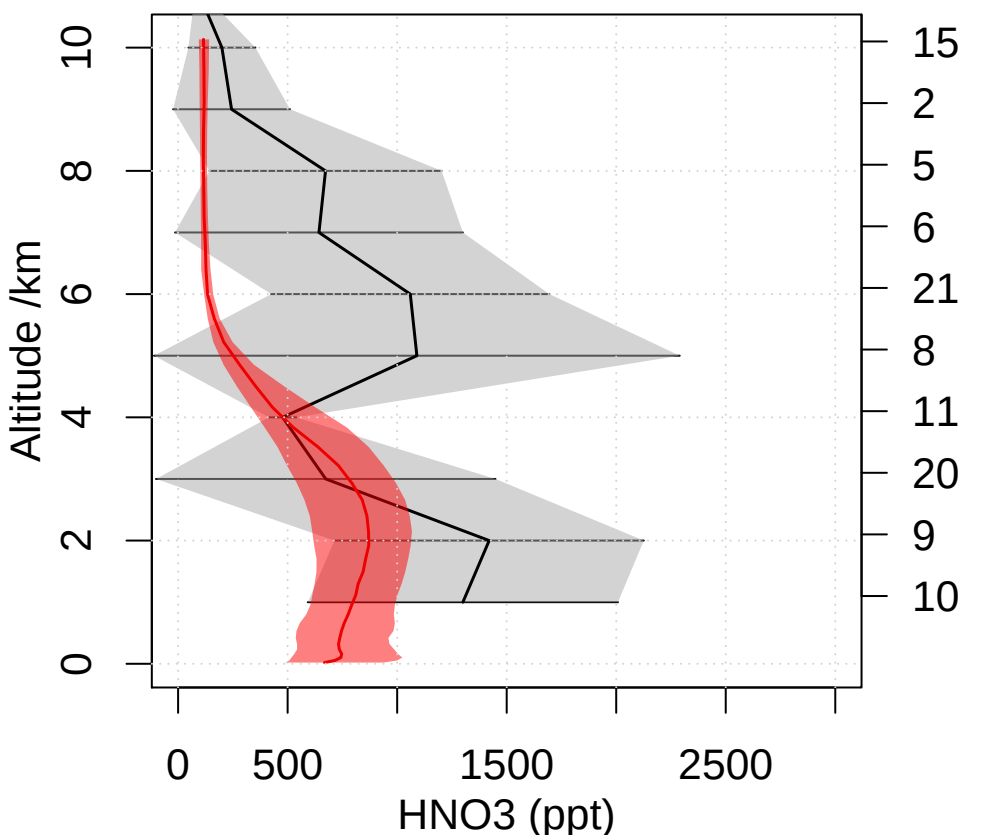
TRACE-A E-Brazil 1992 09
Lat -15 – -5 Lon 310 – 320



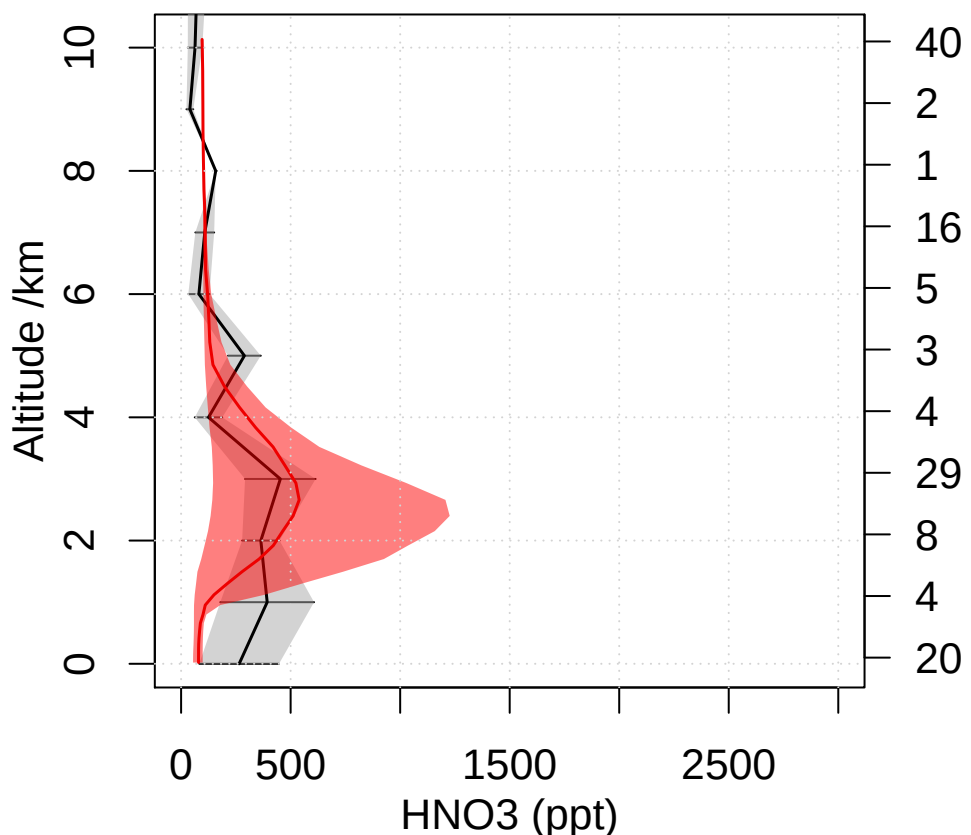
TRACE-A E-Brazil Coast 1992 09
Lat -35 – -25 Lon 310 – 320



TRACE-A S-Africa 1992 09
Lat -25 – -5 Lon 15 – 35

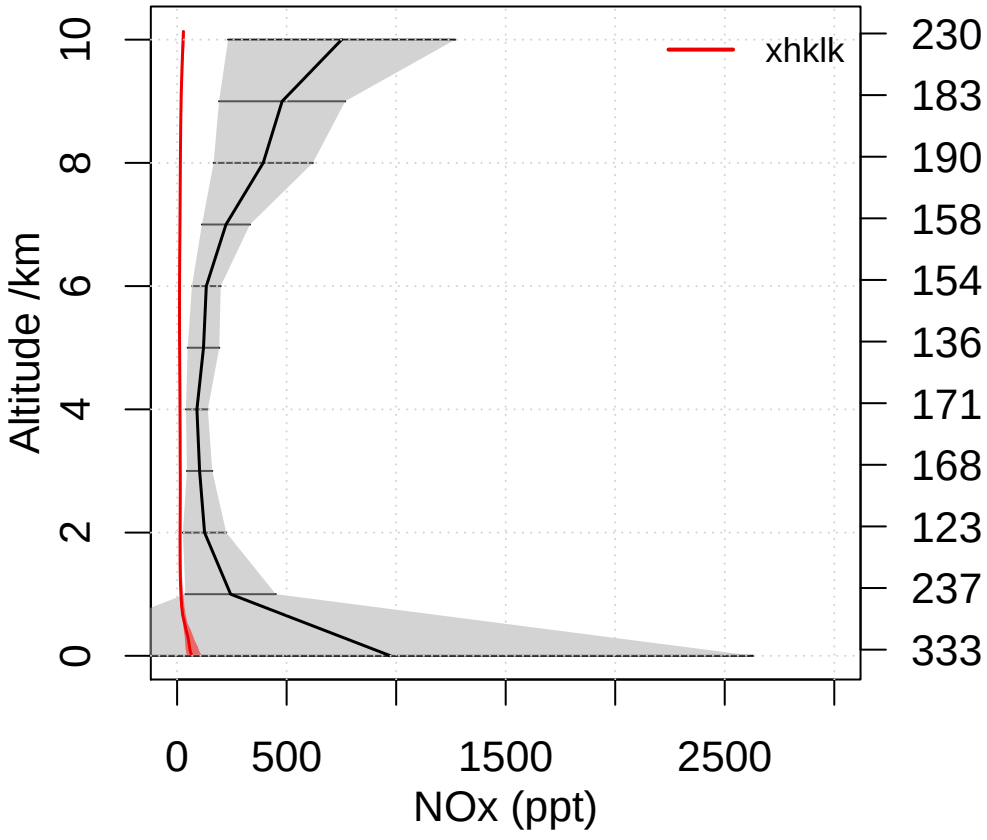


TRACE-A W-Africa Coast 1992 09
Lat -25 – -5 Lon 0 – 10

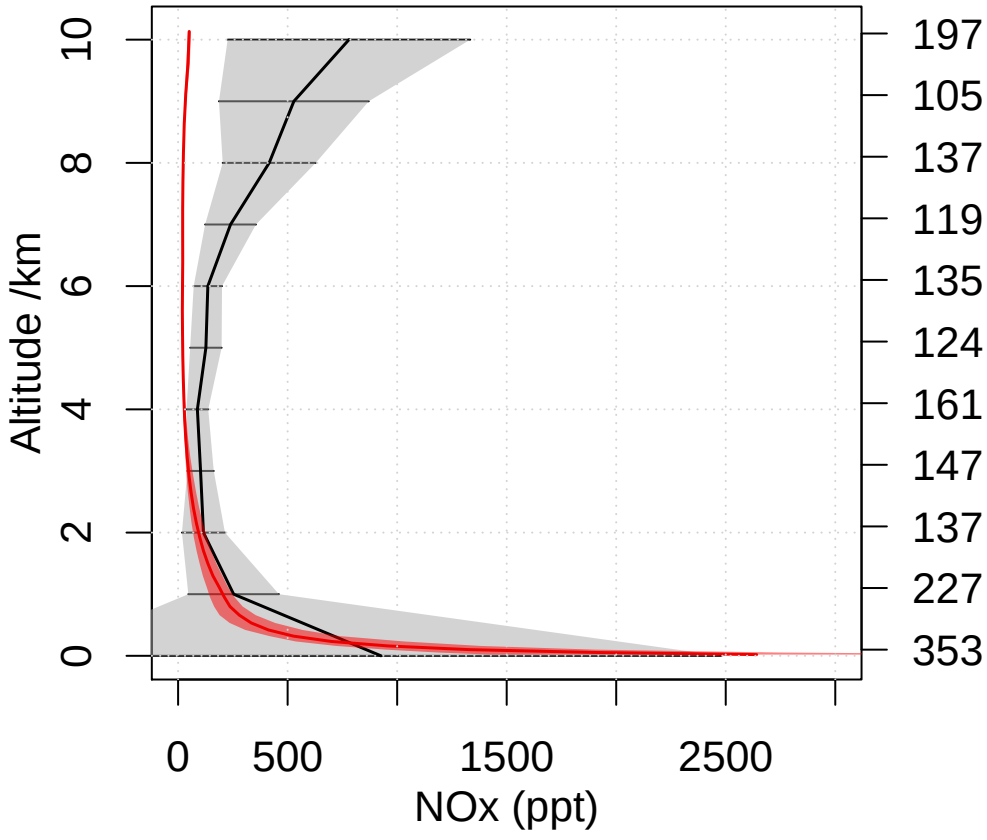


Emmons NOx comparison

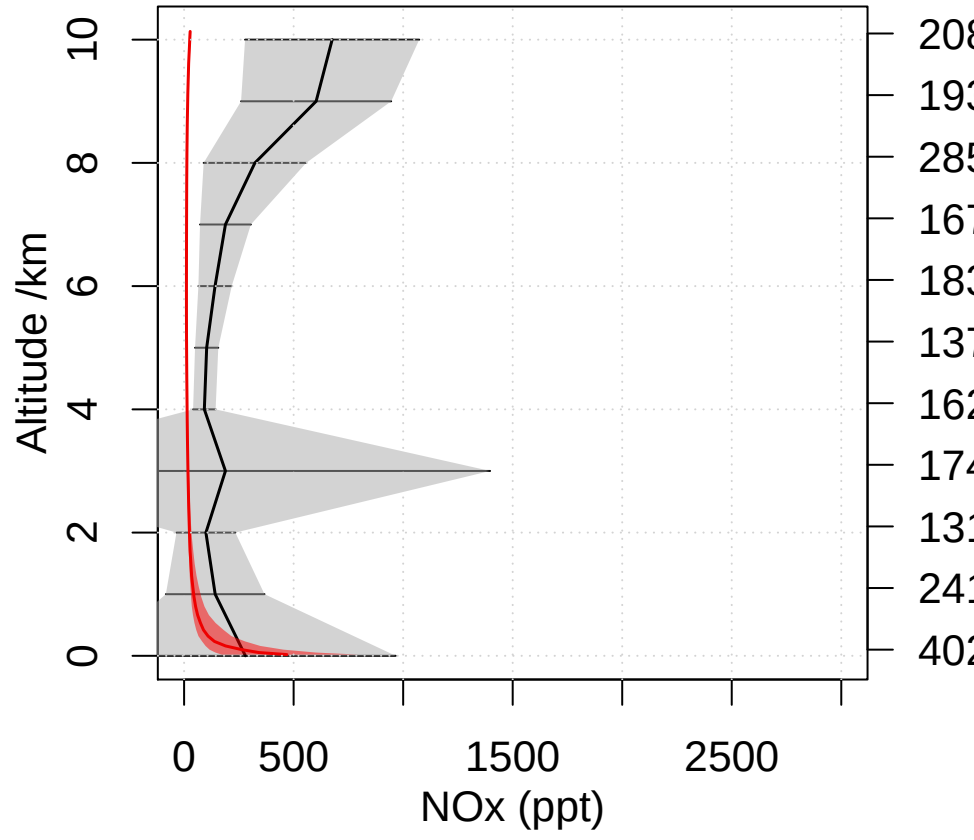
INTEX-NA East Coast 2004 07
Lat 32.5 – 40 Lon 296.5 – 307



