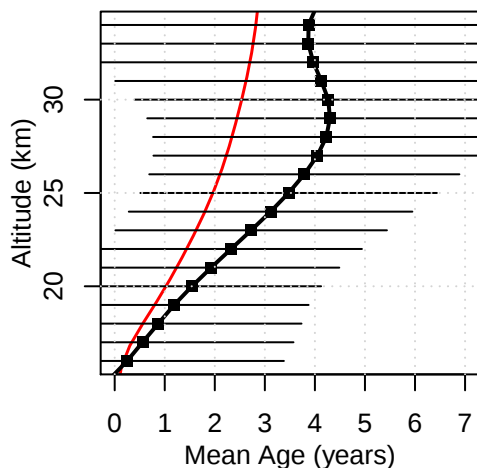
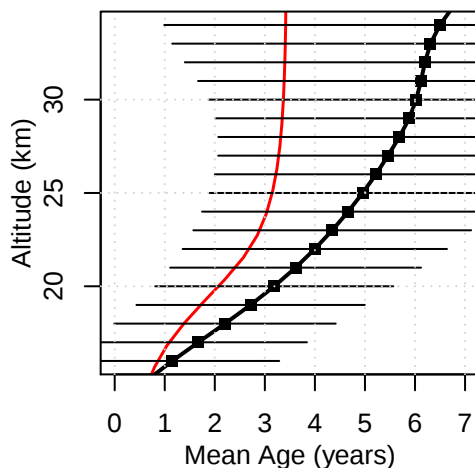


UKCA xjcir Mean Age of Air

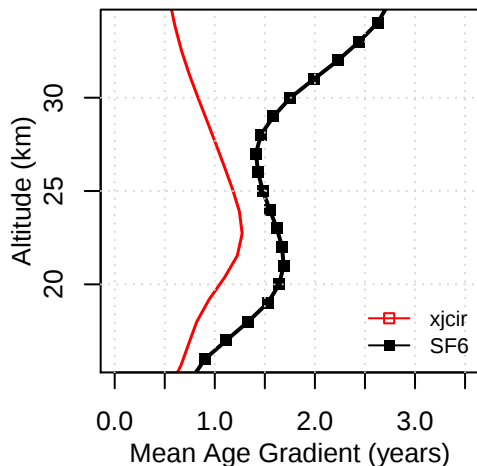
Tropical Mean Age Profile



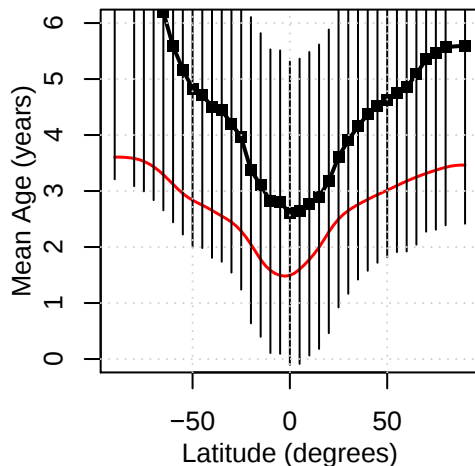
Midlatitude Mean Age Profile



Trop-Midlat Mean Age Gradient Prof



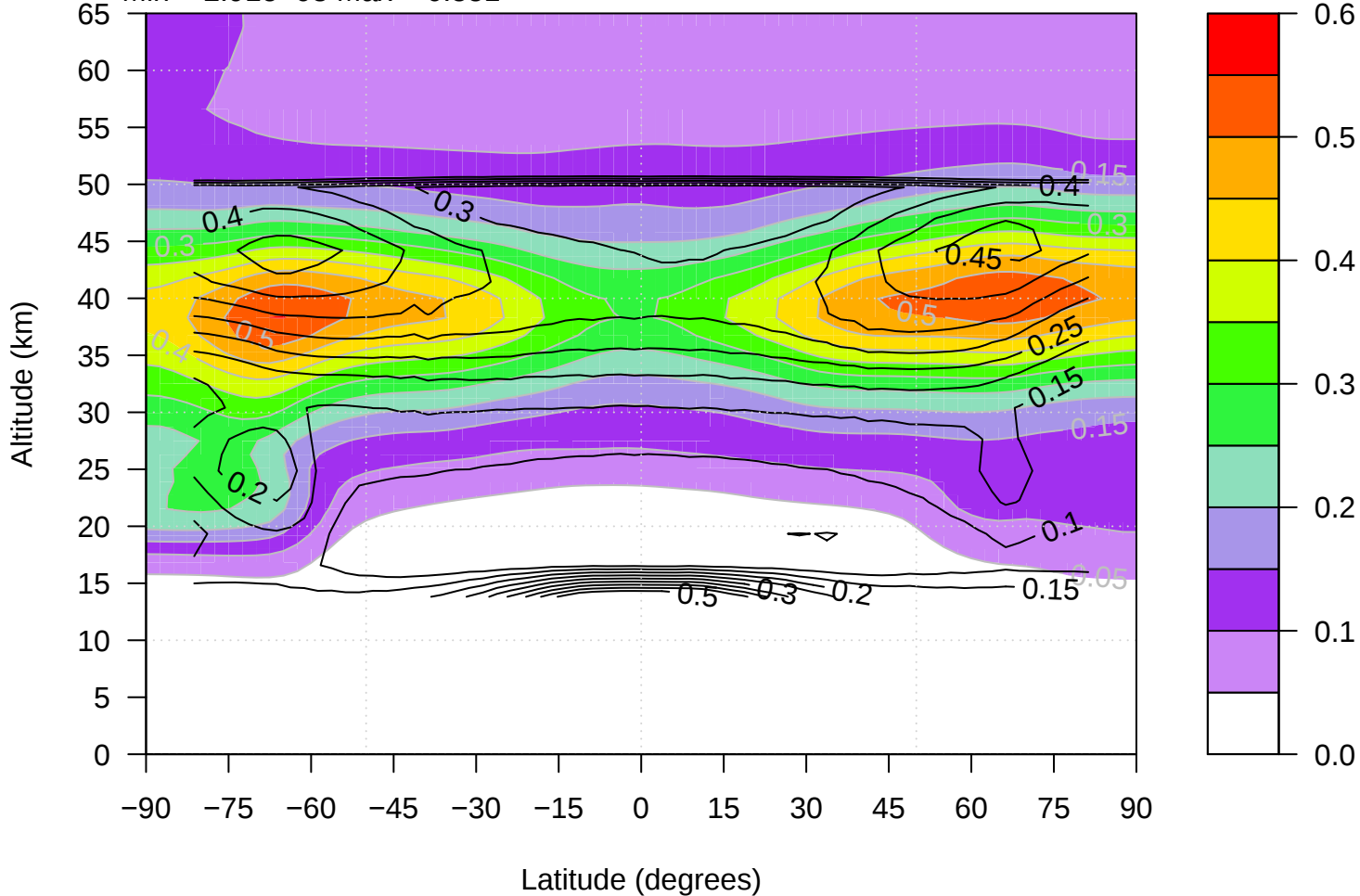
Mean Age, 23km (~50hPa)

