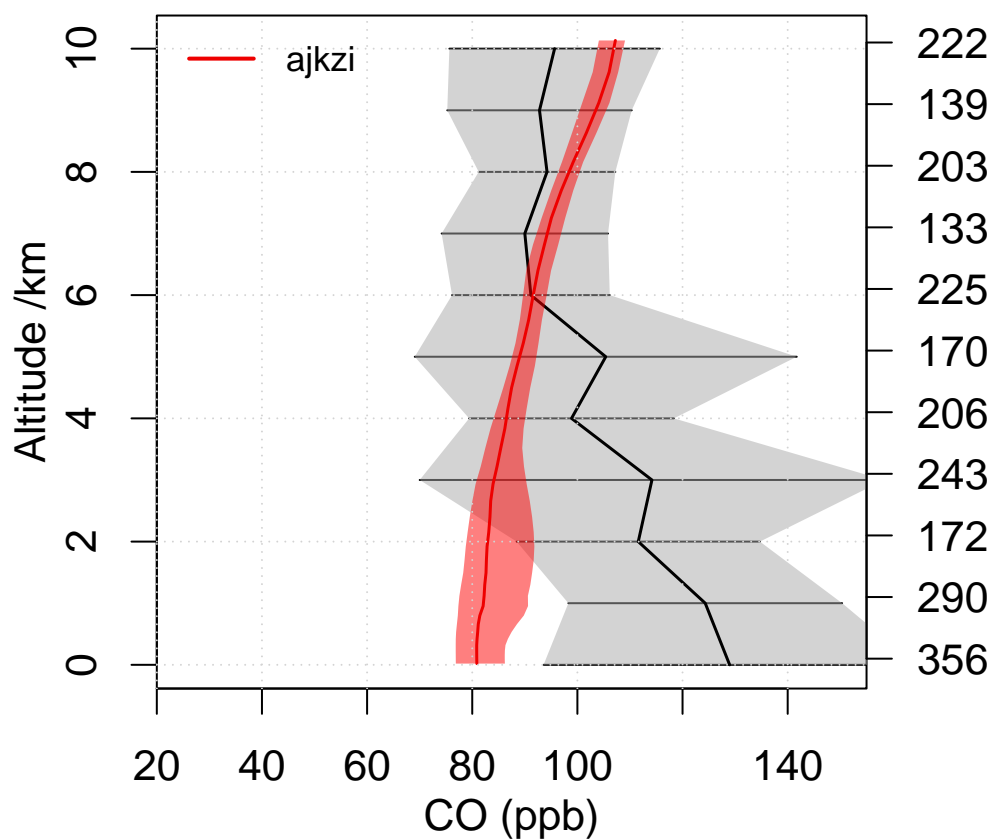
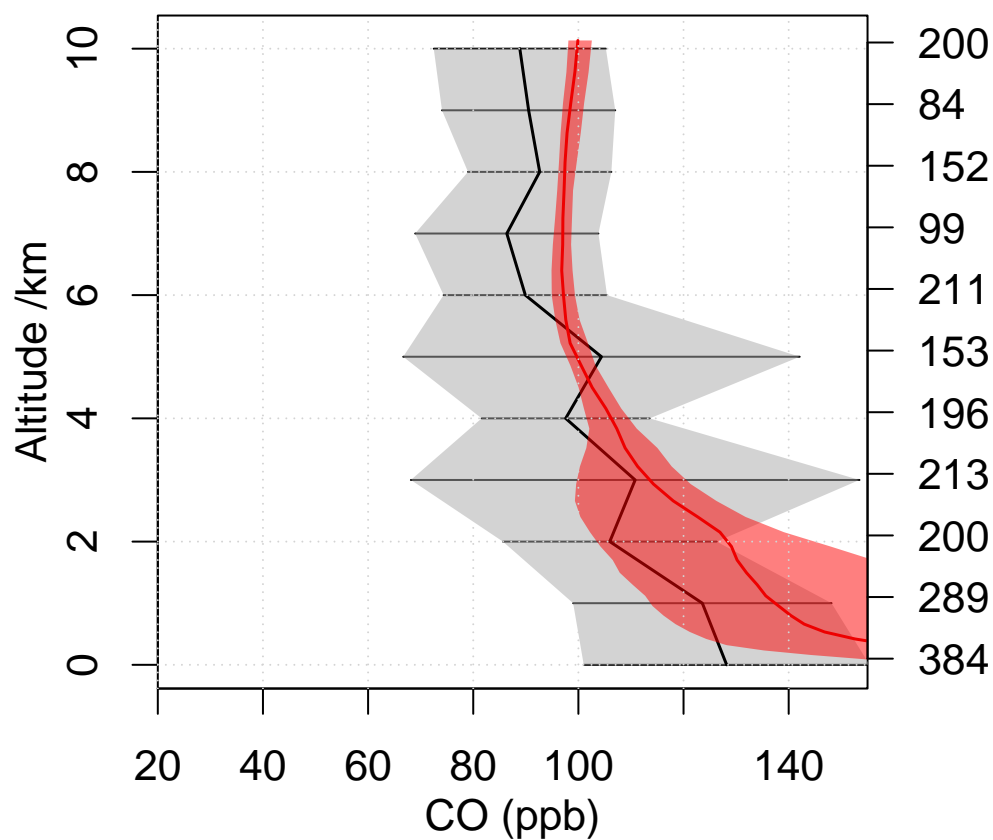


**Emmons CO comparison**

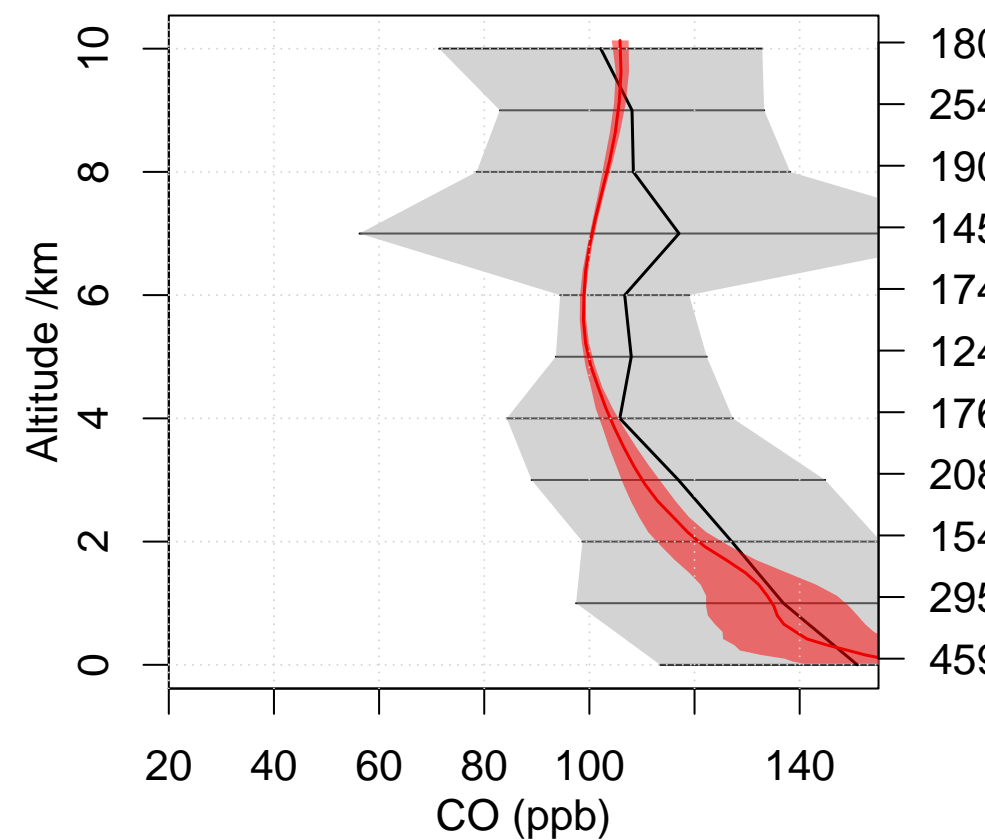
**INTEX-NA East Coast 2004 07**  
Lat 32.5 – 40 Lon 296.5 – 307



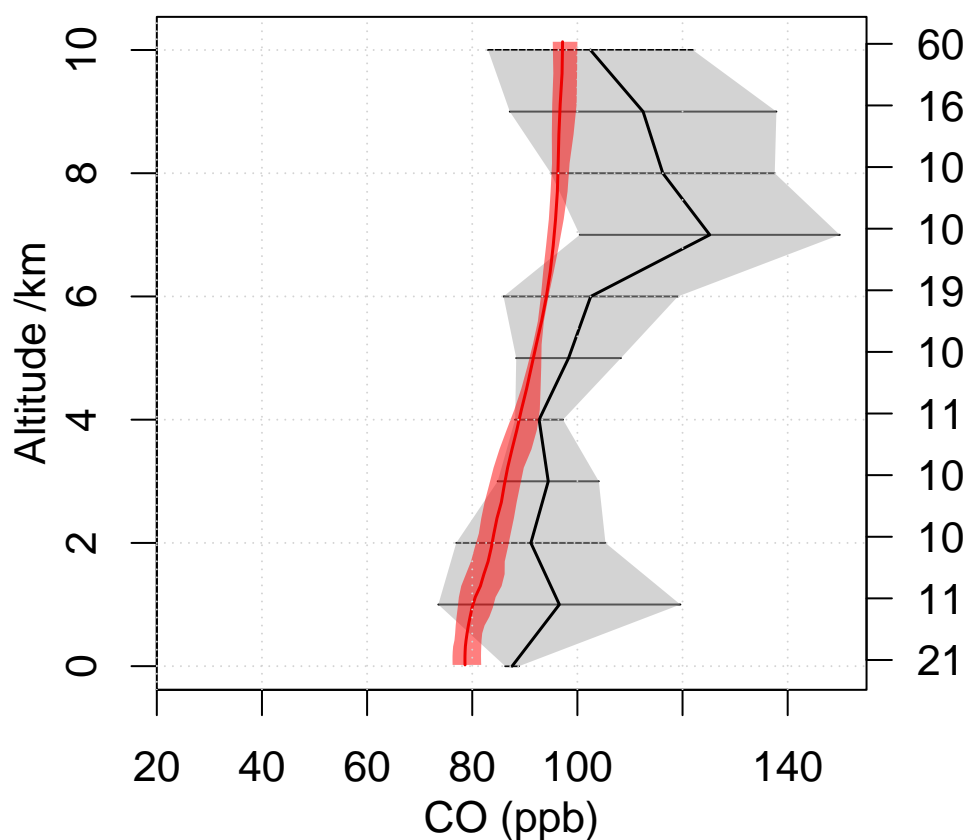
**INTEX-NA Central 2004 07**  
Lat 30 – 40 Lon 259.5 – 285



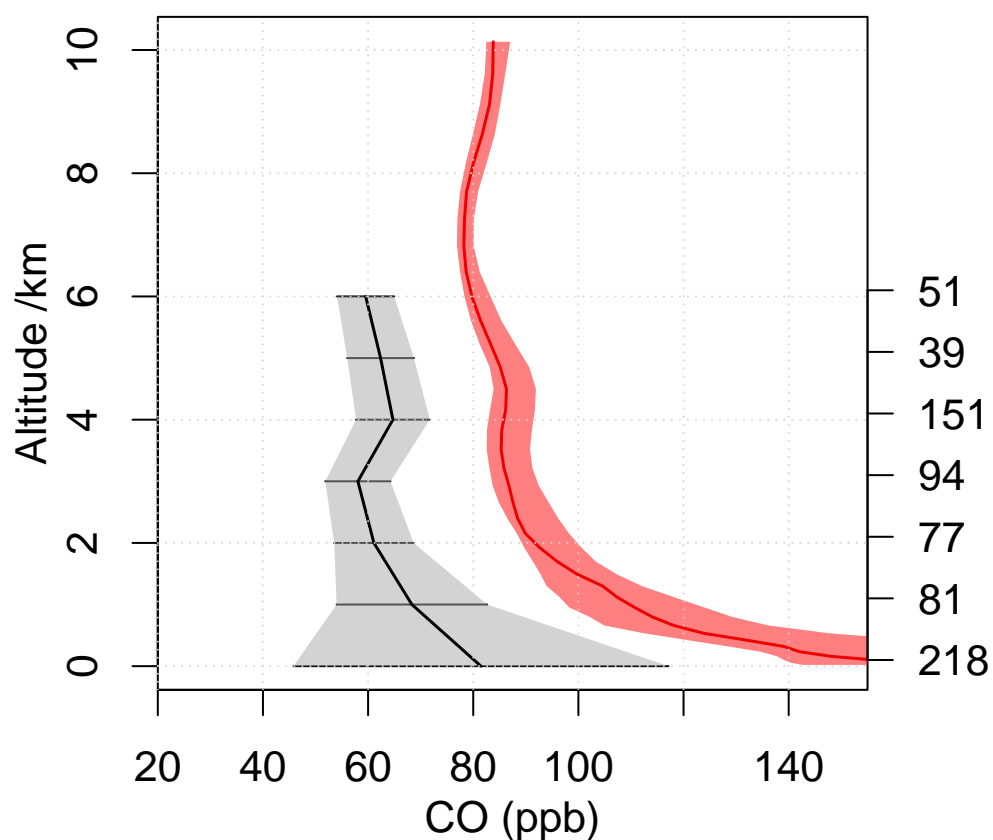
**INTEX-NA North East 2004 07**  
Lat 42.5 – 52.5 Lon 285 – 310



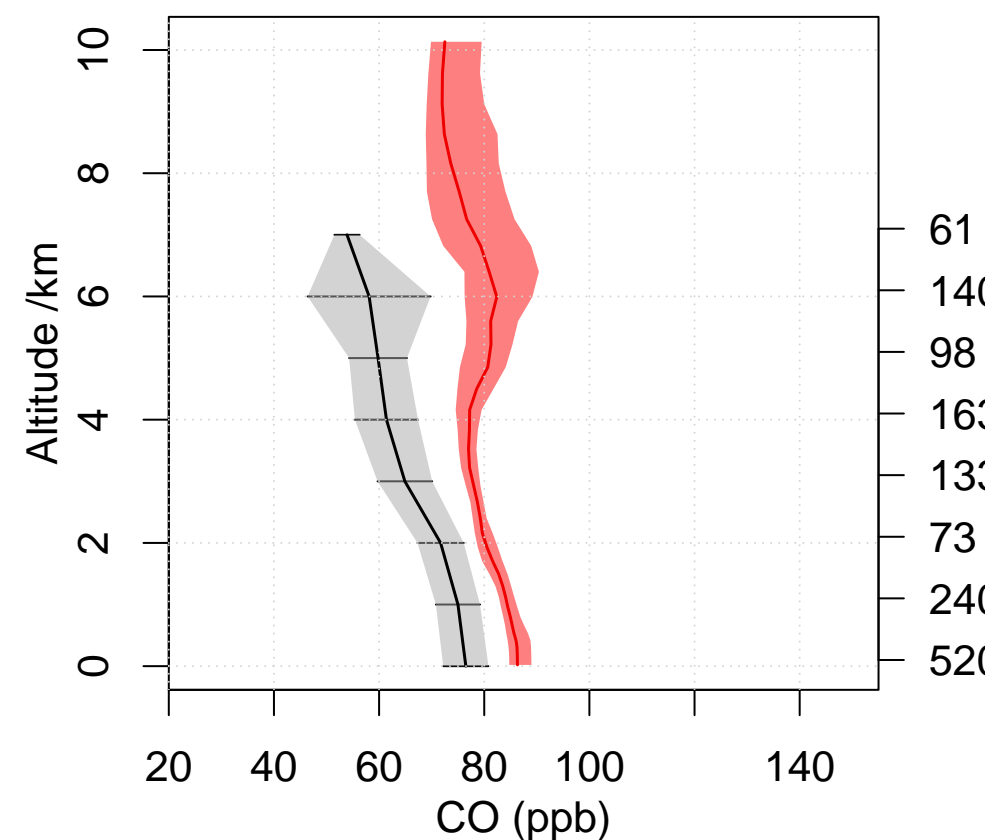
**INTEX-NA West Coast 2004 07**  
Lat 32.5 – 45 Lon 217 – 240