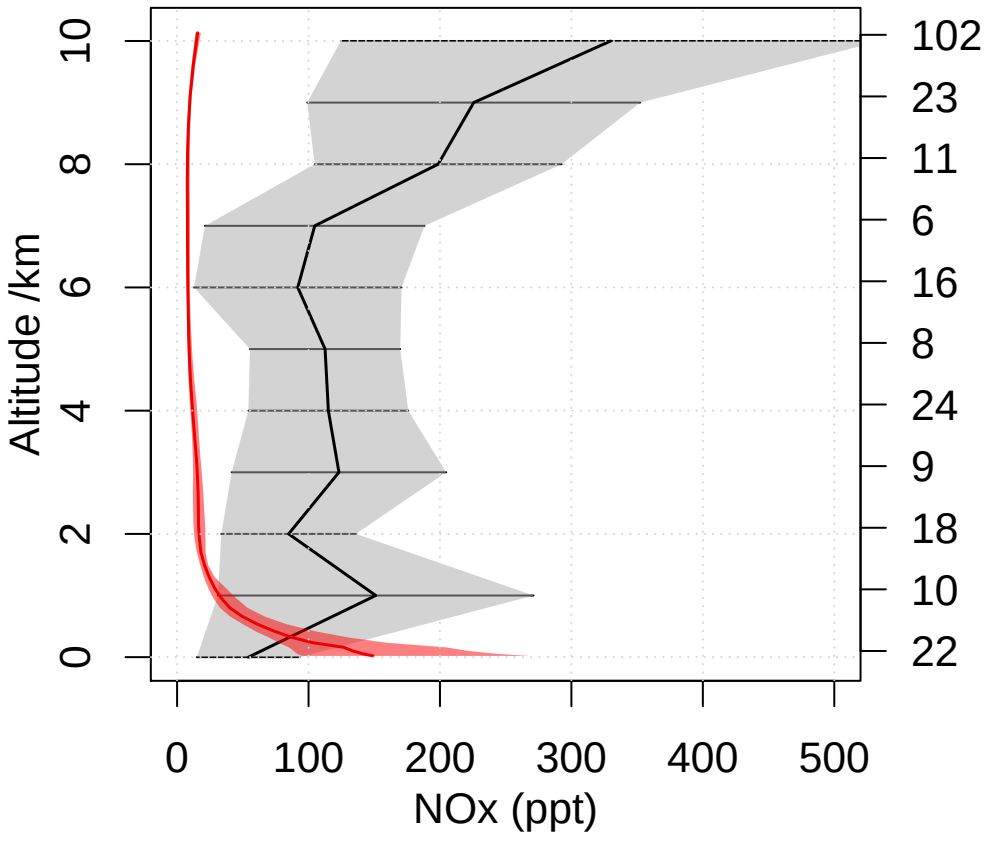
INTEX-NA Central 2004 07
Lat 30 – 40 Lon 259.5 – 285



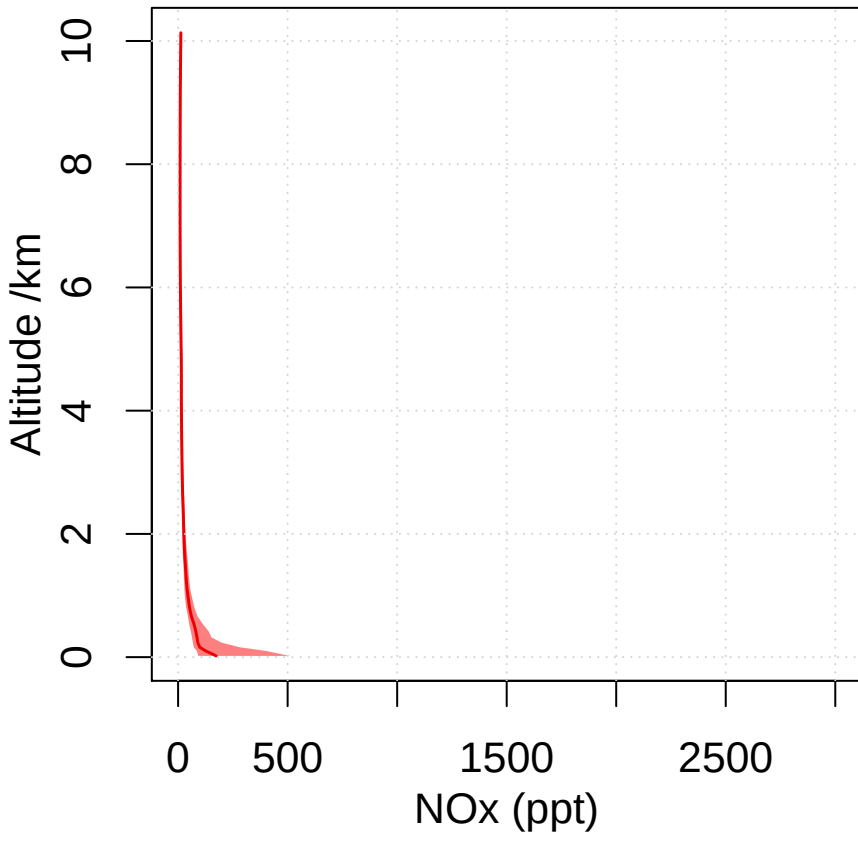
INTEX-NA North East 2004 07
Lat 42.5 – 52.5 Lon 285 – 310



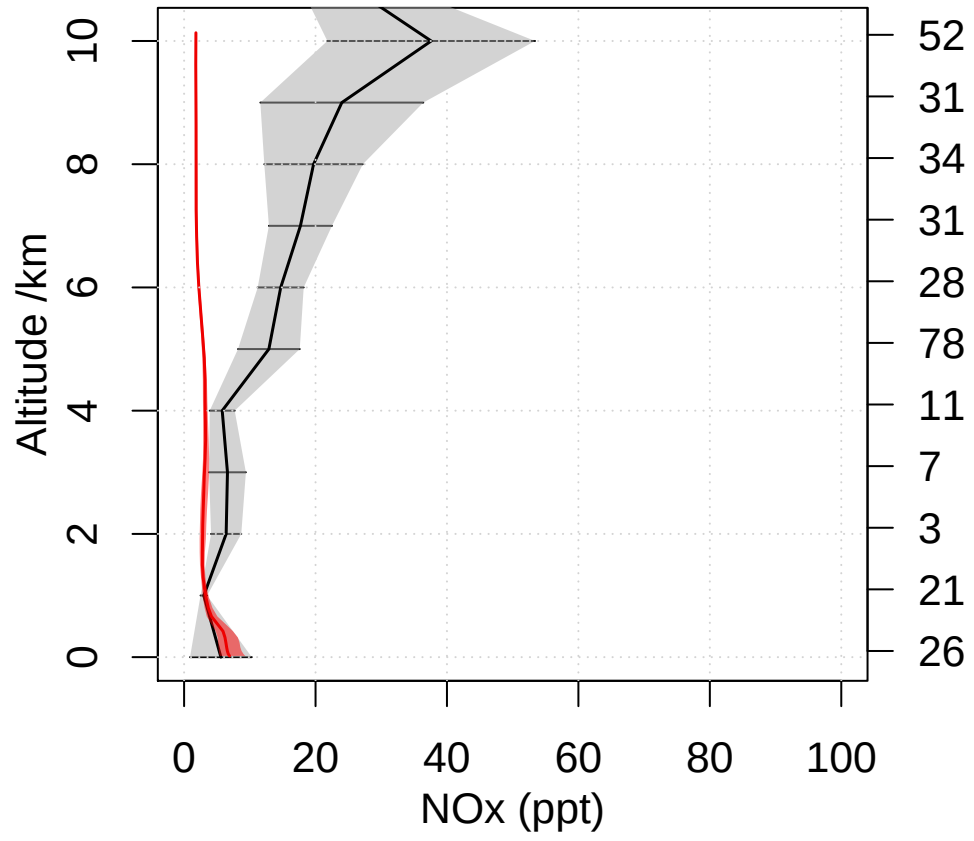
INTEX-NA West Coast 2004 07
Lat 32.5 – 45 Lon 217 – 240



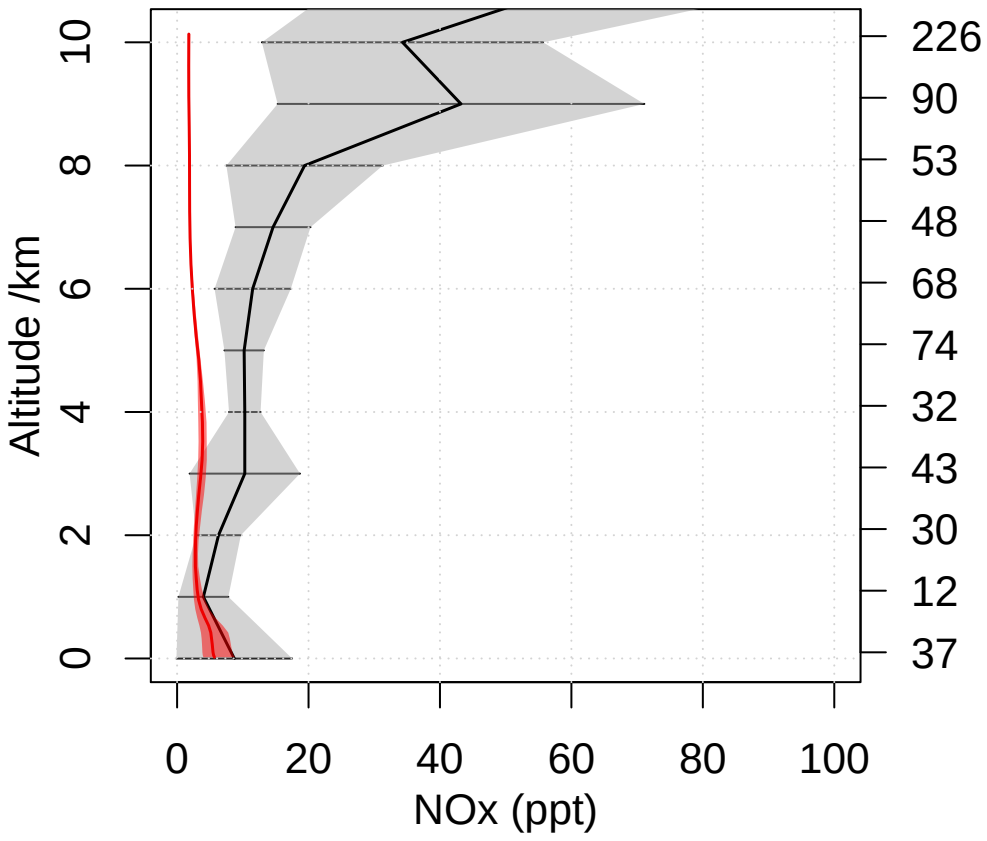
OP3 2008 07
Lat 2.5 – 7.5 Lon 112.5 – 120



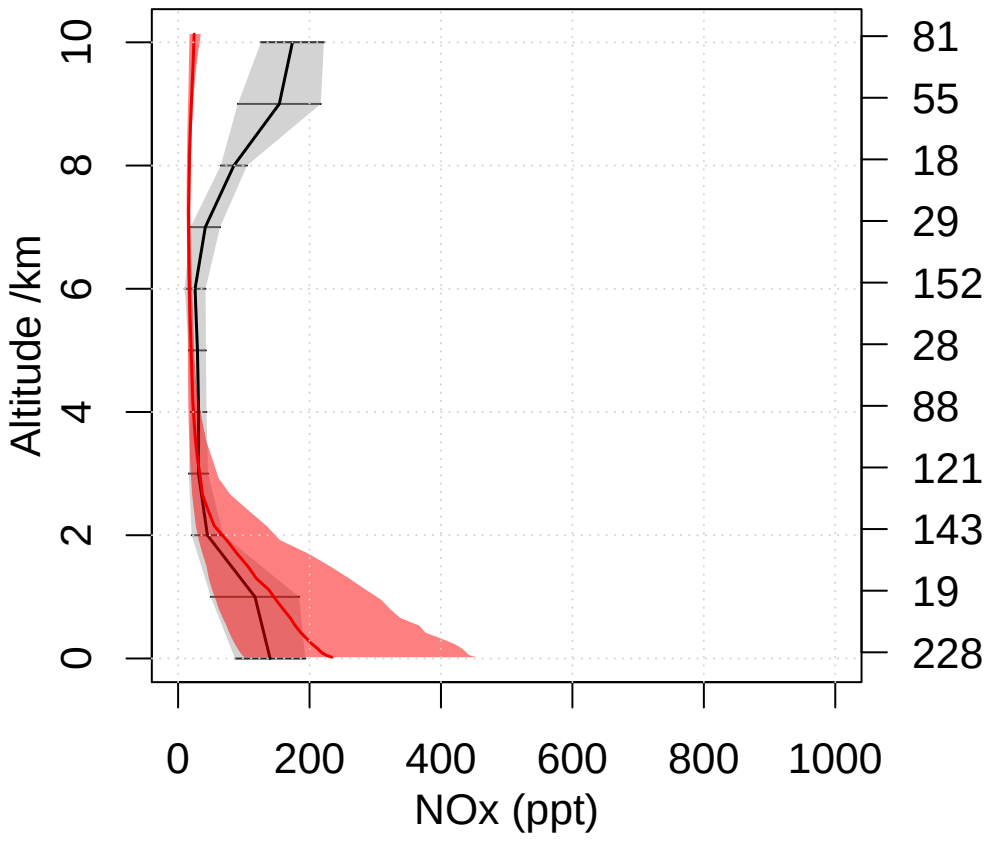
PEM-Tropics-B Christmas-Island 1999 07
Lat 0 – 10 Lon 200 – 220