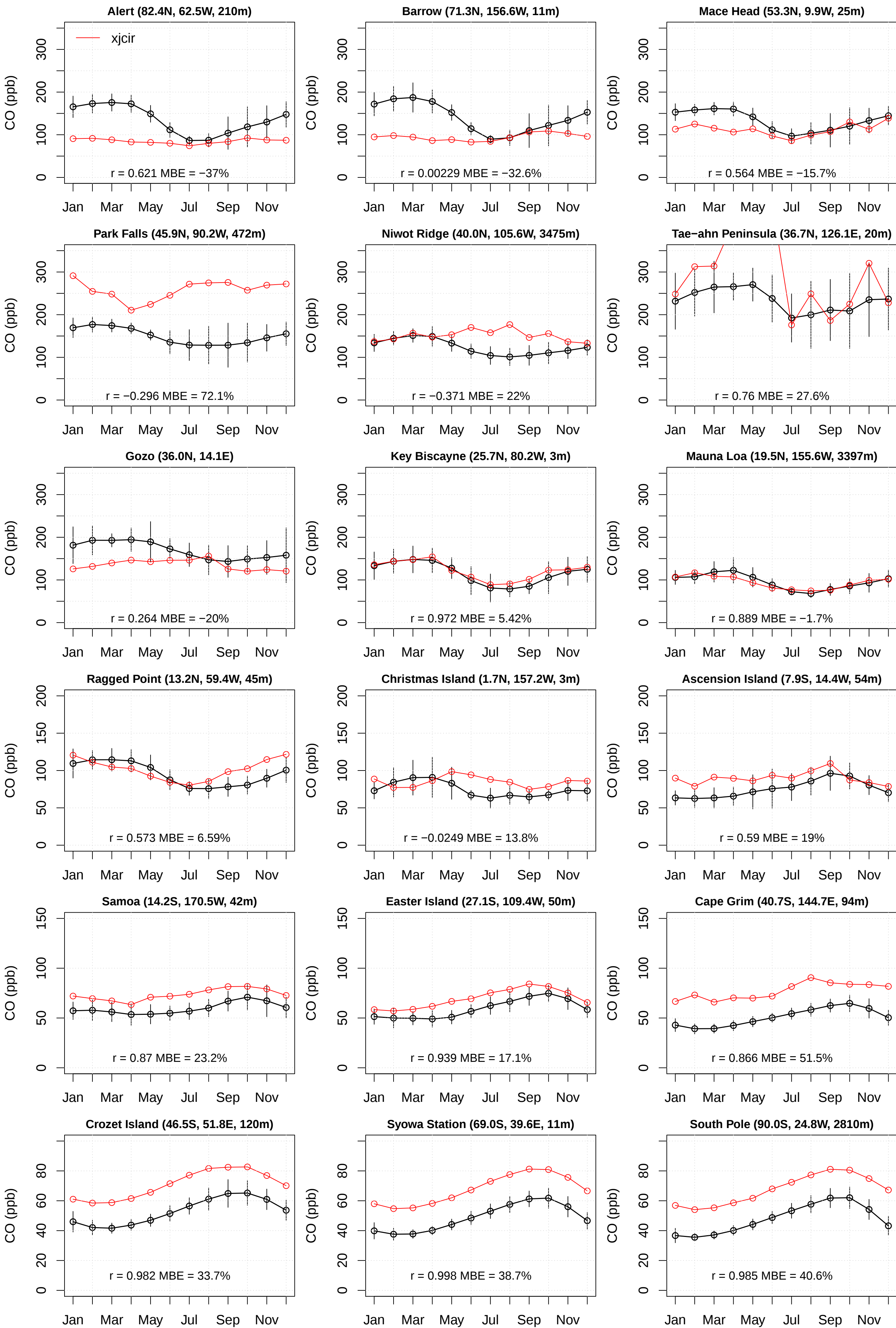


MLS – UKCA xjcir CIO comparison

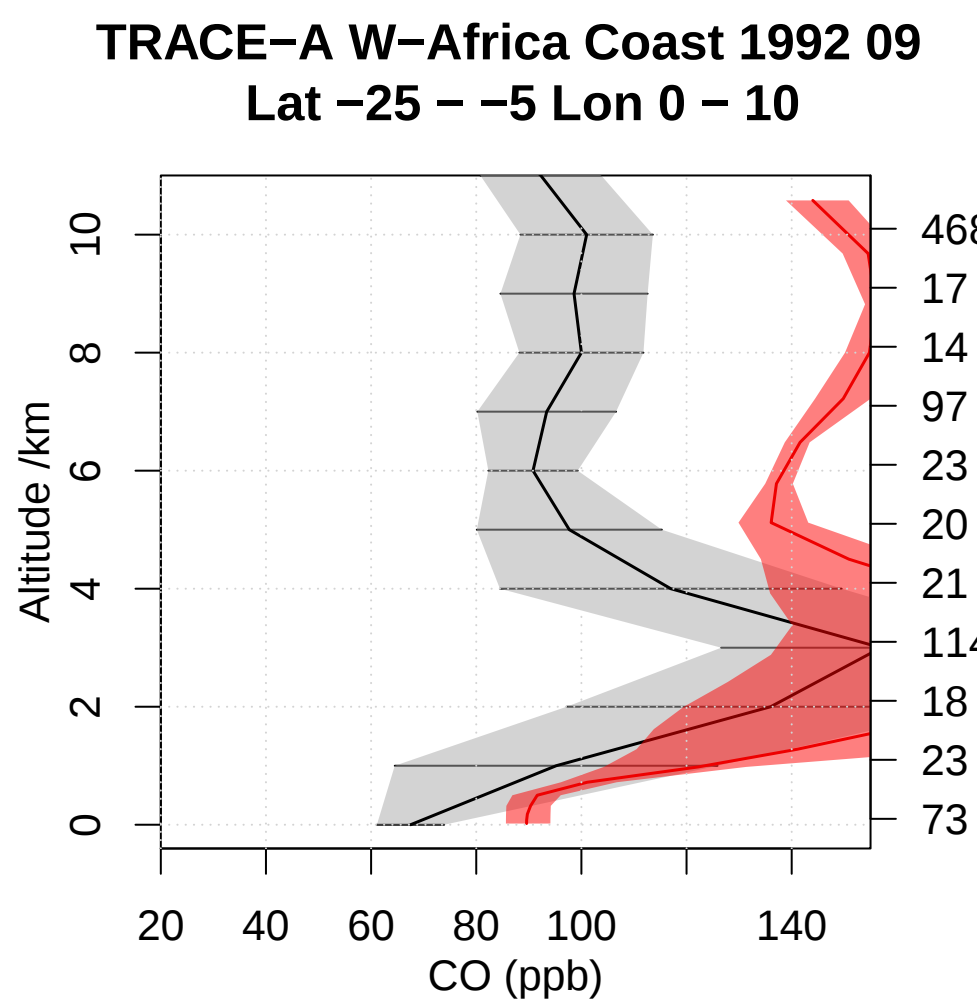
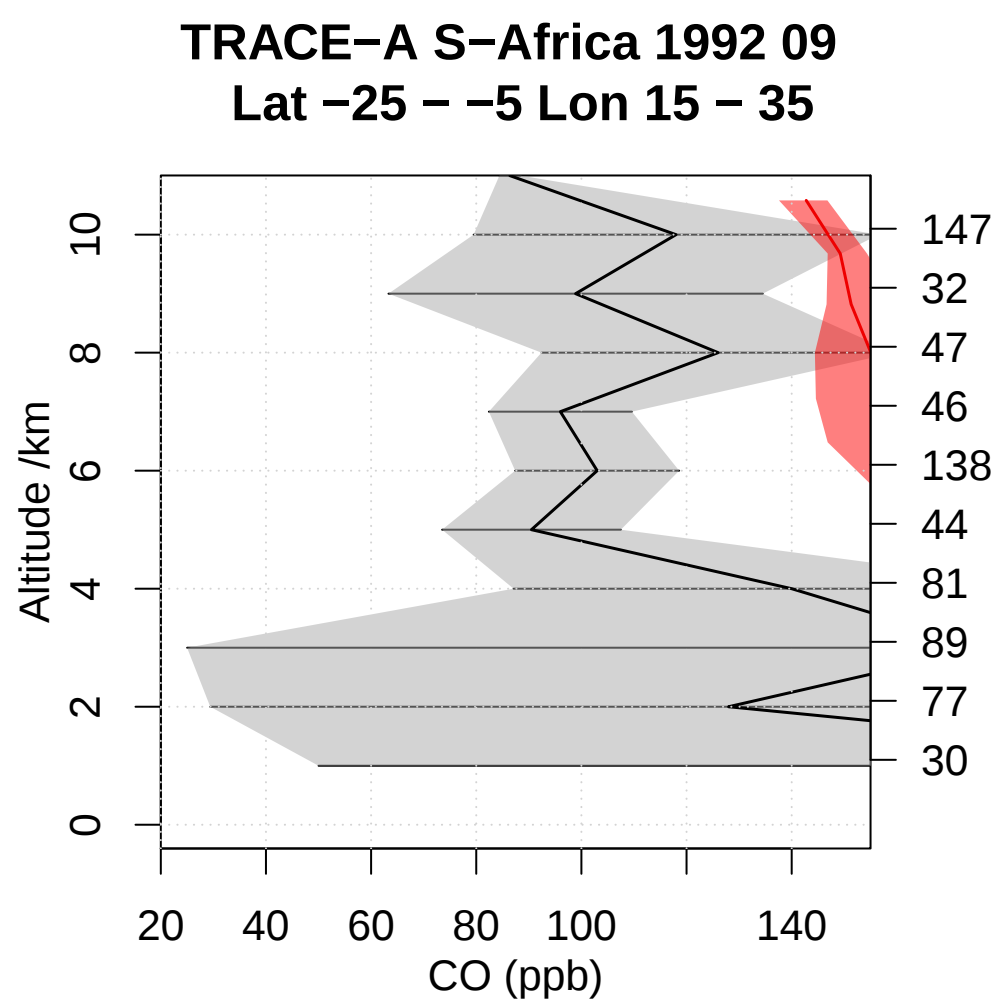
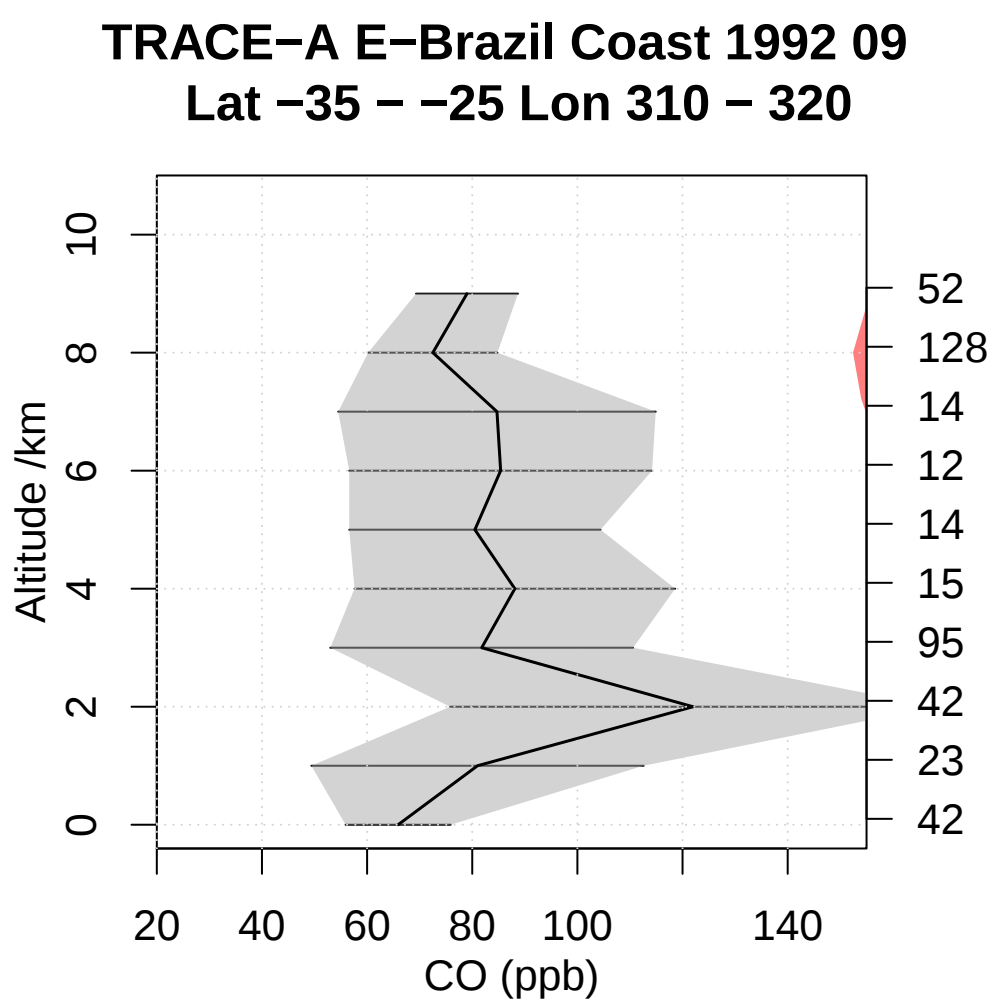
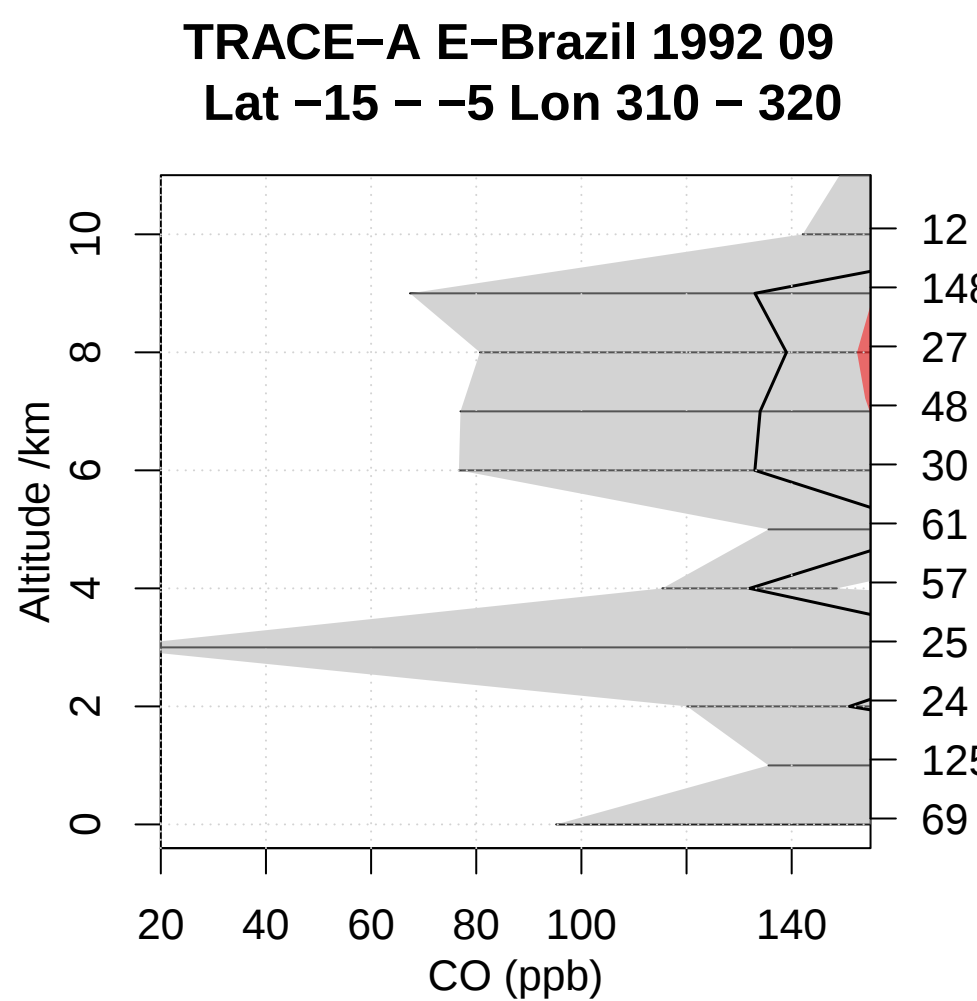
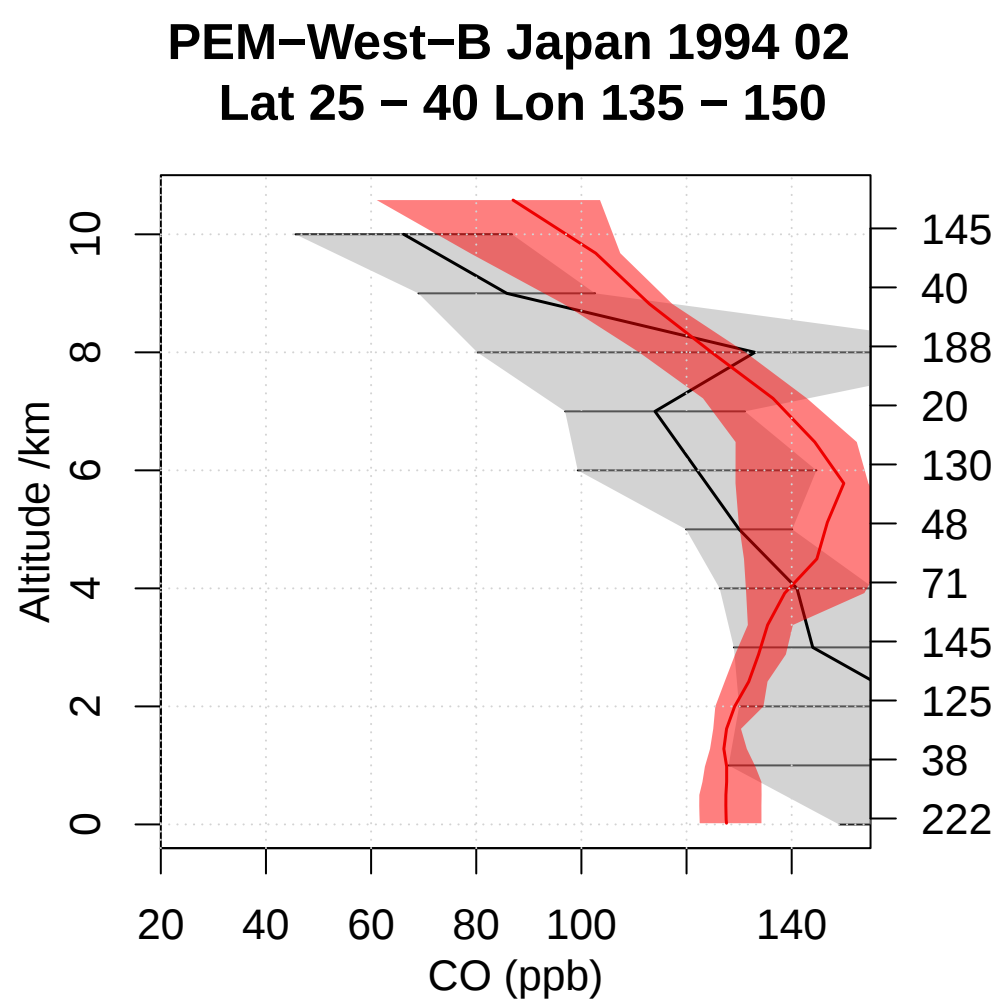
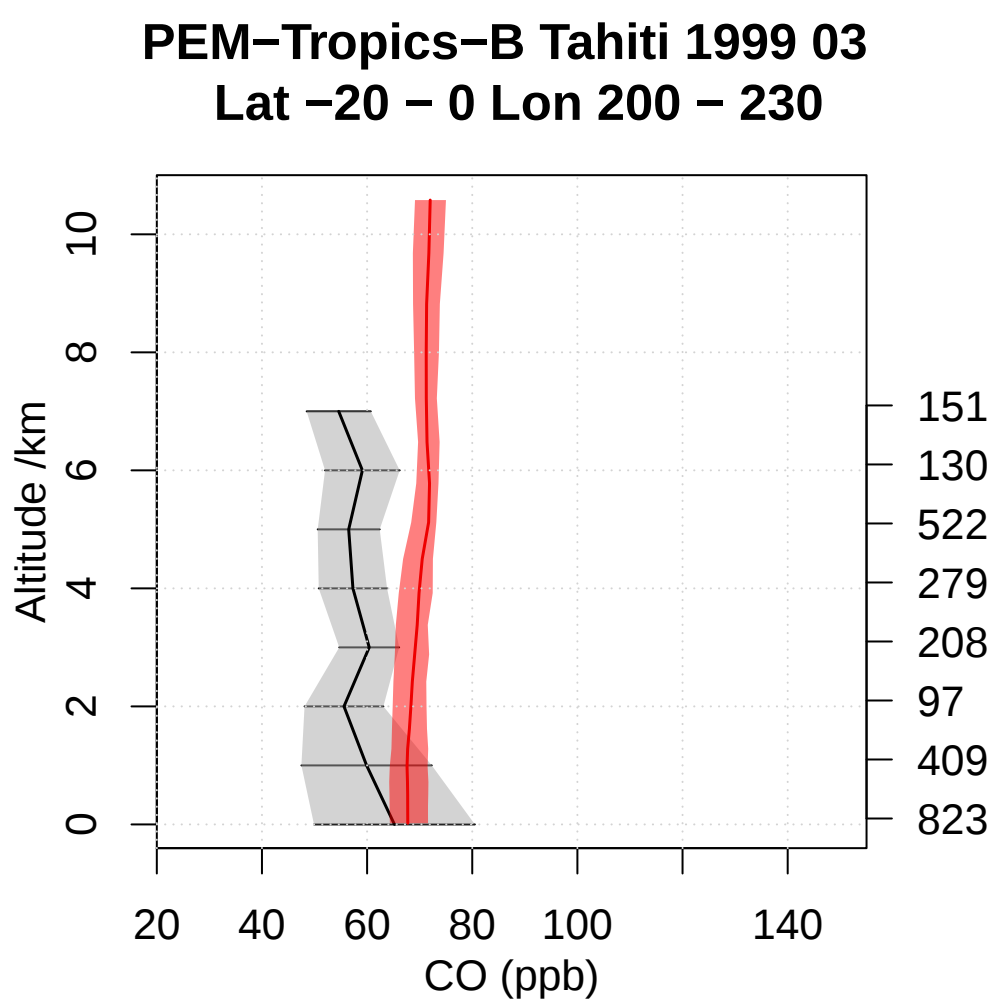
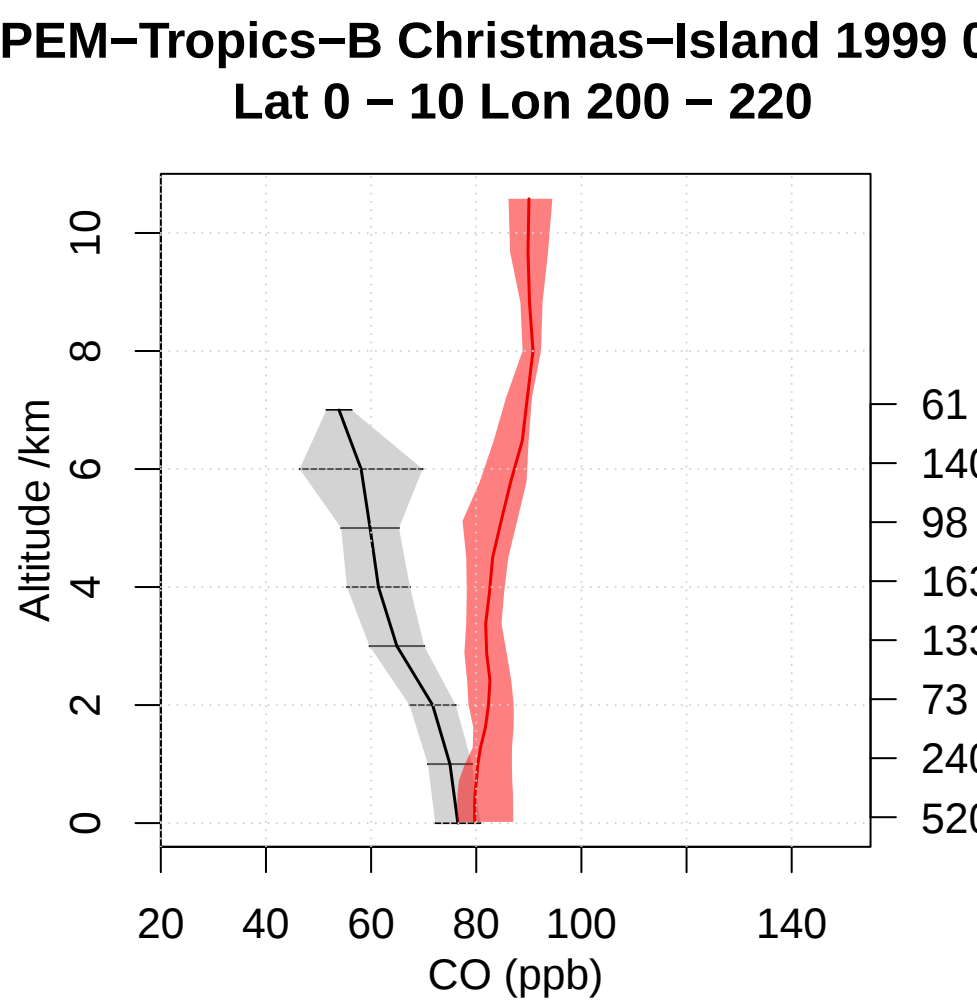
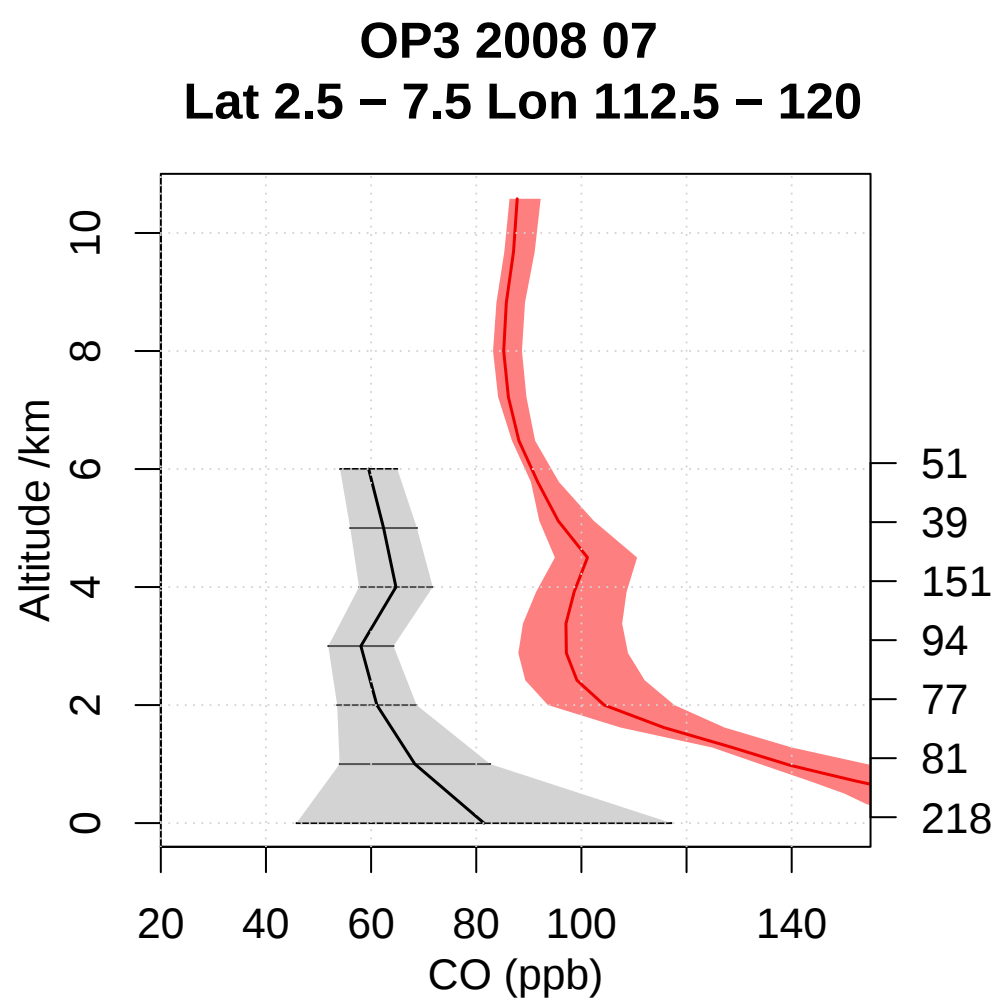
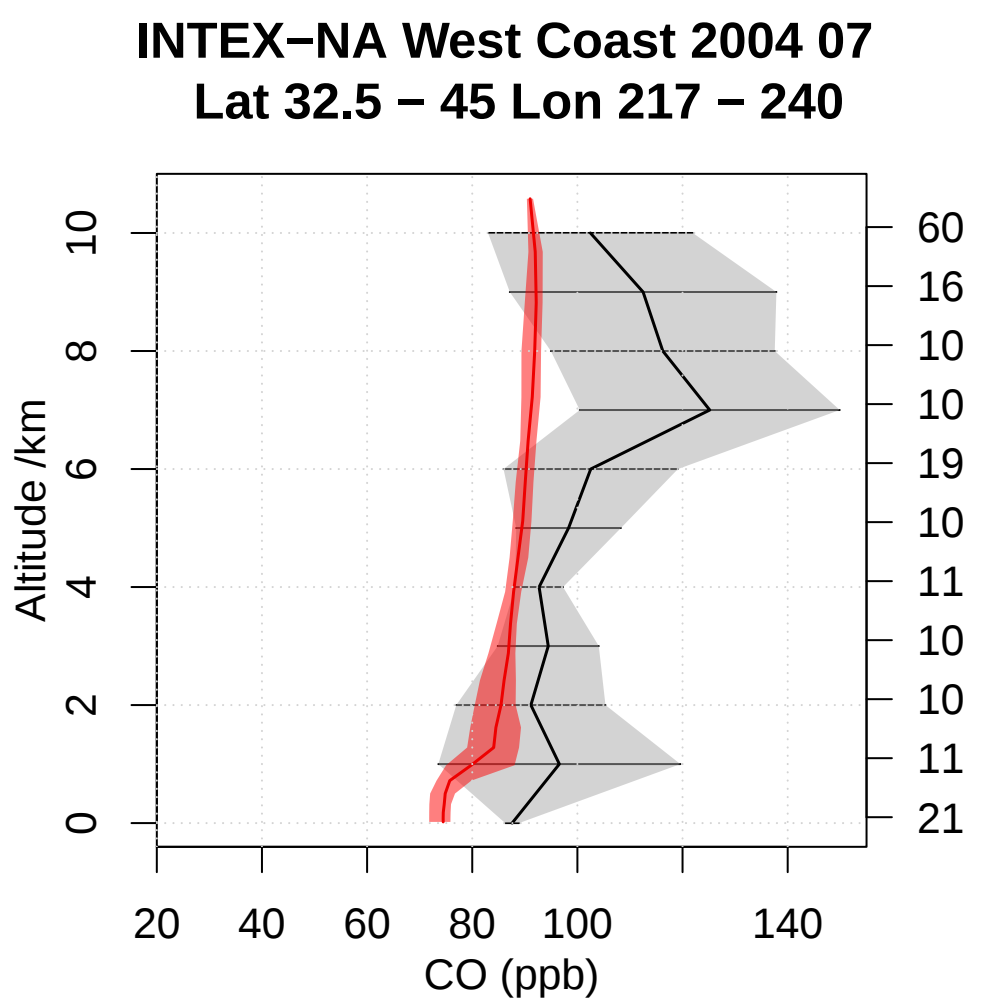
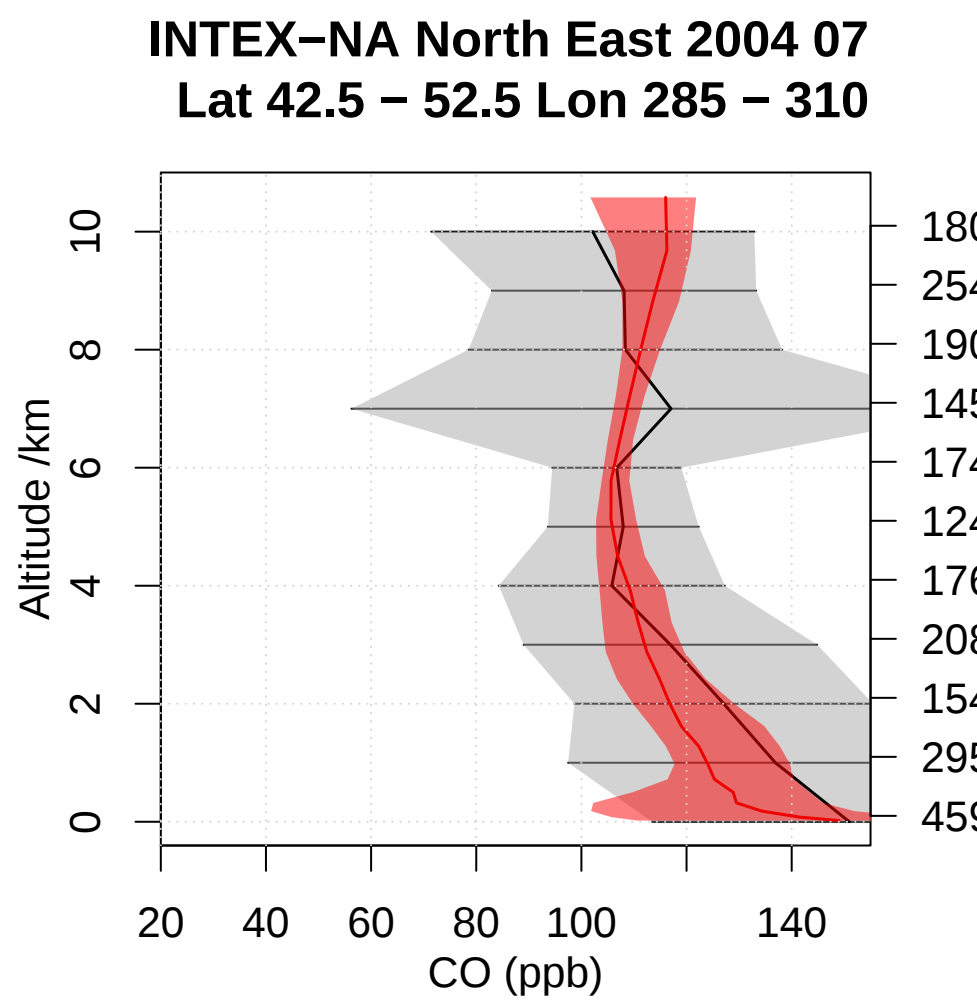
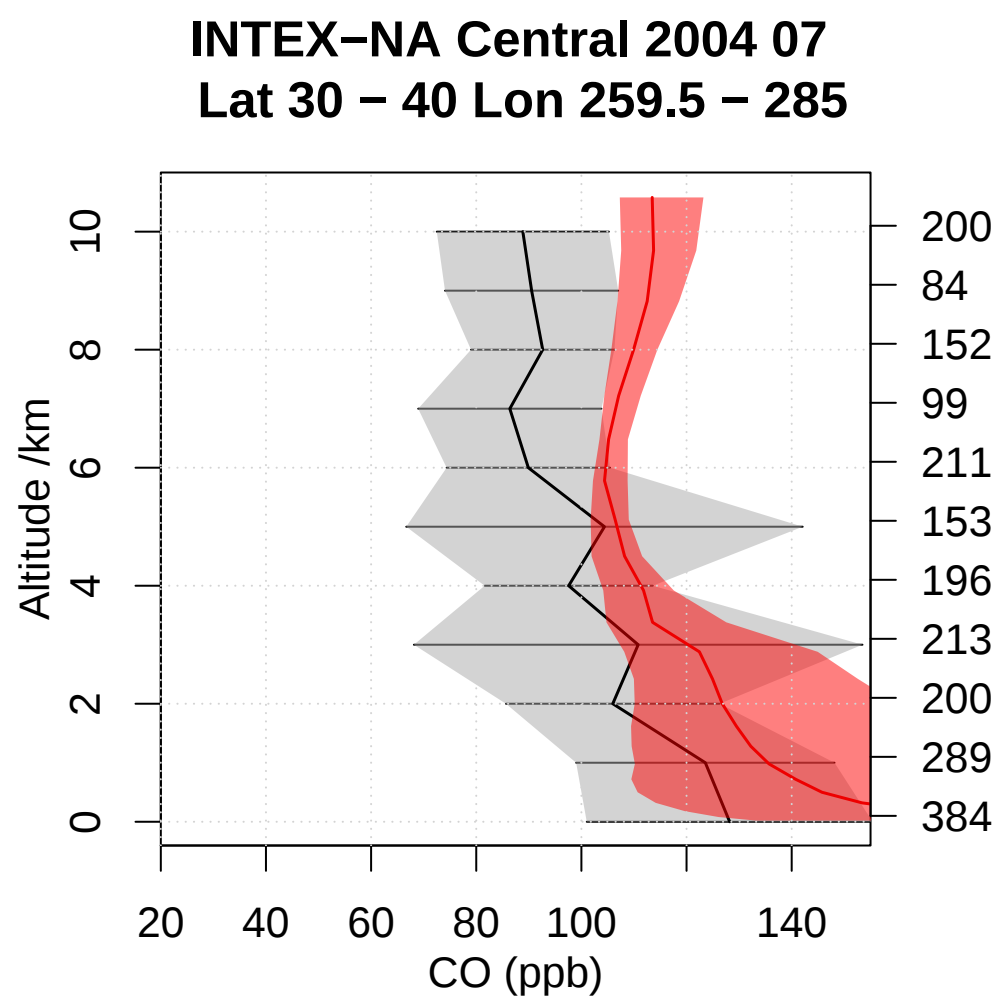
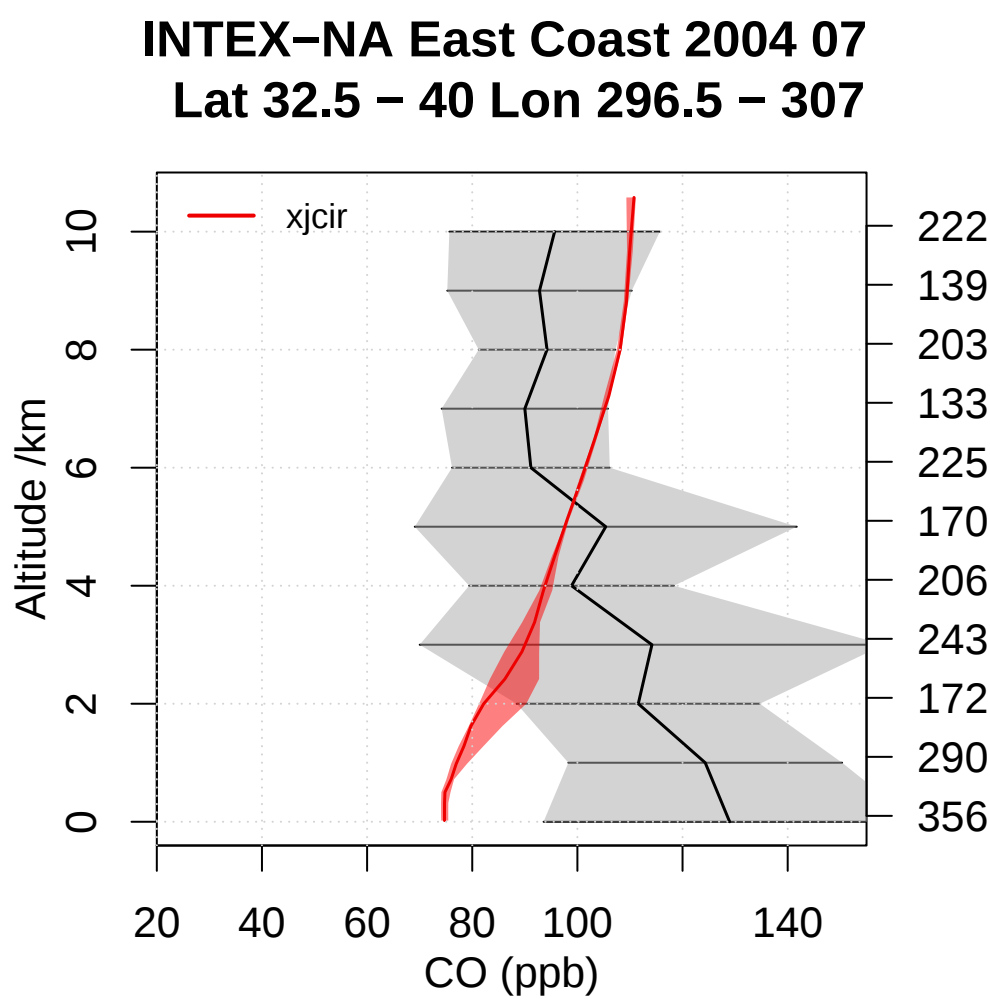
ppm