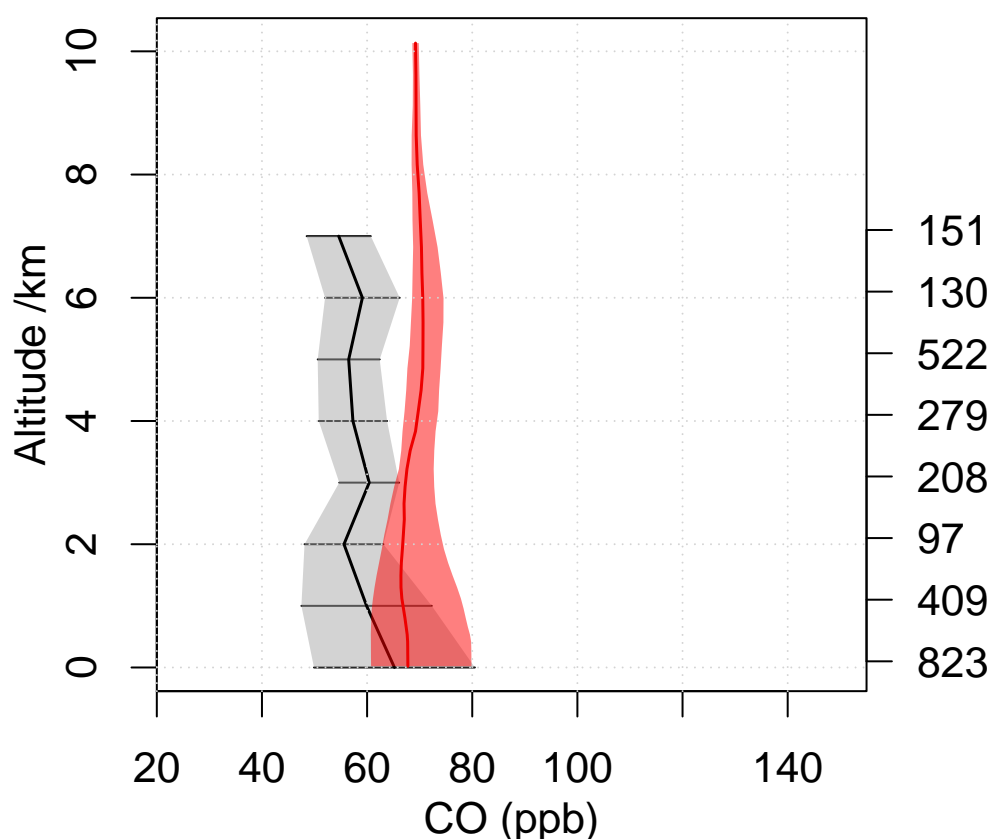
**OP3 2008 07**  
Lat 2.5 – 7.5 Lon 112.5 – 120



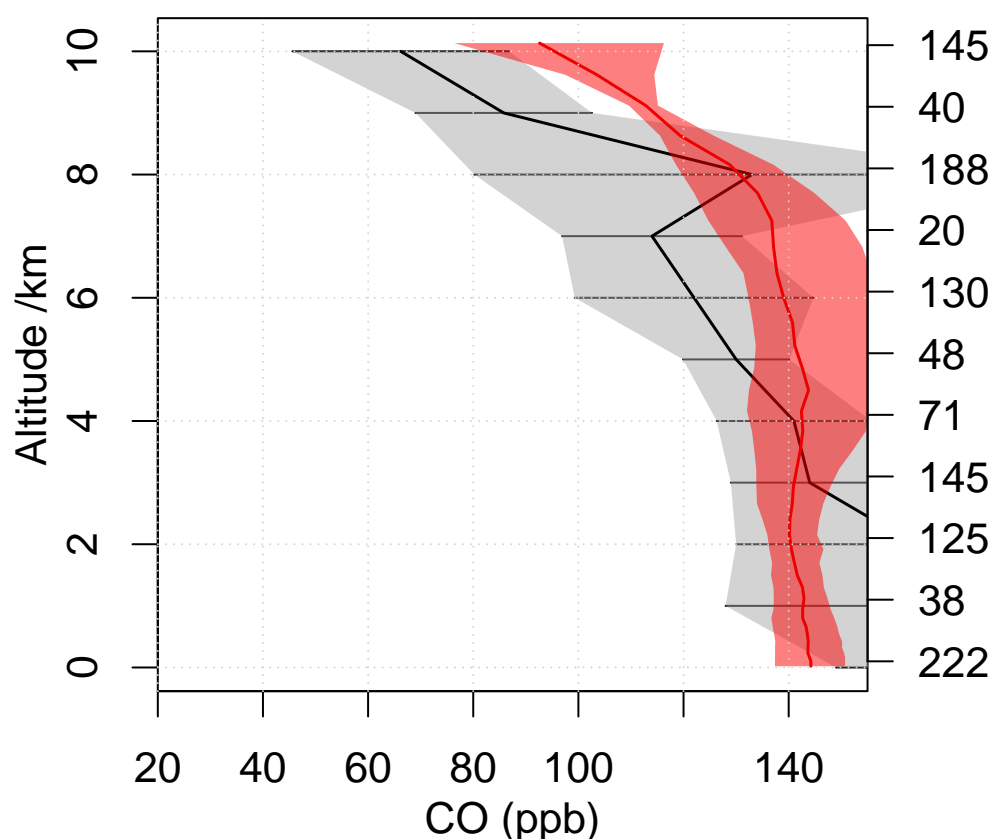
**PEM-Tropics-B Christmas-Island 1999 0**  
Lat 0 – 10 Lon 200 – 220



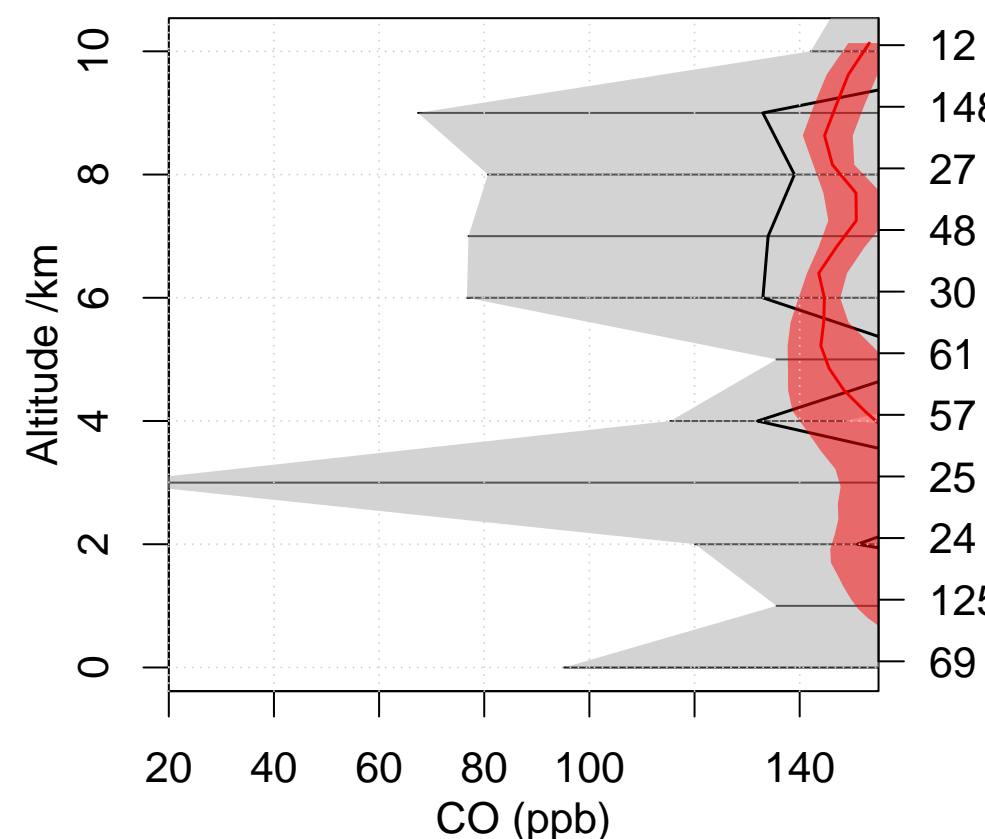
**PEM-Tropics-B Tahiti 1999 03**  
Lat -20 – 0 Lon 200 – 230



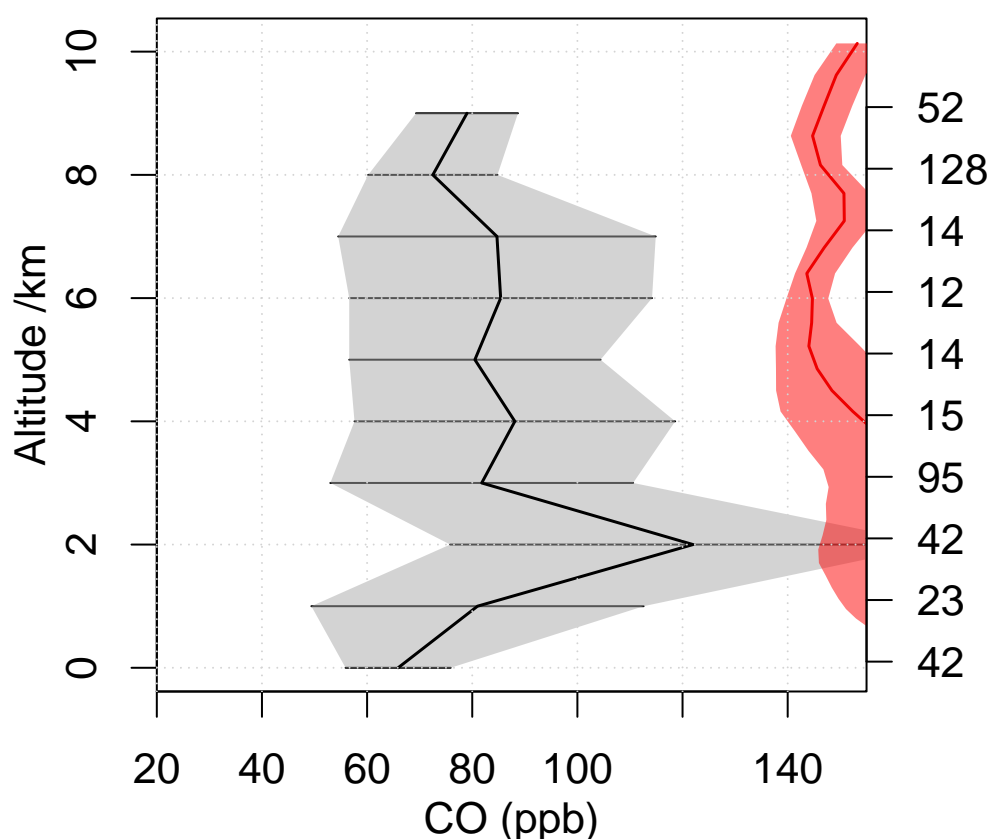
**PEM-West-B Japan 1994 02**  
Lat 25 – 40 Lon 135 – 150



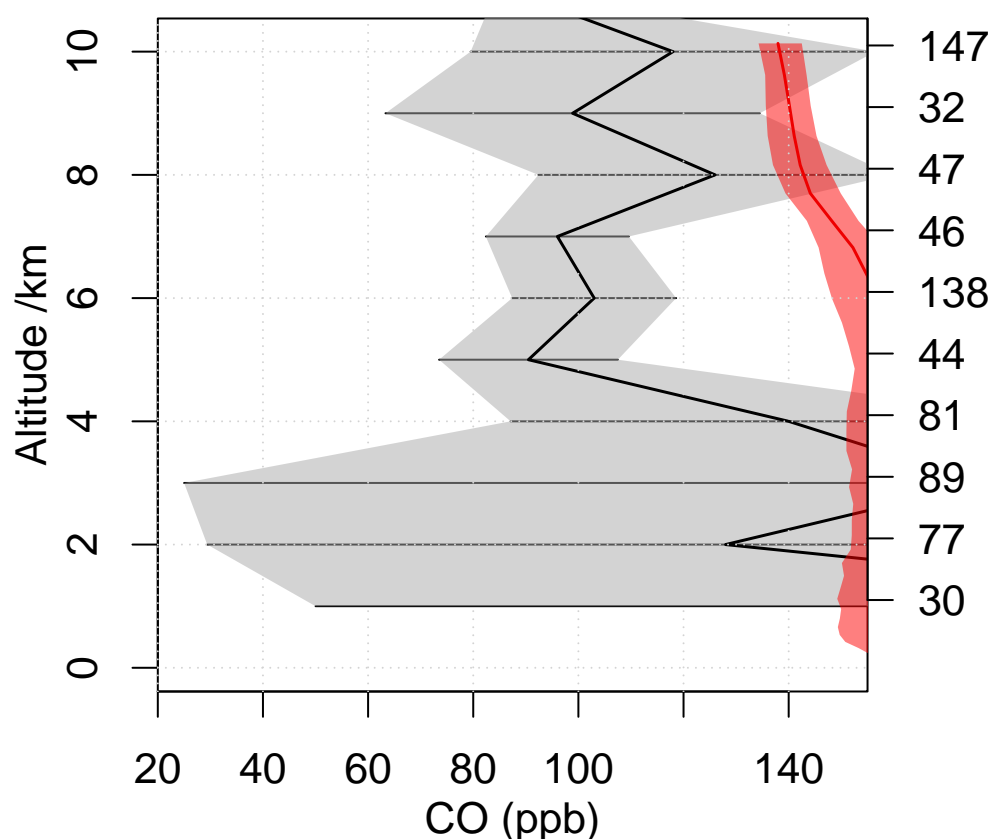
**TRACE-A E-Brazil 1992 09**  
Lat -15 – -5 Lon 310 – 320



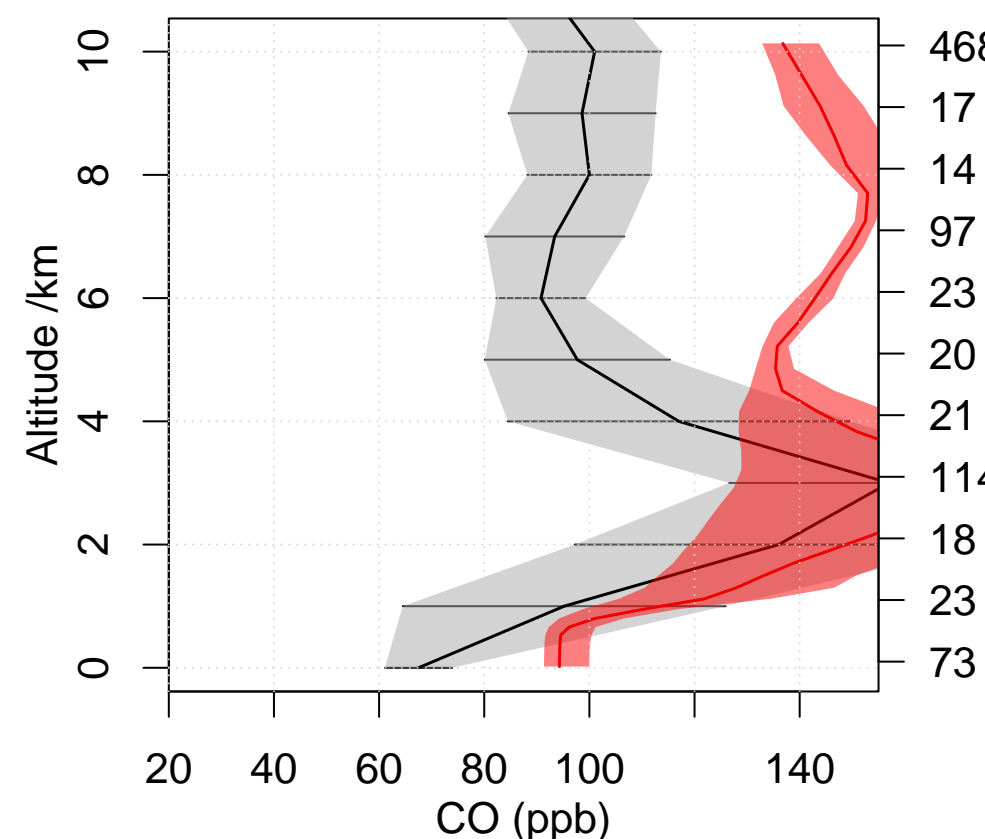
**TRACE-A E-Brazil Coast 1992 09**  
Lat -35 – -25 Lon 310 – 320