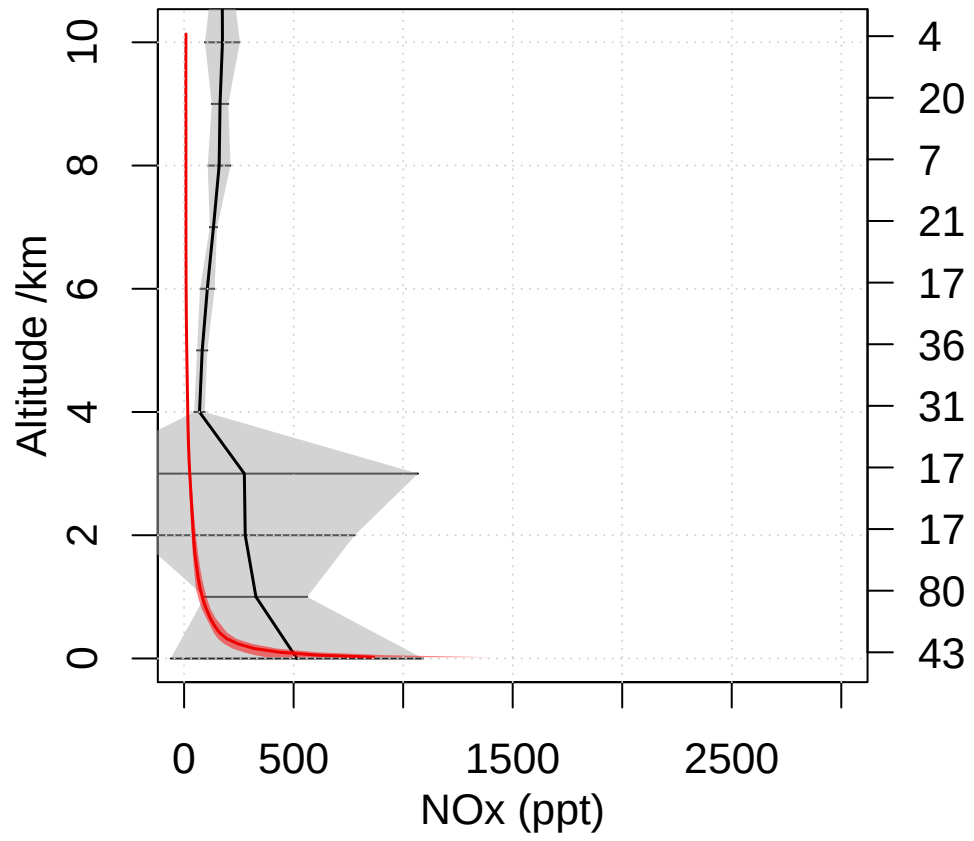
PEM-Tropics-B Tahiti 1999 03
Lat -20 – 0 Lon 200 – 230



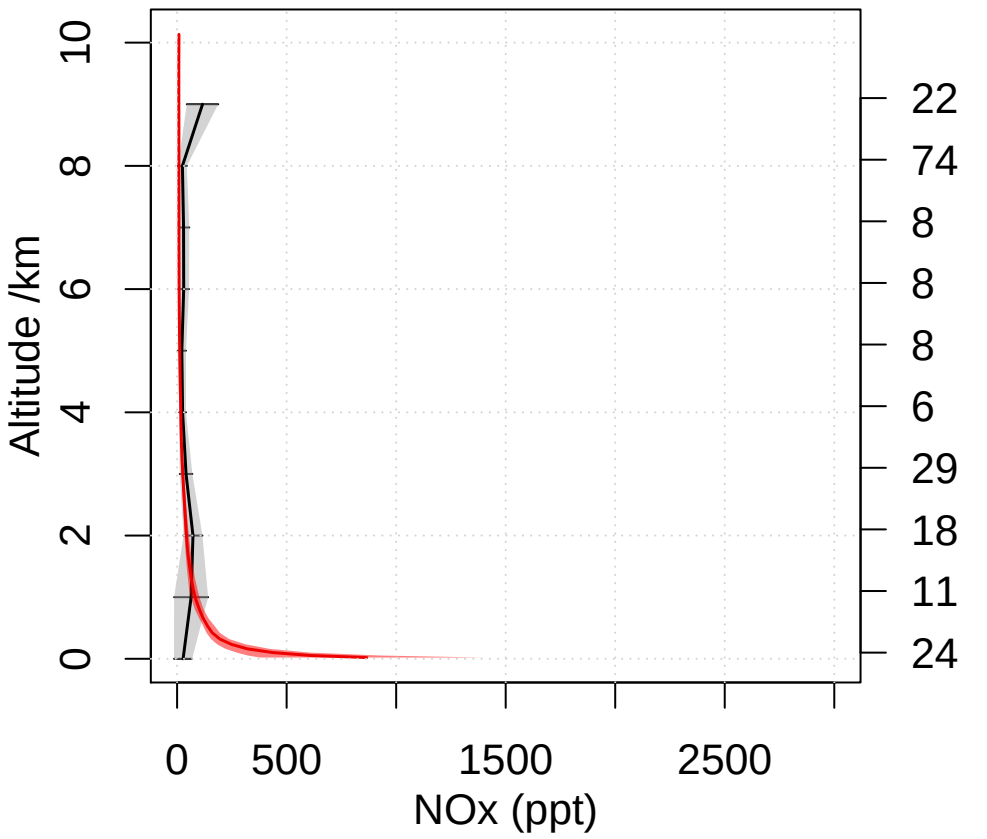
PEM-West-B Japan 1994 02
Lat 25 – 40 Lon 135 – 150



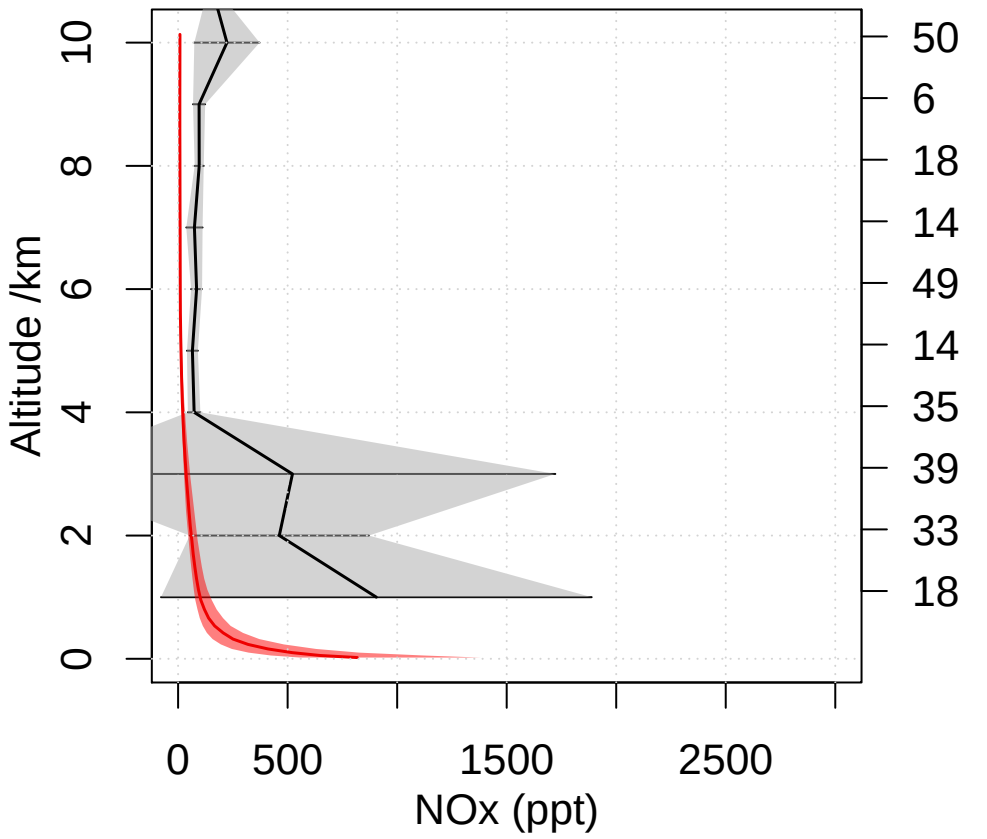
TRACE-A E-Brazil 1992 09
Lat -15 – -5 Lon 310 – 320



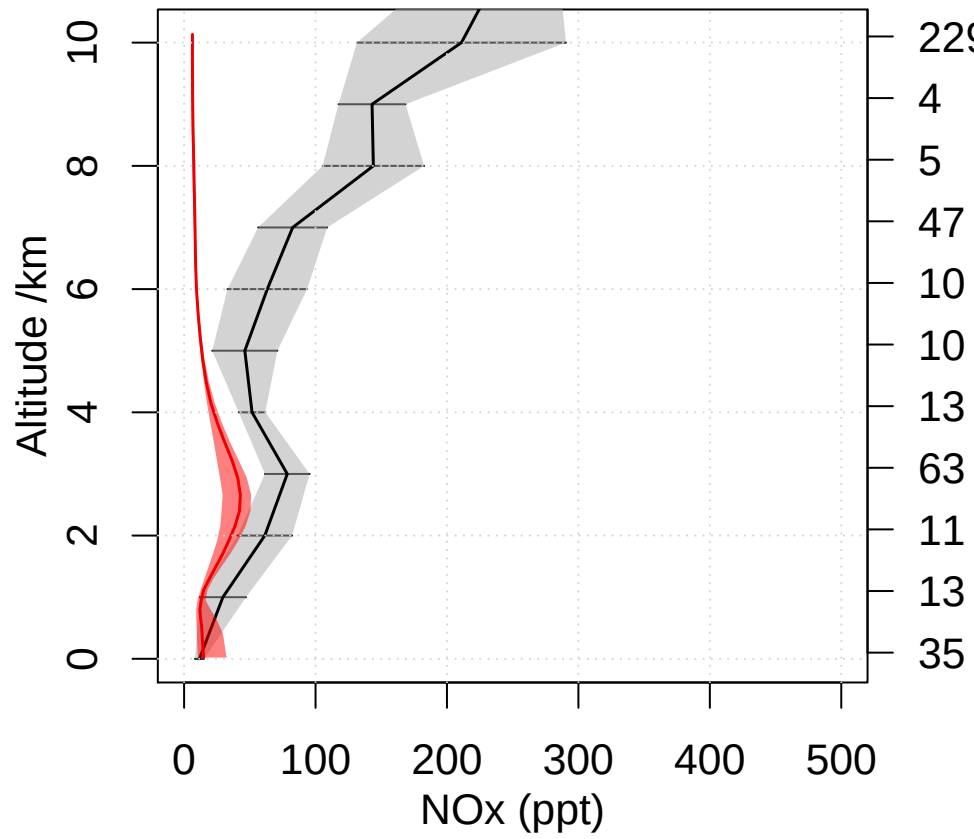
TRACE-A E-Brazil Coast 1992 09
Lat -35 – -25 Lon 310 – 320



TRACE-A S-Africa 1992 09
Lat -25 – -5 Lon 15 – 35



TRACE-A W-Africa Coast 1992 09
Lat -25 – -5 Lon 0 – 10



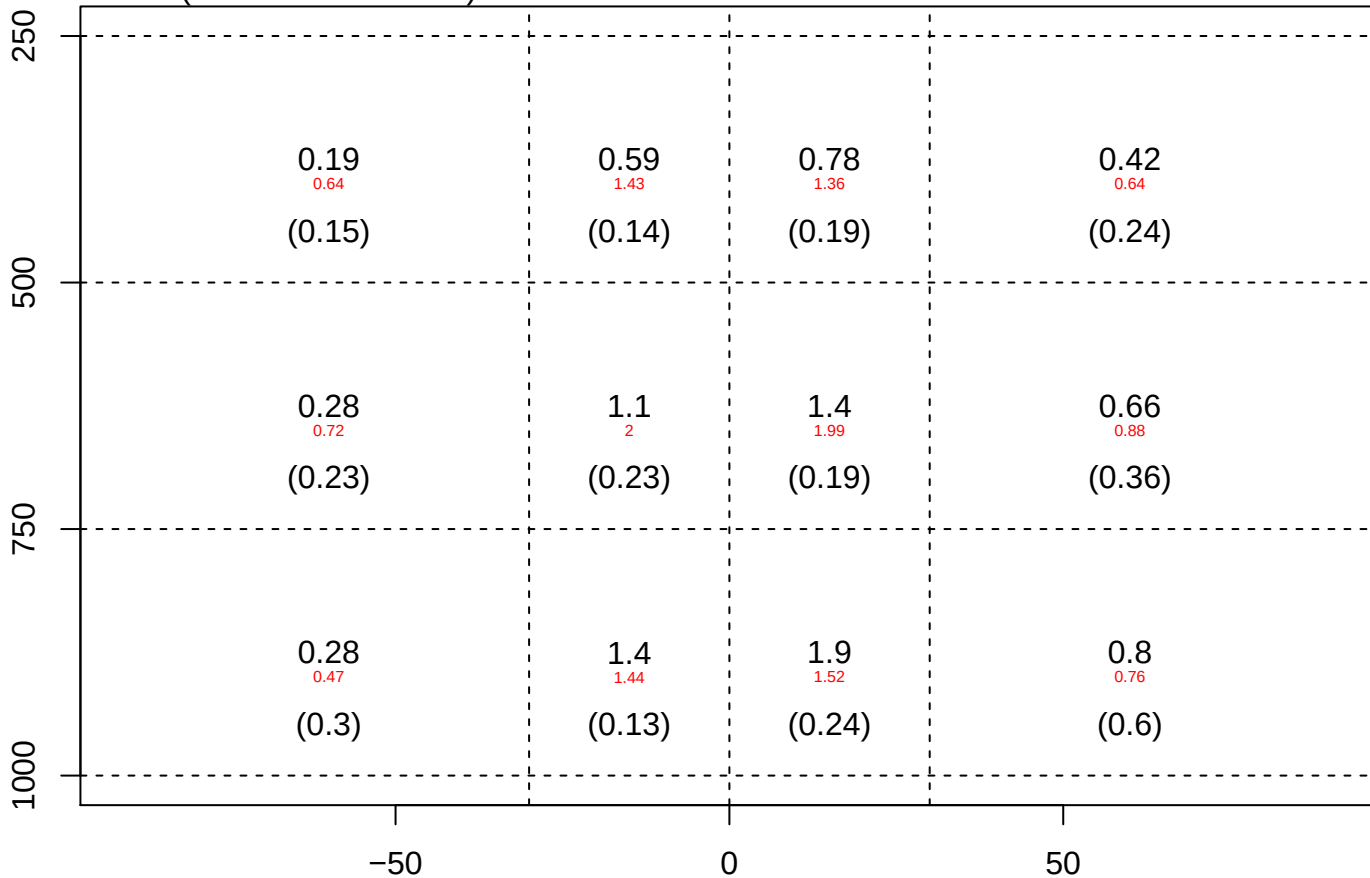
[OH] Air mass weighted
(10^6 molecules cm^{-3})