Min = 2.91e-08 Max = 0.551

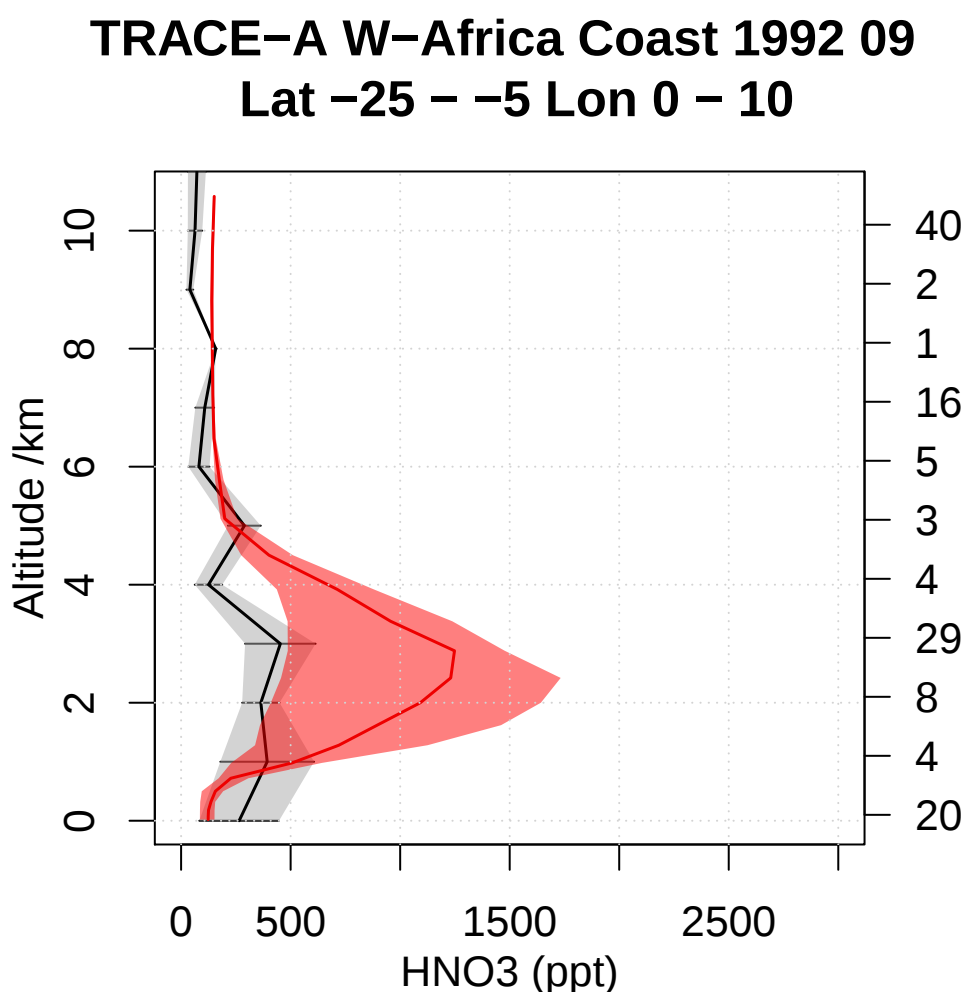
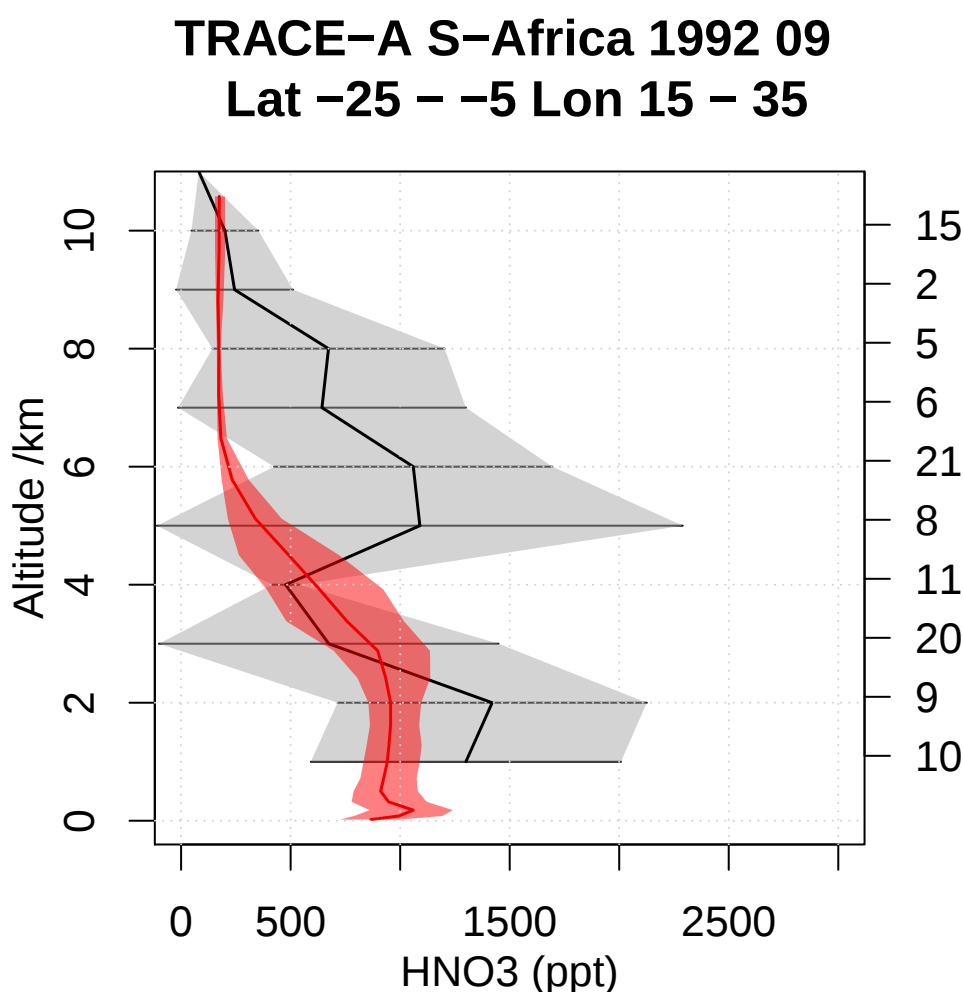
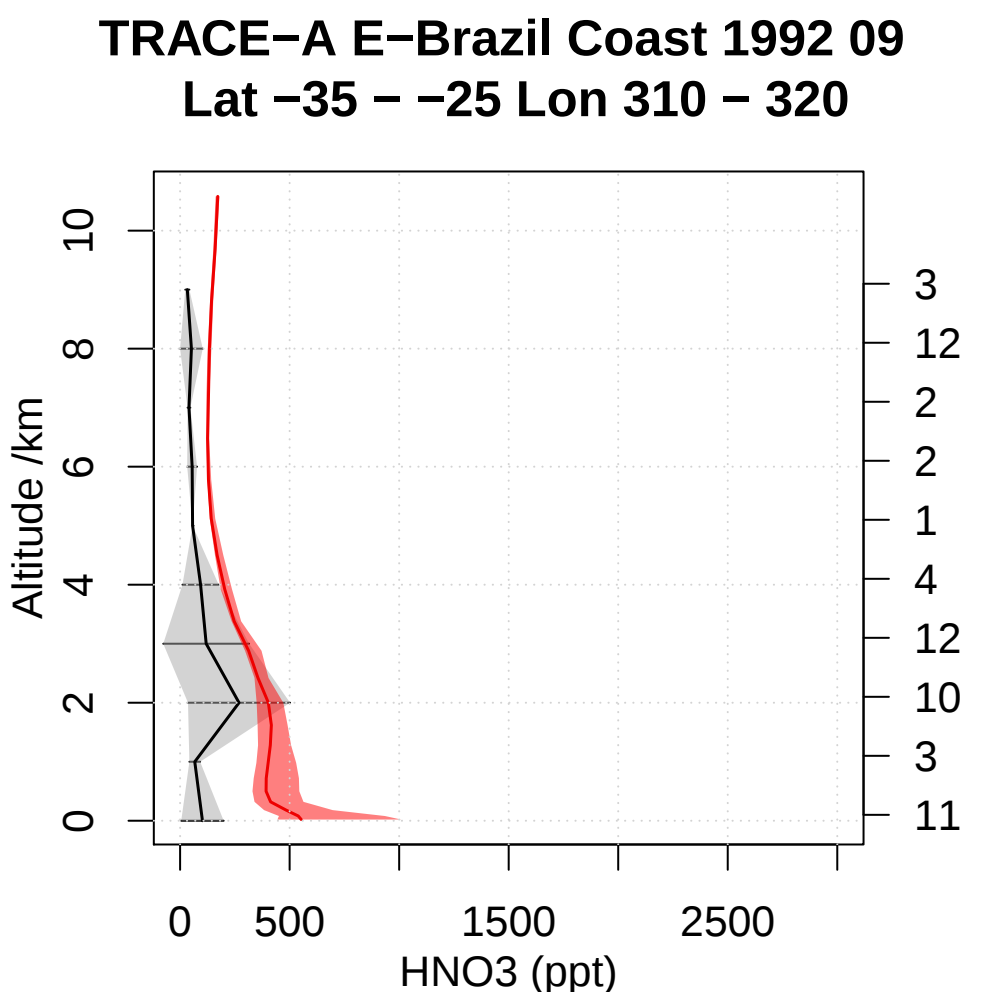
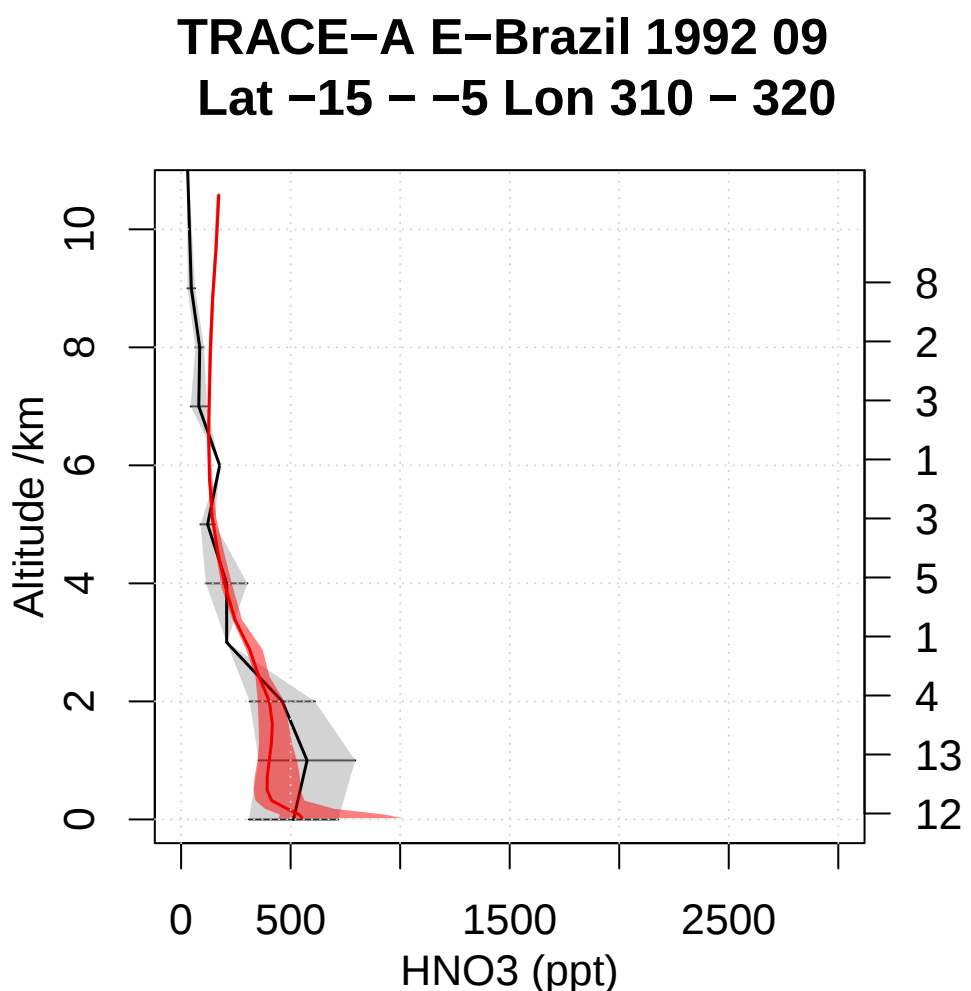
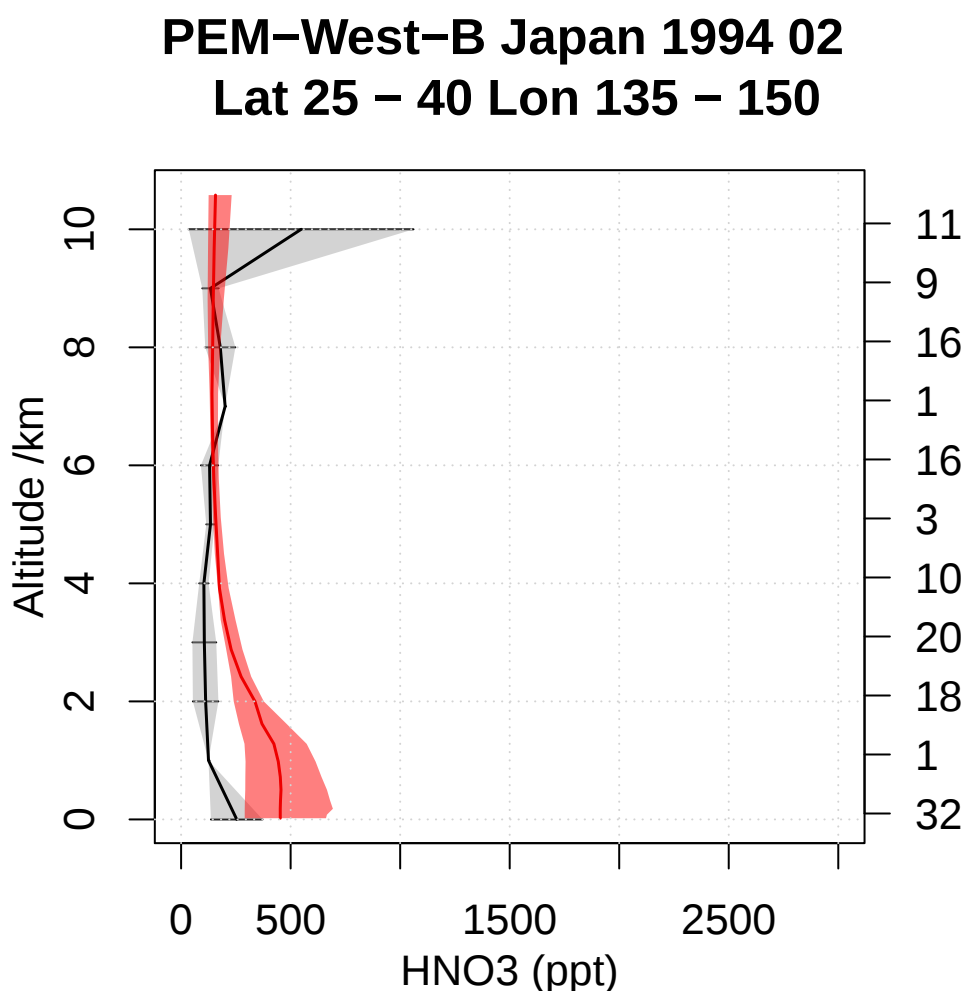
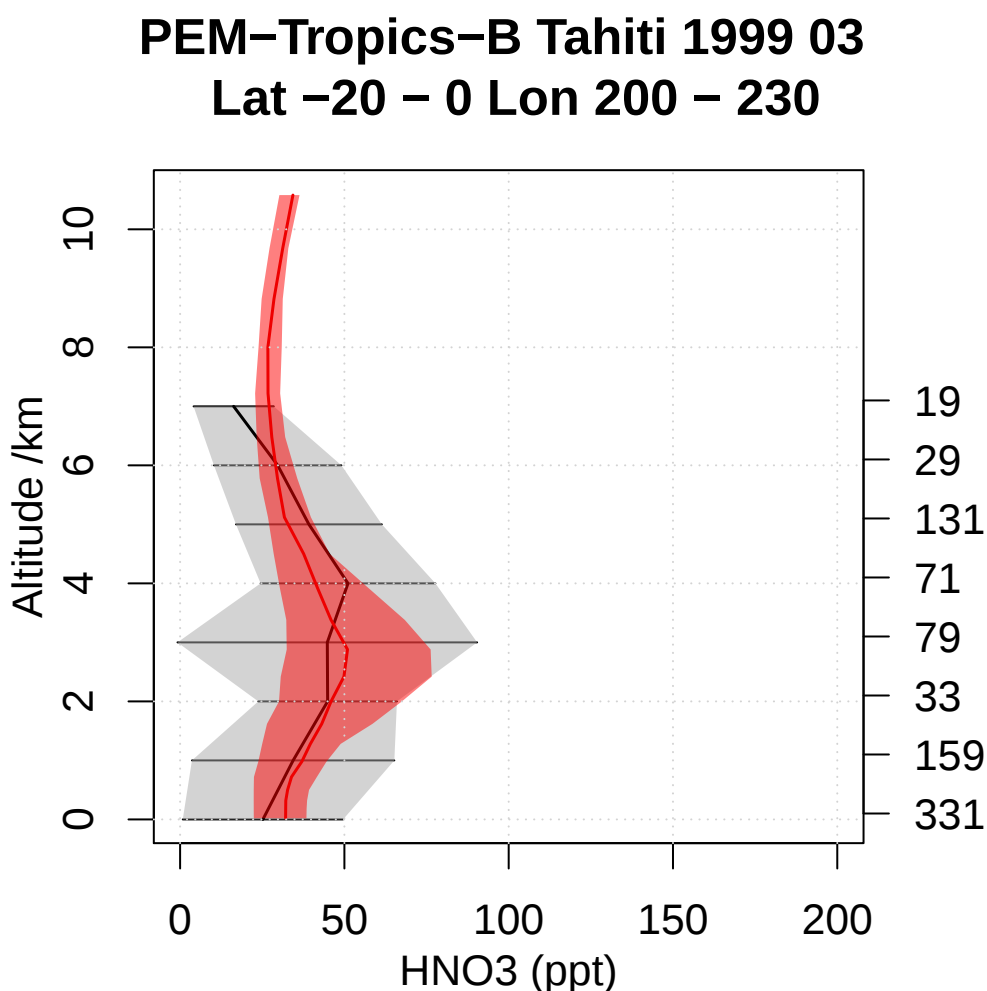
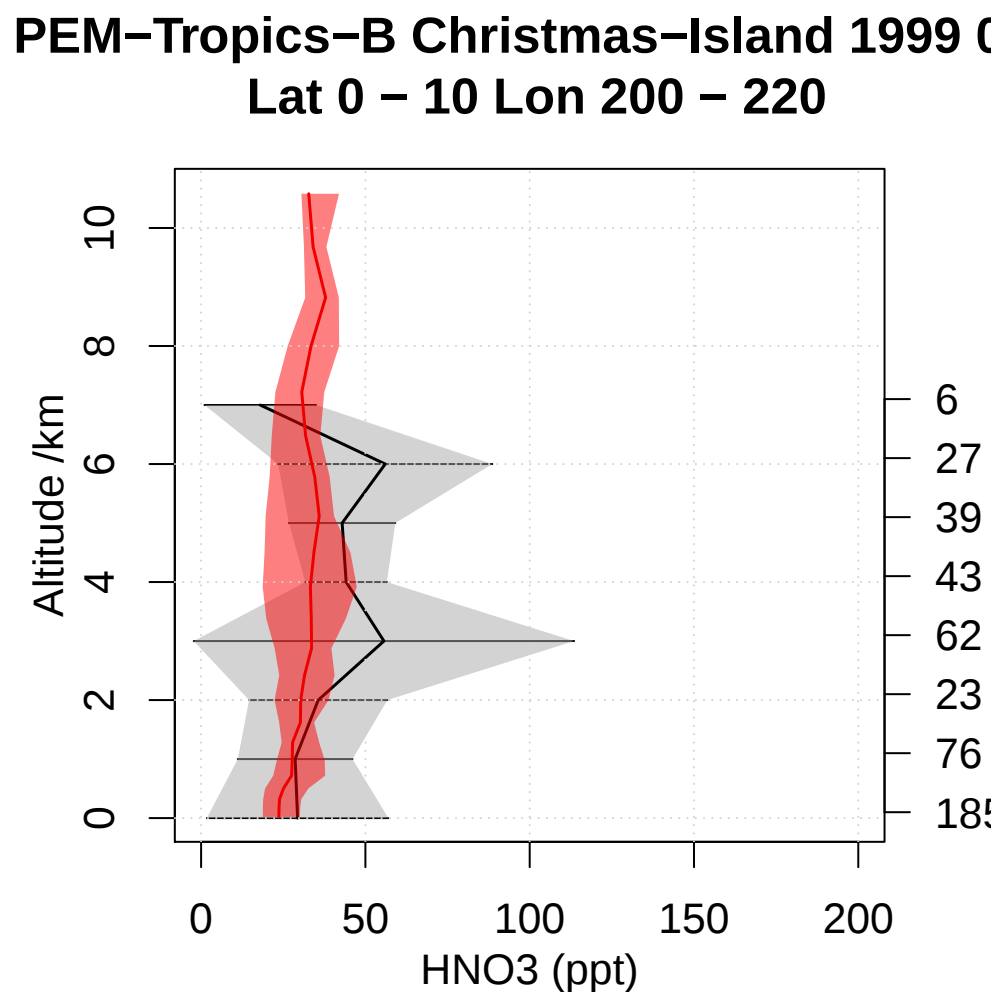
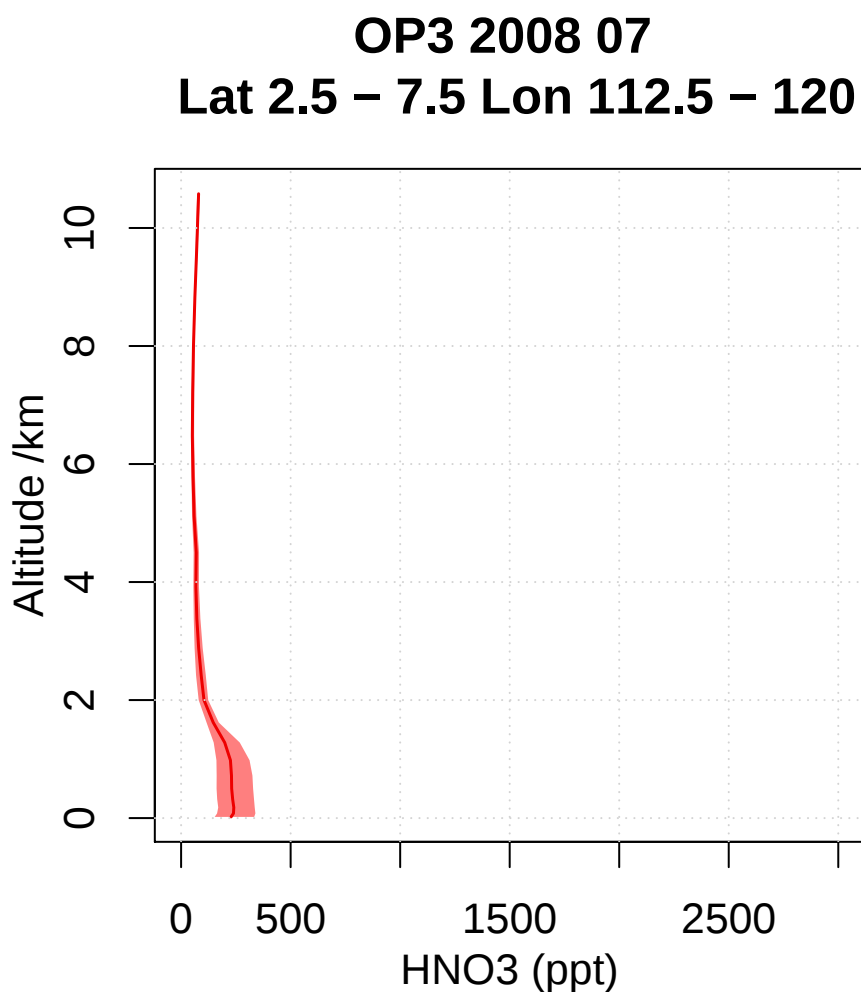
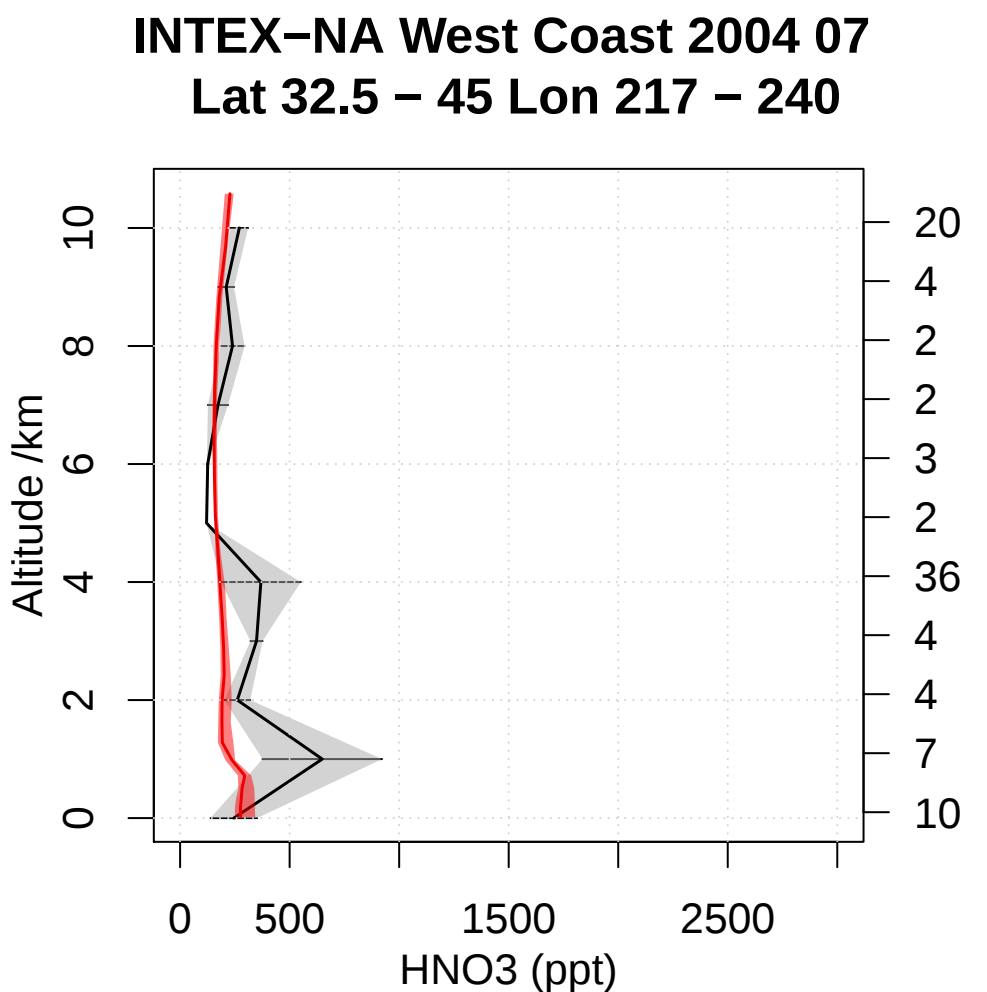
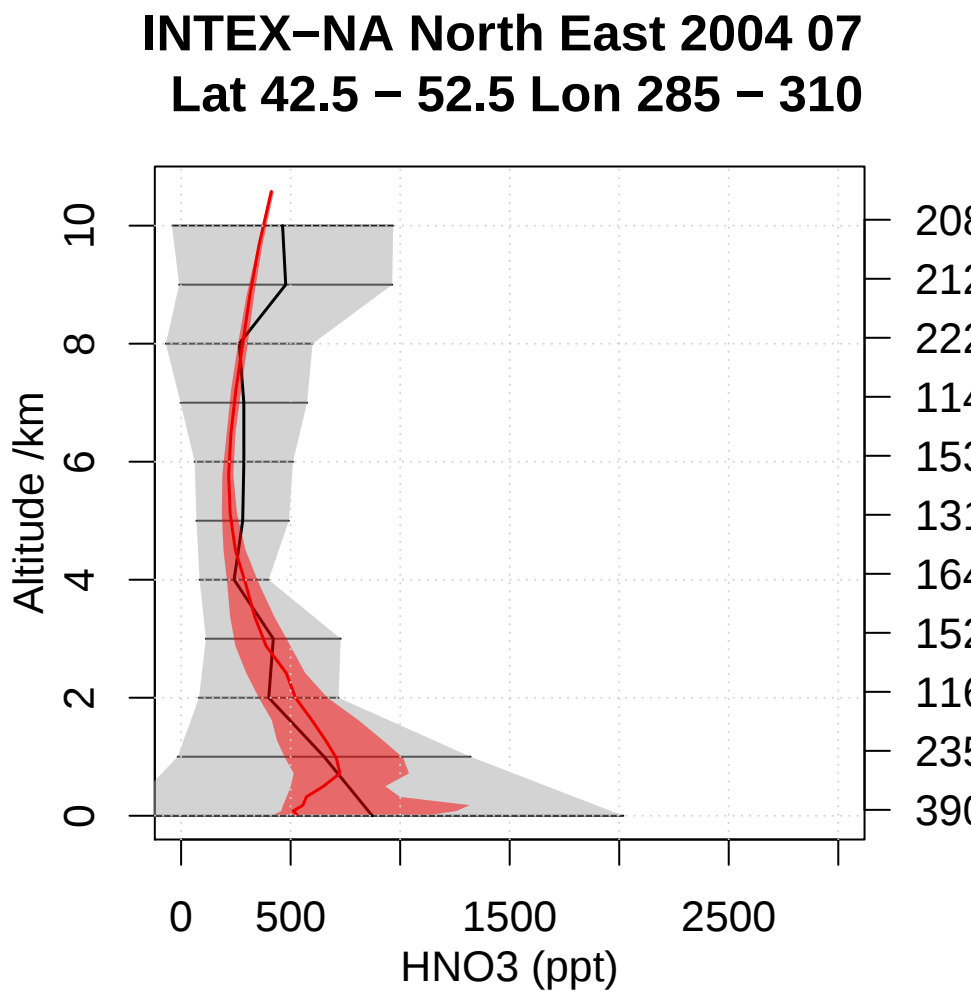
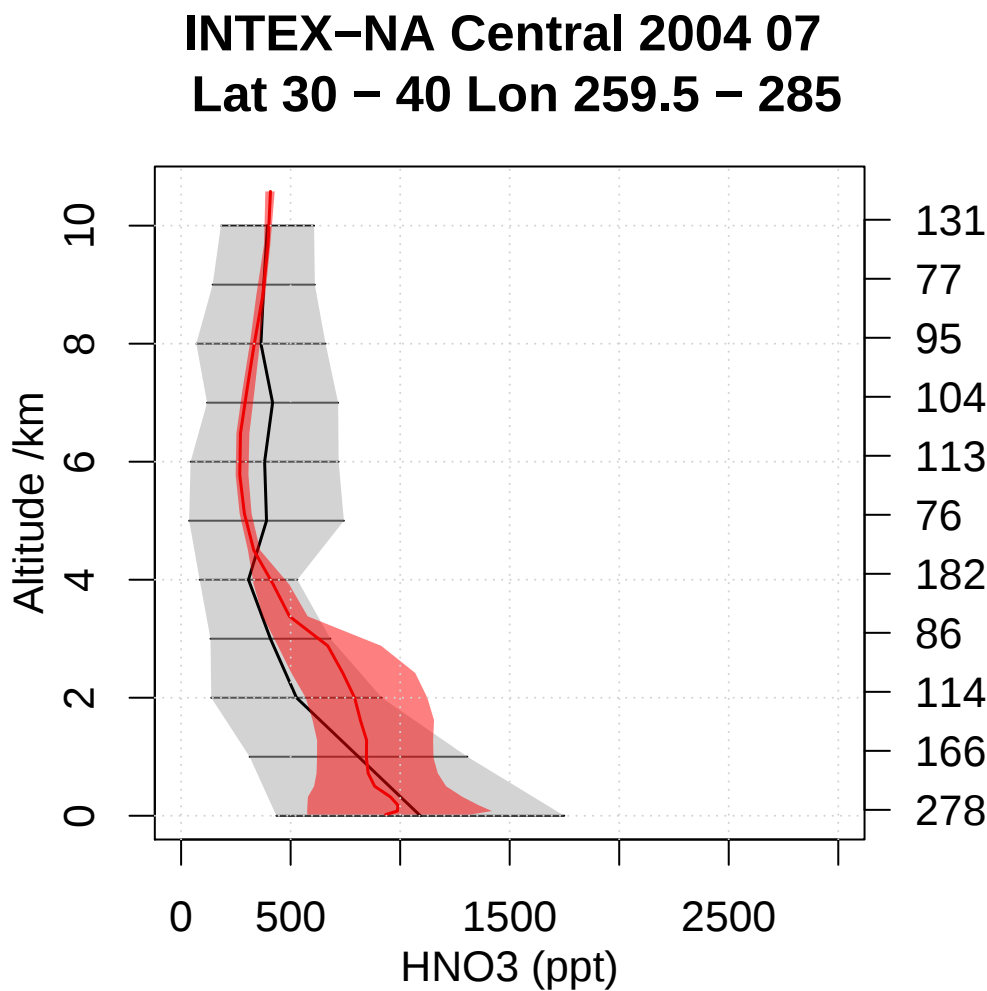
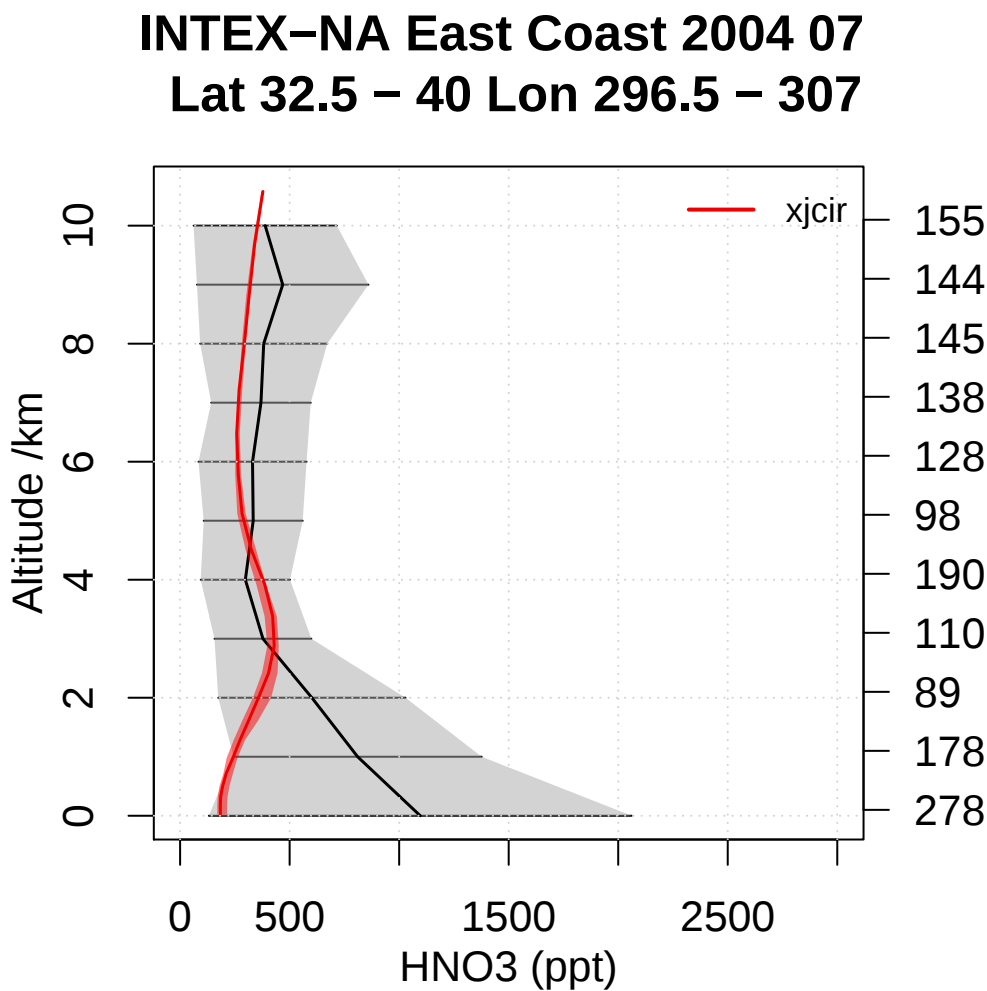