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

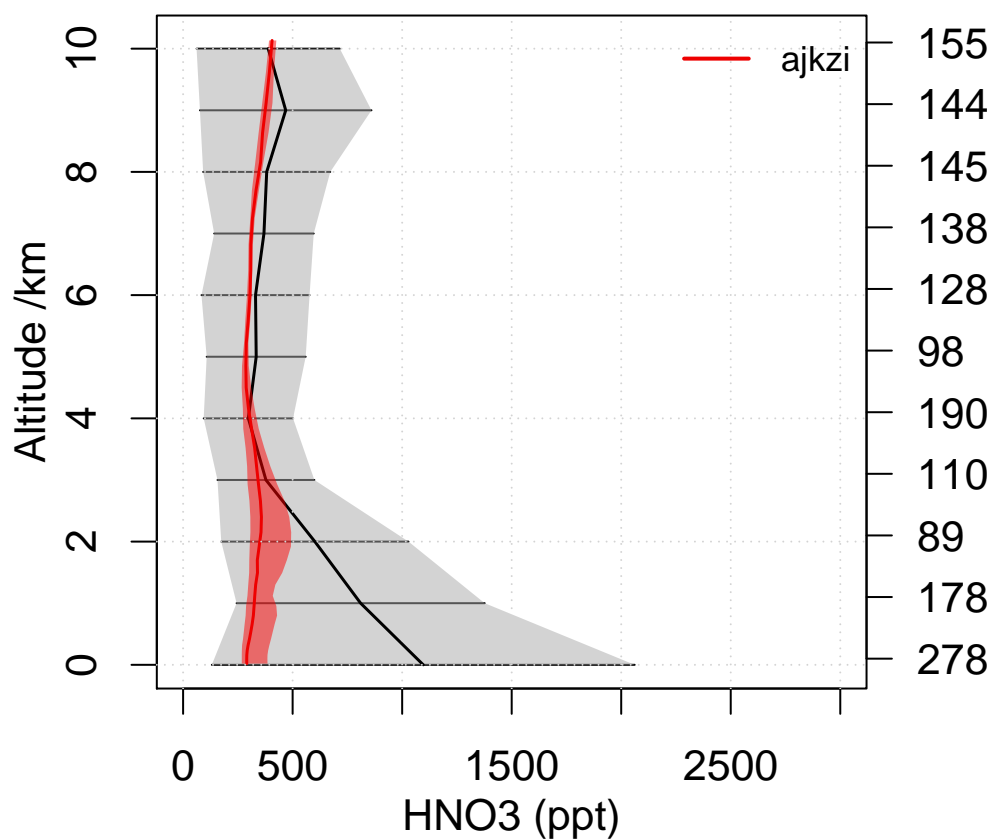


**TRACE-A W-Africa Coast 1992 09**  
Lat -25 – -5 Lon 0 – 10

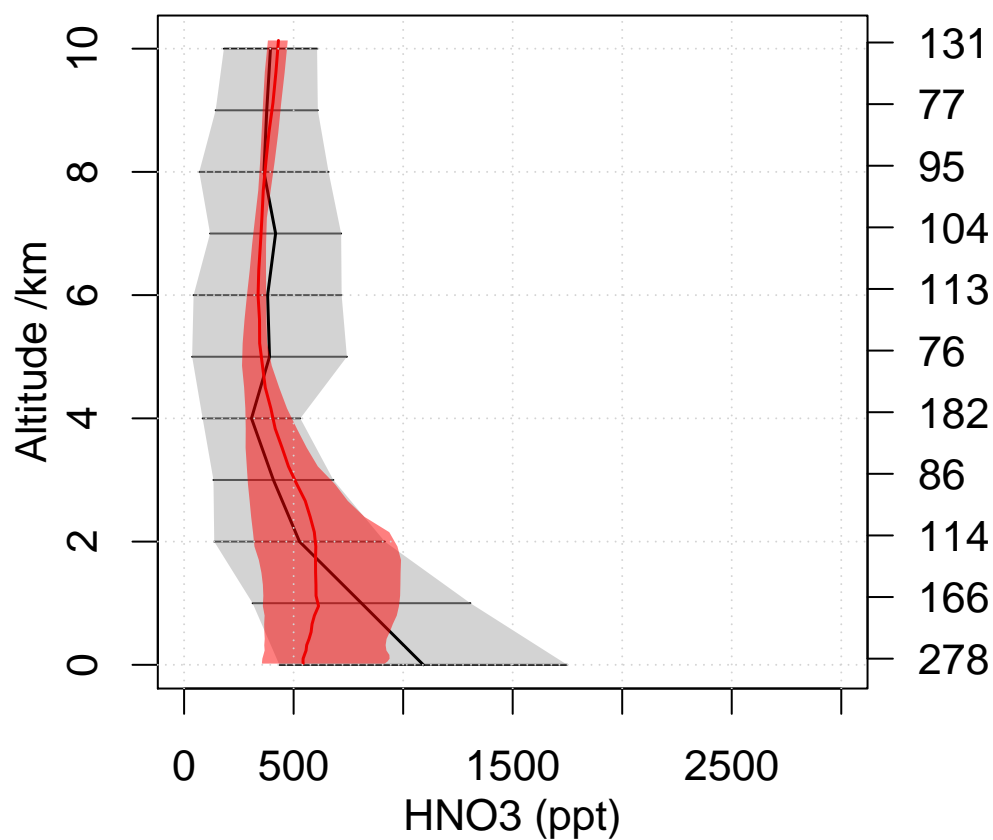


**Emmons HNO3 comparison**

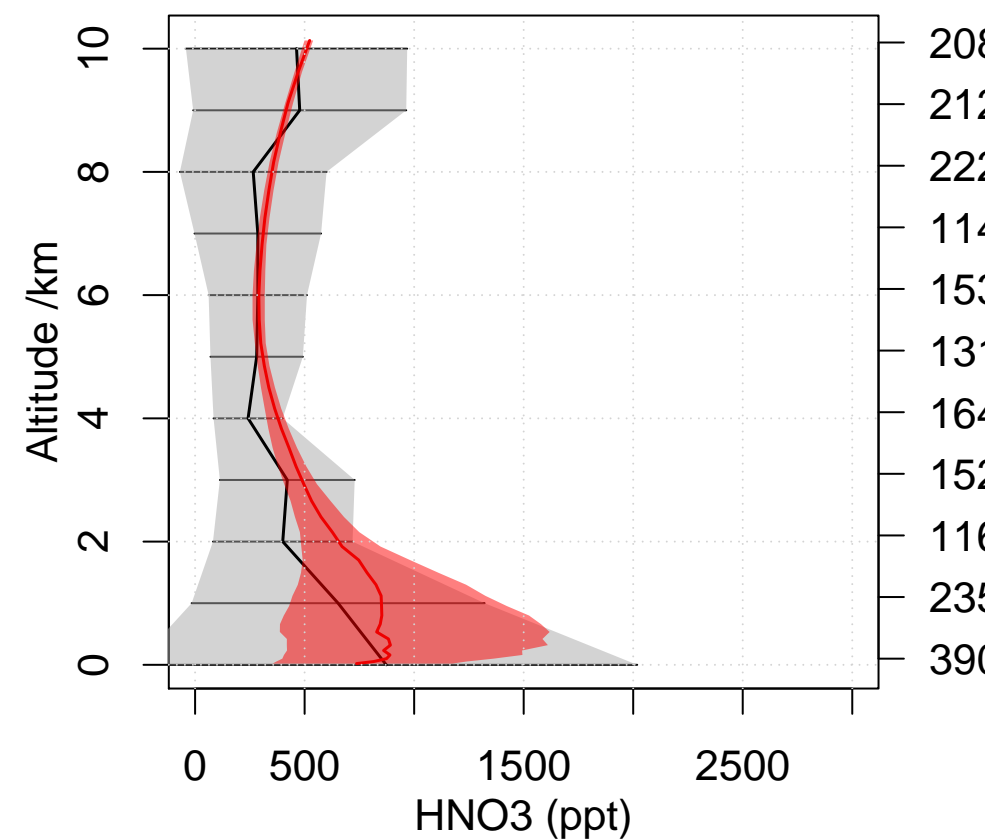
**INTEX-NA East Coast 2004 07**  
Lat 32.5 – 40 Lon 296.5 – 307



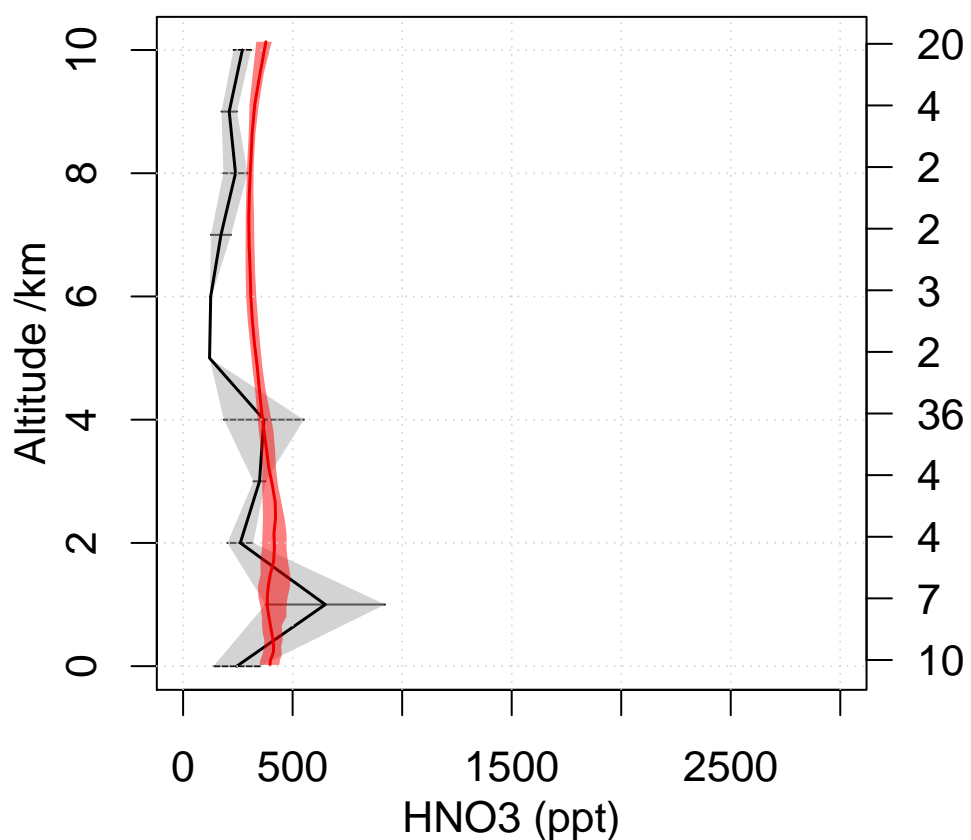
**INTEX-NA Central 2004 07**  
Lat 30 – 40 Lon 259.5 – 285



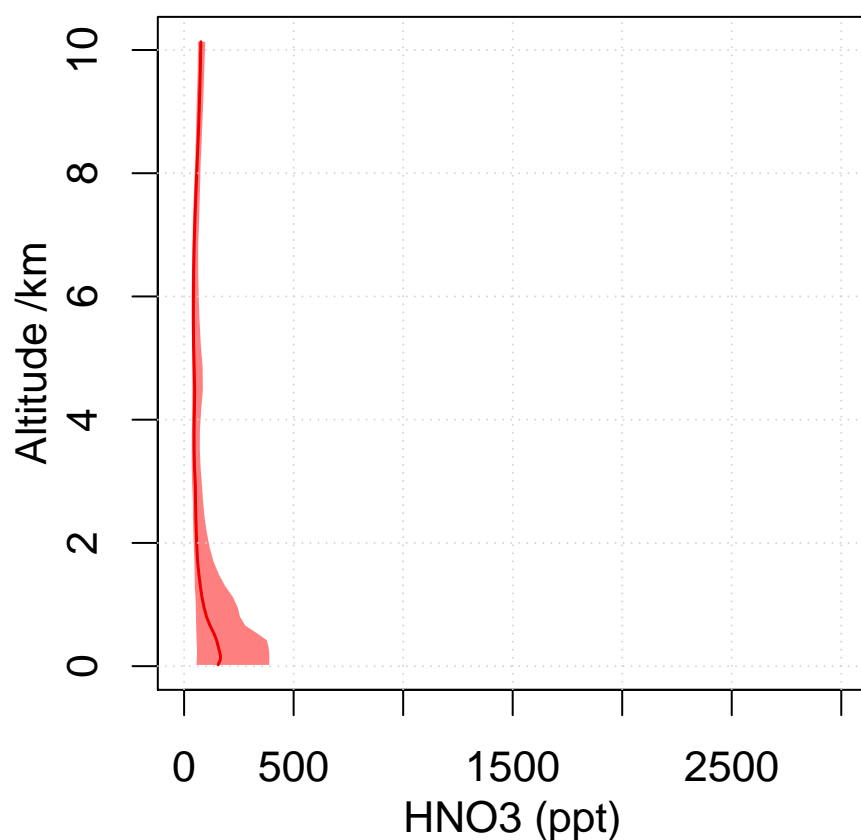
**INTEX-NA North East 2004 07**  
Lat 42.5 – 52.5 Lon 285 – 310



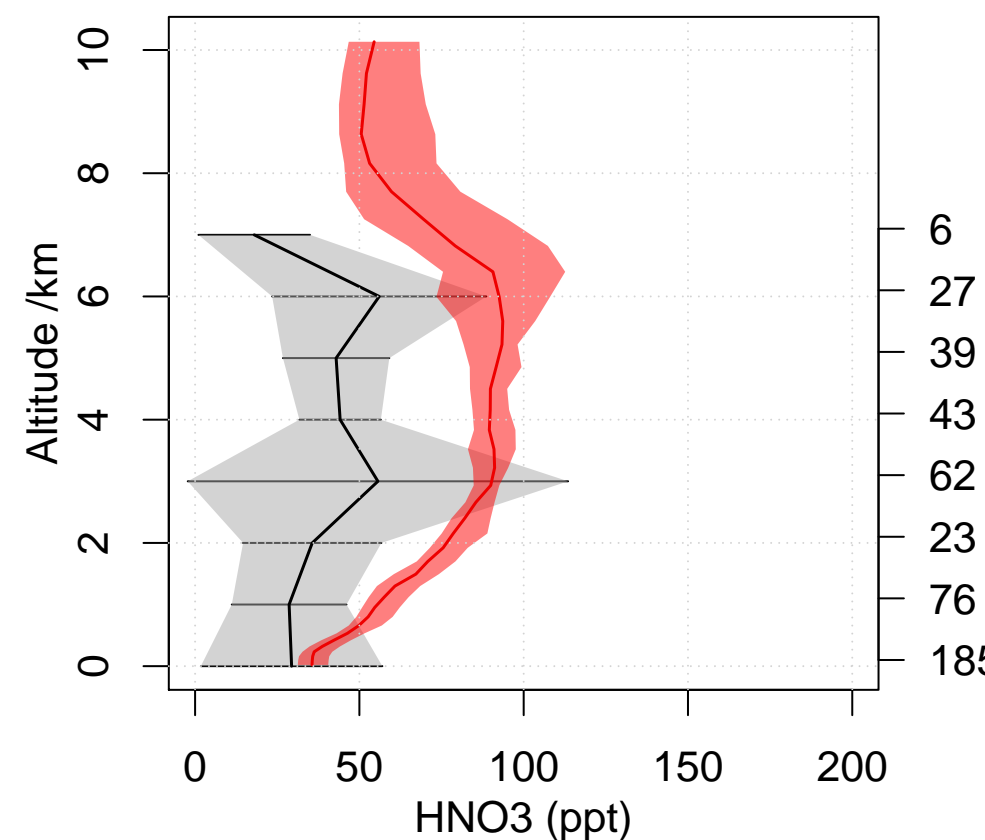
**INTEX-NA West Coast 2004 07**  
Lat 32.5 – 45 Lon 217 – 240