UKCA xhklk

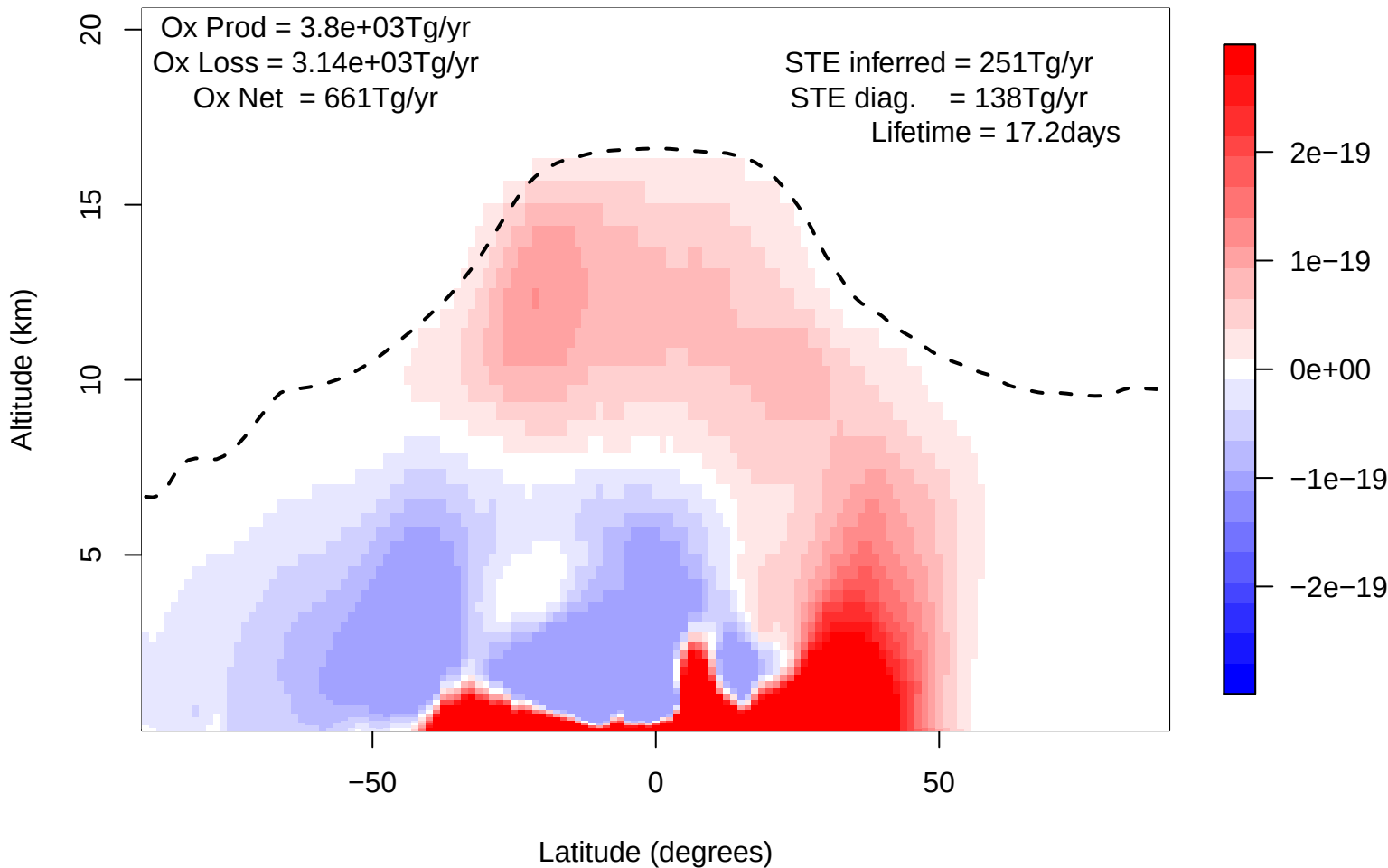
Mean OH = 5.22×10^5

Pressure (hPa)