Emmons CO comparison

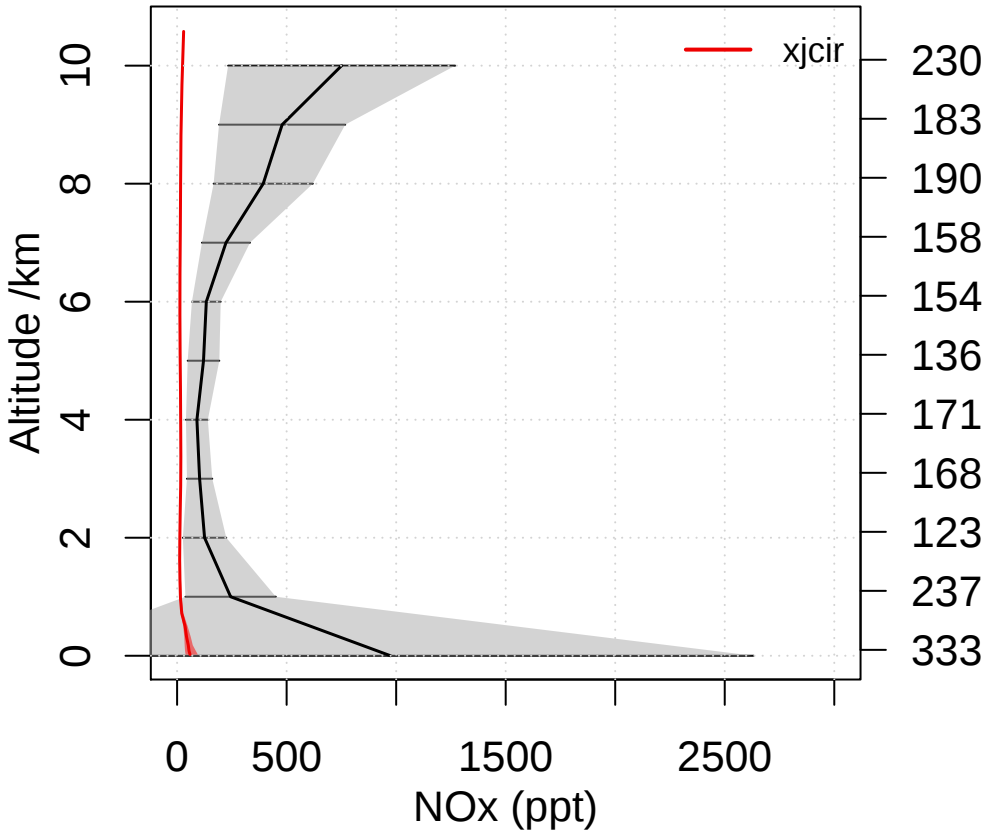


Emmons HNO3 comparison

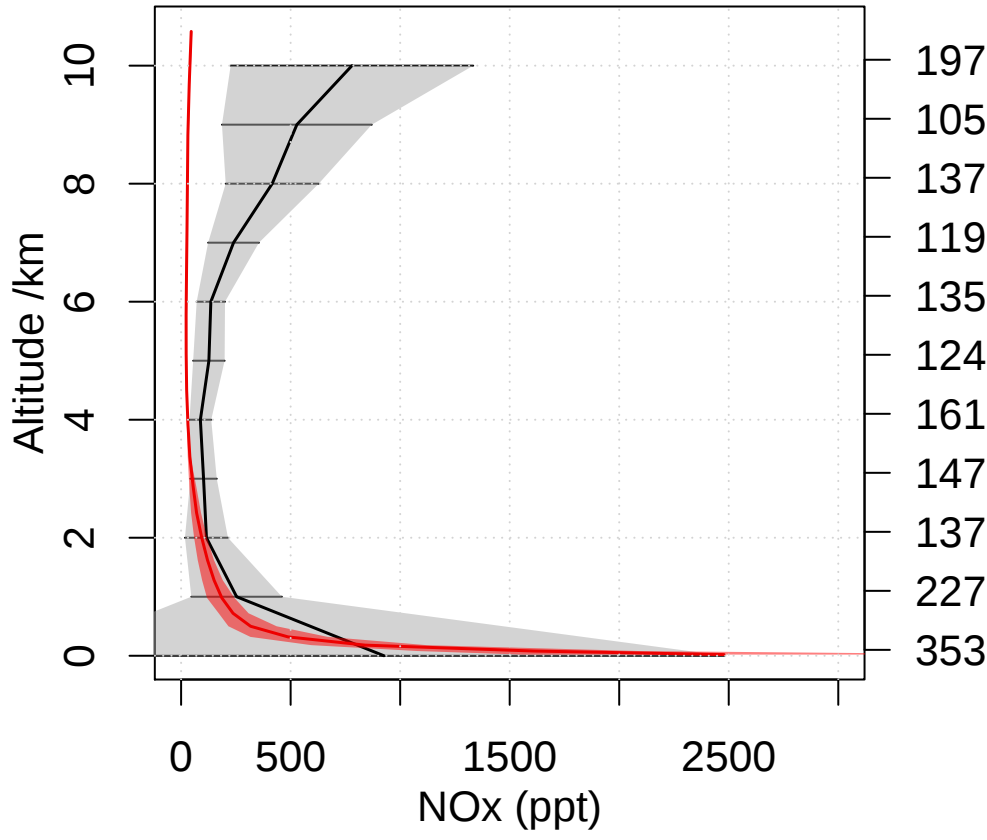


Emmons NOx comparison

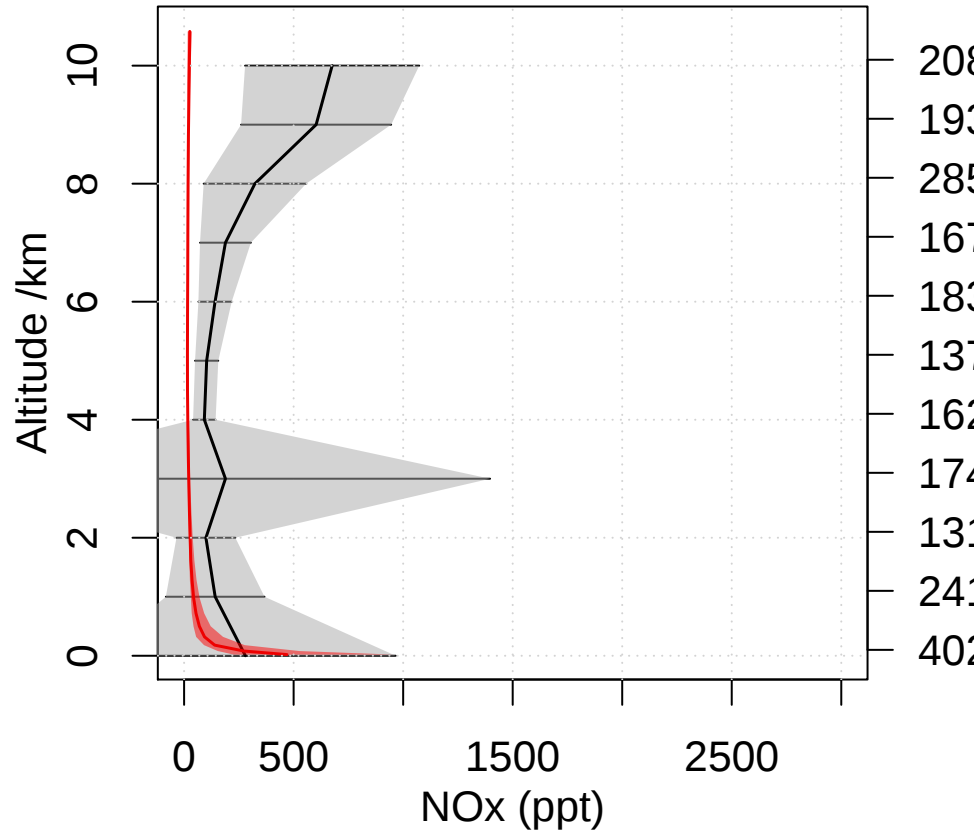
INTEX-NA East Coast 2004 07
Lat 32.5 – 40 Lon 296.5 – 307



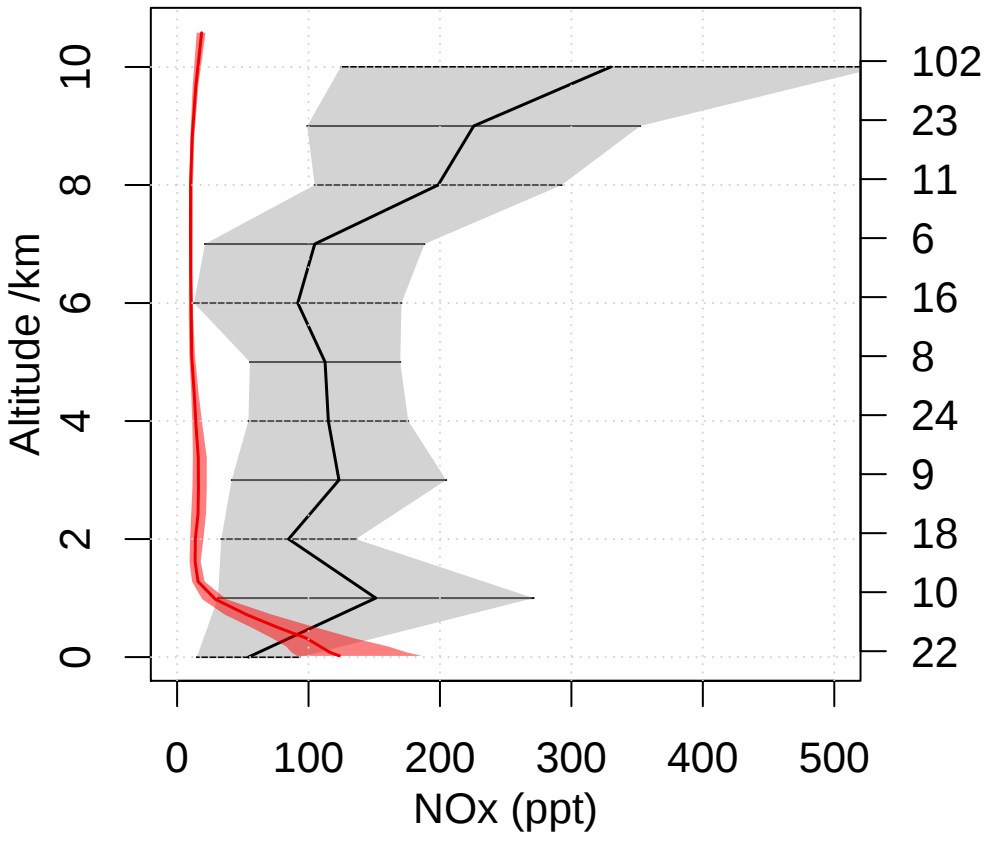
INTEX-NA Central 2004 07
Lat 30 – 40 Lon 259.5 – 285



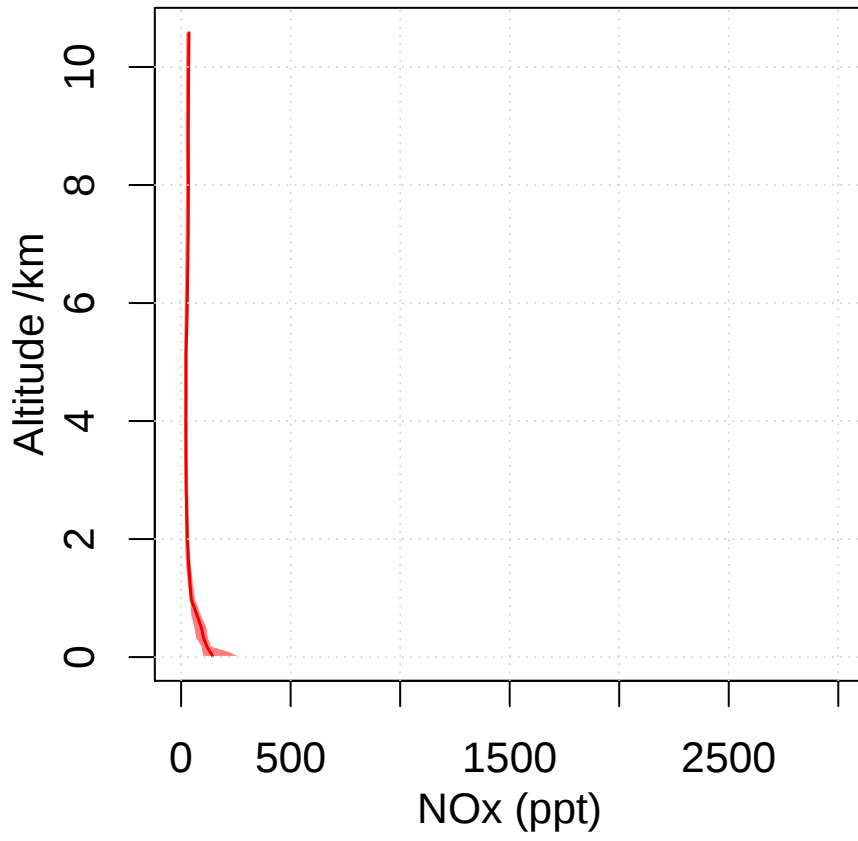
INTEX-NA North East 2004 07
Lat 42.5 – 52.5 Lon 285 – 310



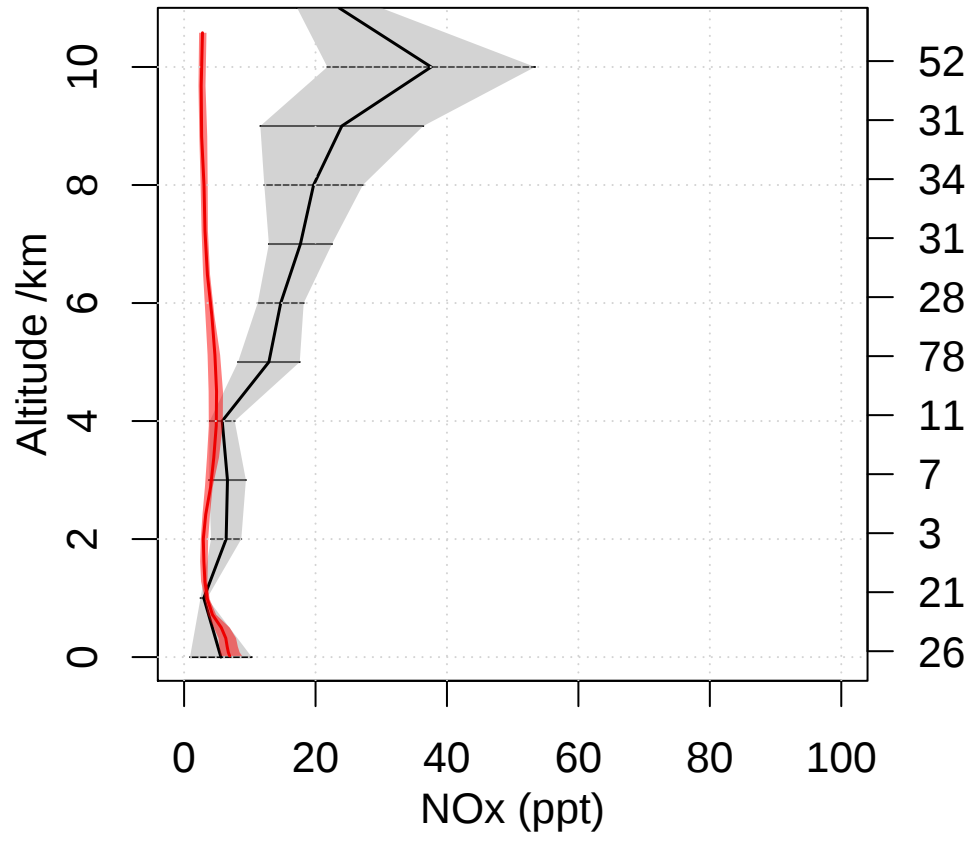
INTEX-NA West Coast 2004 07
Lat 32.5 – 45 Lon 217 – 240



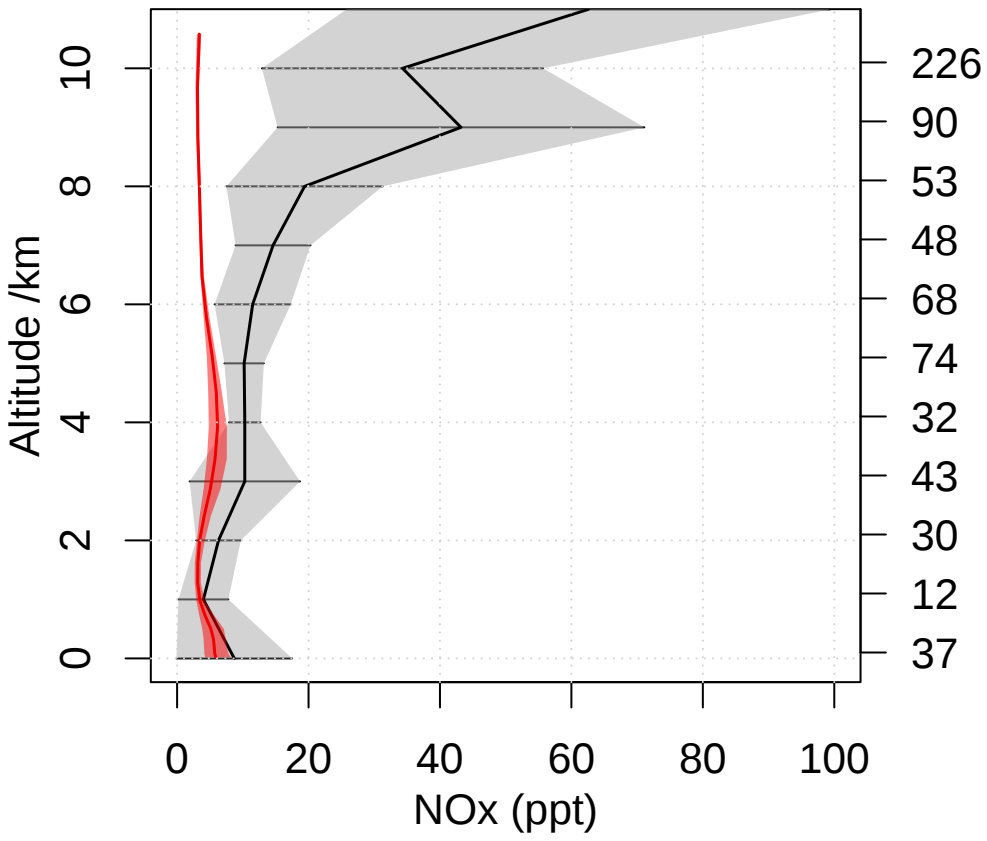
OP3 2008 07
Lat 2.5 – 7.5 Lon 112.5 – 120



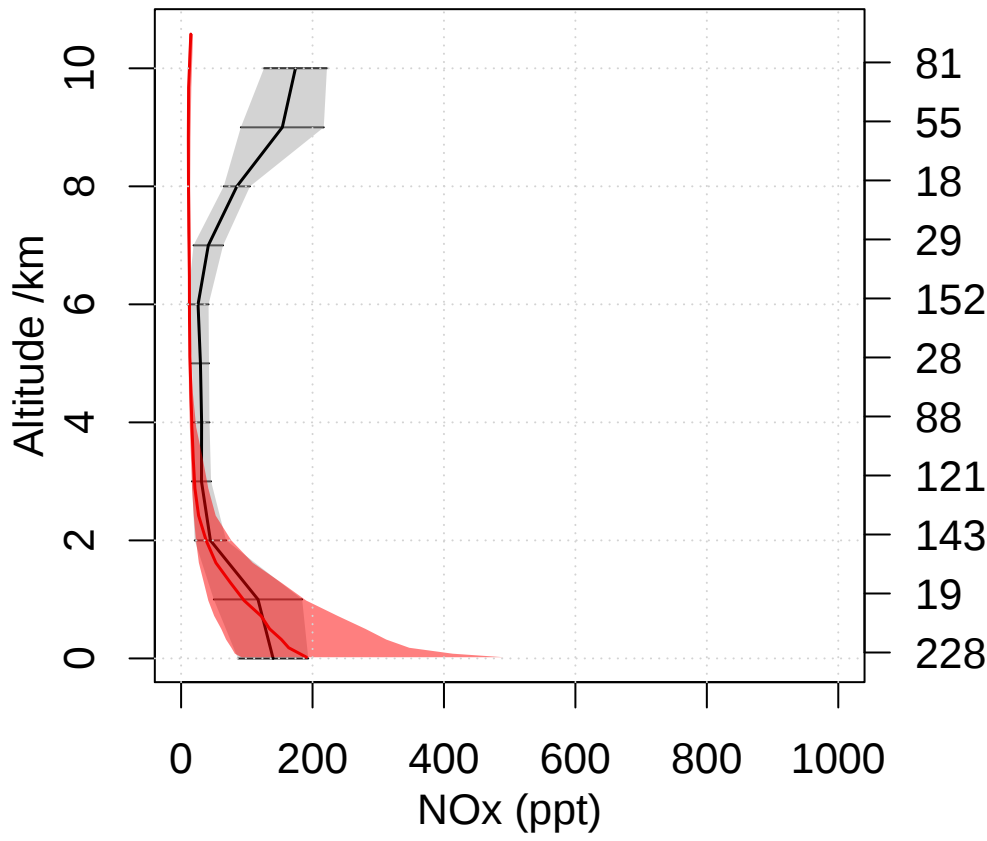
PEM-Tropics-B Christmas-Island 1999 07
Lat 0 – 10 Lon 200 – 220