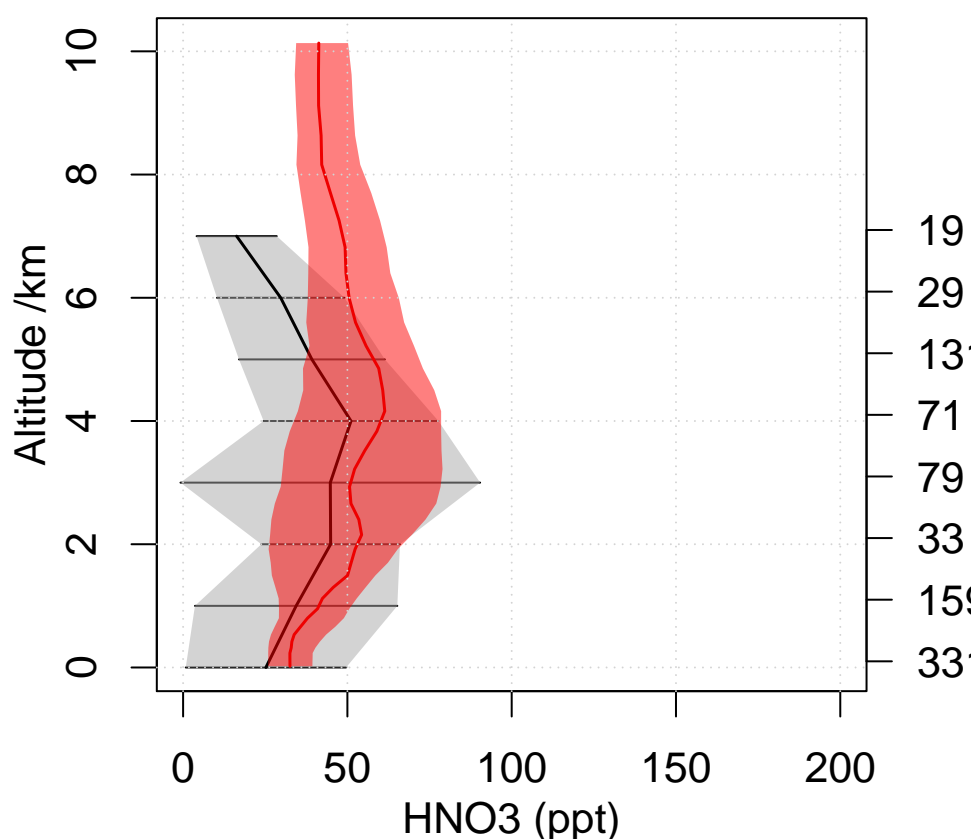
**OP3 2008 07**  
Lat 2.5 – 7.5 Lon 112.5 – 120



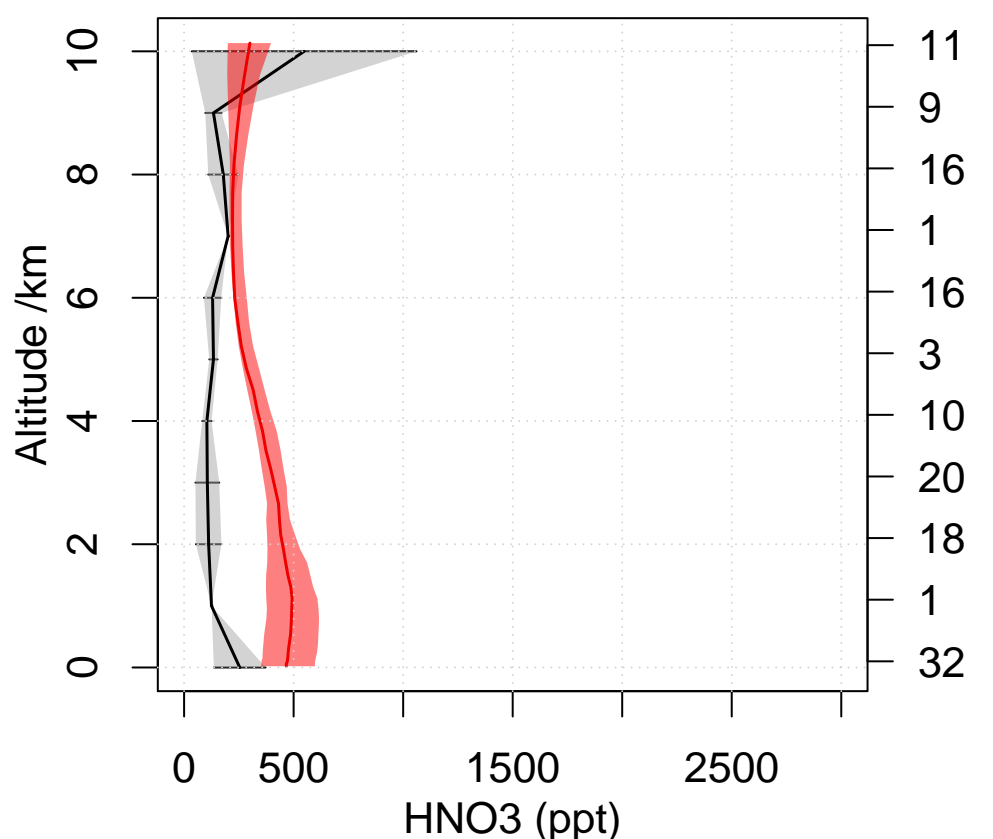
**PEM-Tropics-B Christmas-Island 1999 07**  
Lat 0 – 10 Lon 200 – 220



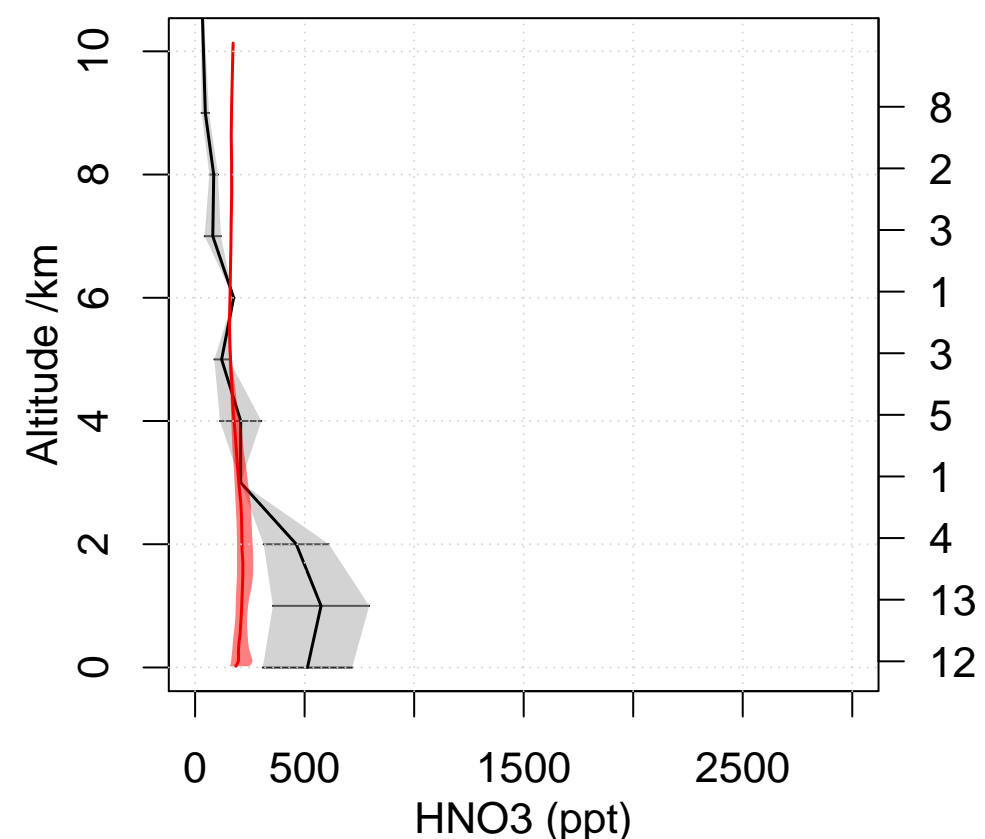
**PEM-Tropics-B Tahiti 1999 03**  
Lat -20 – 0 Lon 200 – 230



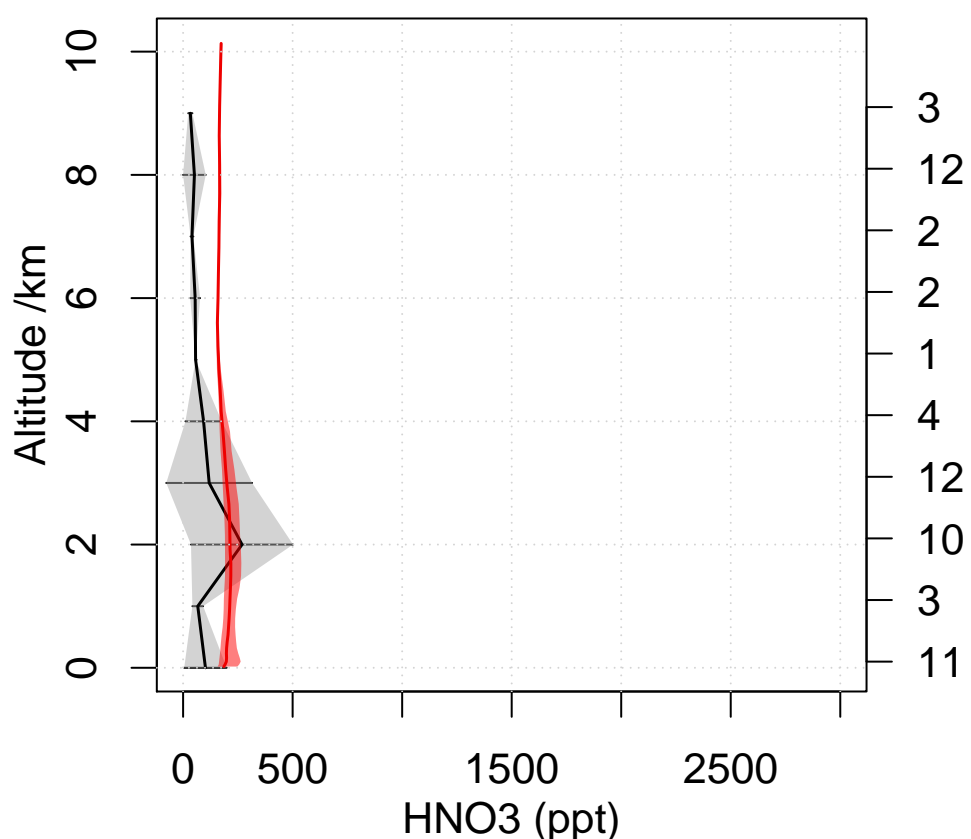
**PEM-West-B Japan 1994 02**  
Lat 25 – 40 Lon 135 – 150



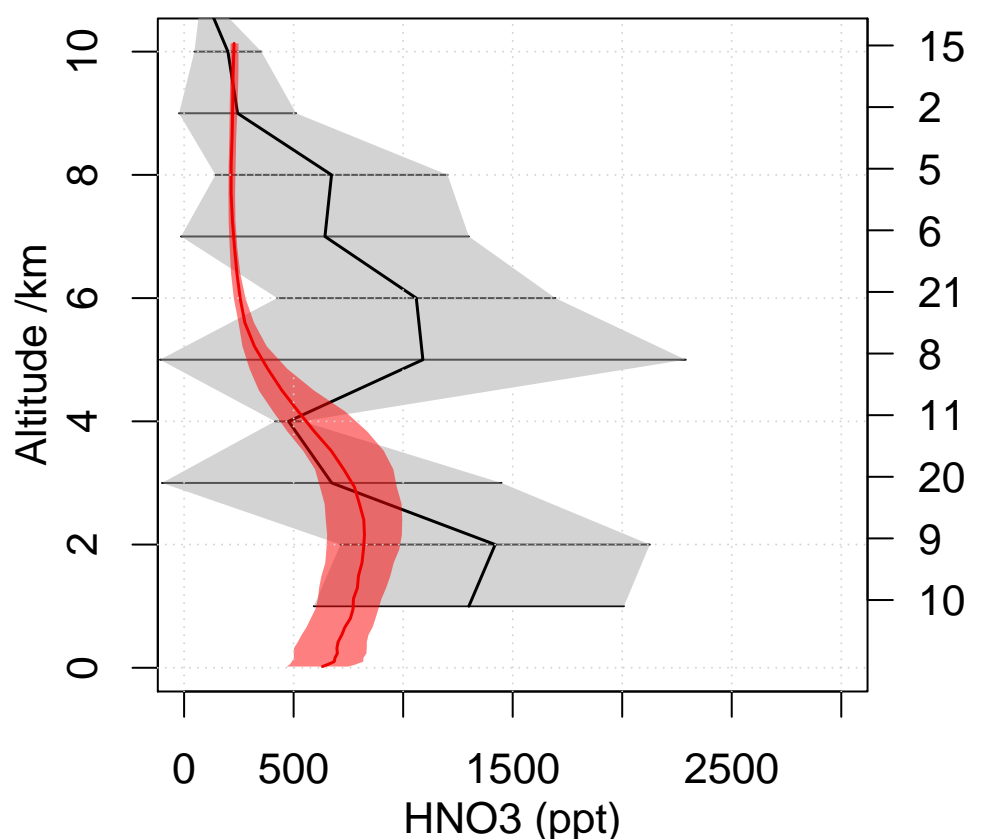
**TRACE-A E-Brazil 1992 09**  
Lat -15 – -5 Lon 310 – 320



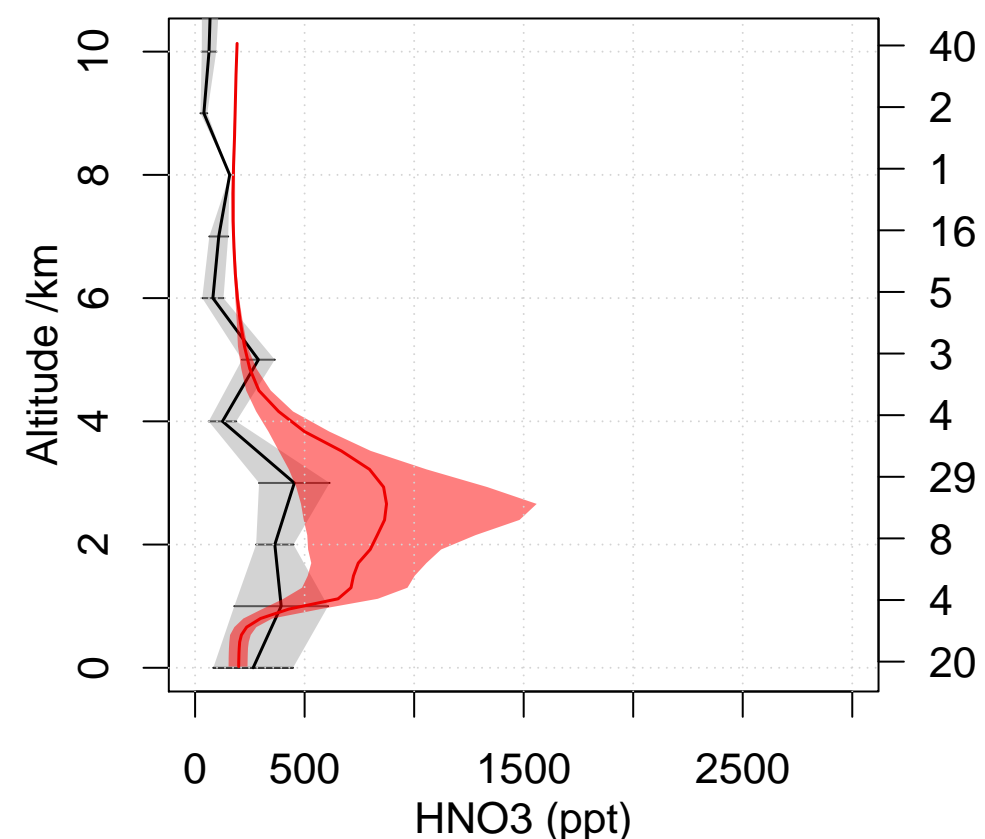
**TRACE-A E-Brazil Coast 1992 09**  
Lat -35 – -25 Lon 310 – 320