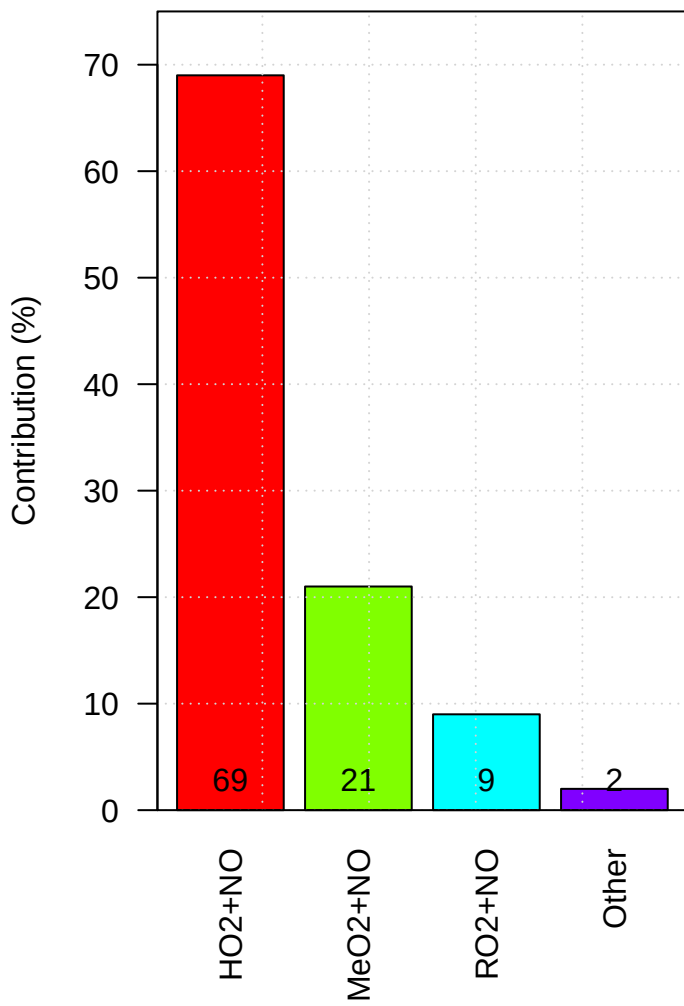
Latitude



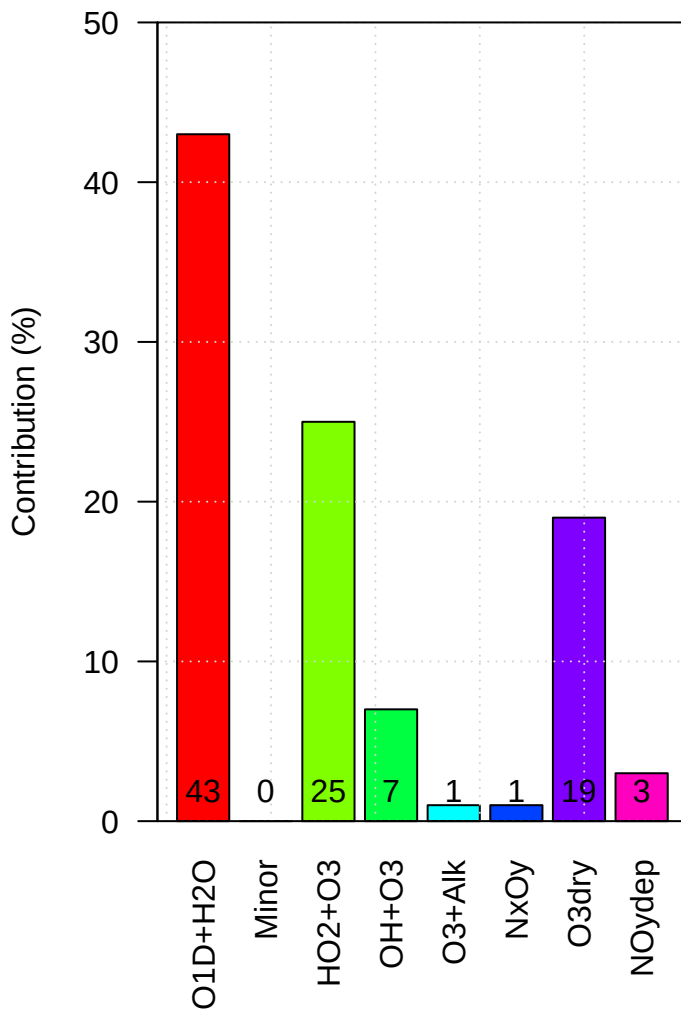
UKCA xhklk Ox Net Chemical Production



xhklk Production of Tropospheric Ox

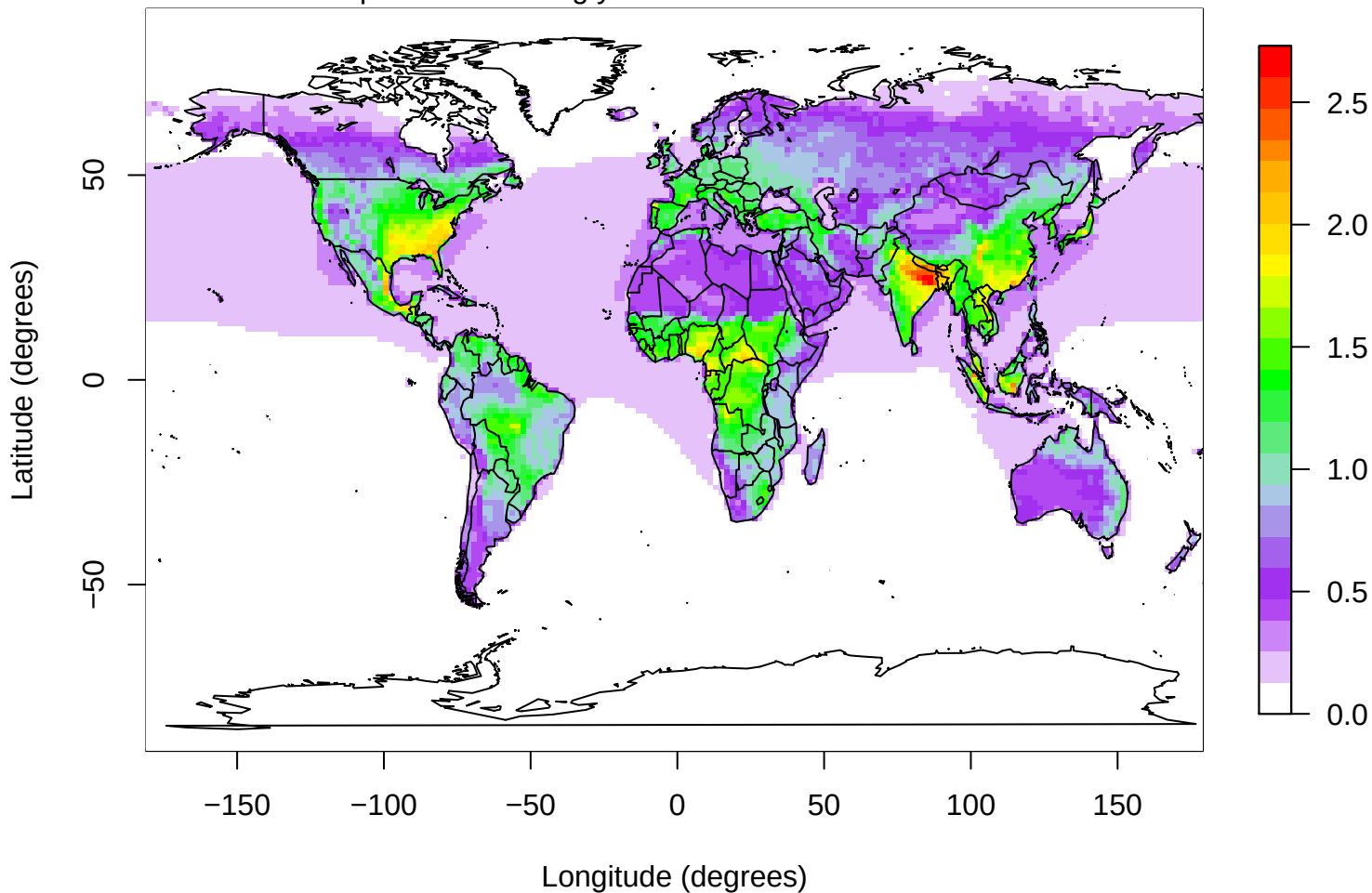


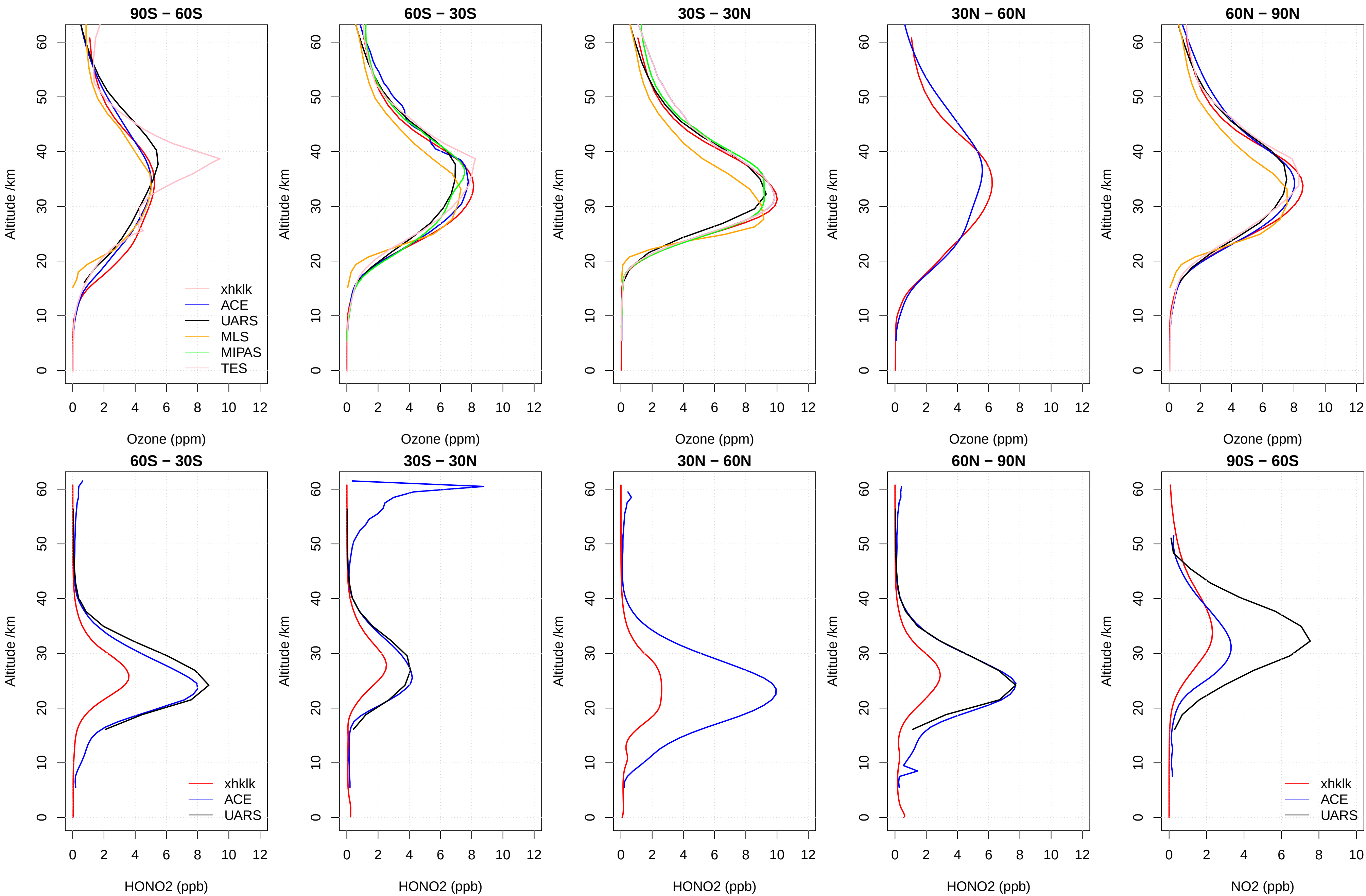