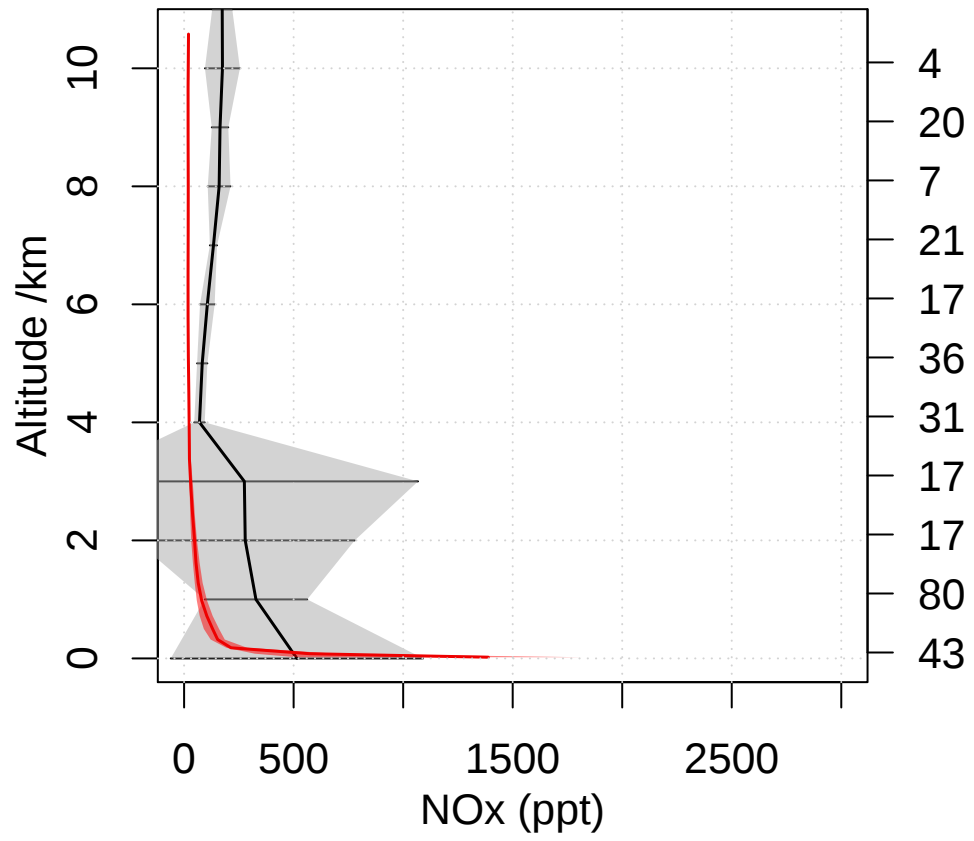
PEM-Tropics-B Tahiti 1999 03
Lat -20 – 0 Lon 200 – 230



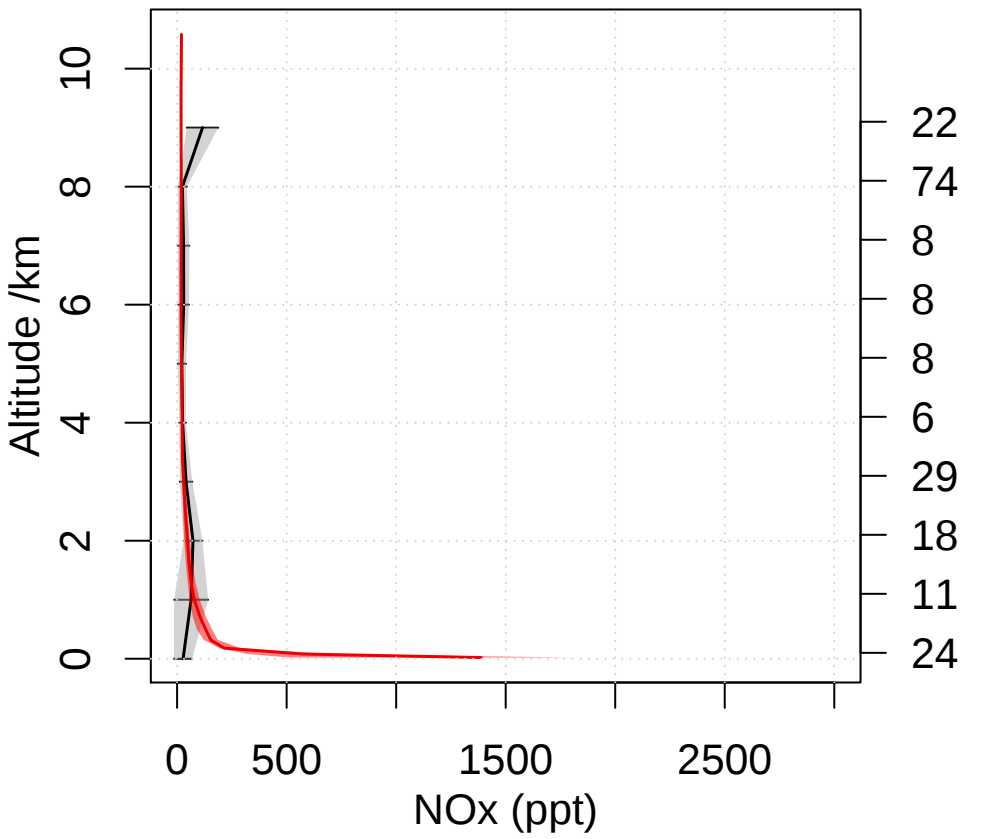
PEM-West-B Japan 1994 02
Lat 25 – 40 Lon 135 – 150



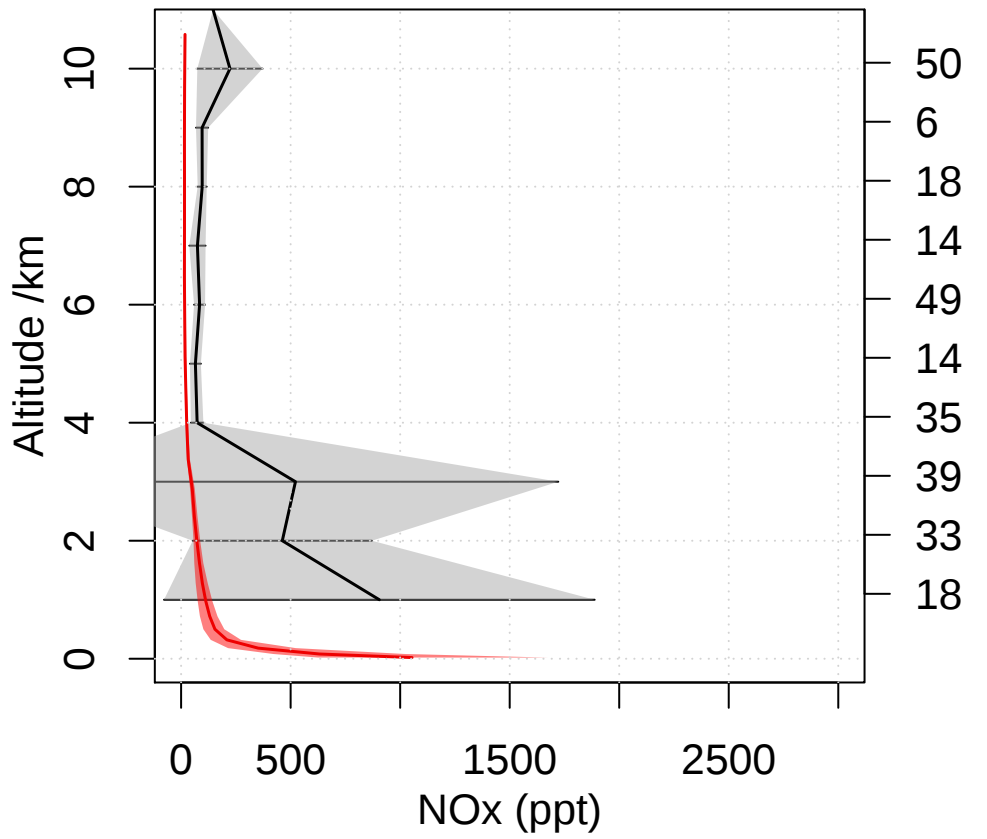
TRACE-A E-Brazil 1992 09
Lat -15 – -5 Lon 310 – 320



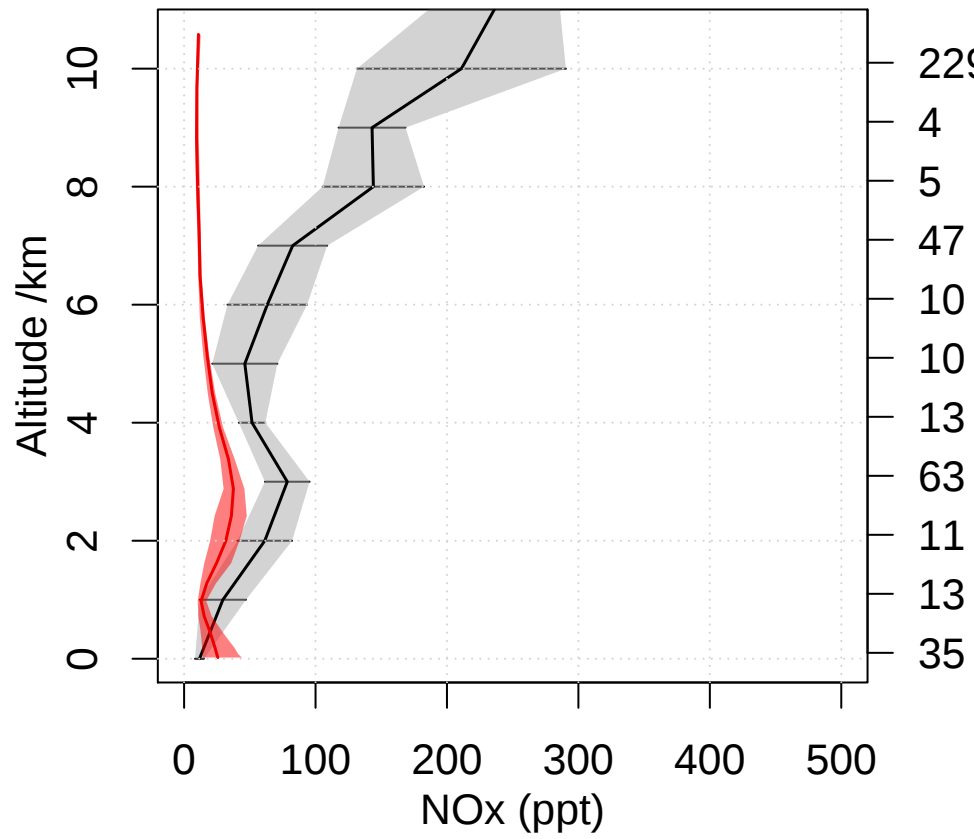
TRACE-A E-Brazil Coast 1992 09
Lat -35 – -25 Lon 310 – 320



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

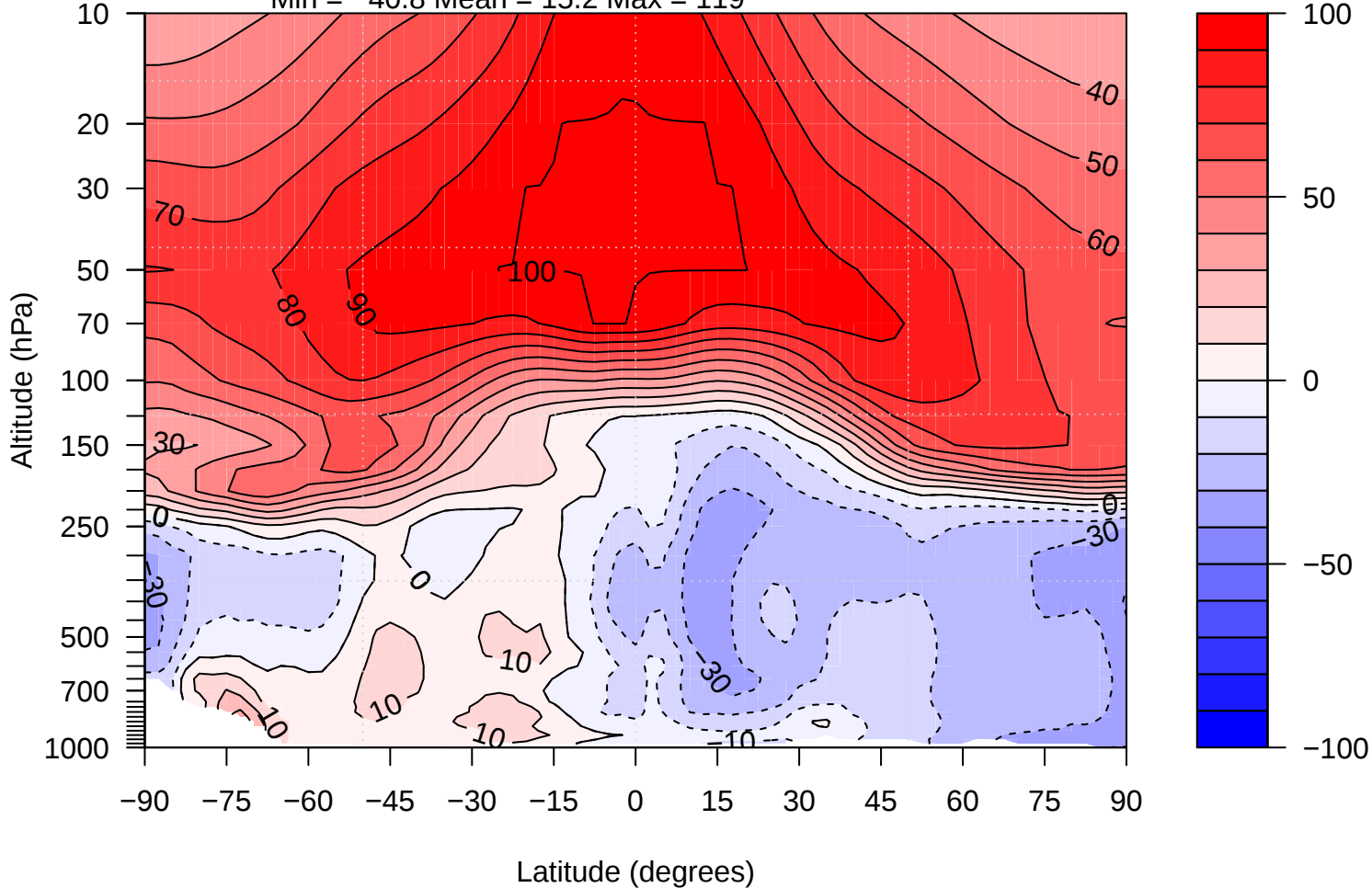


TRACE-A W-Africa Coast 1992 09
Lat -25 – -5 Lon 0 – 10



xjcir - ERA Q bias

Min = -40.8 Mean = 15.2 Max = 119



[OH] Air mass weighted

UKCA xjcir

Red: Spivakovsky values

(10^6 molecules cm^{-3})

Mean OH = 8.82×10^5

Values in (): Std dev

Pressure (hPa)

250

500

750

1000

0.32

0.64

(0.16)

0.8

1.43

(0.19)

0.95

1.36

(0.2)

0.52

0.64

(0.22)

0.34

0.72

(0.27)

1.4

2

(0.26)

1.6

1.99

(0.19)

0.7

0.88

(0.4)

0.34

0.47

(0.36)

1.6

1.44

(0.19)

2

1.52

(0.3)

0.88

0.76

(0.7)