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



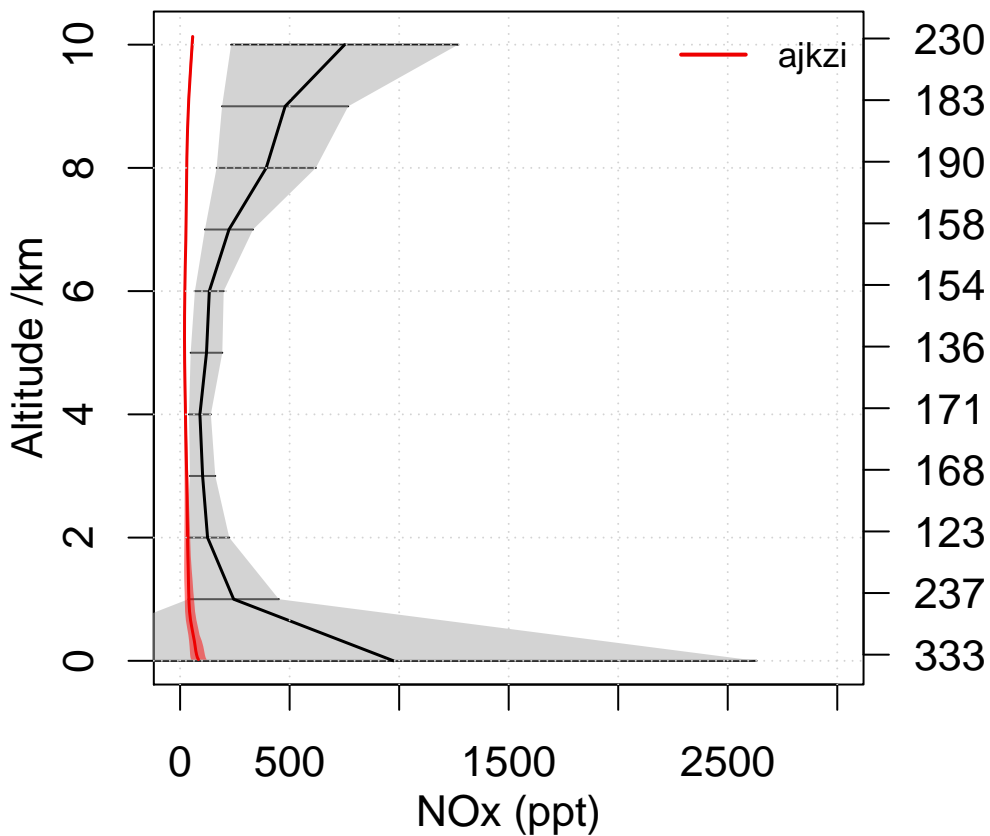
**TRACE-A W-Africa Coast 1992 09**  
Lat -25 – -5 Lon 0 – 10



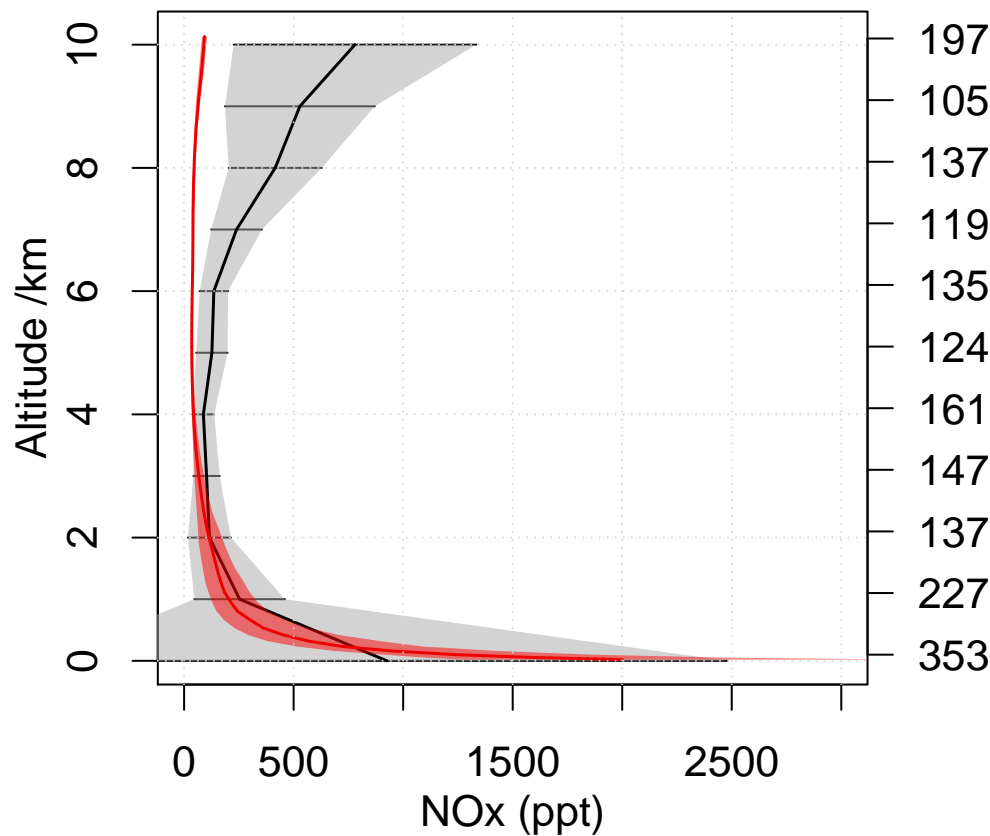


**Emmons NOx comparison**

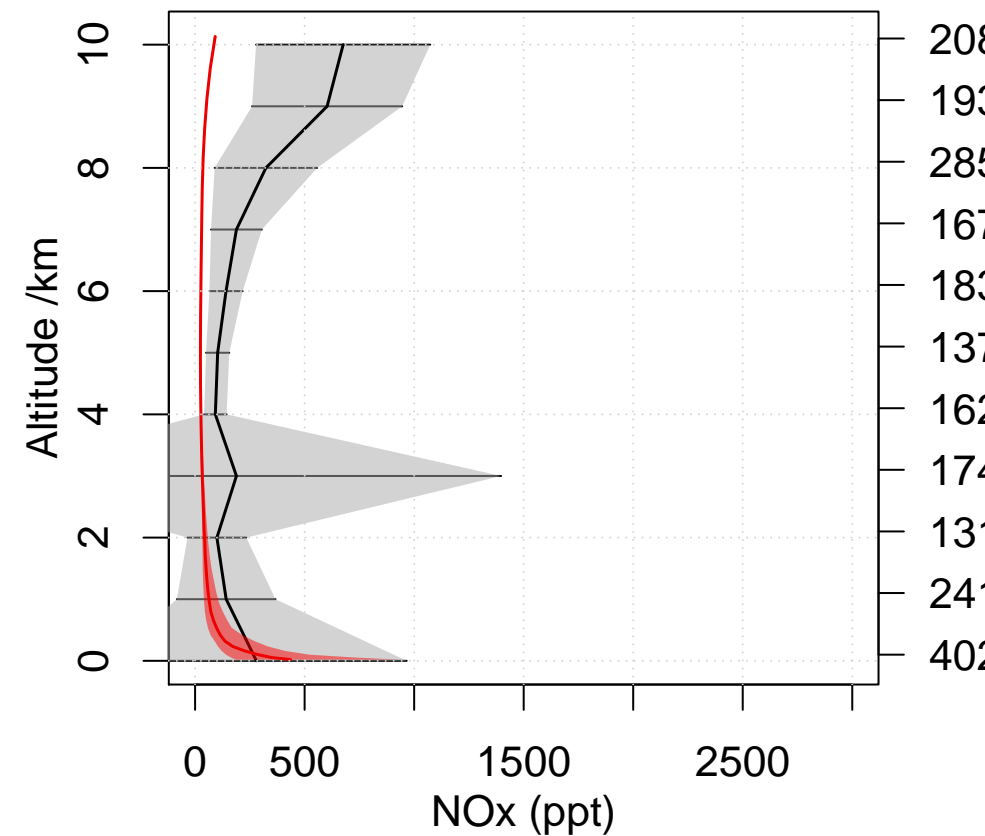
**INTEX-NA East Coast 2004 07**  
Lat 32.5 – 40 Lon 296.5 – 307



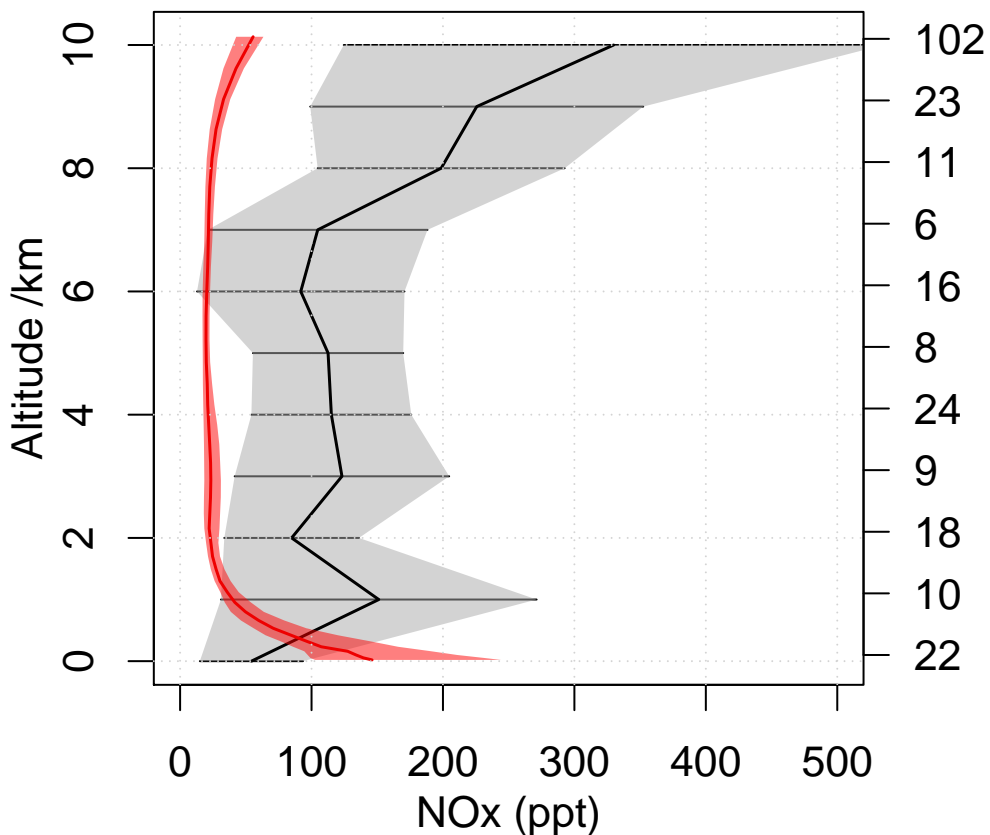
**INTEX-NA Central 2004 07**  
Lat 30 – 40 Lon 259.5 – 285



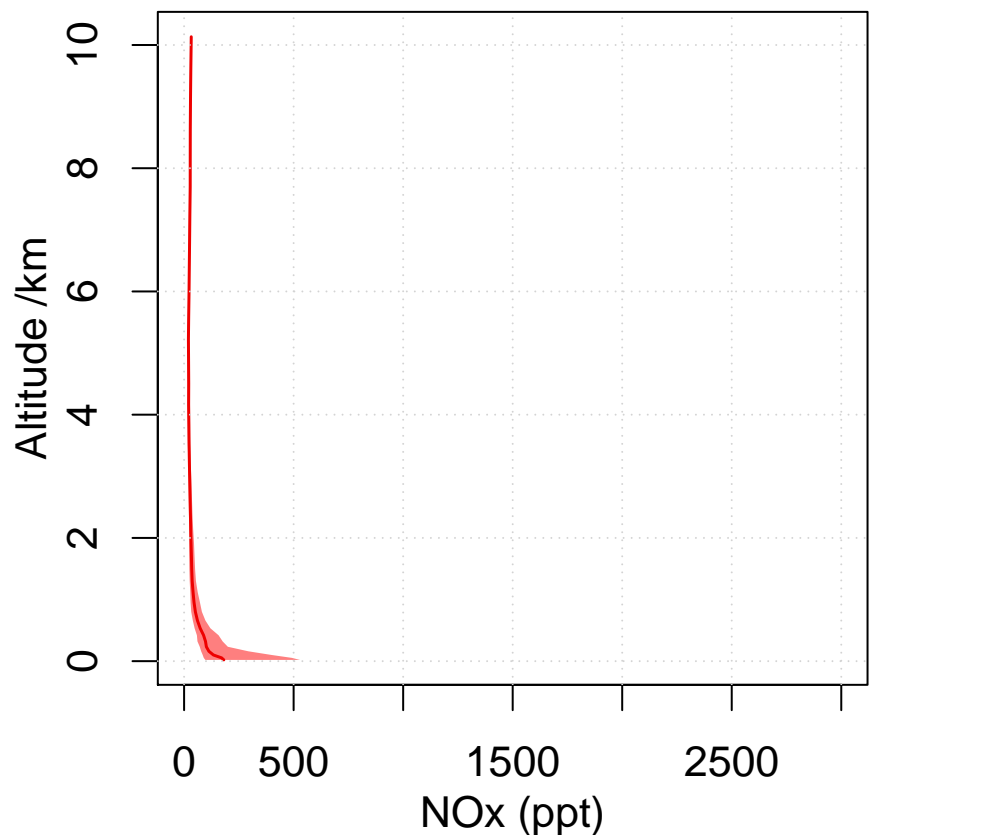
**INTEX-NA North East 2004 07**  
Lat 42.5 – 52.5 Lon 285 – 310



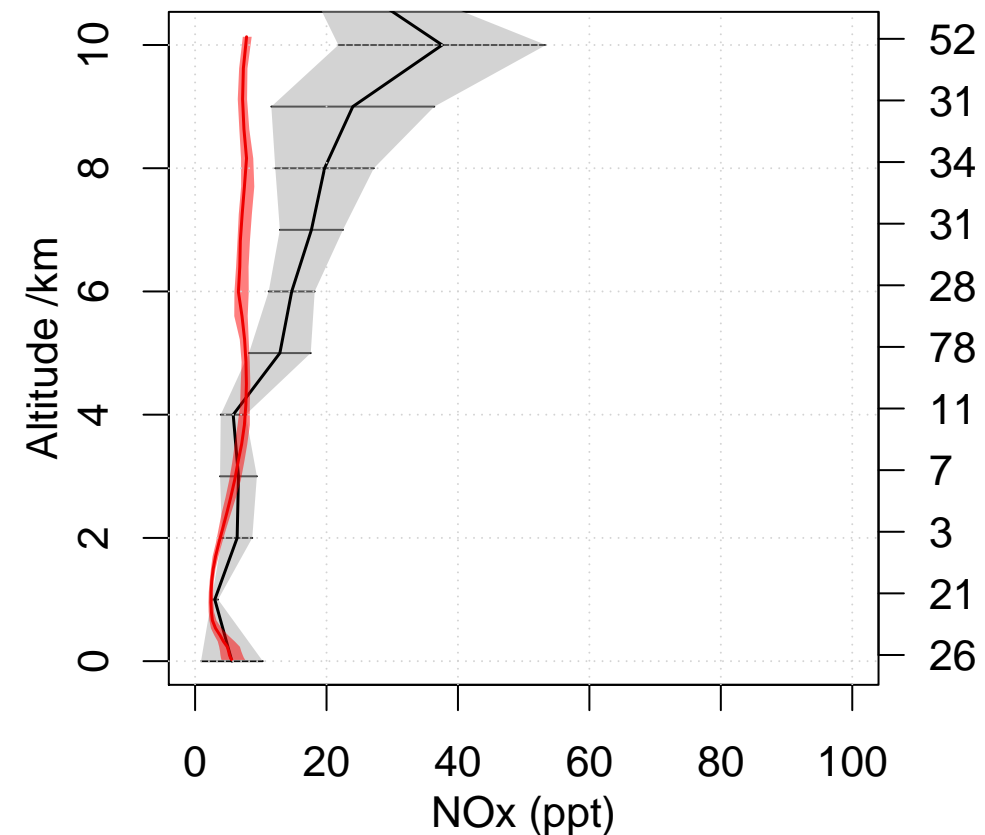
**INTEX-NA West Coast 2004 07**  
Lat 32.5 – 45 Lon 217 – 240