xhklk Loss of Tropospheric Ox

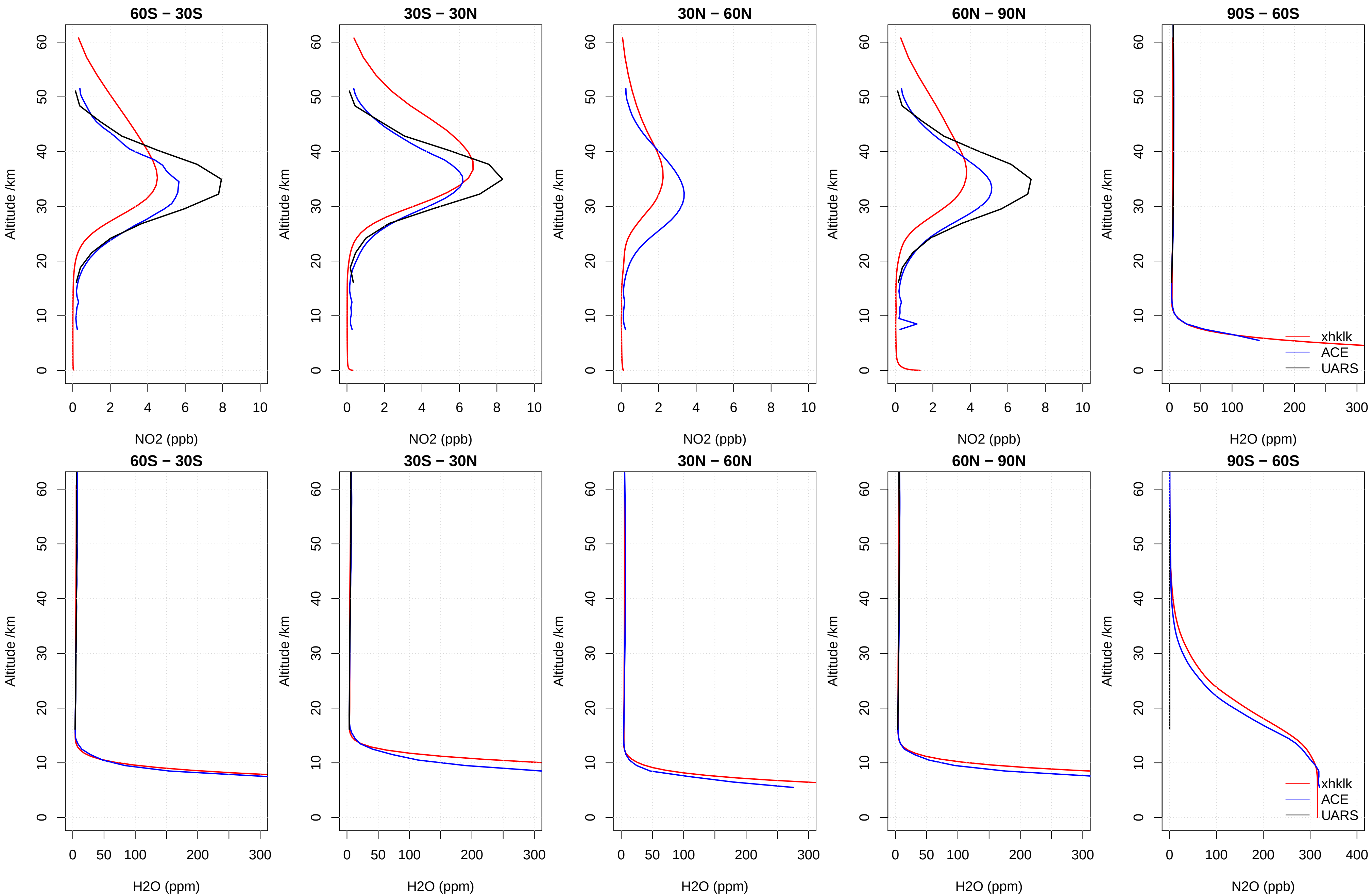


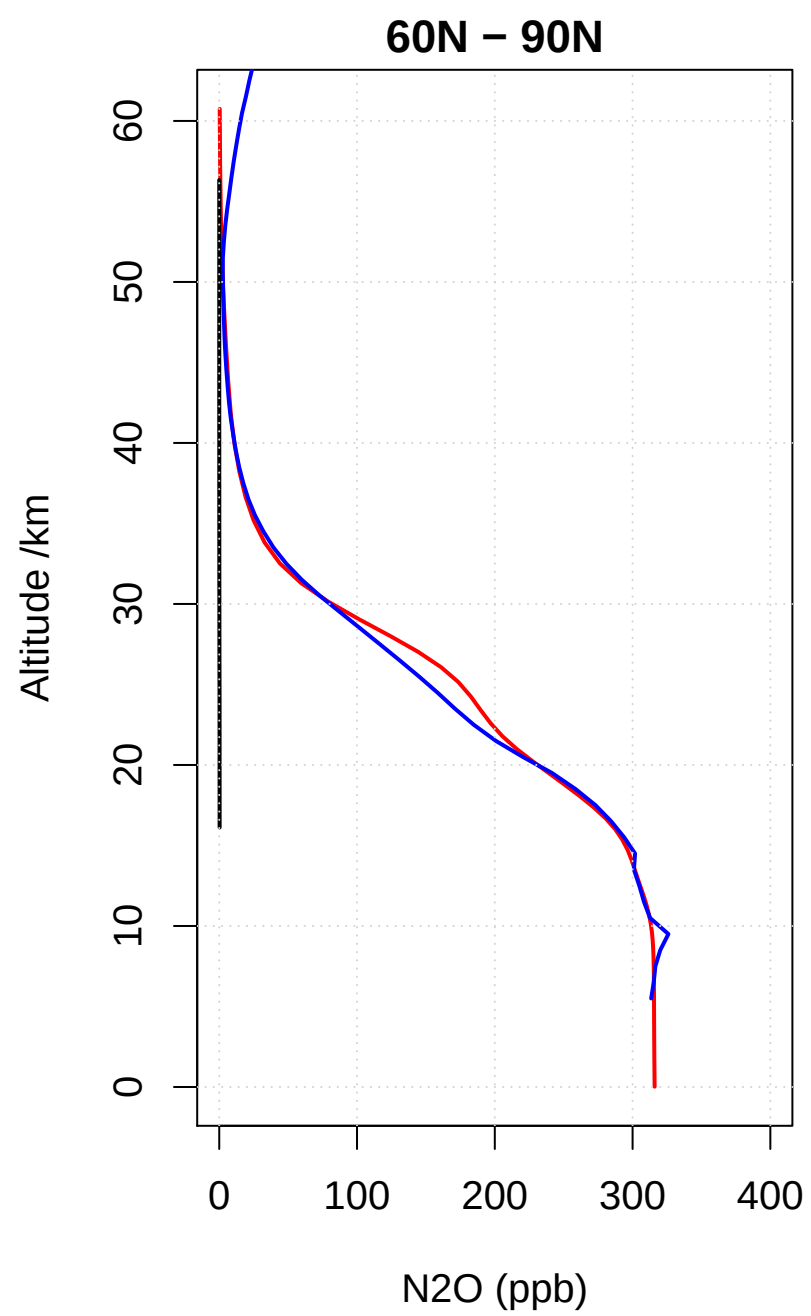
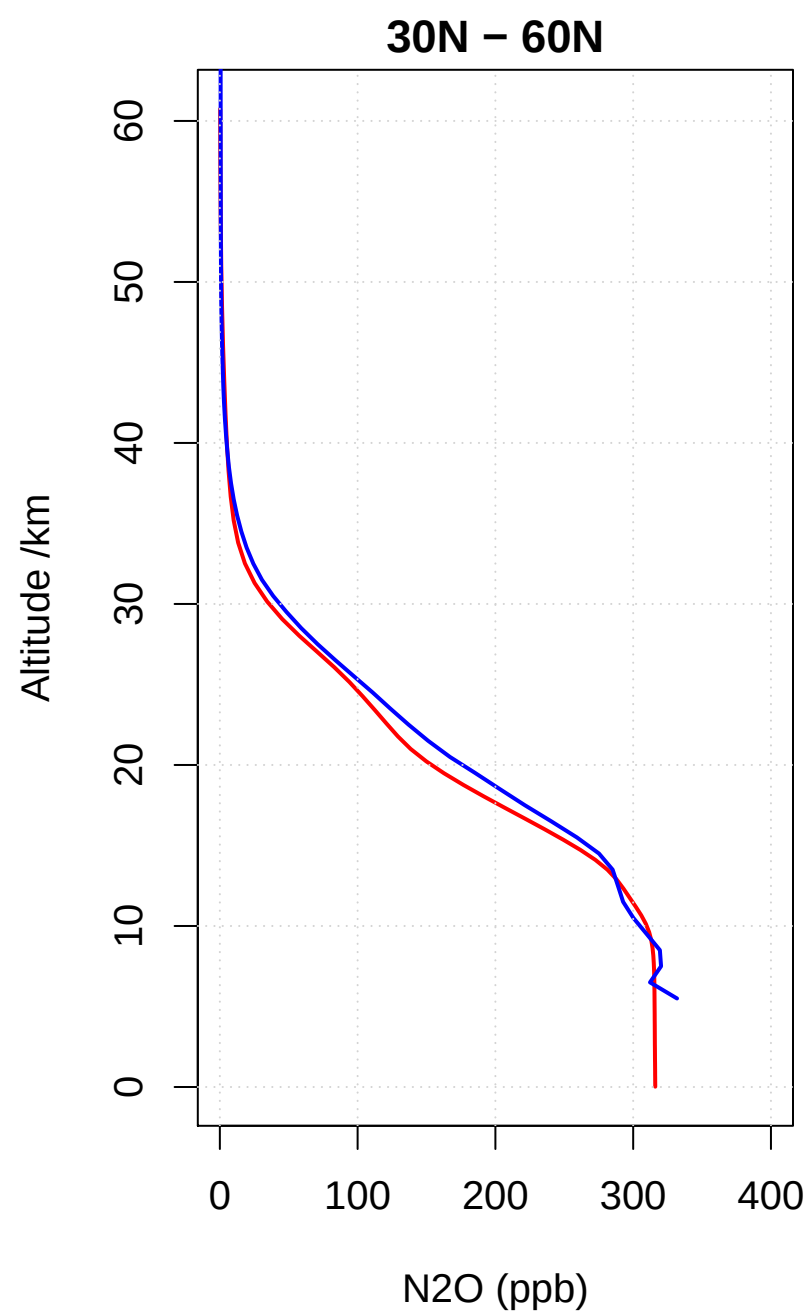
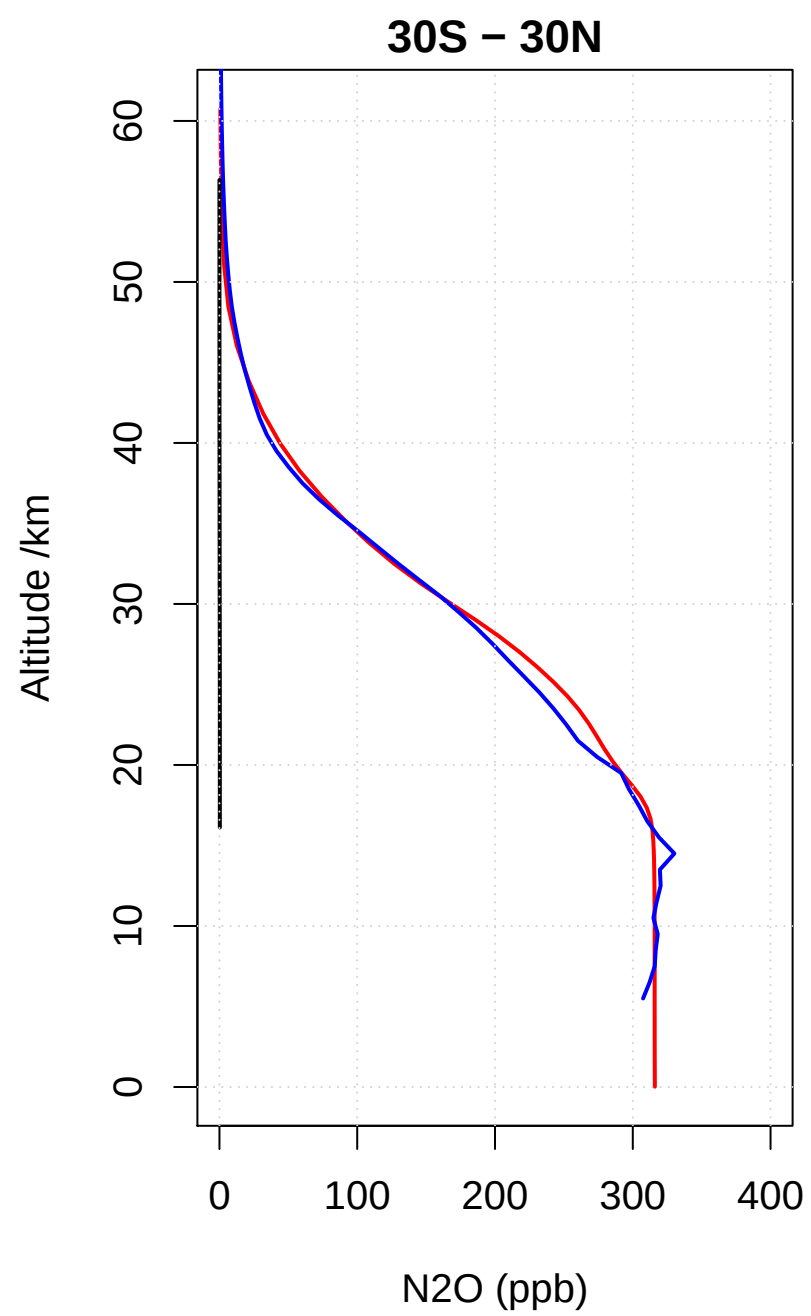
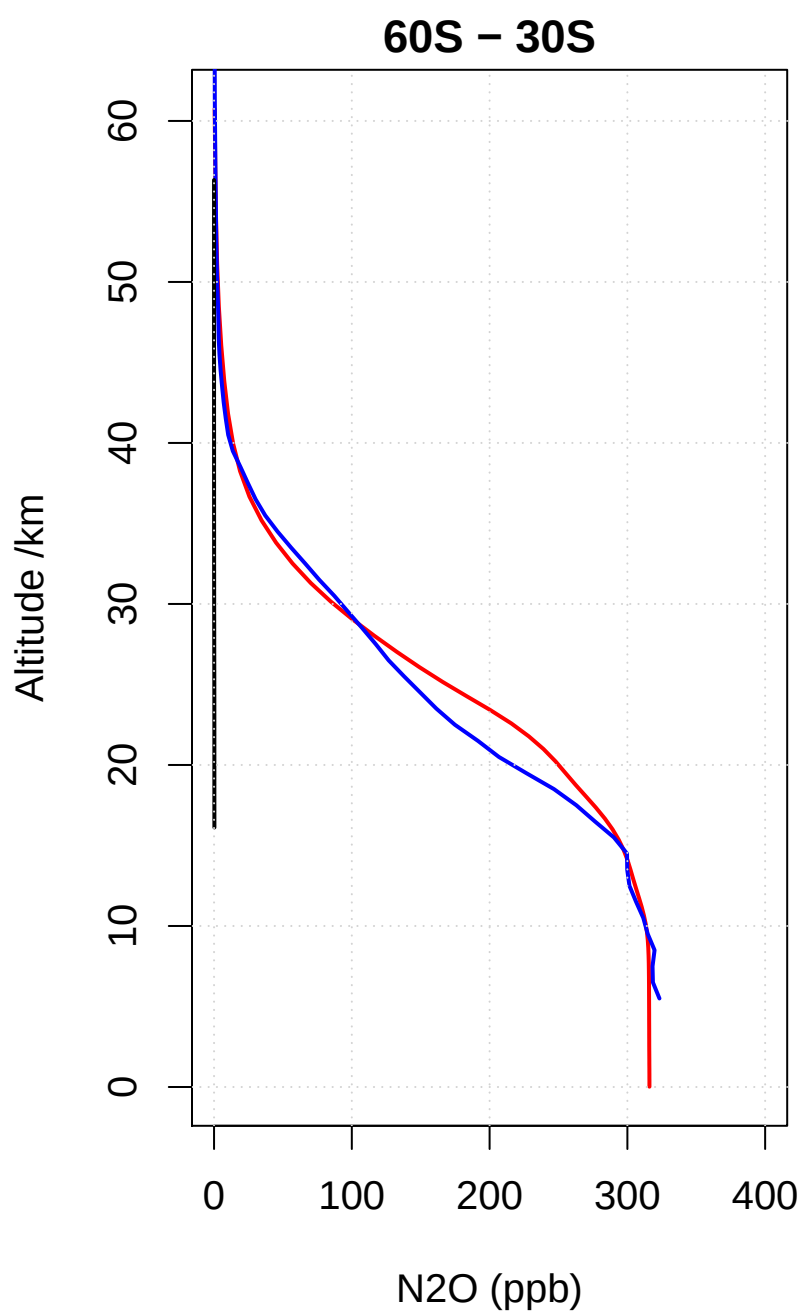
UKCA Ox deposition xhklk