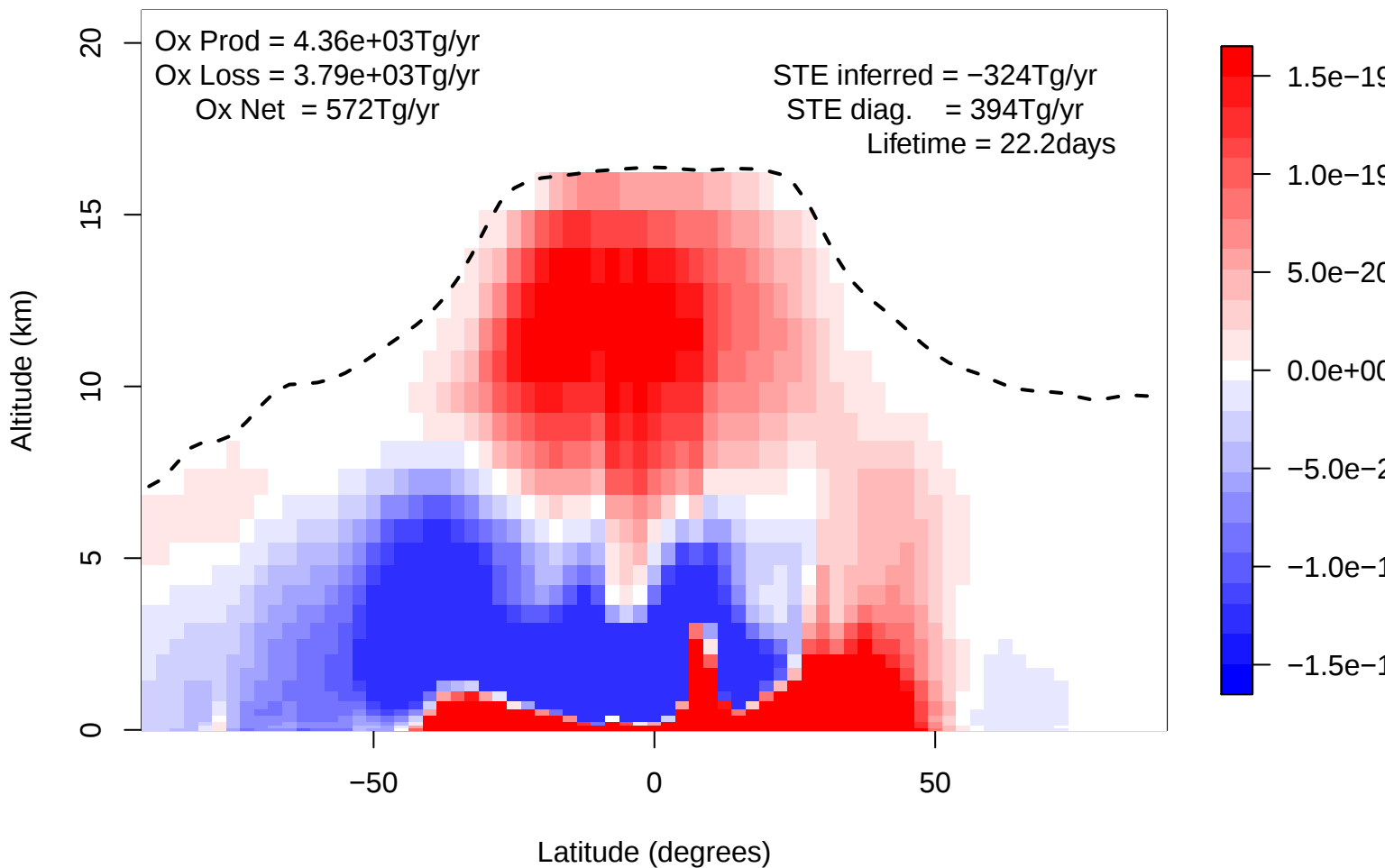
-50

0

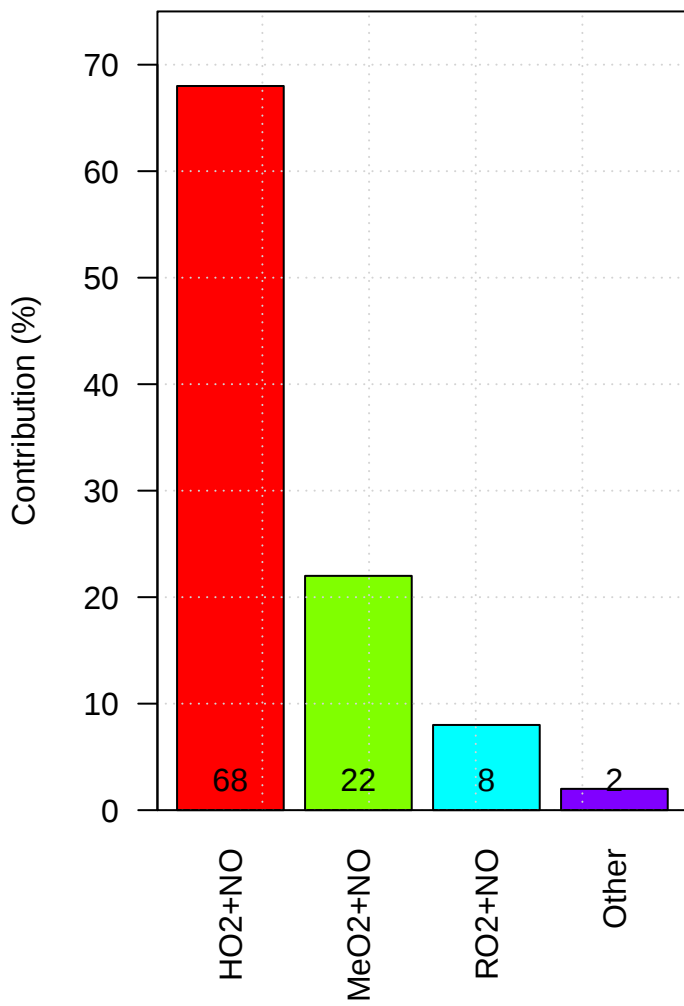
50

Latitude

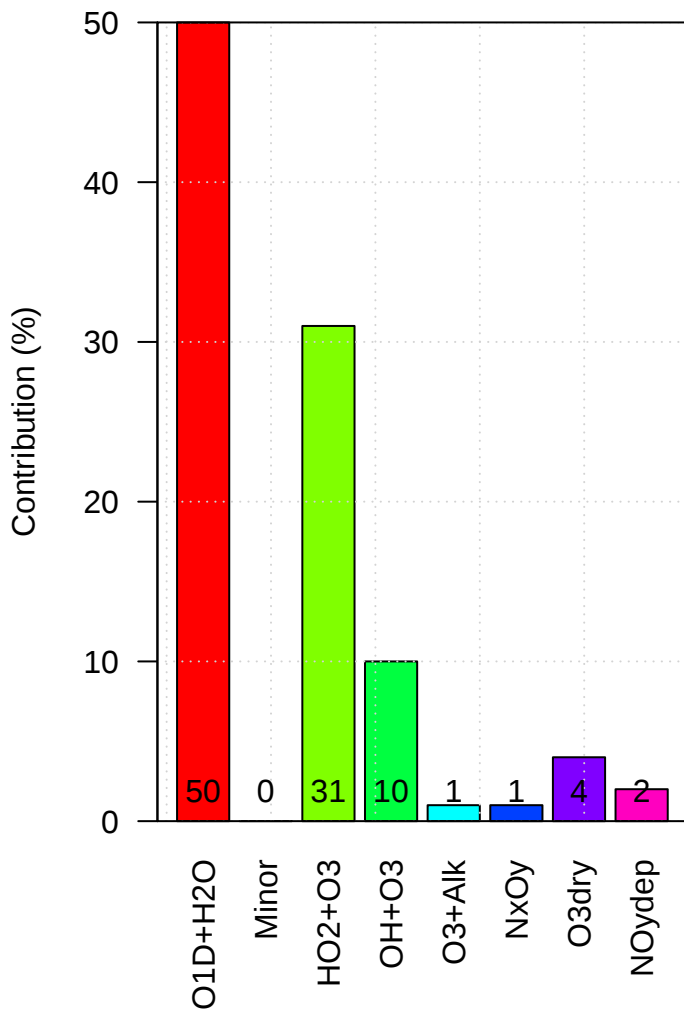
UKCA xjcir Ox Net Chemical Production



xjcir Production of Tropospheric Ox

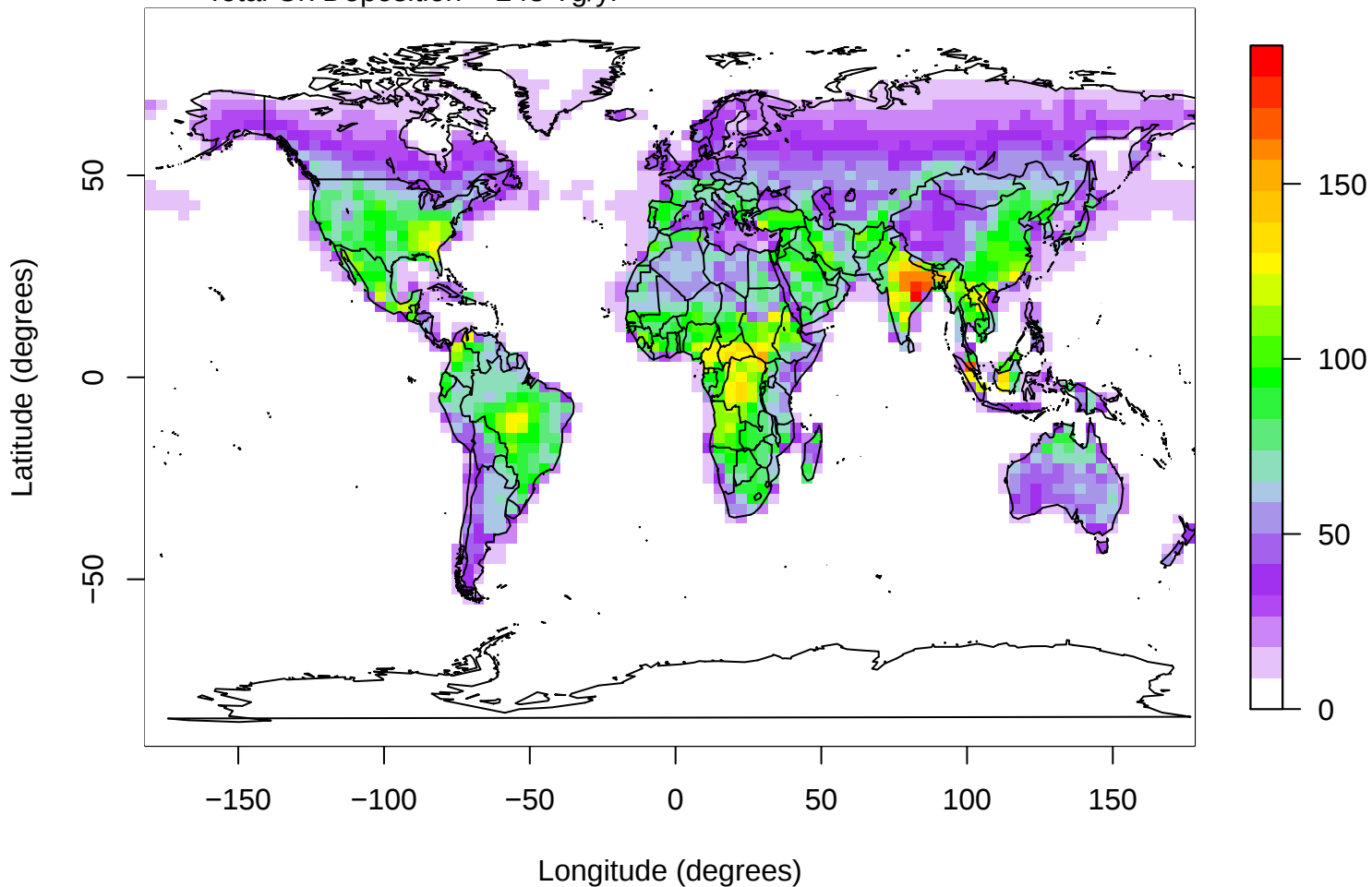


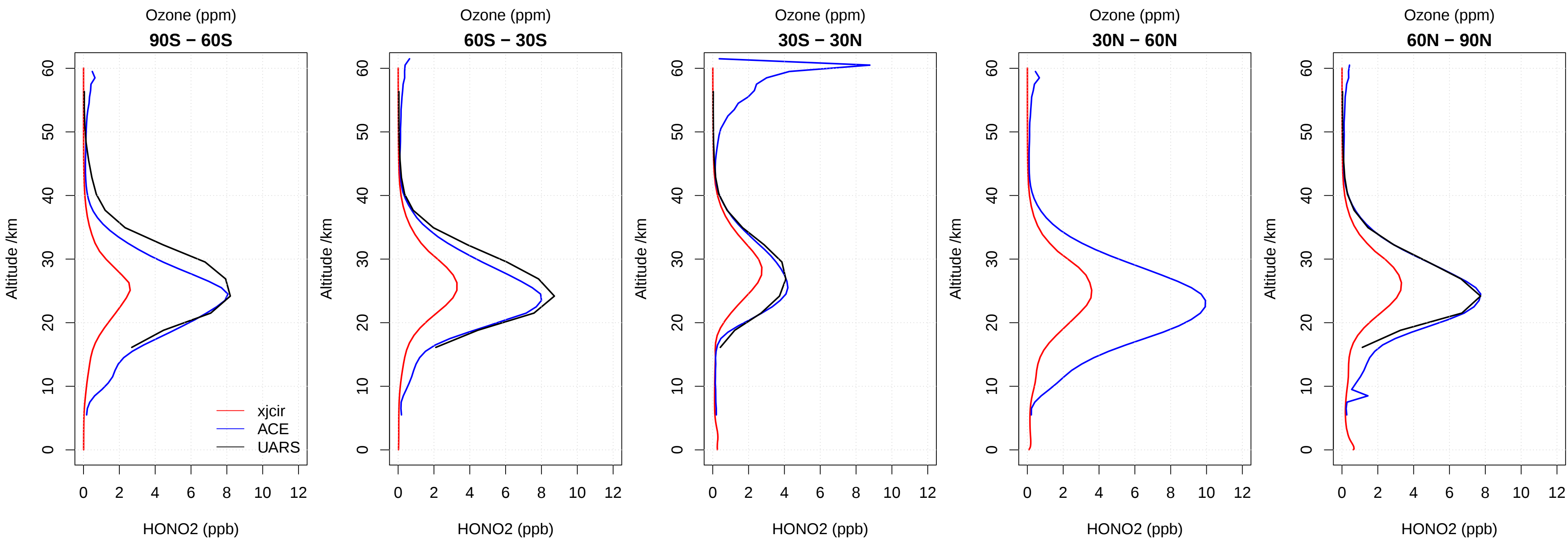
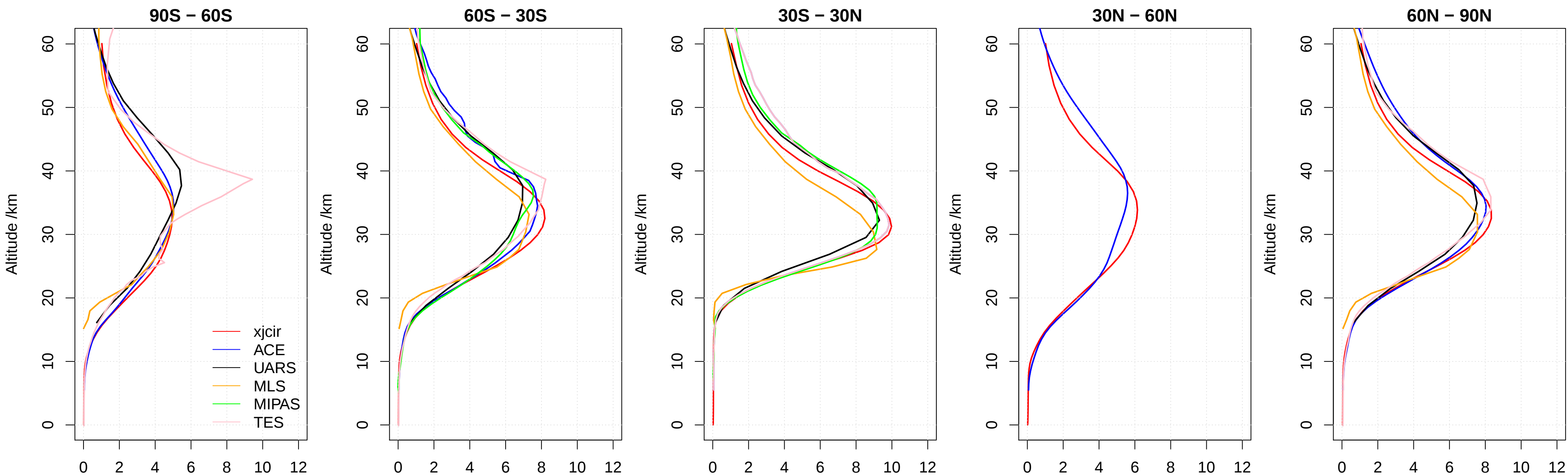
xjcir Loss of Tropospheric Ox

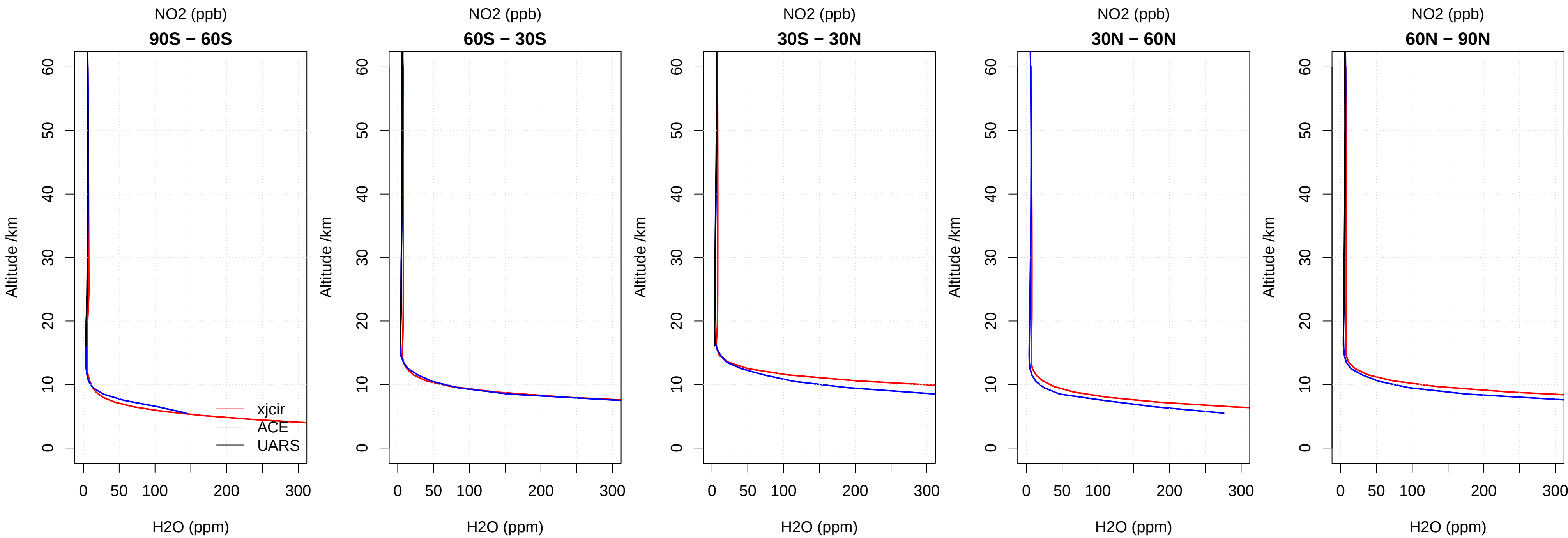
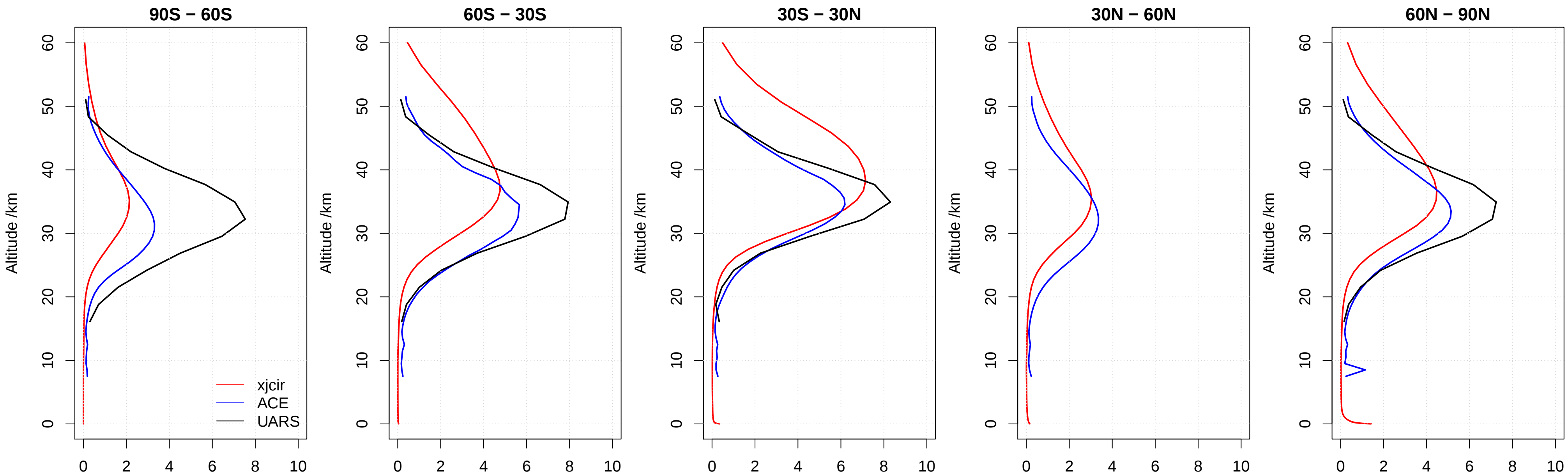