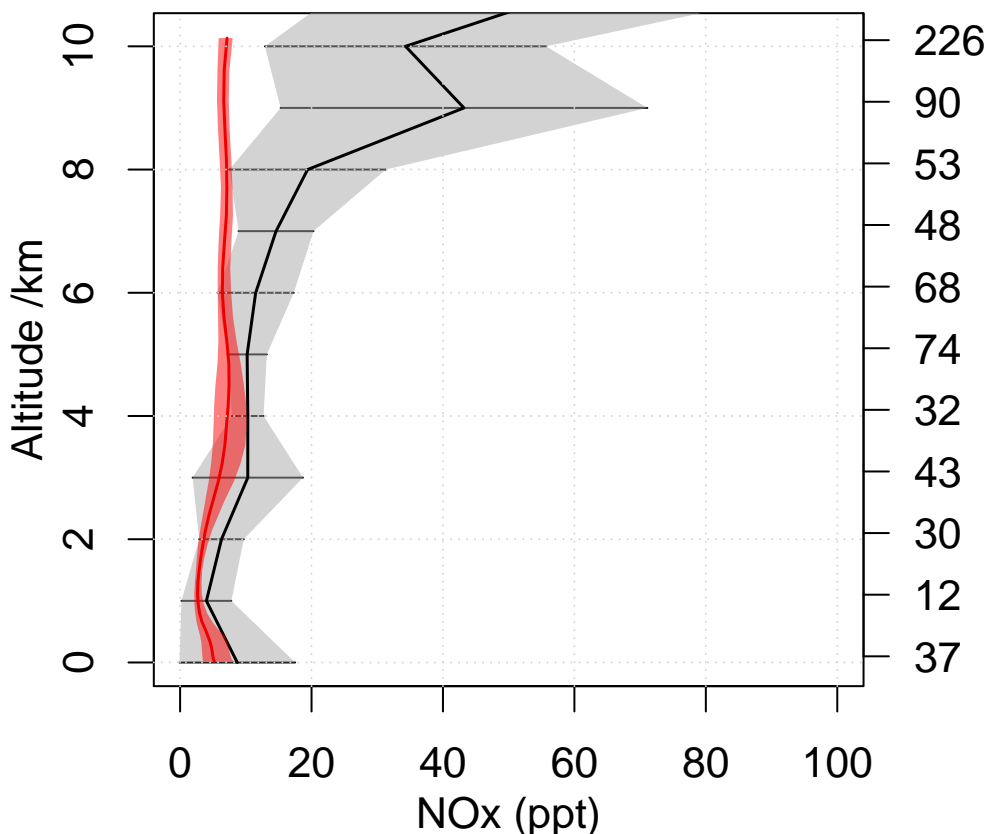
**OP3 2008 07**  
Lat 2.5 – 7.5 Lon 112.5 – 120



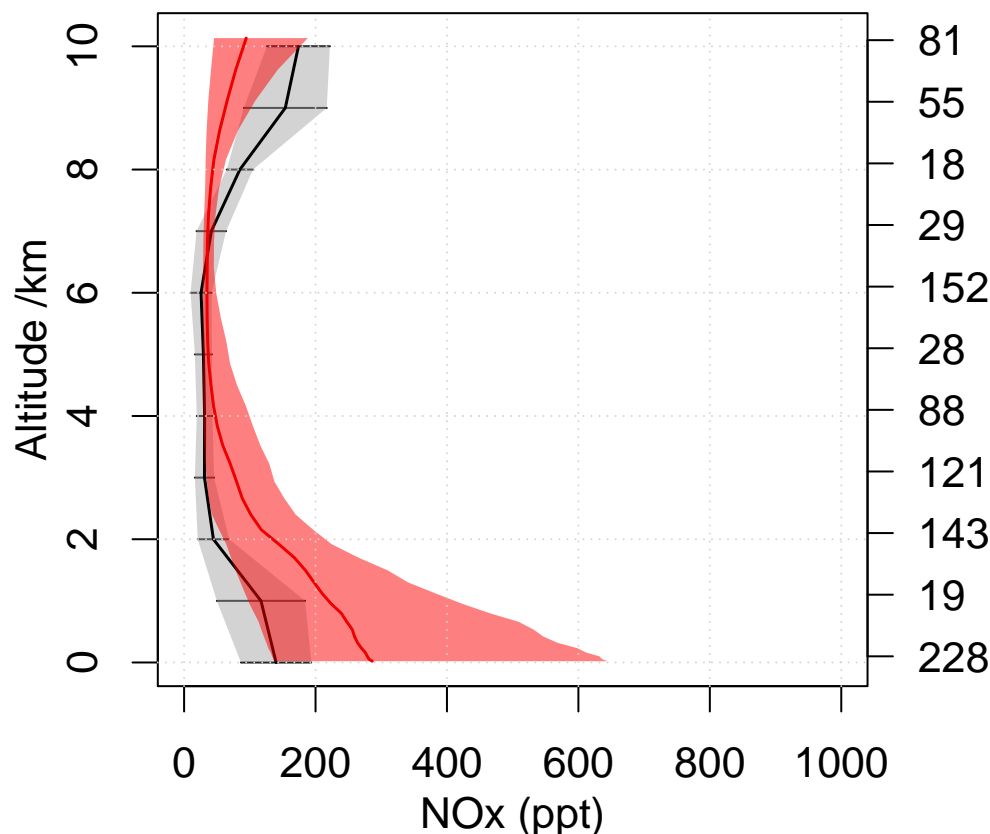
**PEM-Tropics-B Christmas-Island 1999 07**  
Lat 0 – 10 Lon 200 – 220



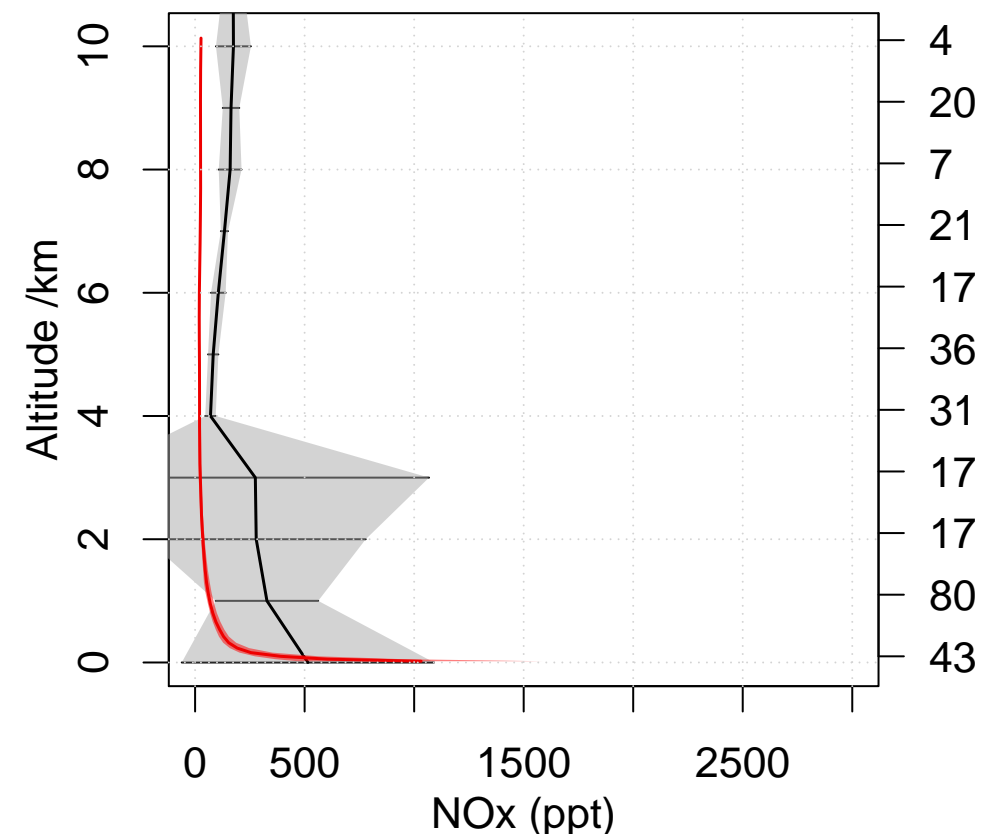
**PEM-Tropics-B Tahiti 1999 03**  
Lat -20 – 0 Lon 200 – 230



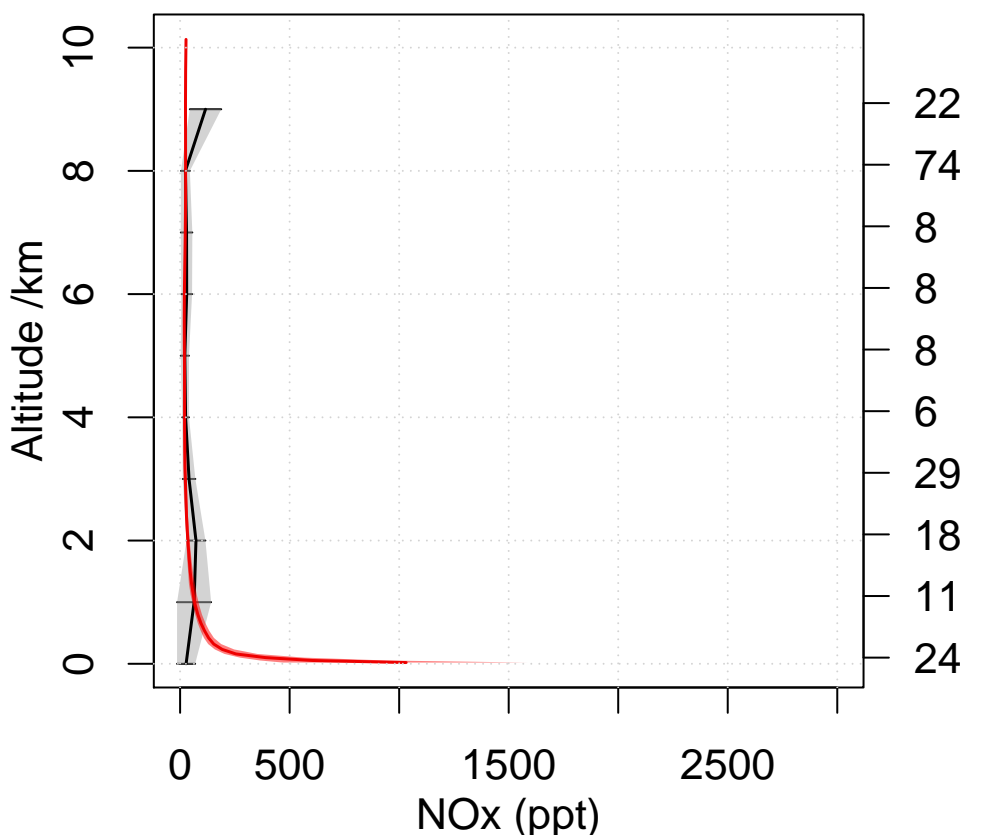
**PEM-West-B Japan 1994 02**  
Lat 25 – 40 Lon 135 – 150



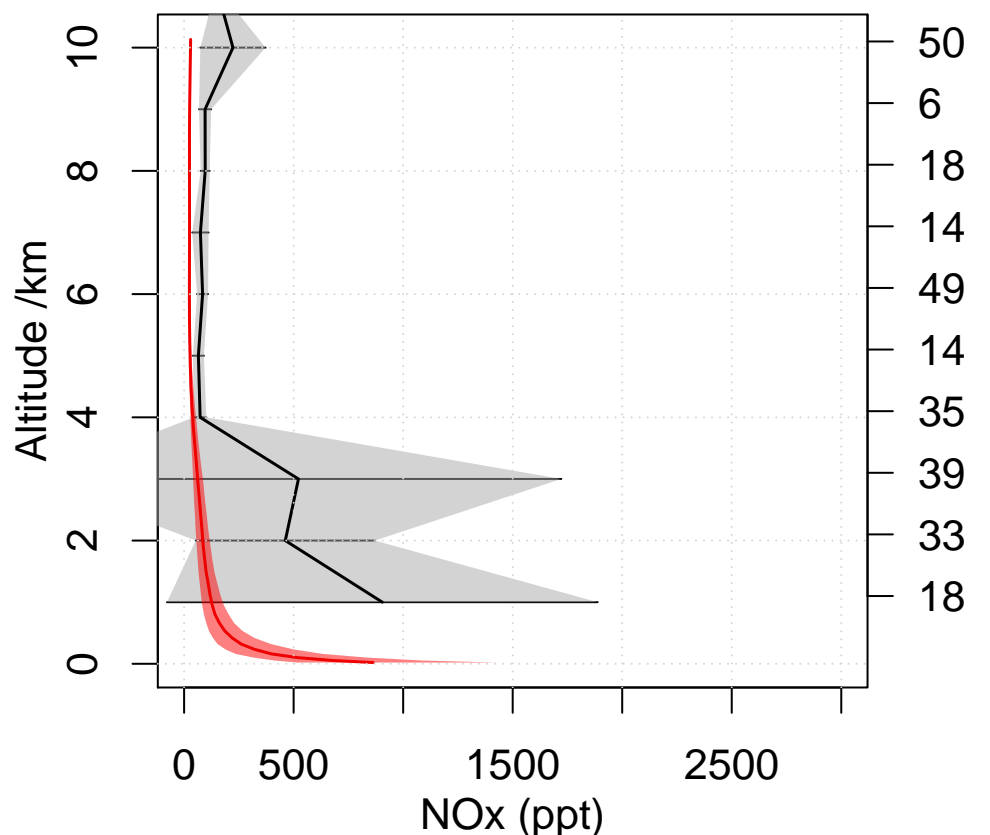
**TRACE-A E-Brazil 1992 09**  
Lat -15 – -5 Lon 310 – 320