Total Ox Deposition = 912 Tg/yr



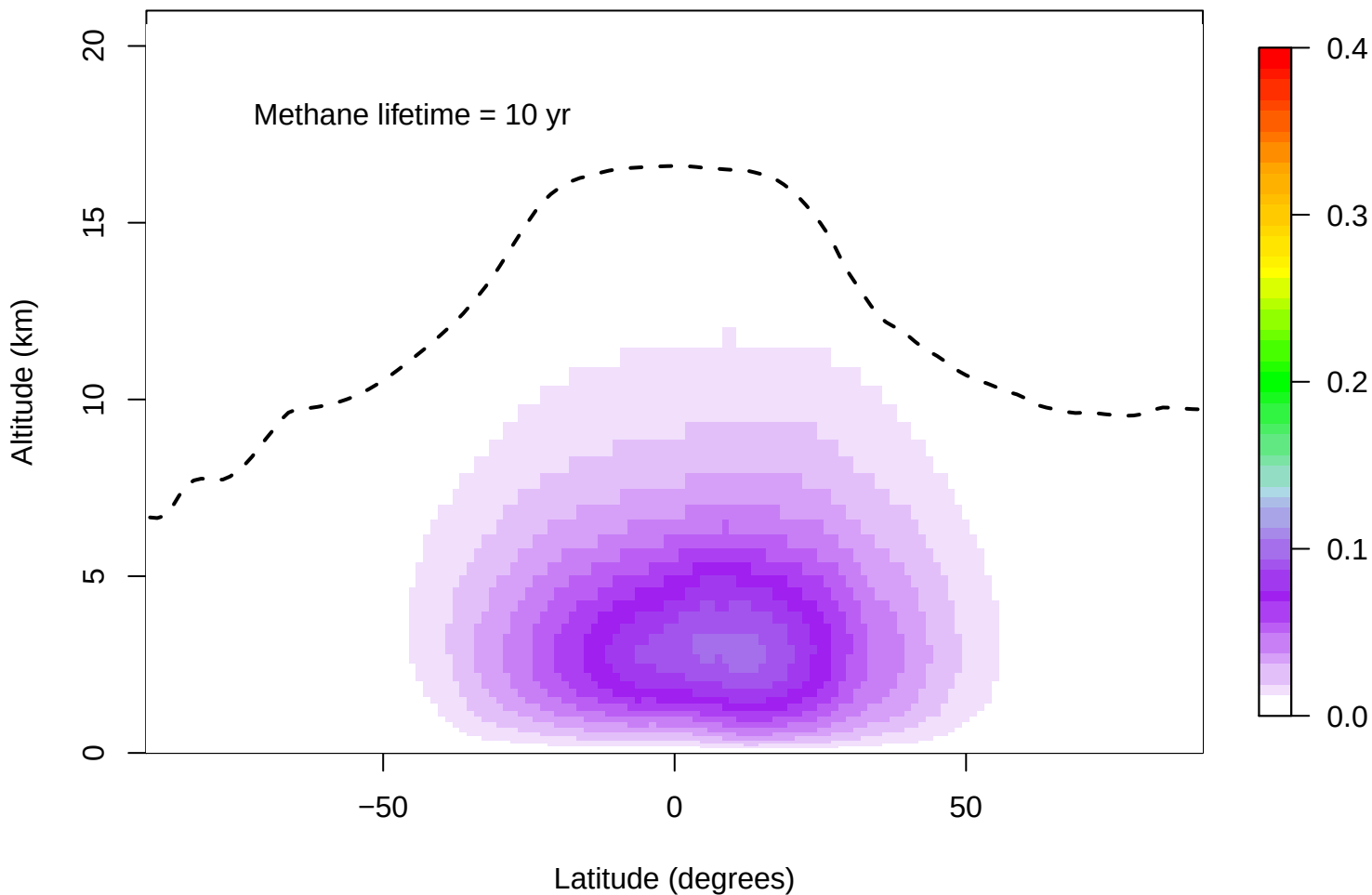




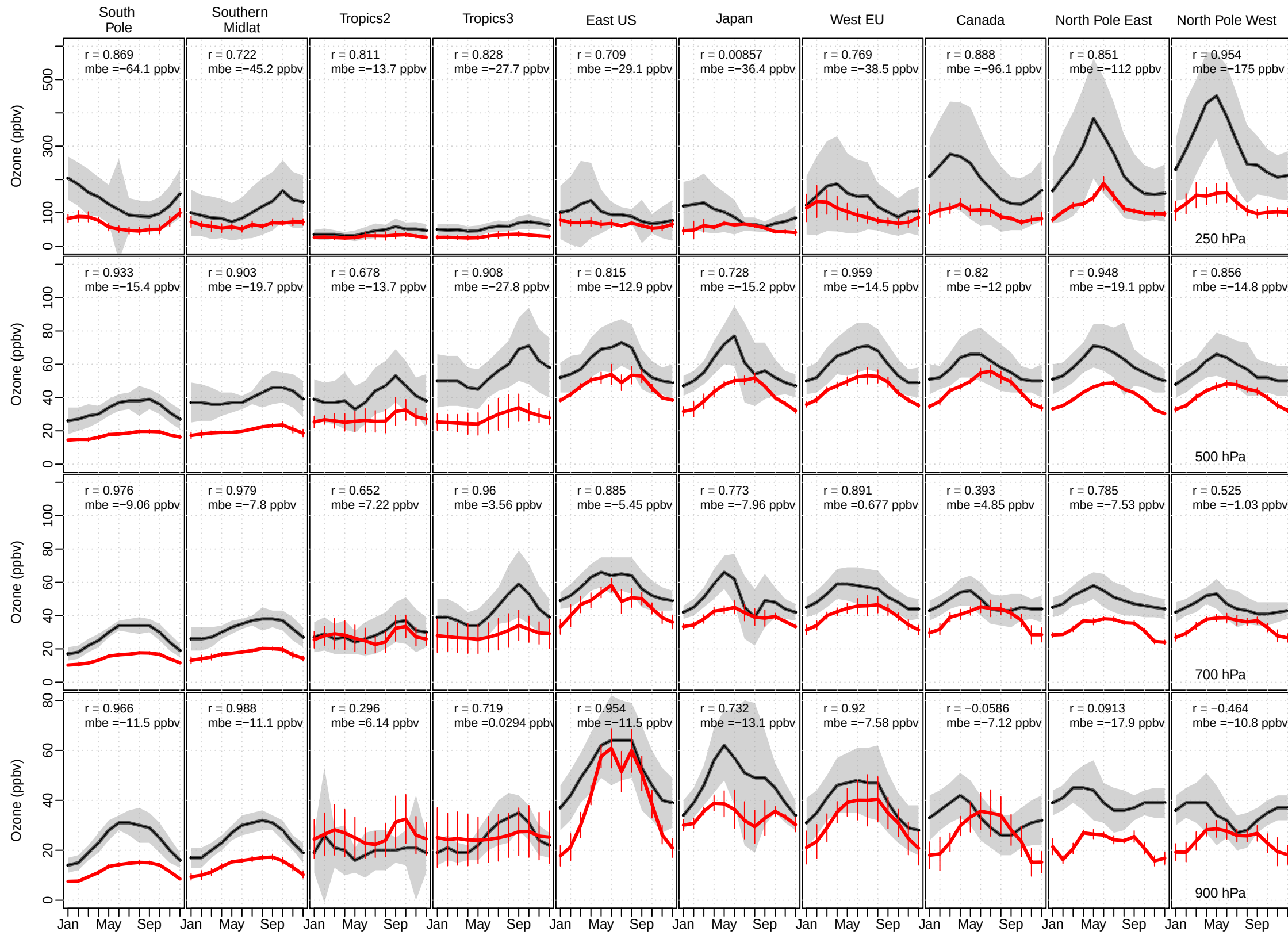


UKCA xhklk

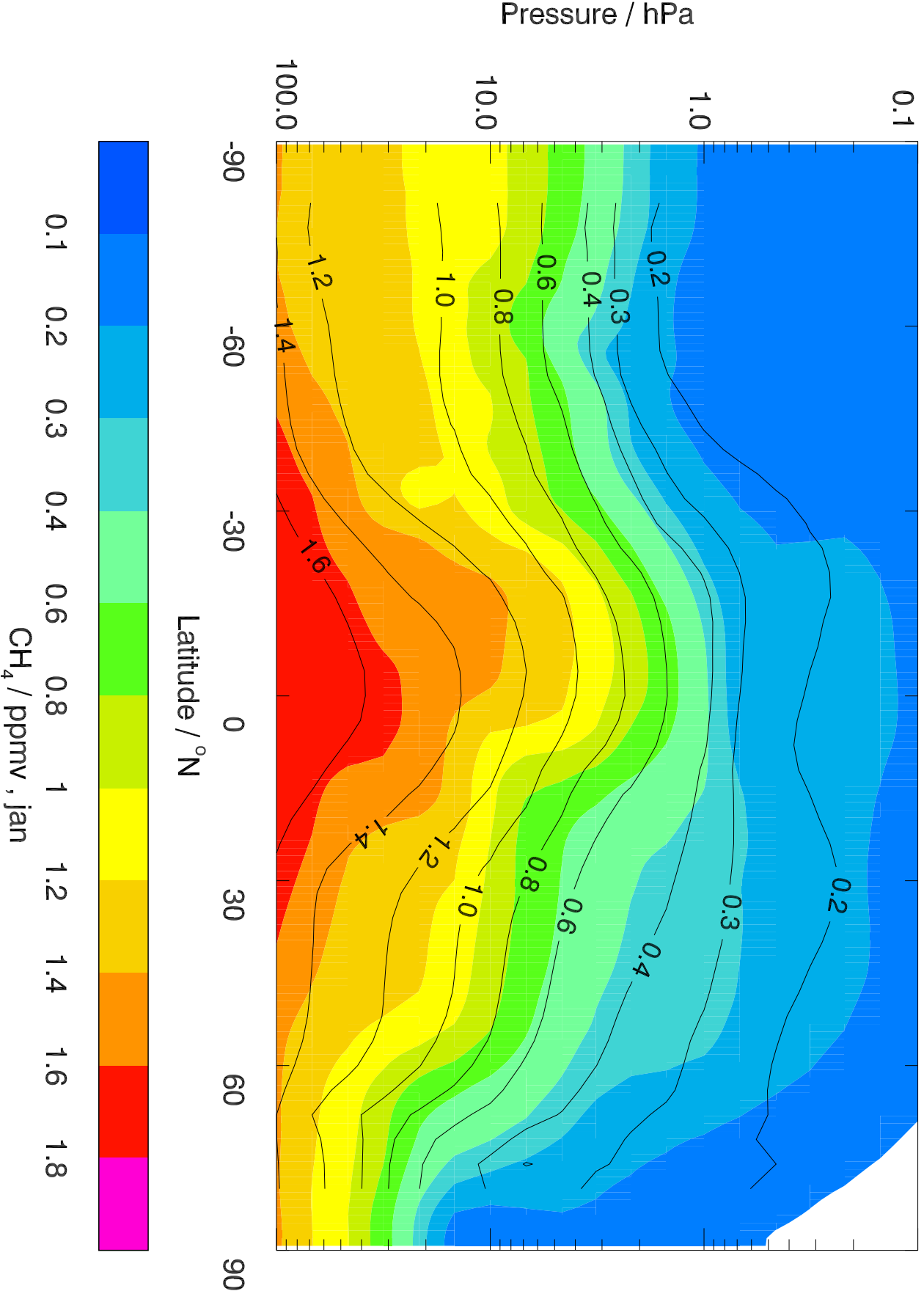
% CH₄ + OH flux (moles cm⁻³ s⁻¹)