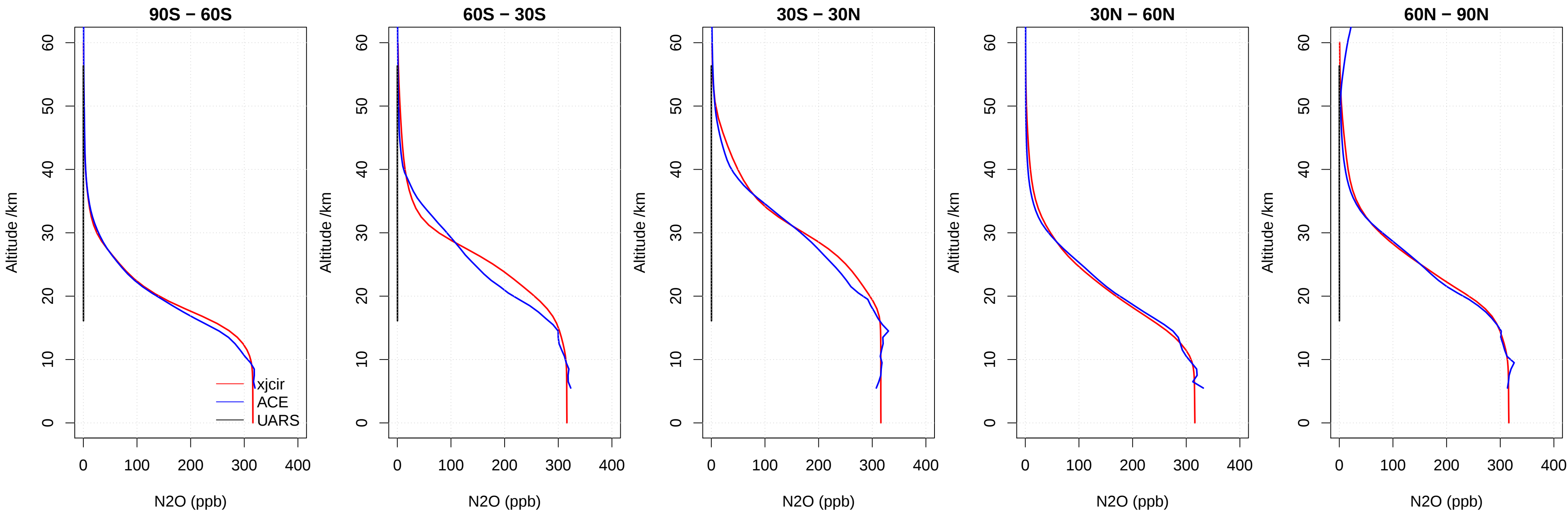
UKCA Ox deposition xjcir

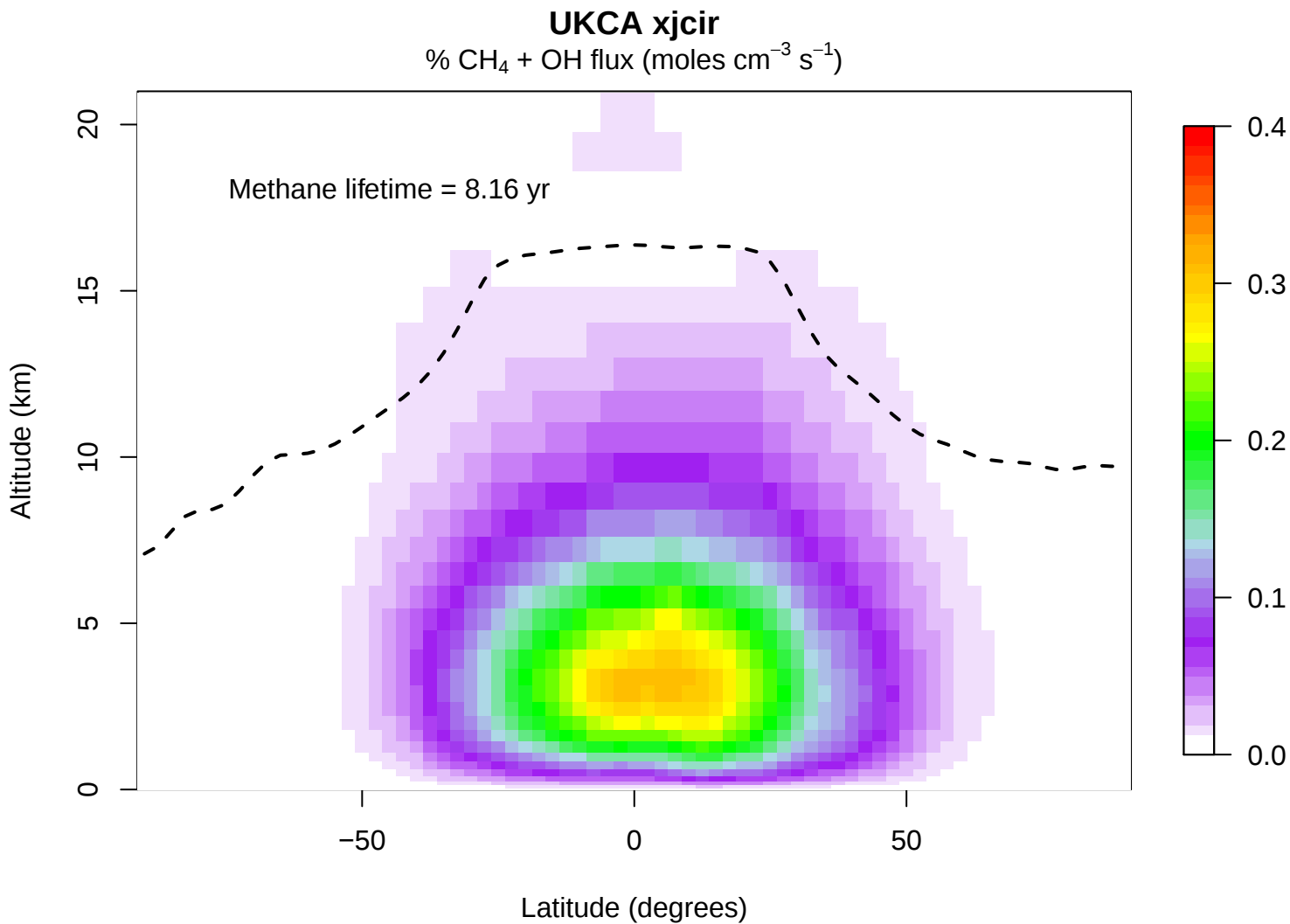
Total Ox Deposition = 248 Tg/yr



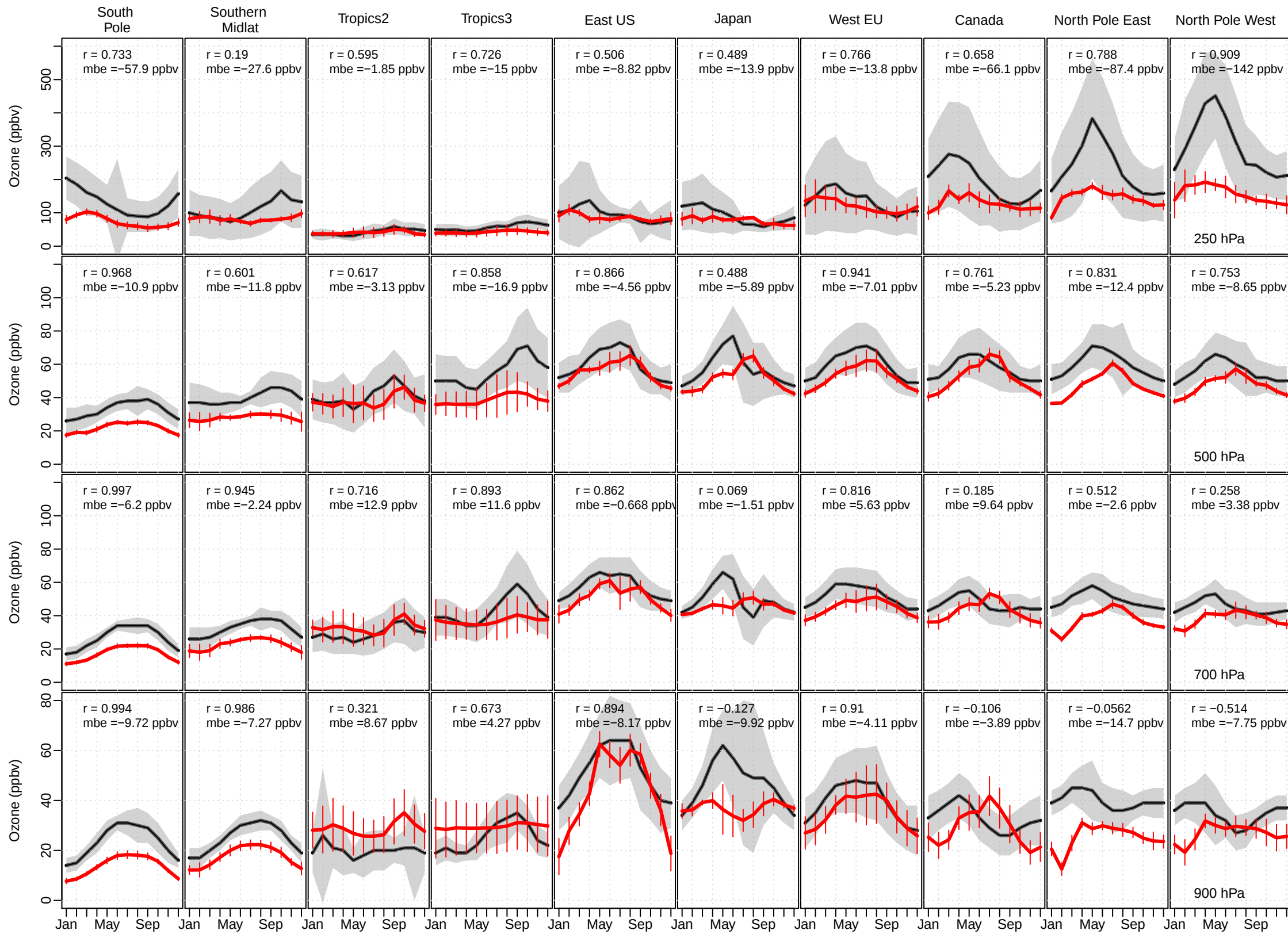


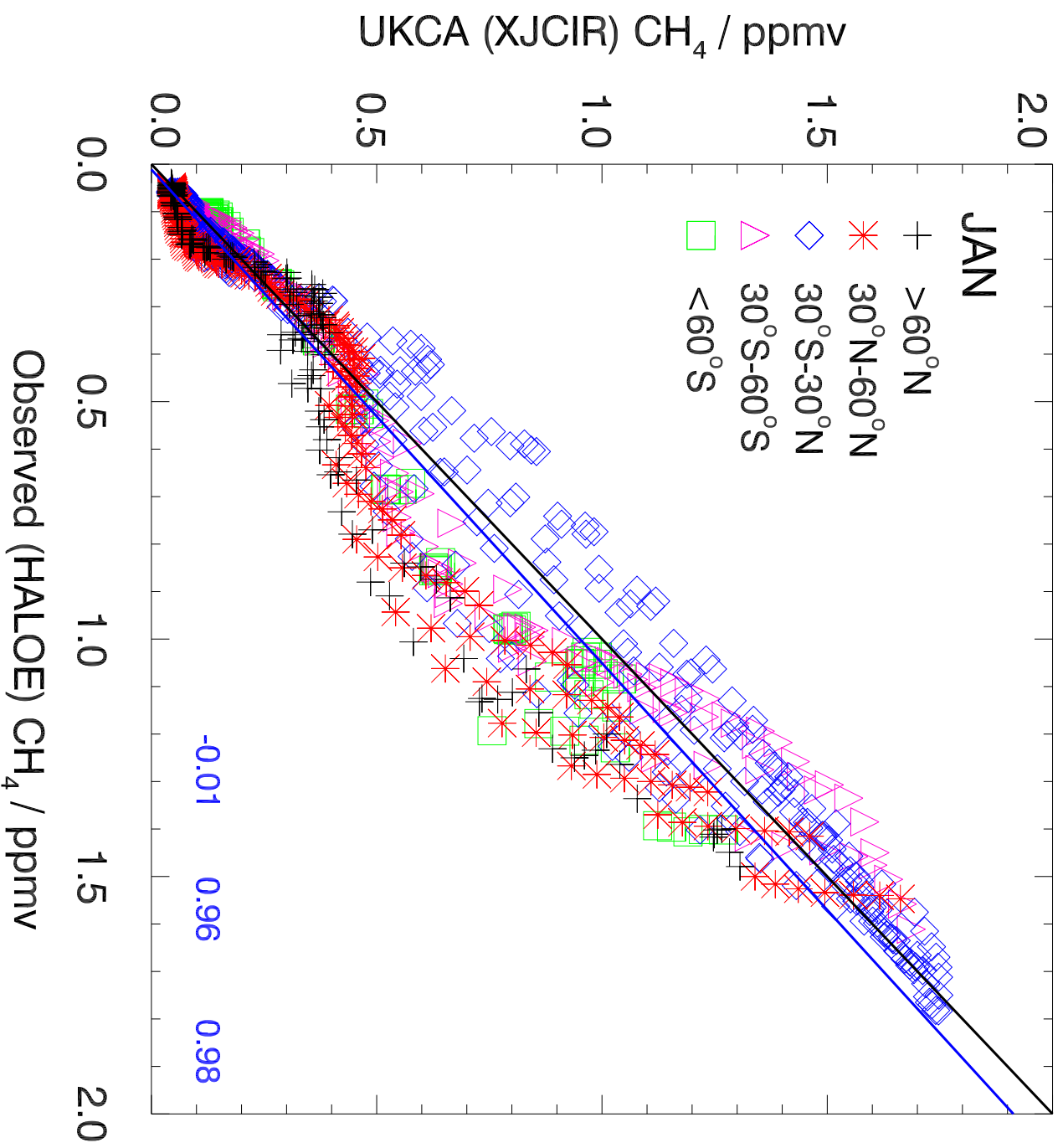


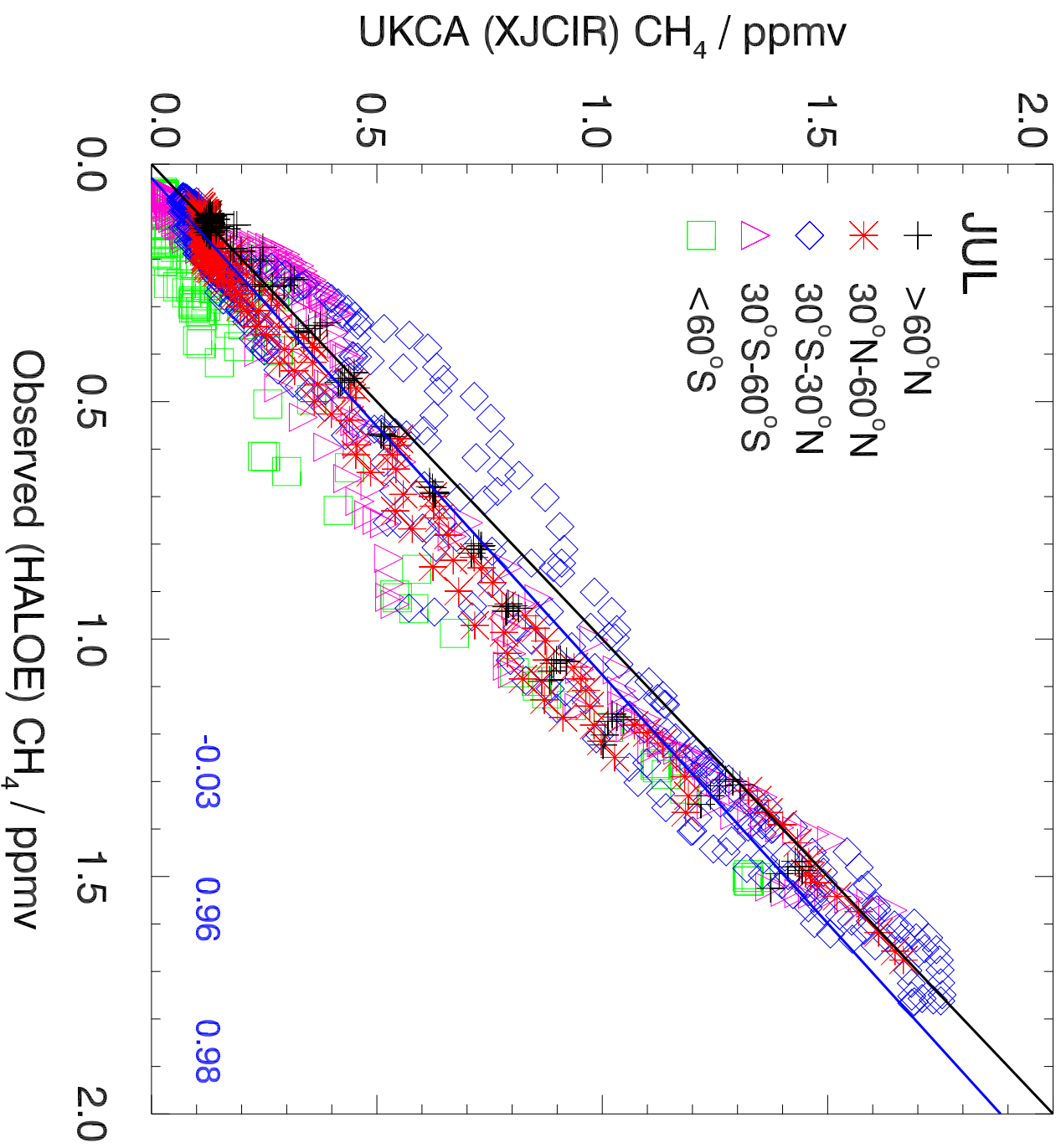


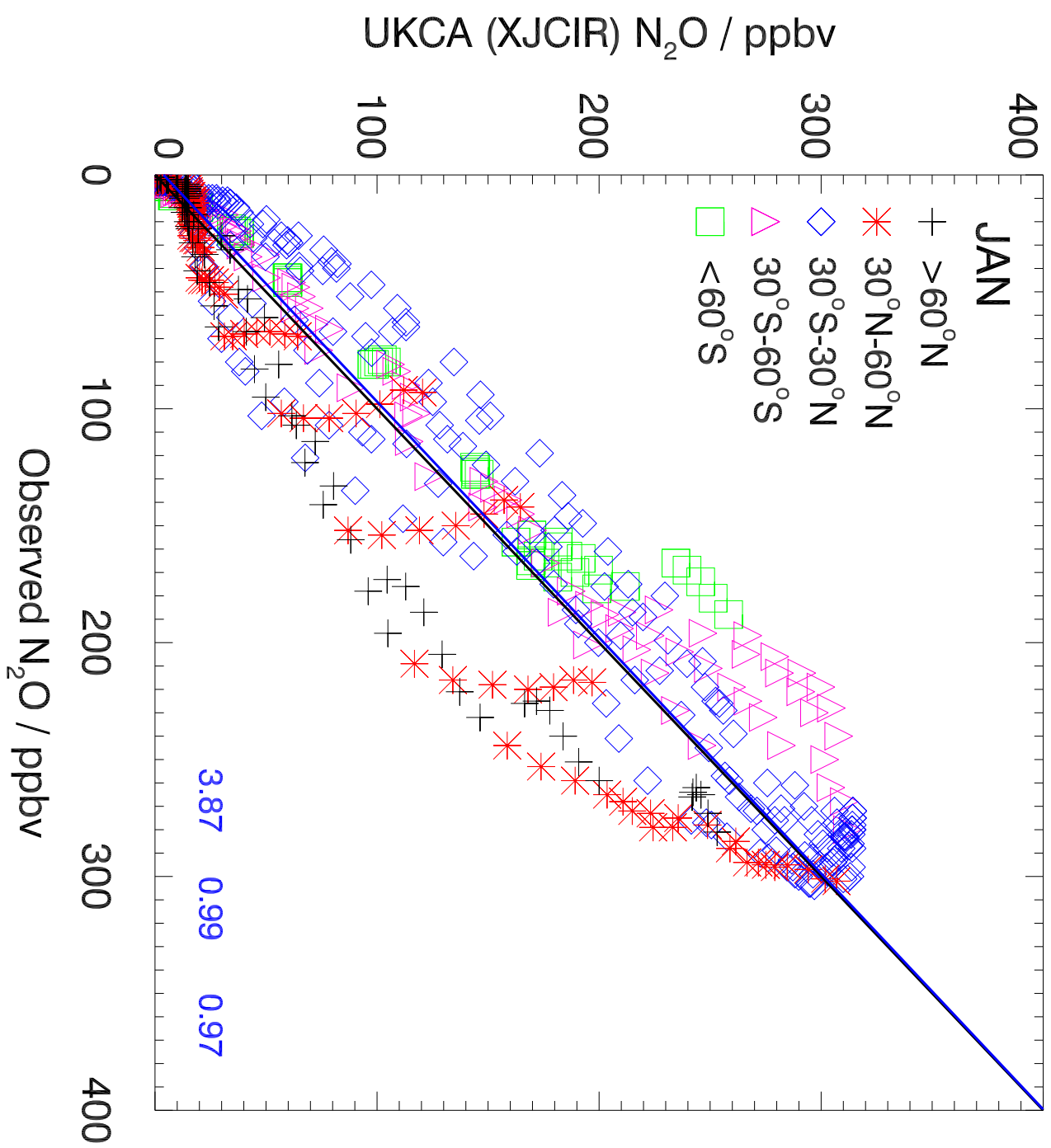


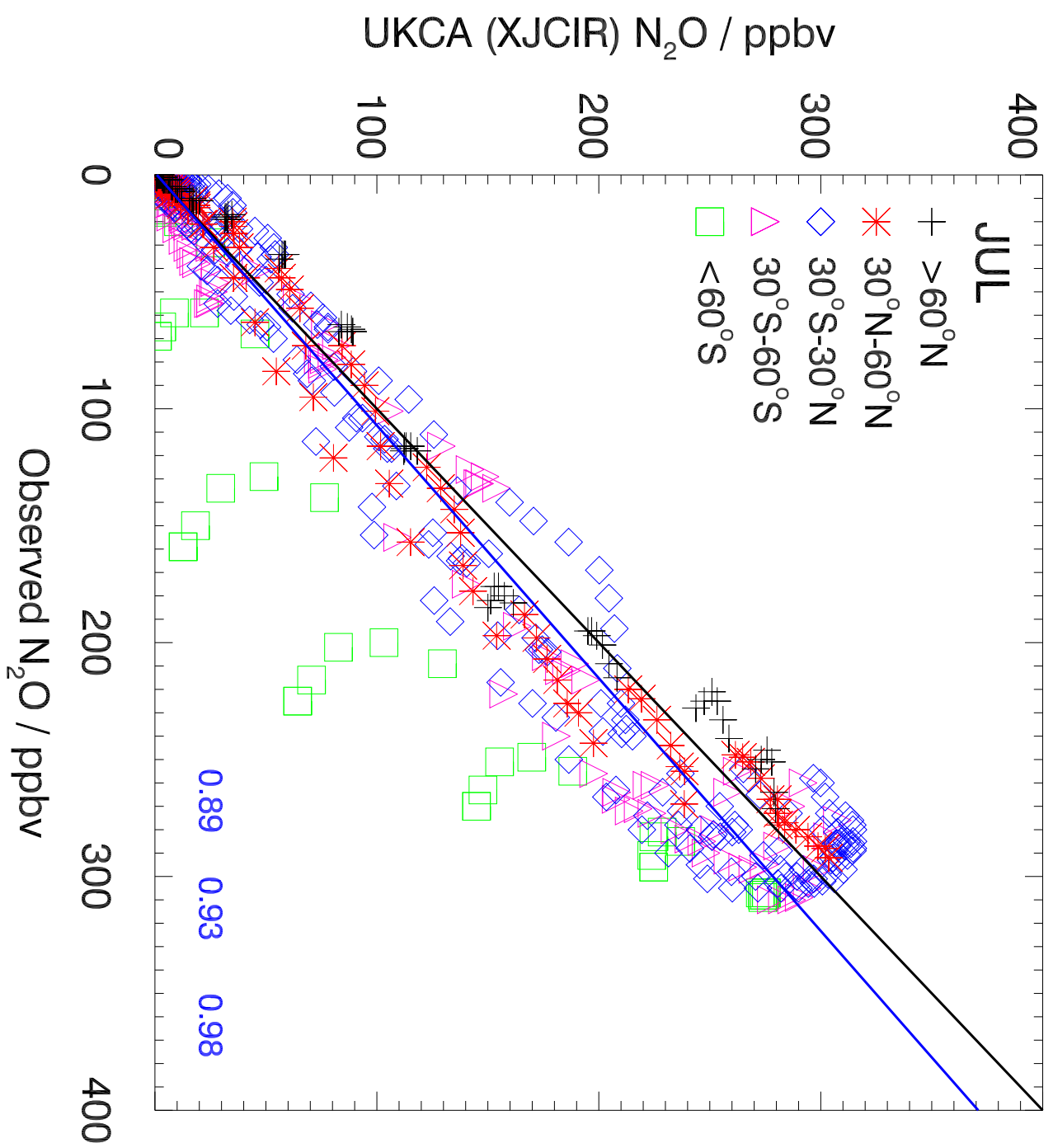
xjcir Tilmes ozone sonde comparison

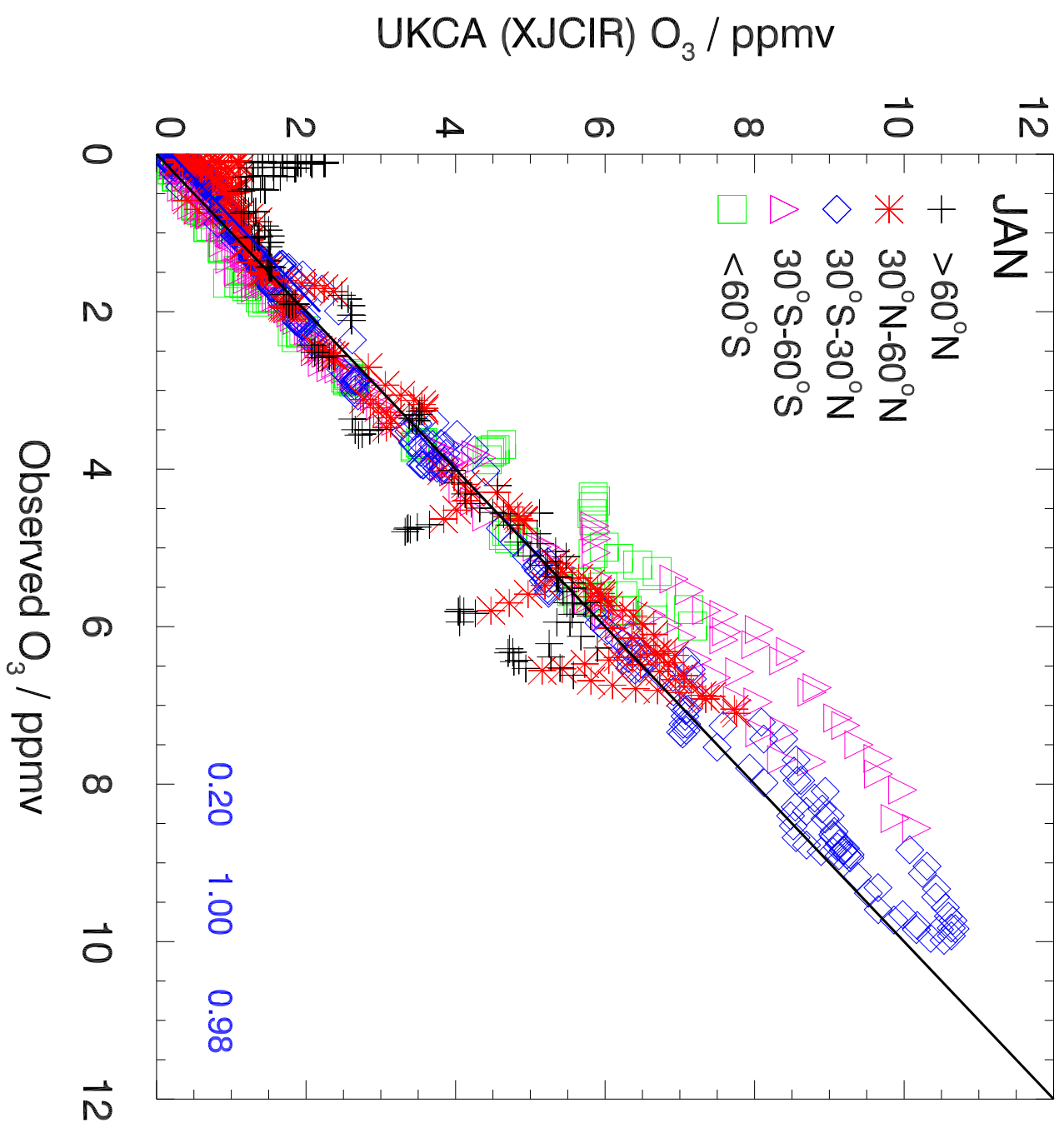


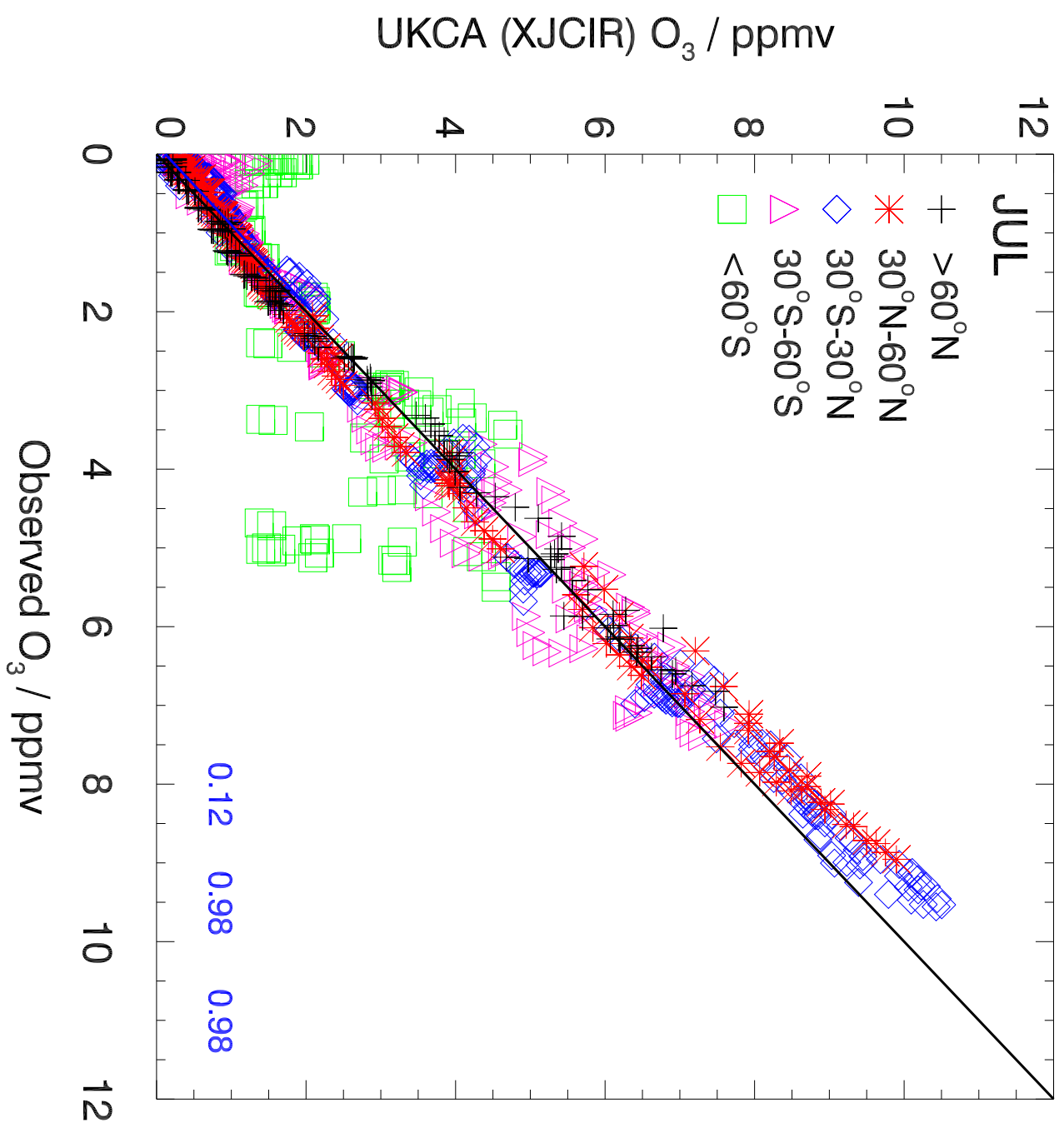


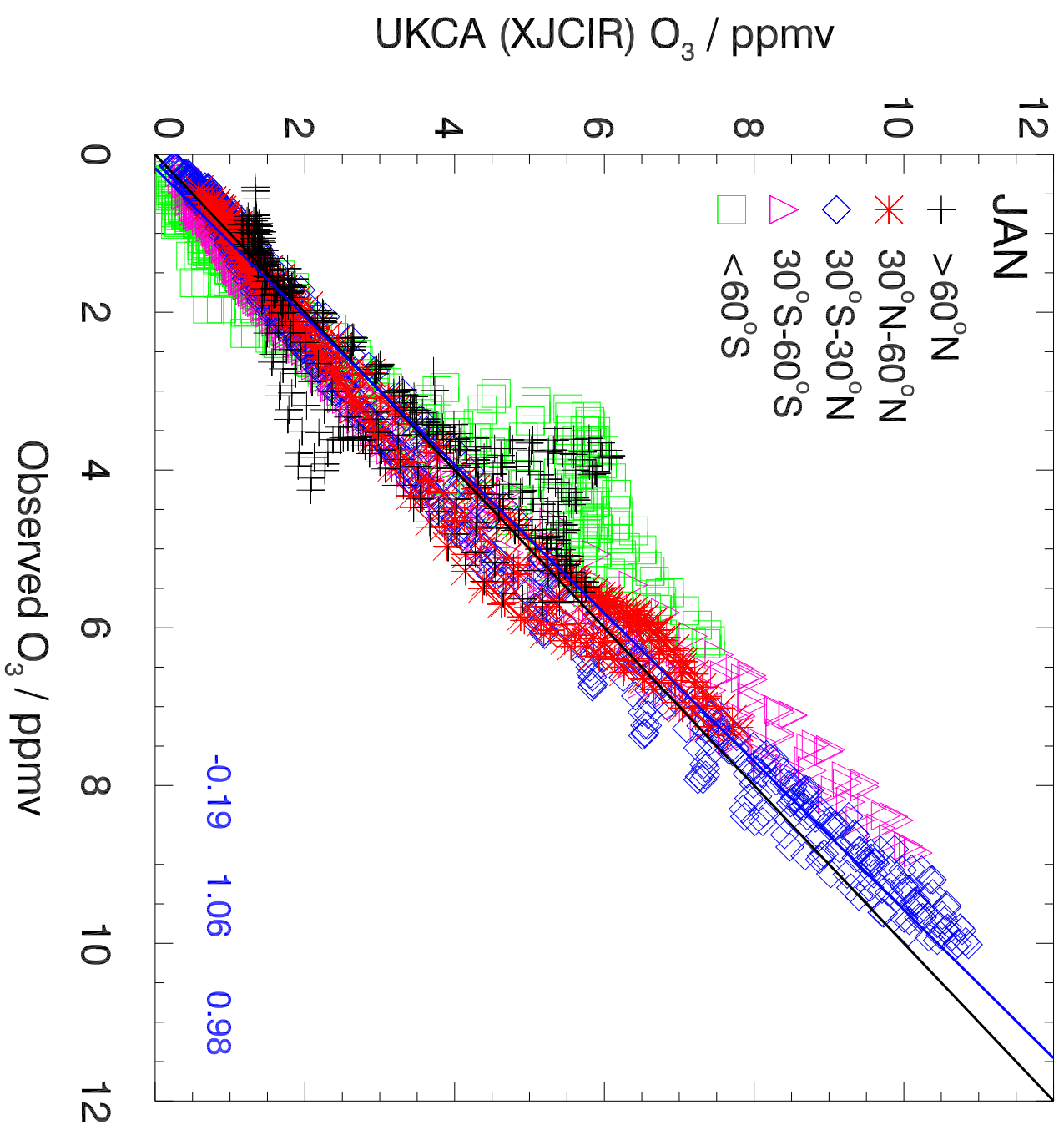


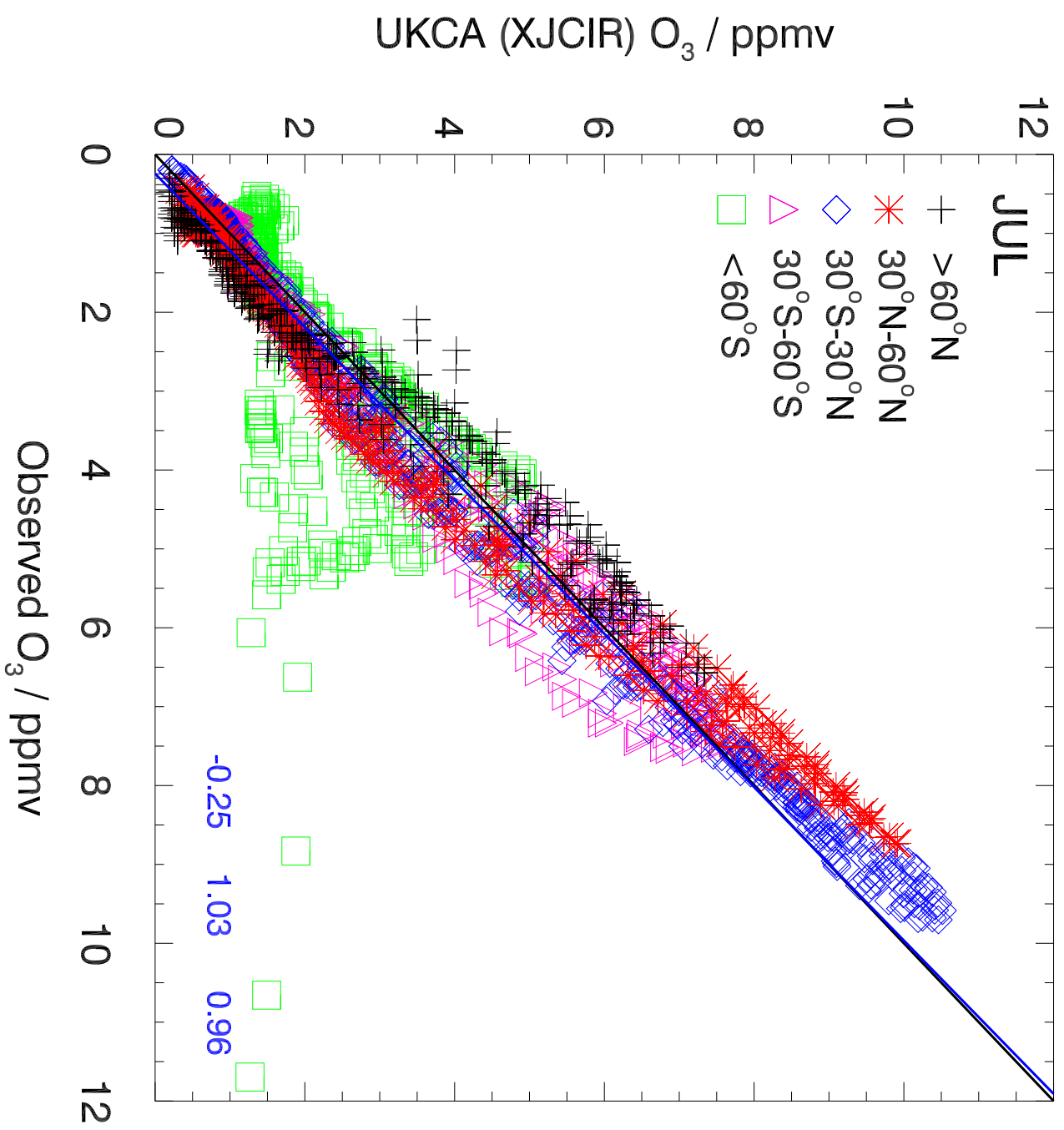




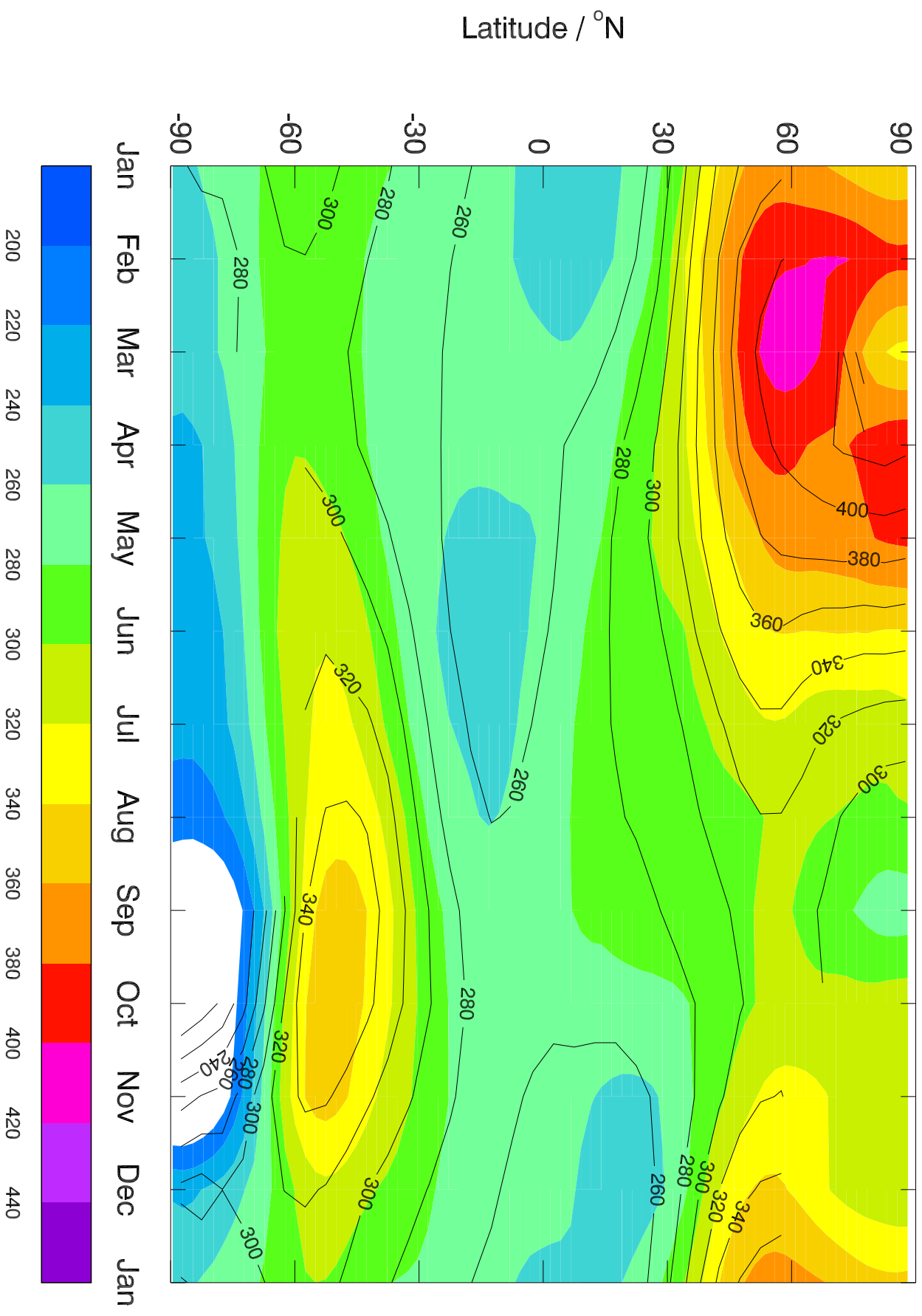




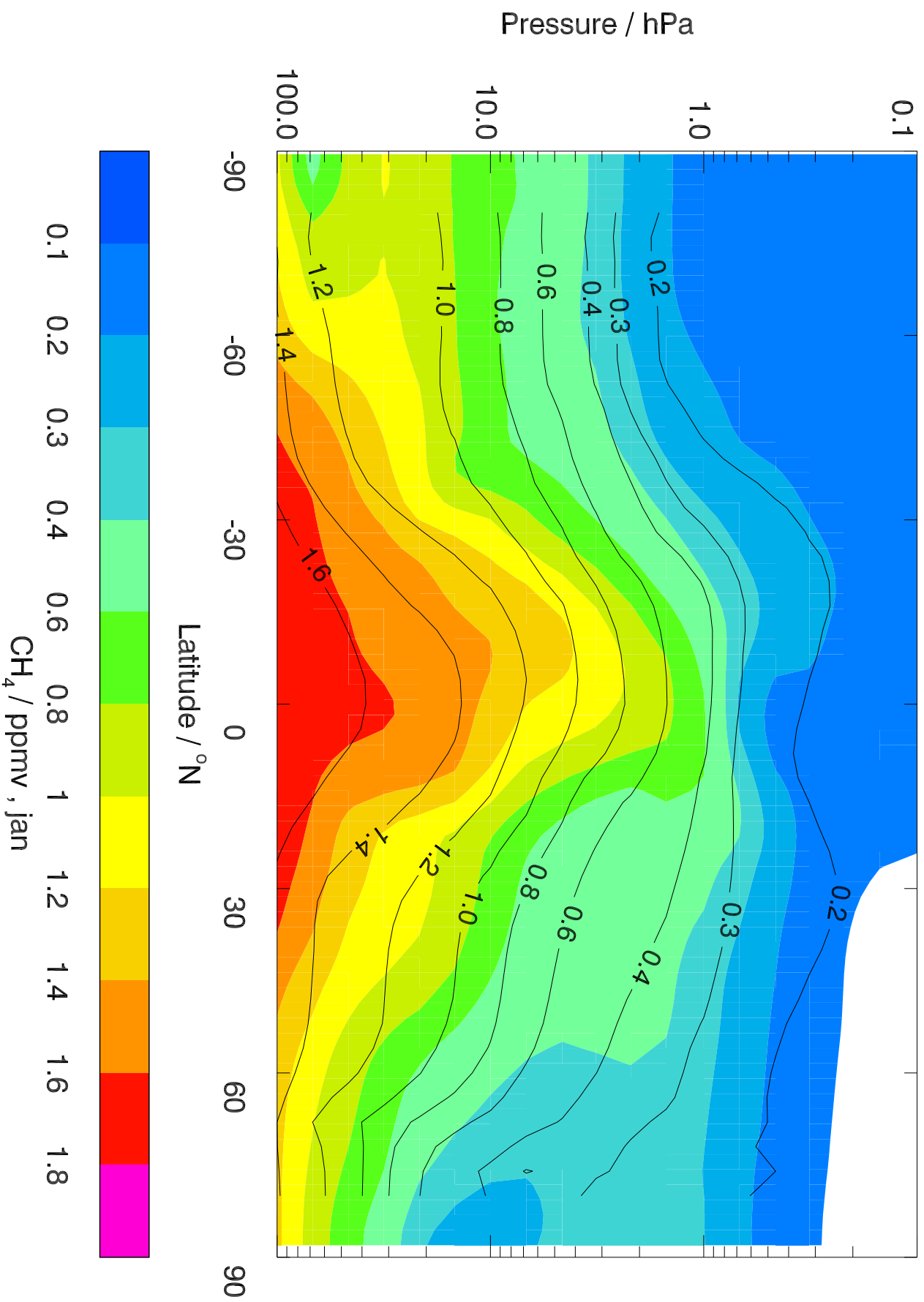