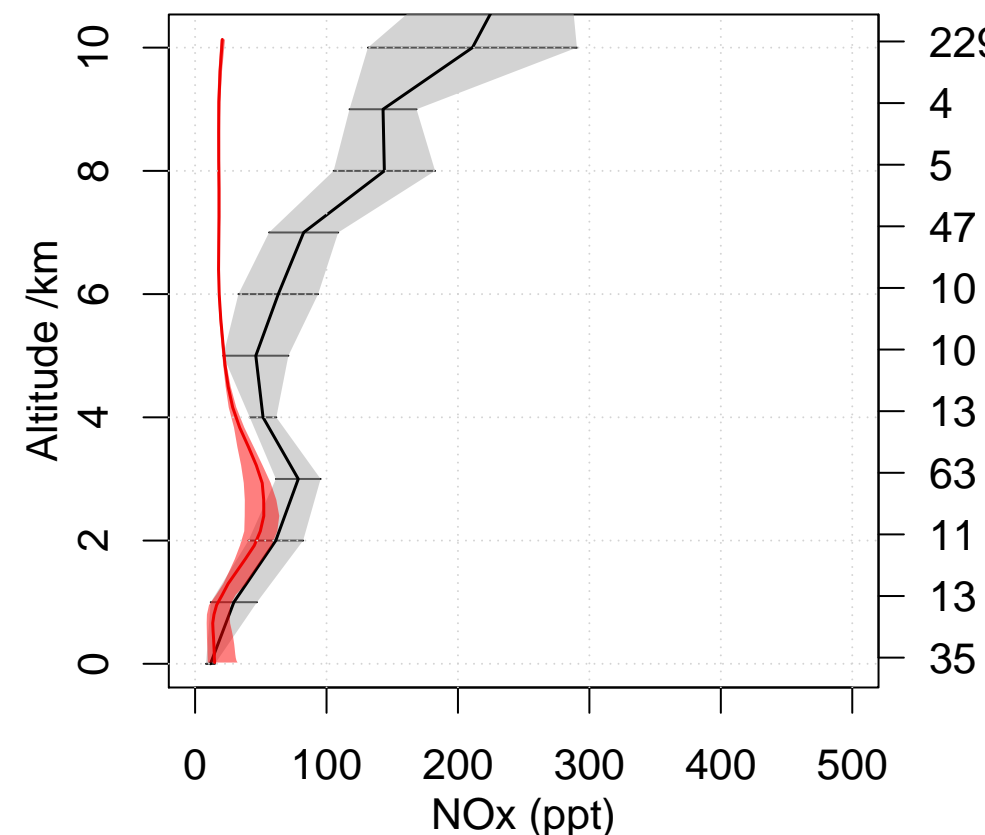
**TRACE-A E-Brazil Coast 1992 09**  
Lat -35 – -25 Lon 310 – 320



**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

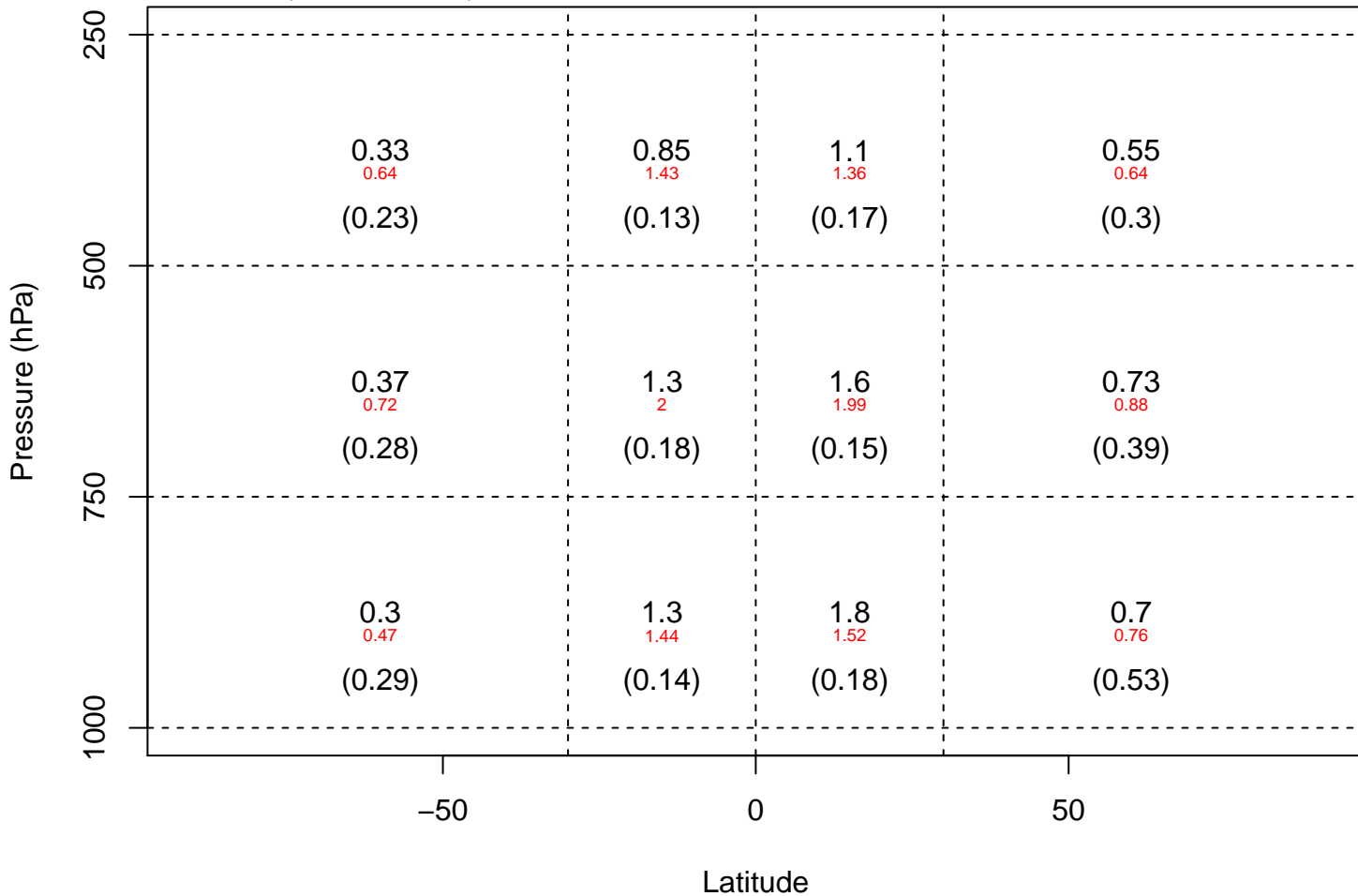
( $10^6$  molecules  $\text{cm}^{-3}$ )