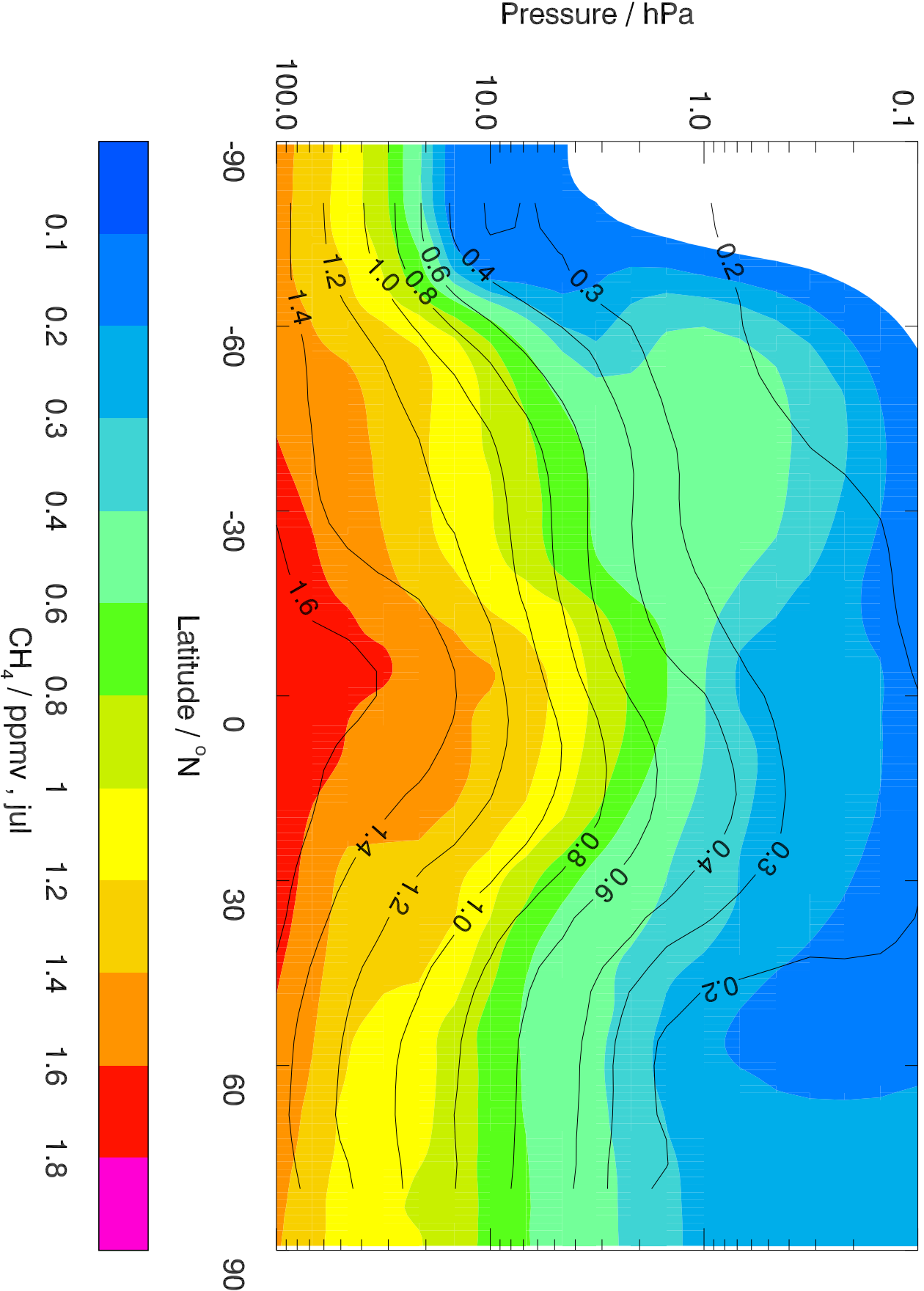
xhklk Tilmes ozone sonde comparison



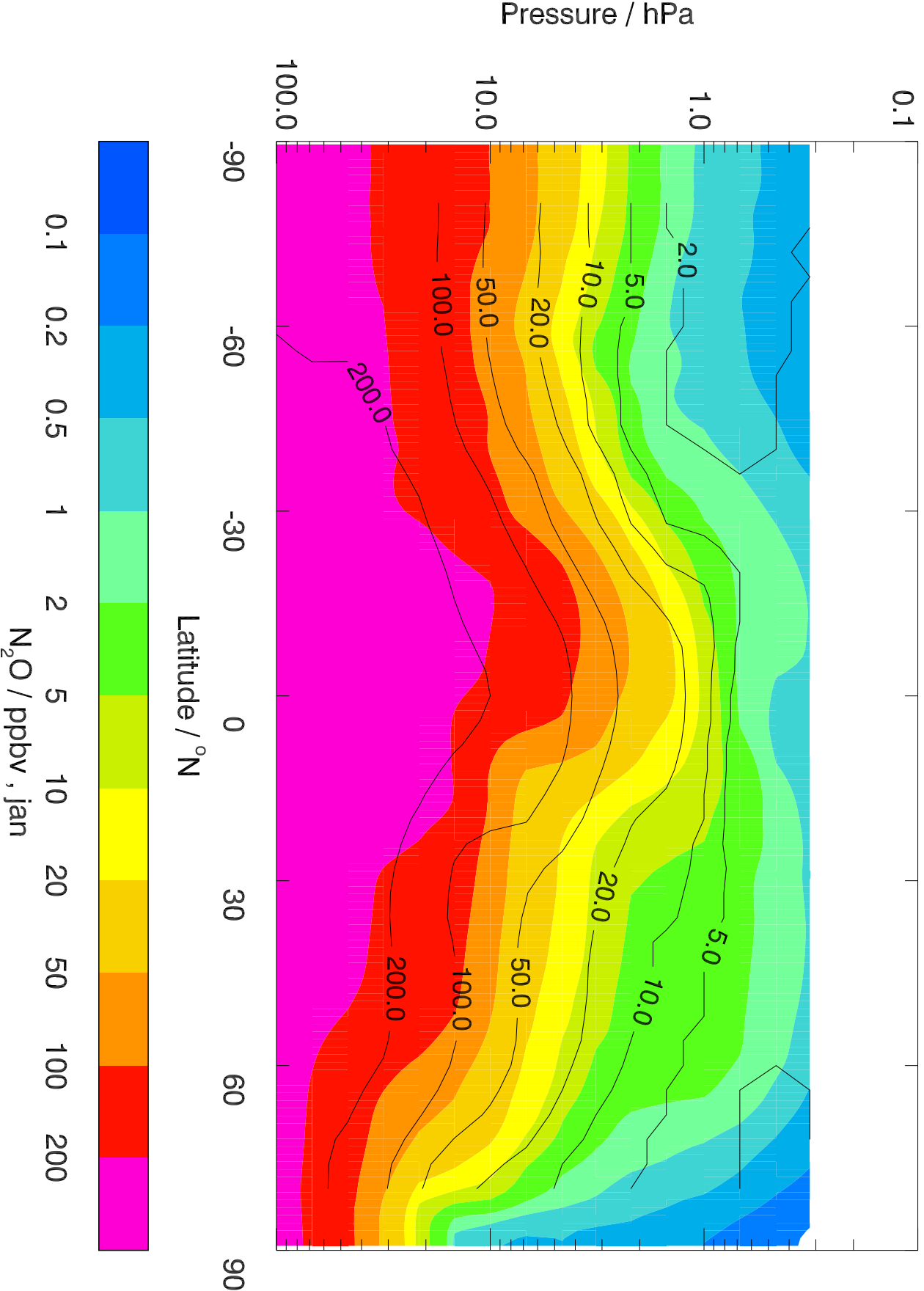
Colours: UKCA (XHLK), Contours: HALOE



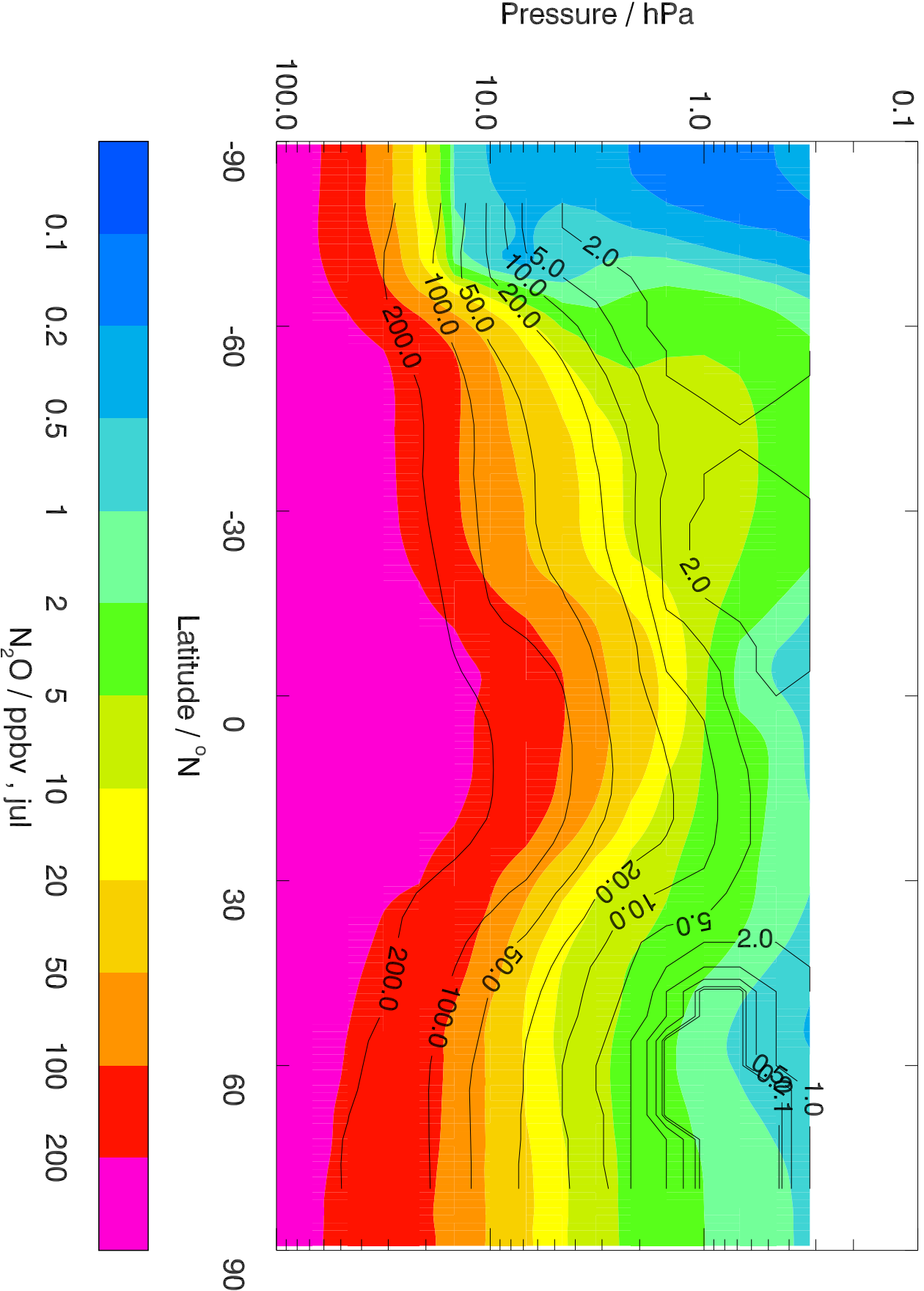
Colours: UKCA (XHLK), Contours: HALOE



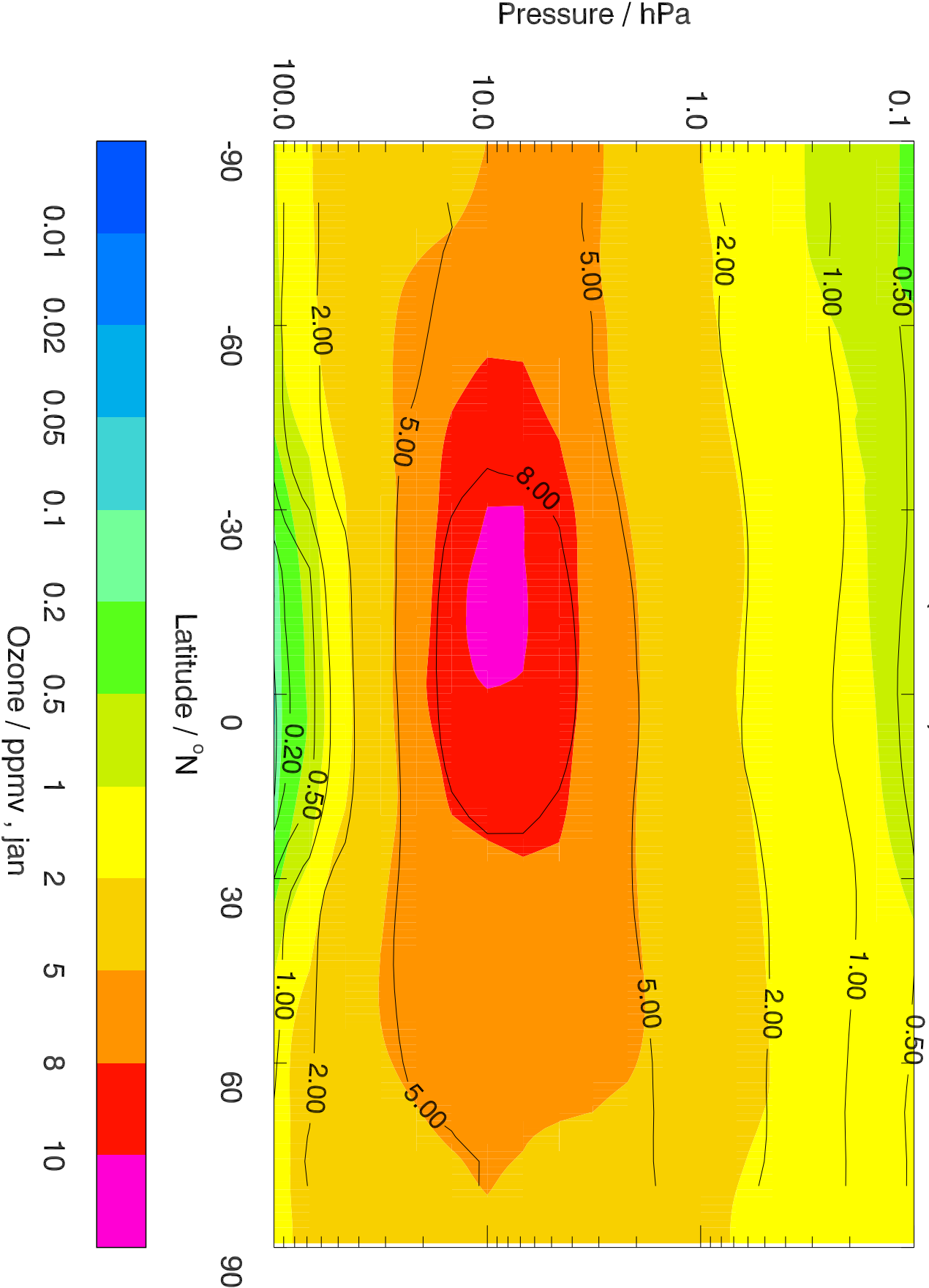
Colours: UKCA (XHLK), Contours: HALOE



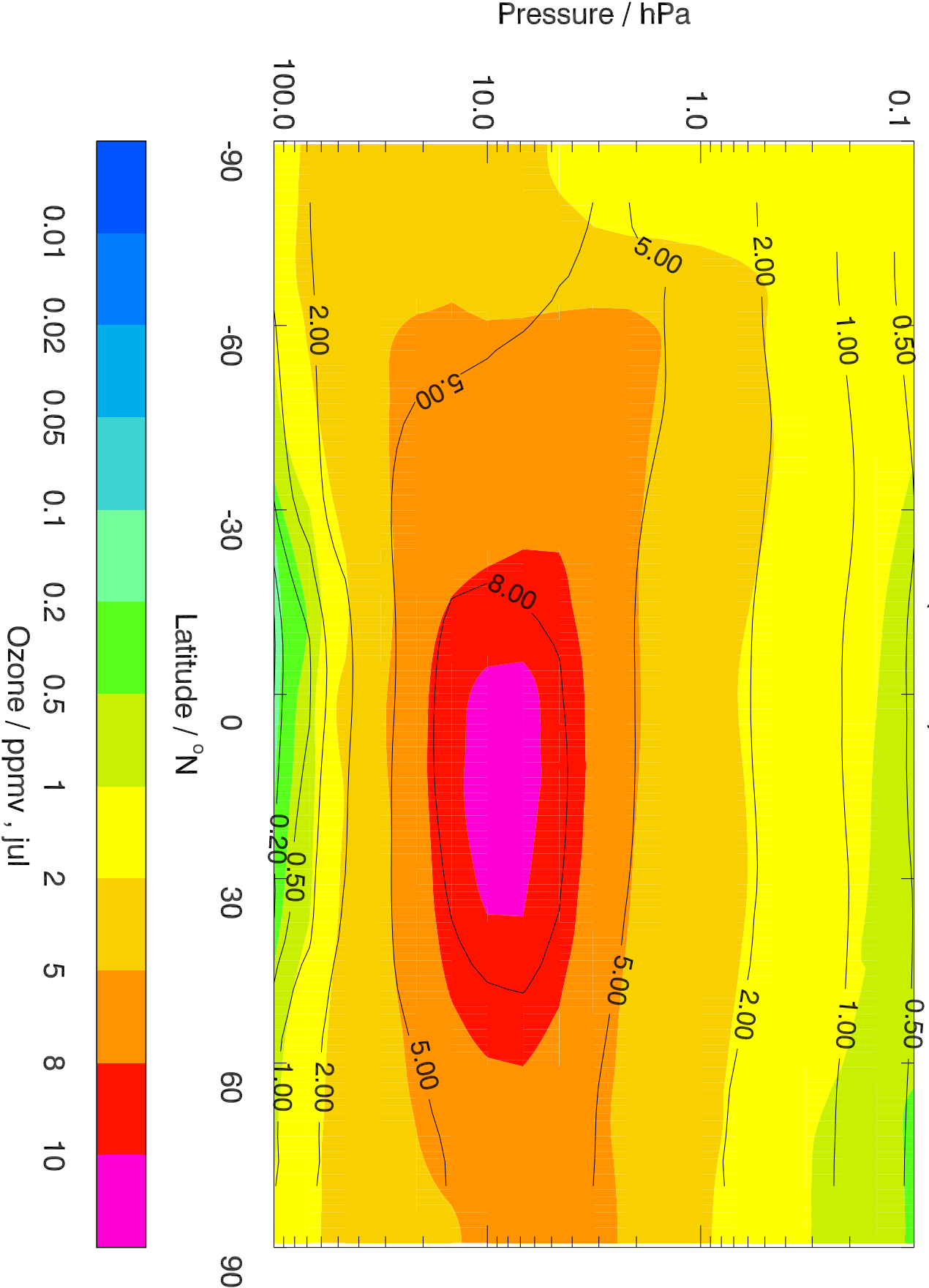
Colours: UKCA (XHLK), Contours: HALOE



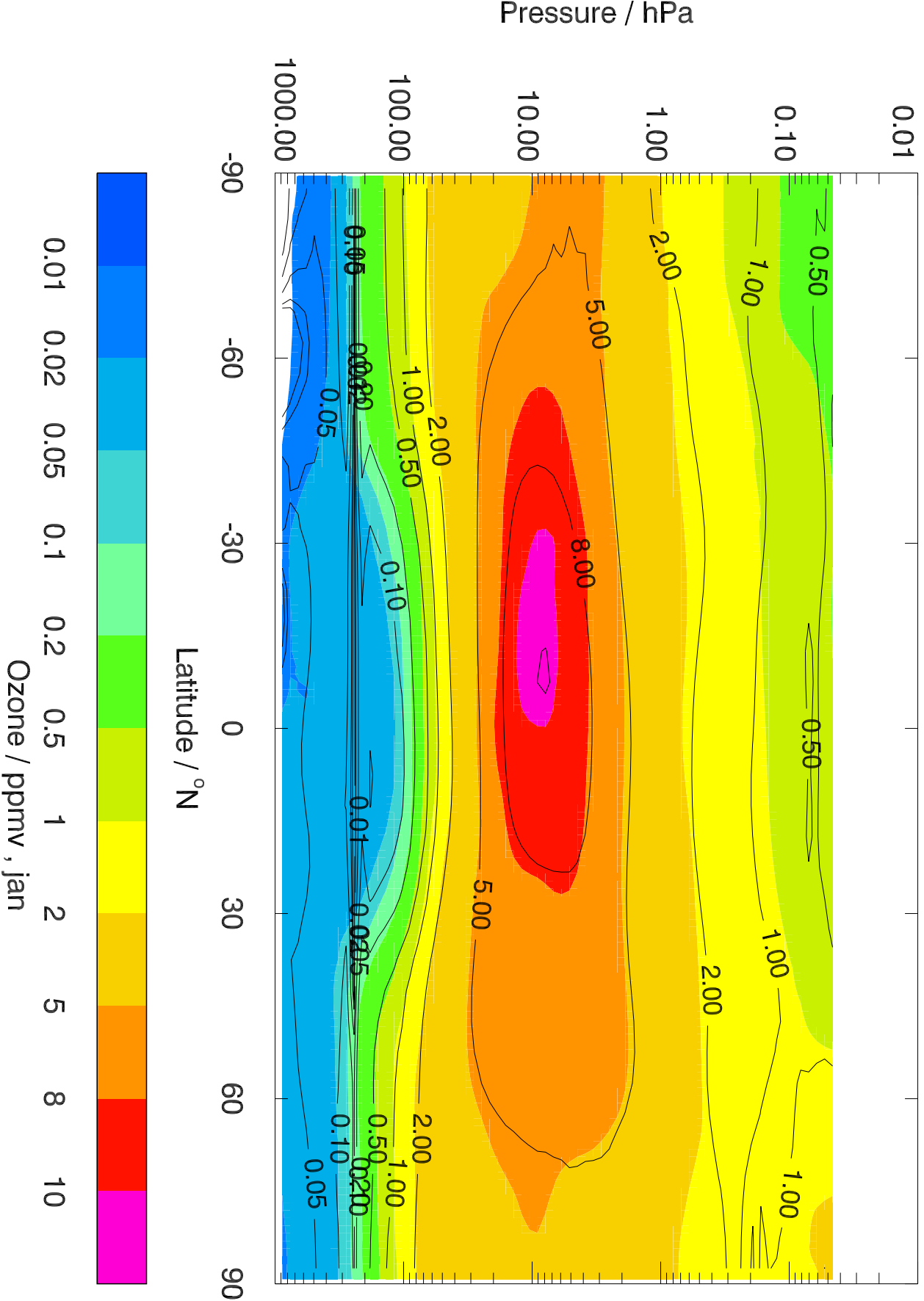
Colours: UKCA (XHKLK), Contours: HALOE



Colours: UKCA (XHLK), Contours: HALOE



Colours: UKCA (XHKLK), Contours: NIVA-CCMVal



Colours: UKCA (XHKLK), Contours: NIVA-CCMVal