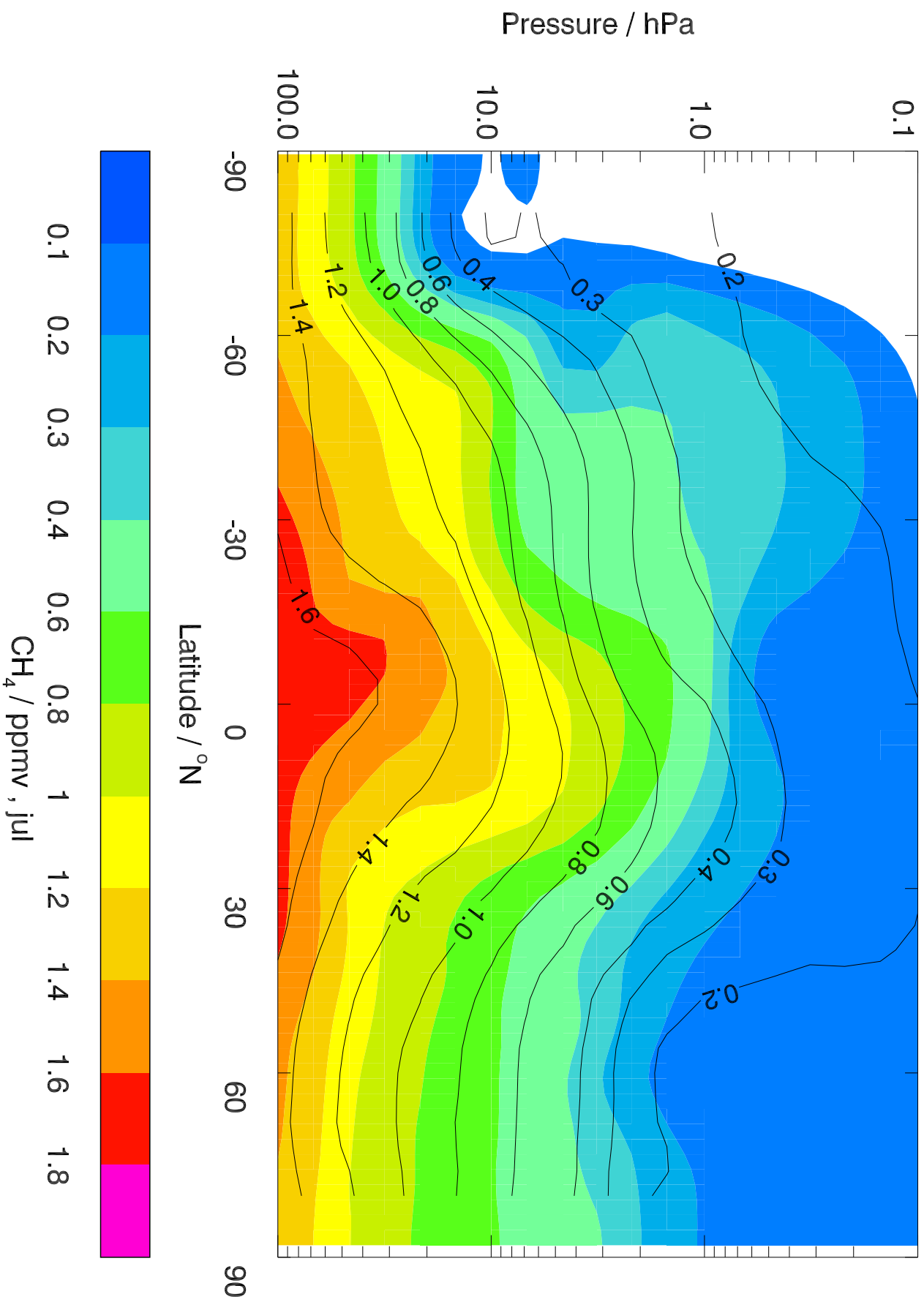
Total Ozone Column (DU). Colours: UKCA (XJClR), Contours: TOMS



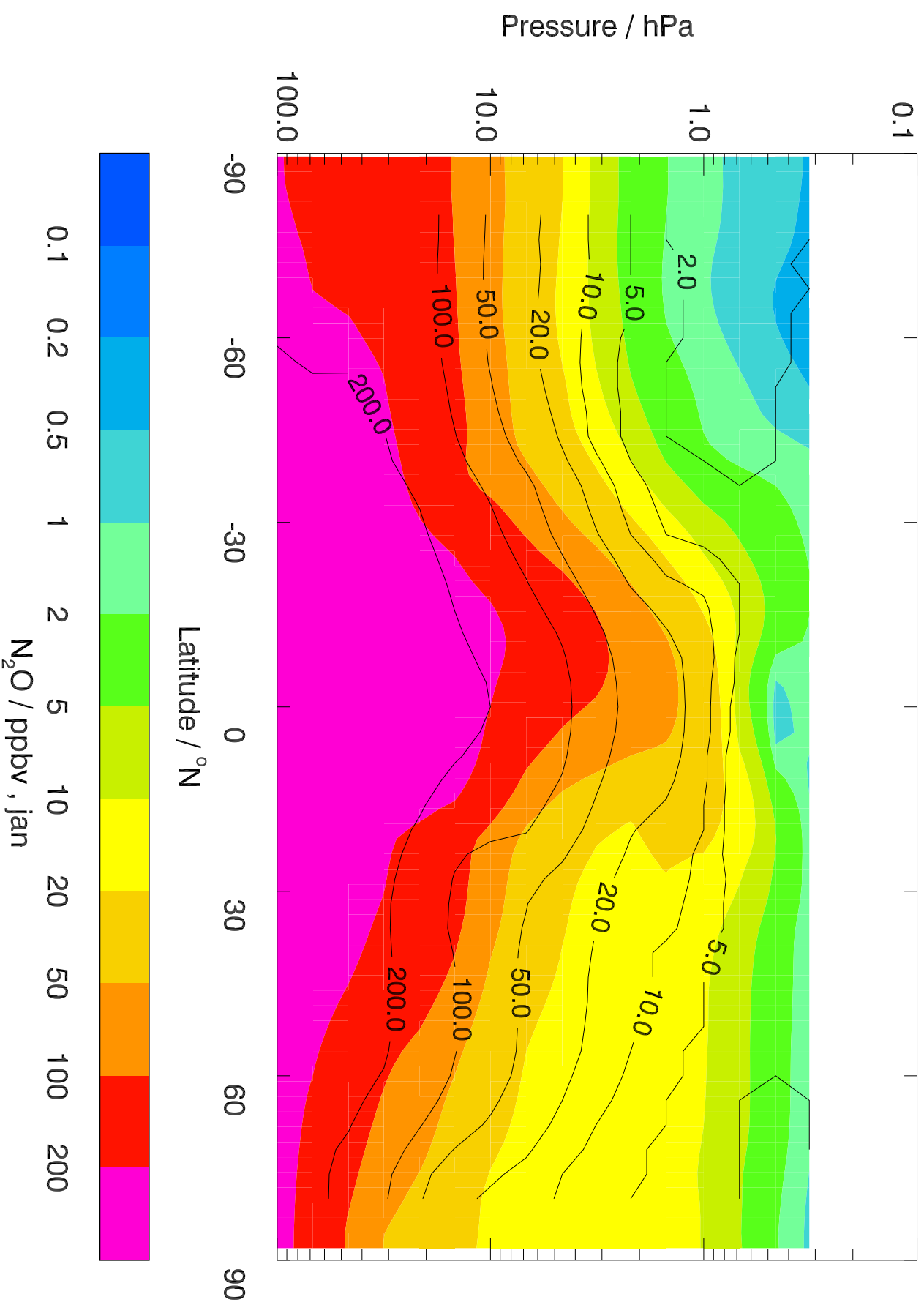
Colours: UKCA (XJClR), Contours: HALOE



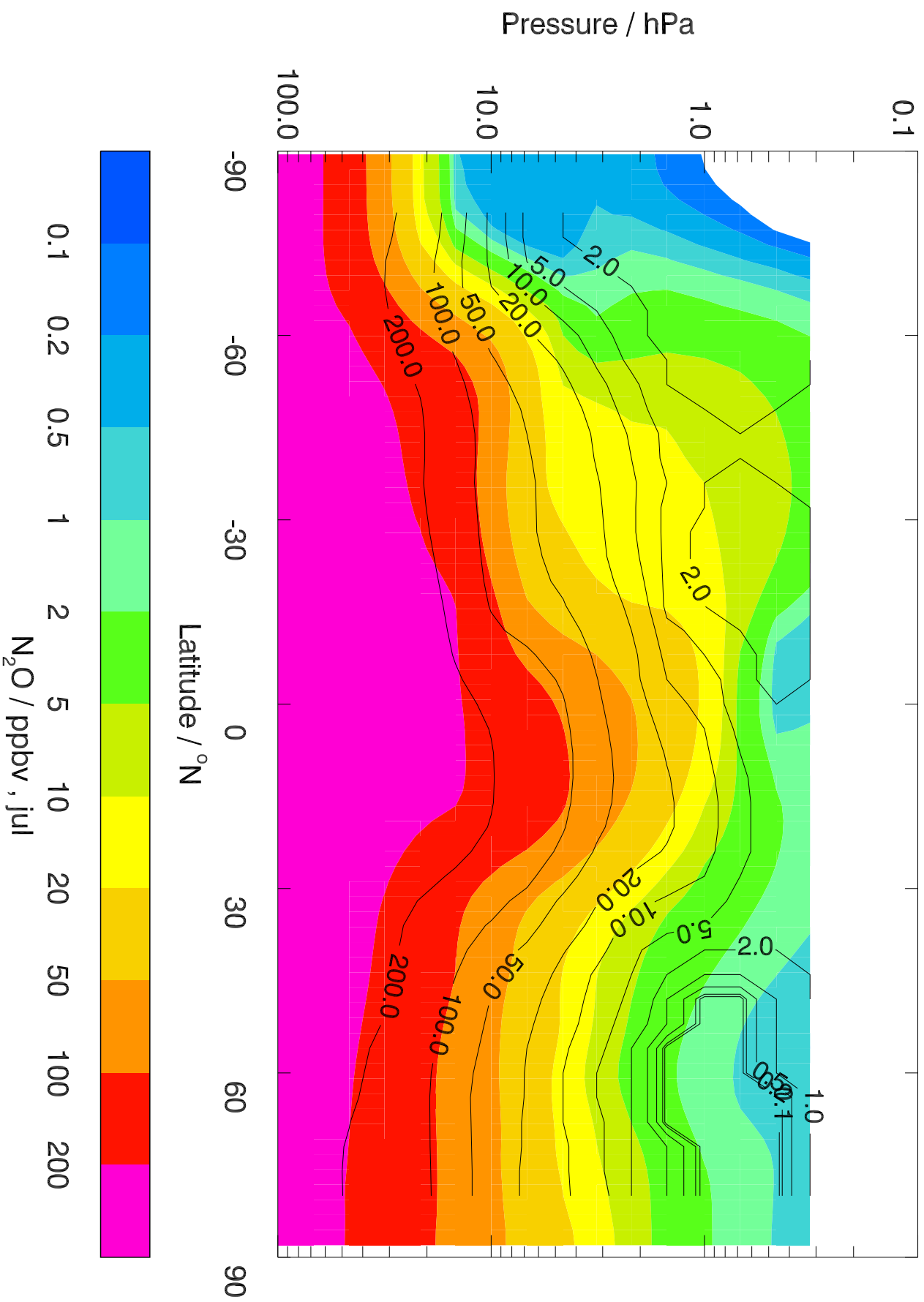
Colours: UKCA (XJGIR), Contours: HALOE



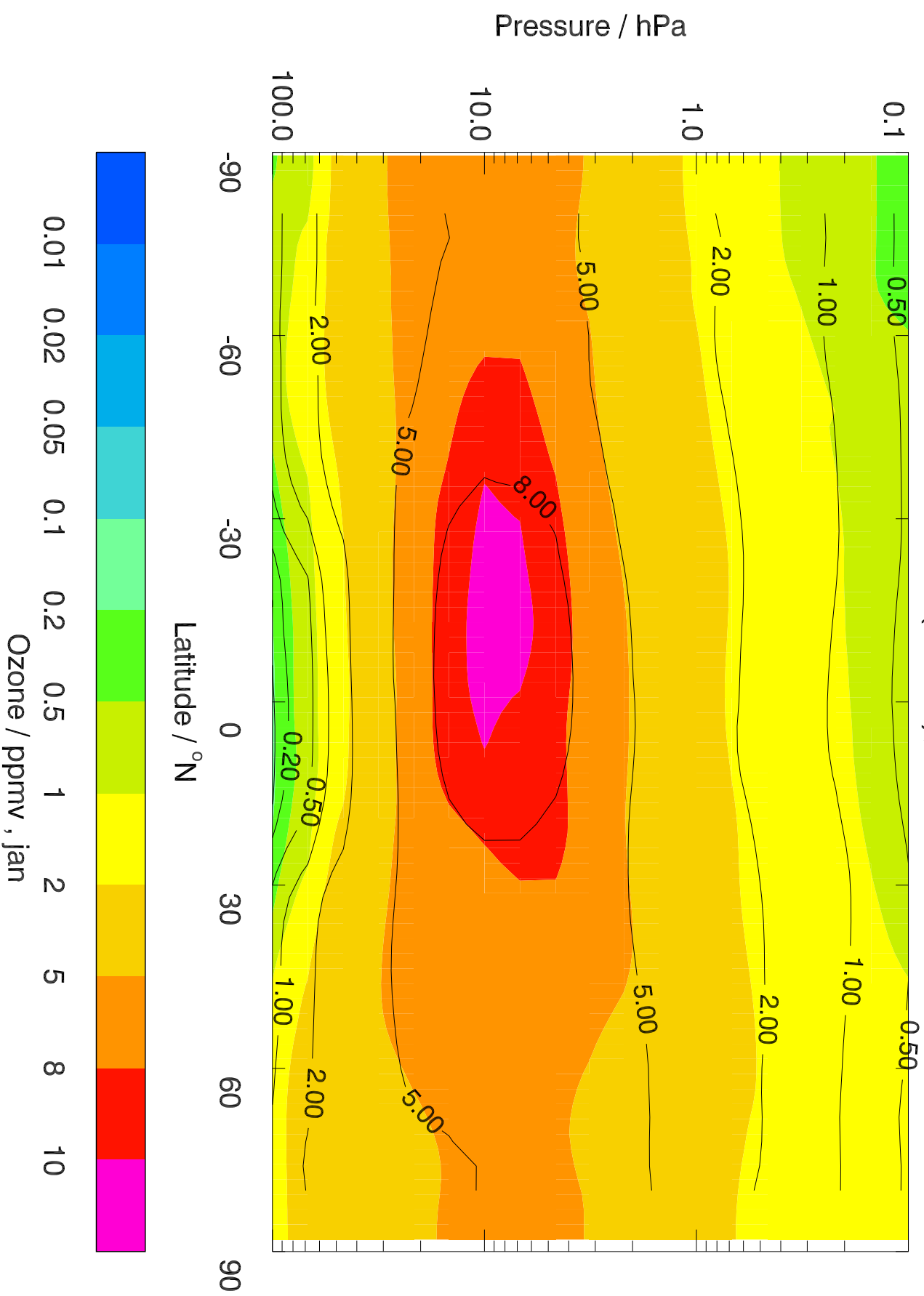
Colours: UKCA (XJClR), Contours: HALOE



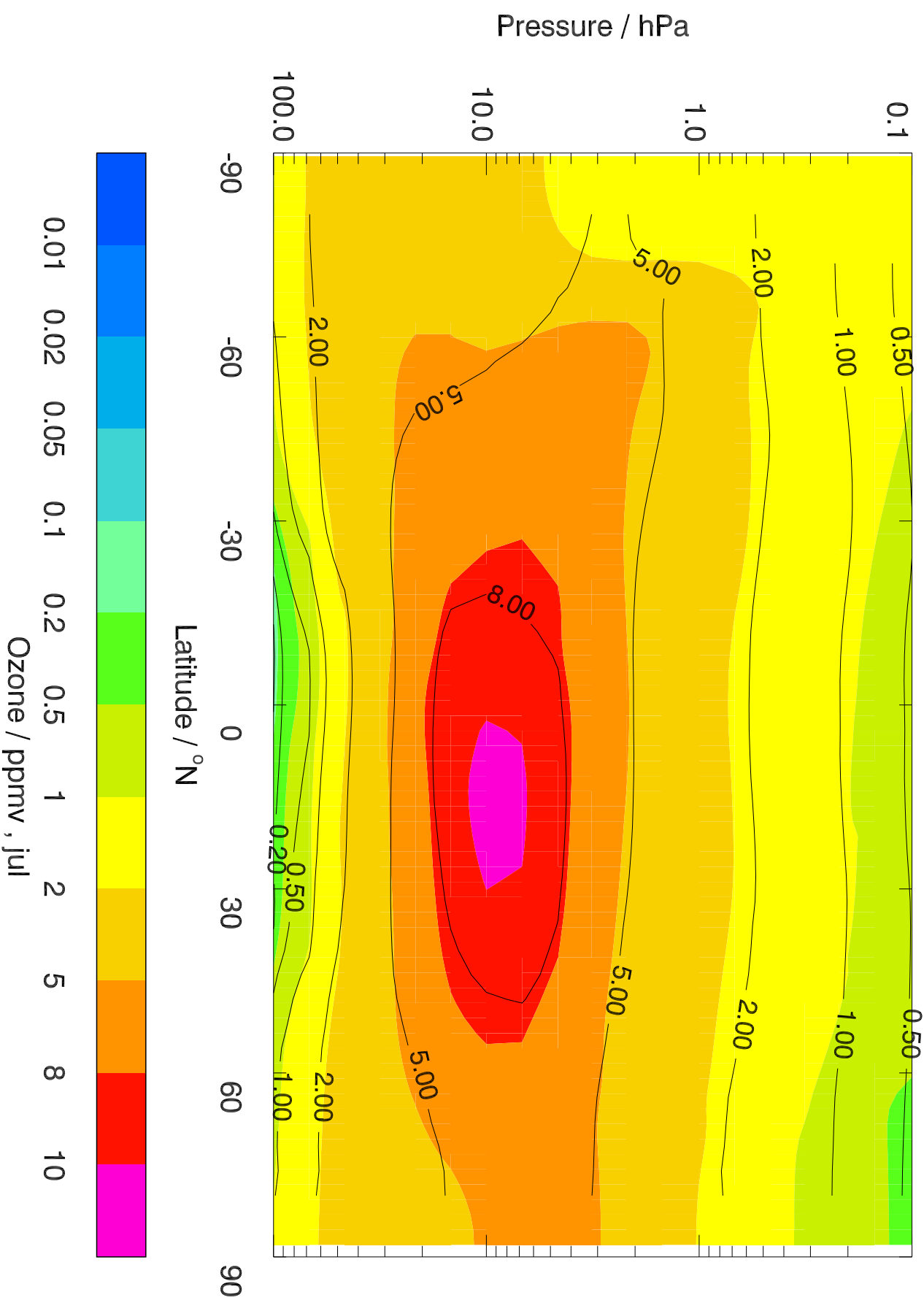
Colours: UKCA (XJGIR), Contours: HALOE



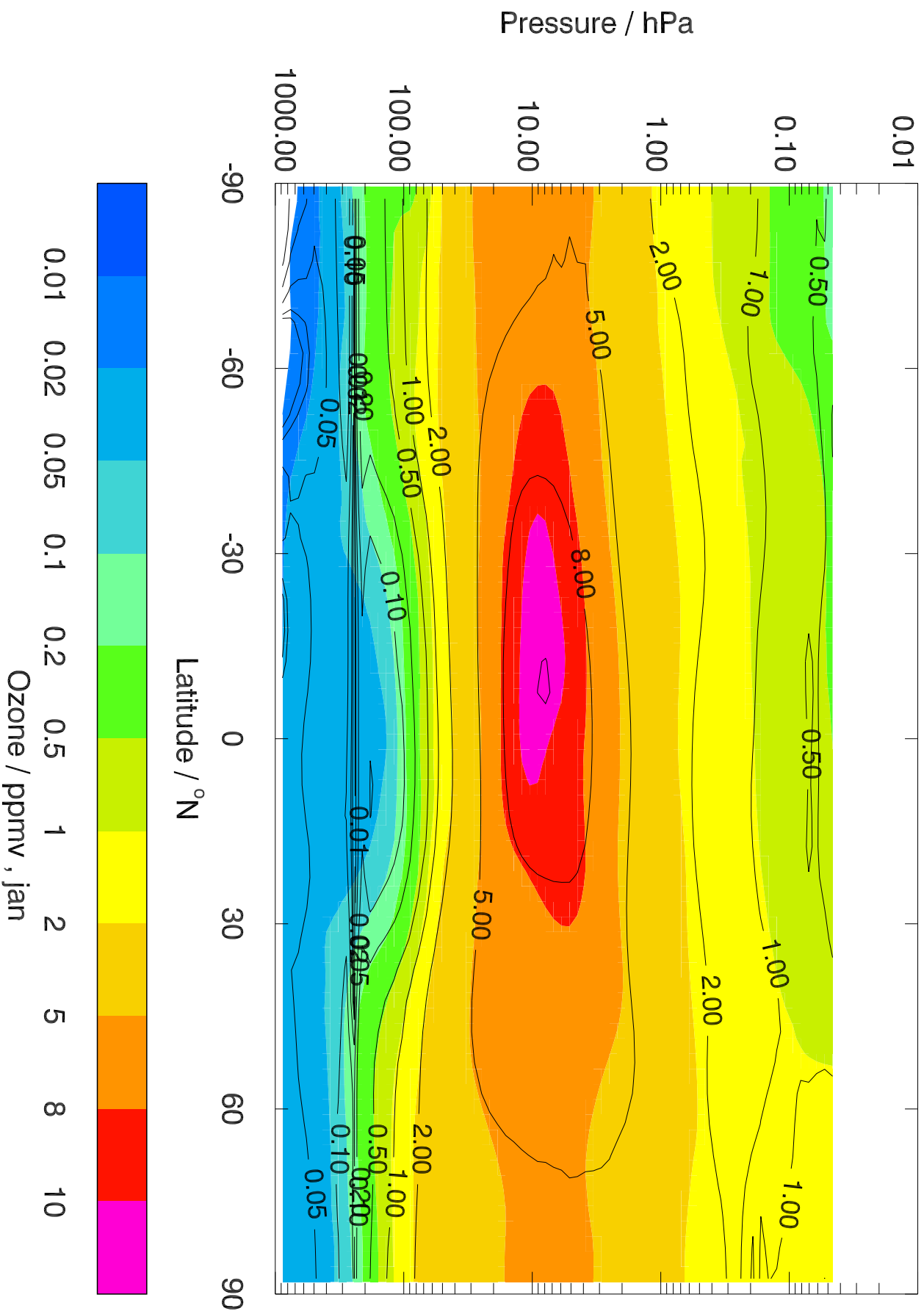
Colours: UKCA (XJClR), Contours: HALOE



Colours: UKCA (XJClR), Contours: HALOE



Colours: UKCA (XJClR), Contours: NIWA-CCMVal



Colours: UKCA (XJClR), Contours: NIWA-CCMVal