# UKCA ajkzi

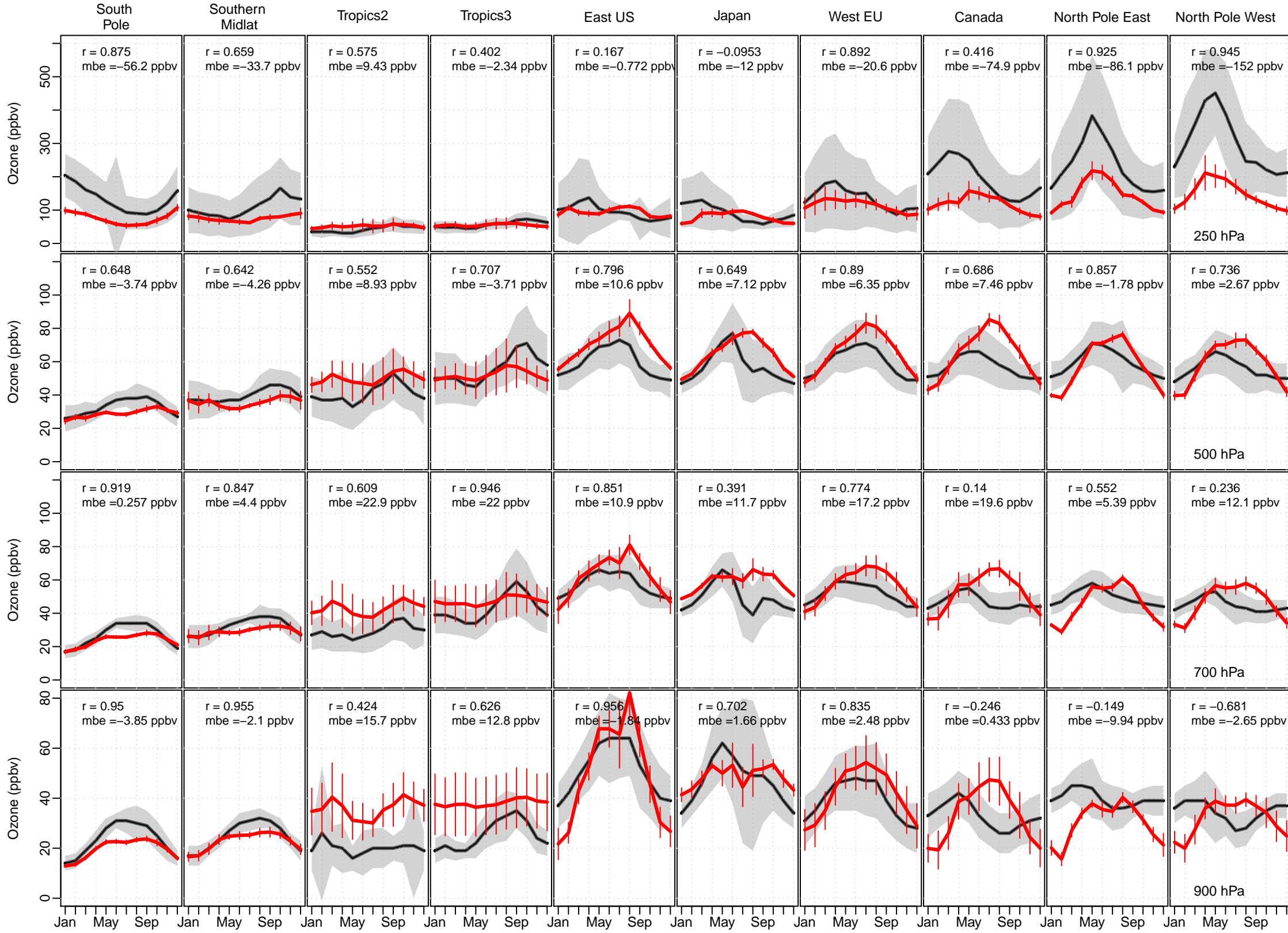
Mean OH =  $5.2 \times 10^5$

Red: Spivakovsky values

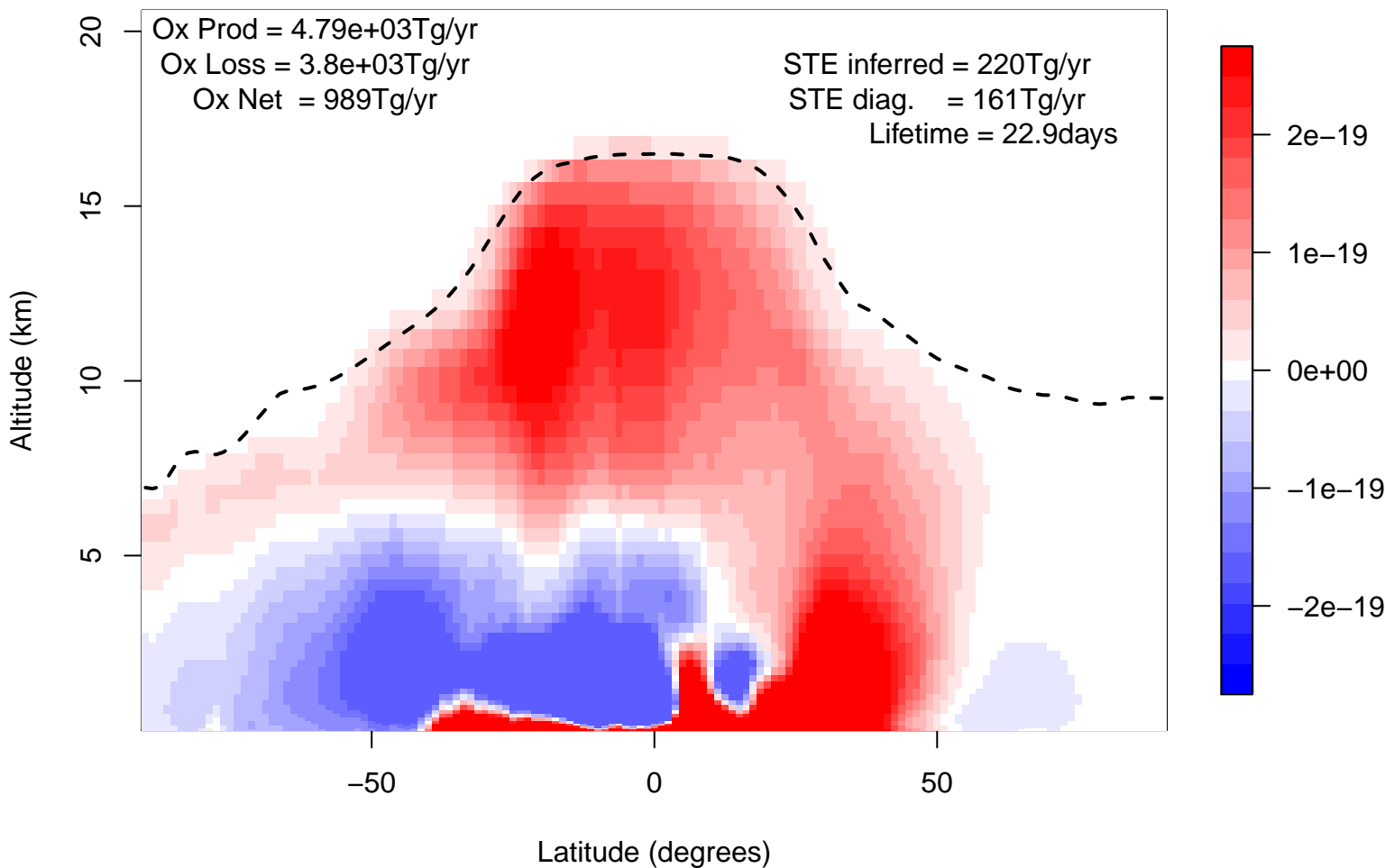
Values in ( ): Std dev



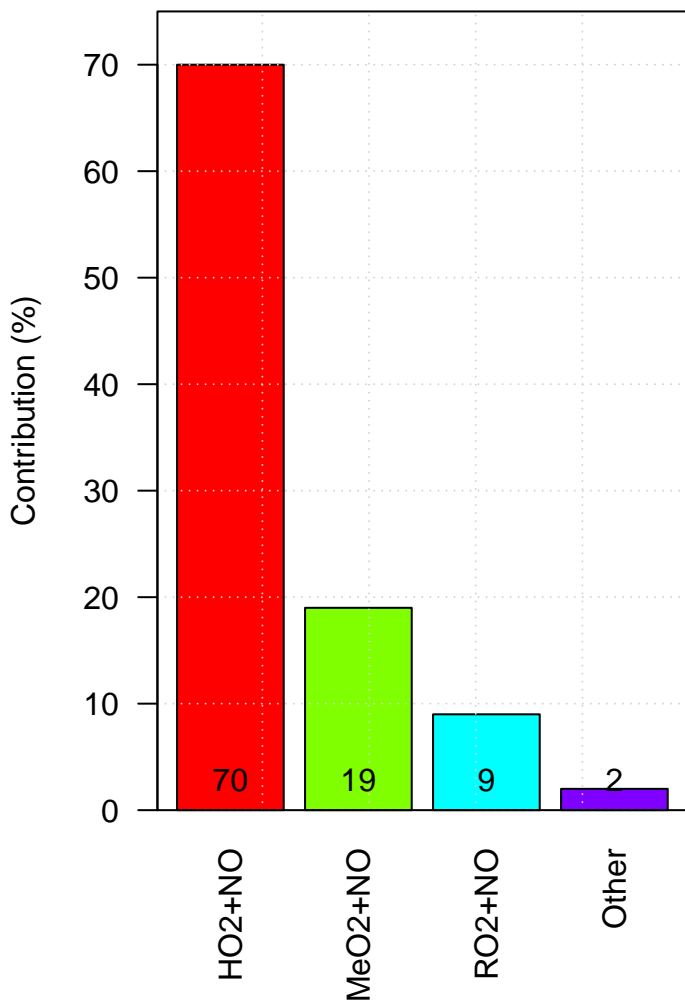
ajkzi Tilmes ozone sonde comparison



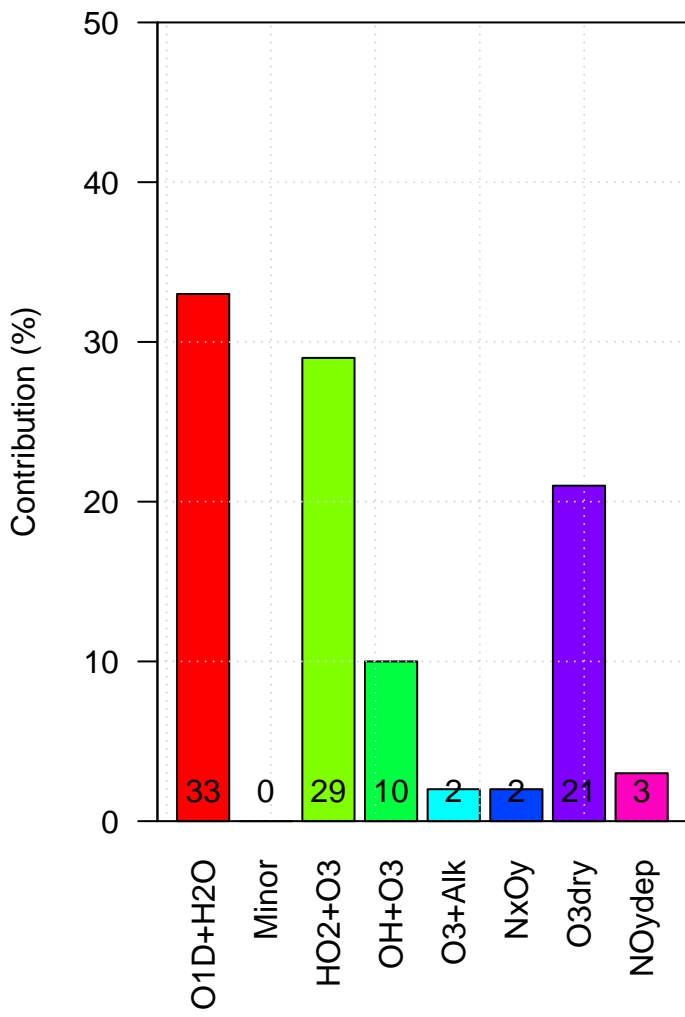
# UKCA ajkzi Ox Net Chemical Production



### ajkzi Production of Tropospheric Ox



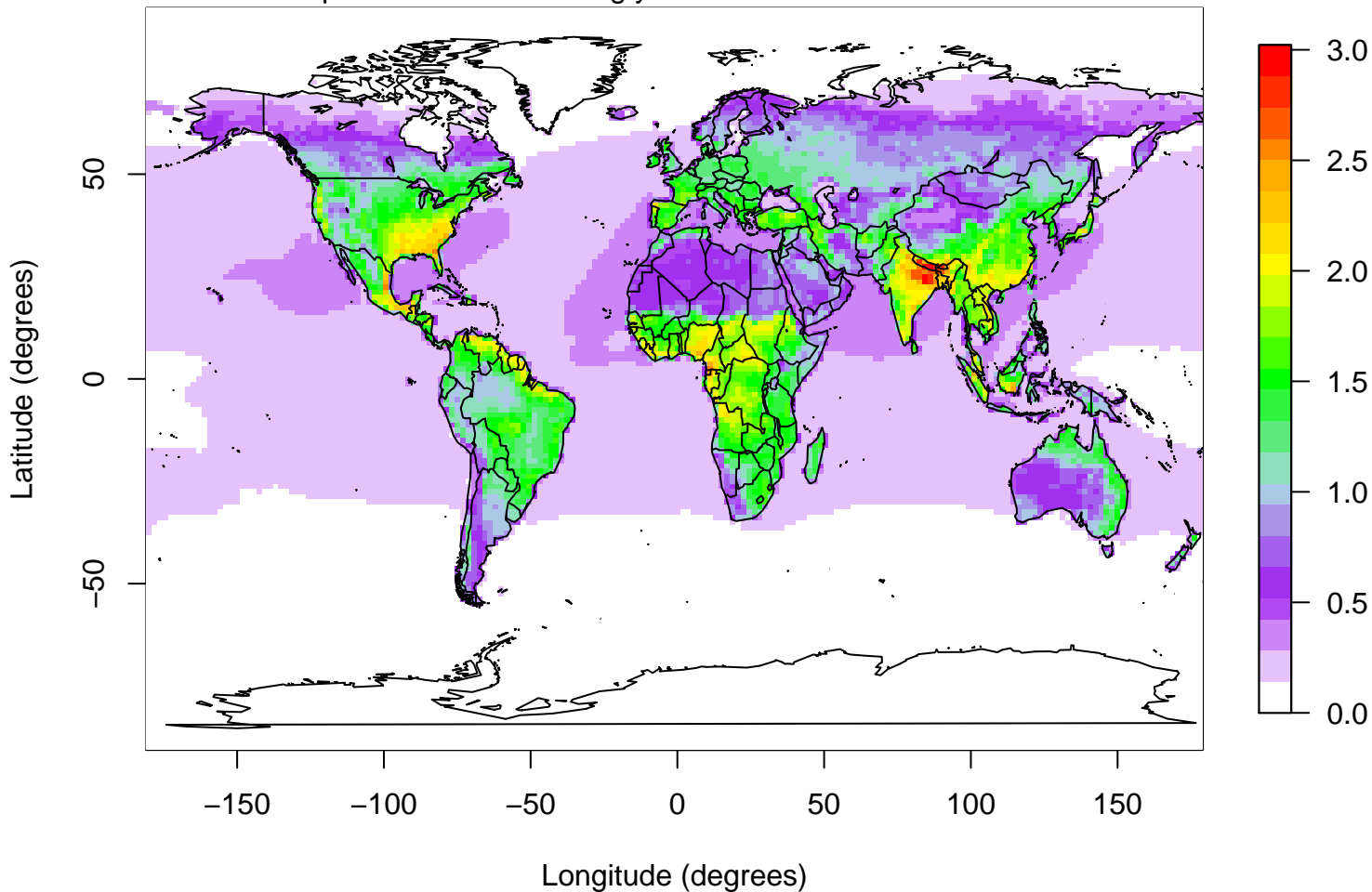
### ajkzi Loss of Tropospheric Ox

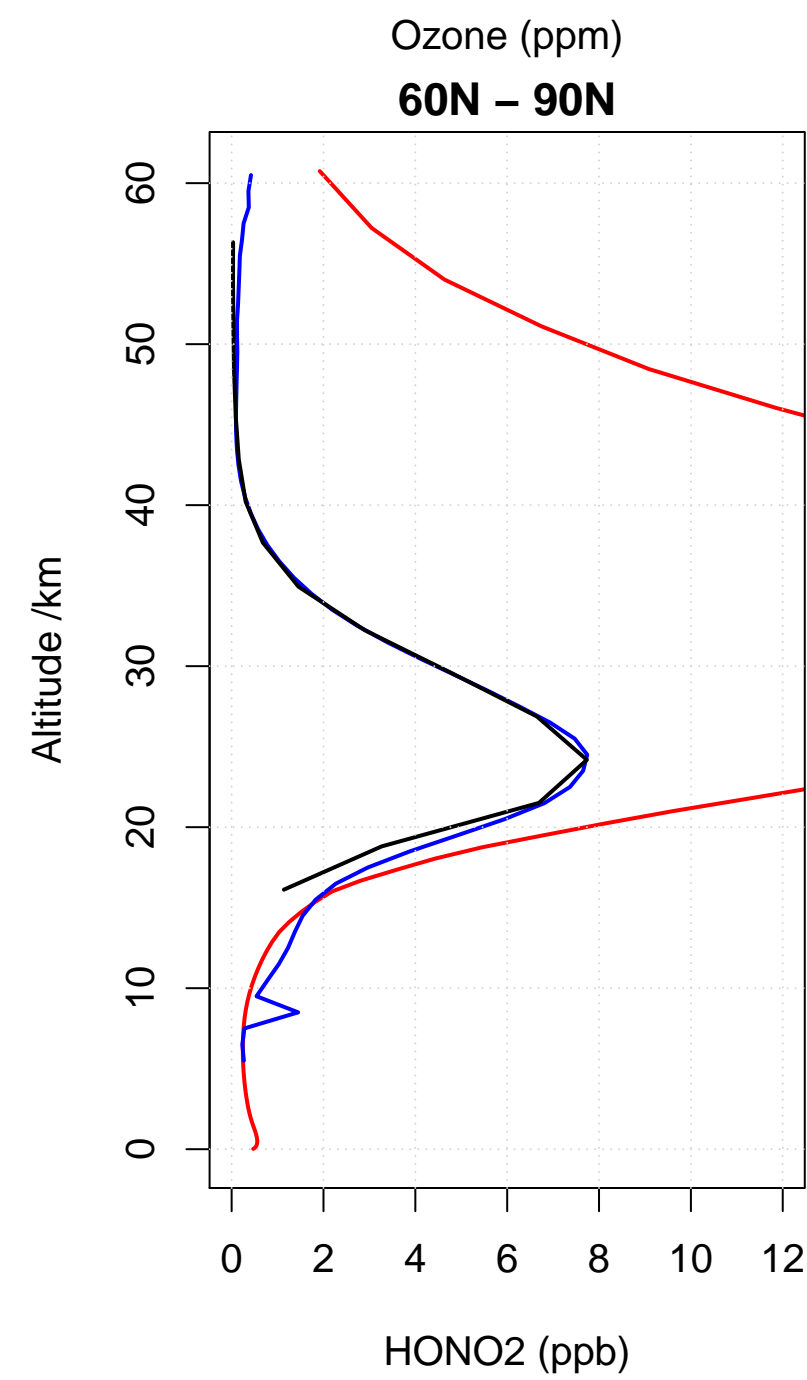
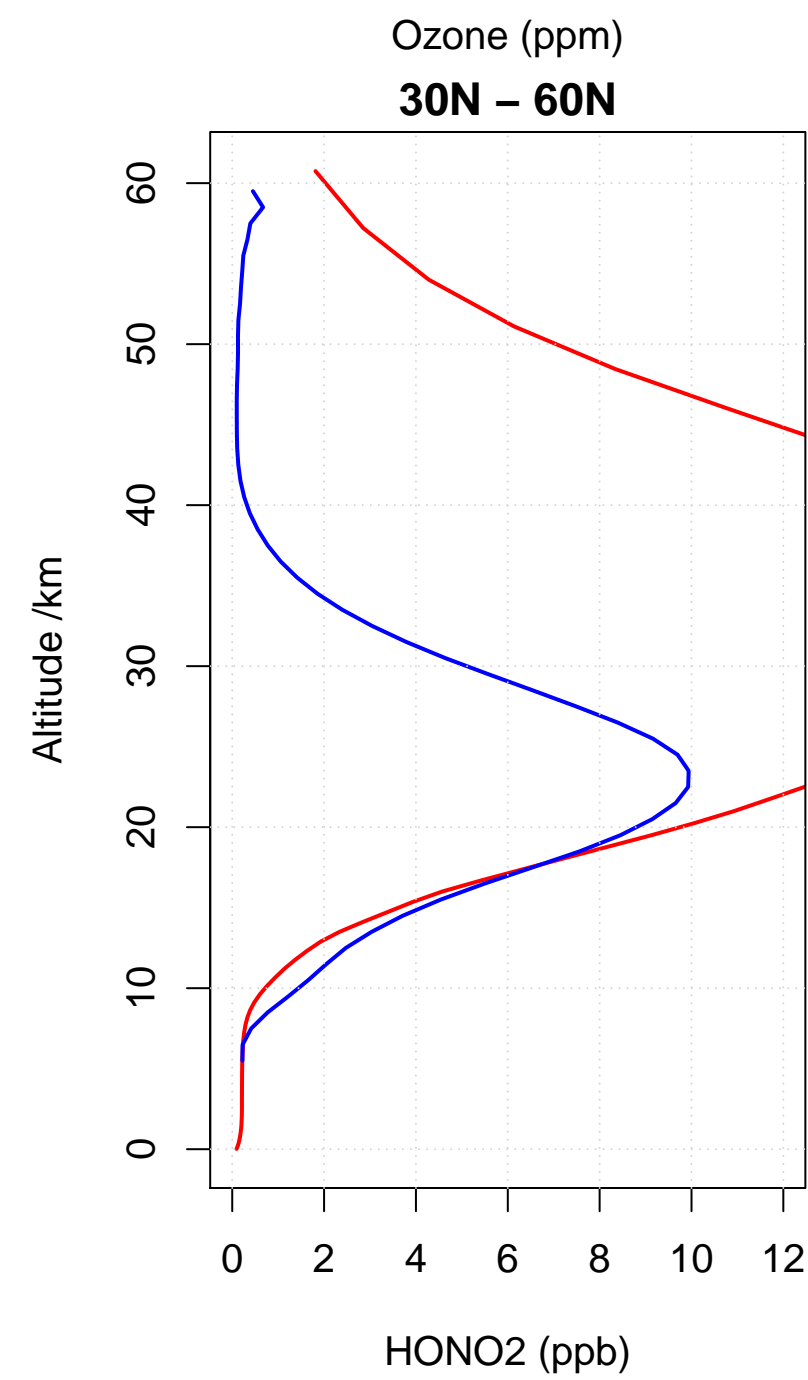
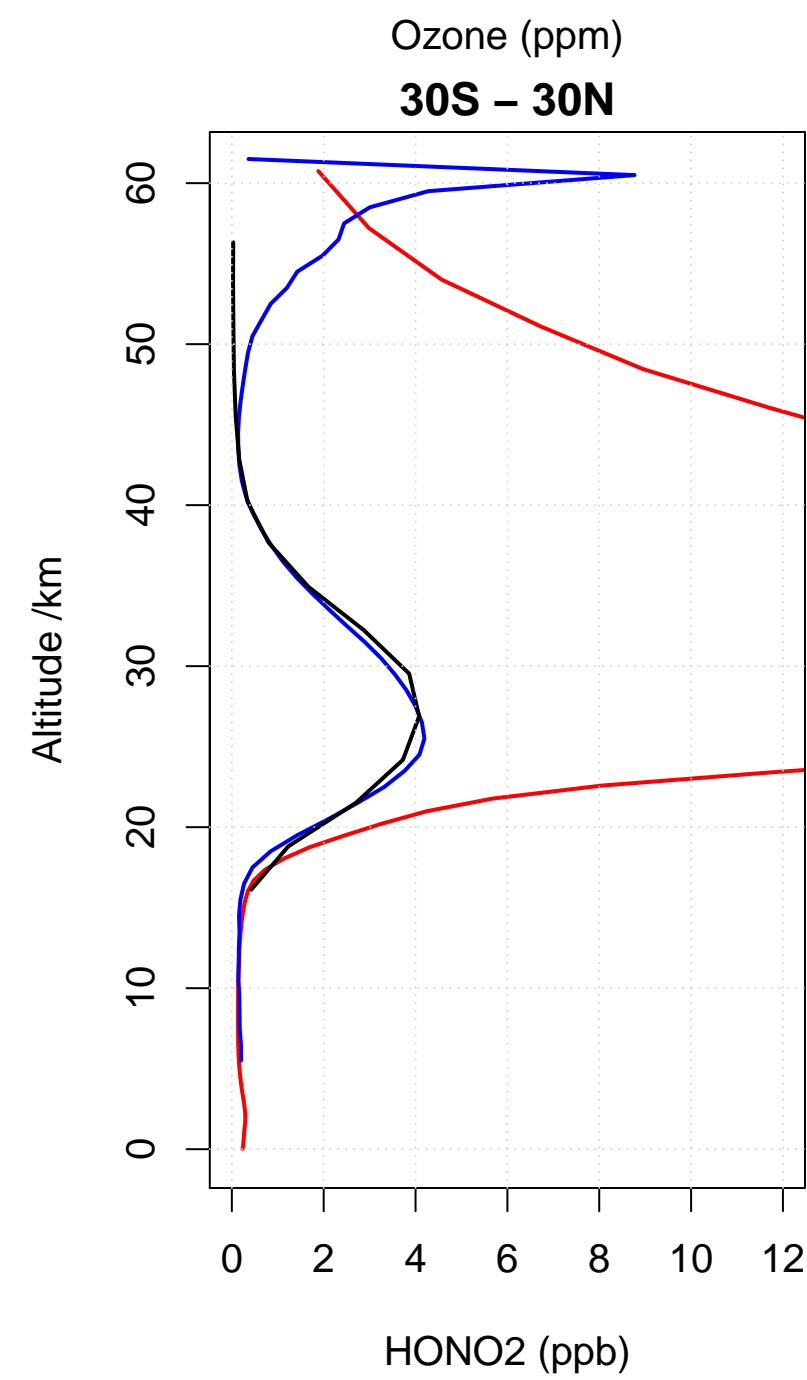
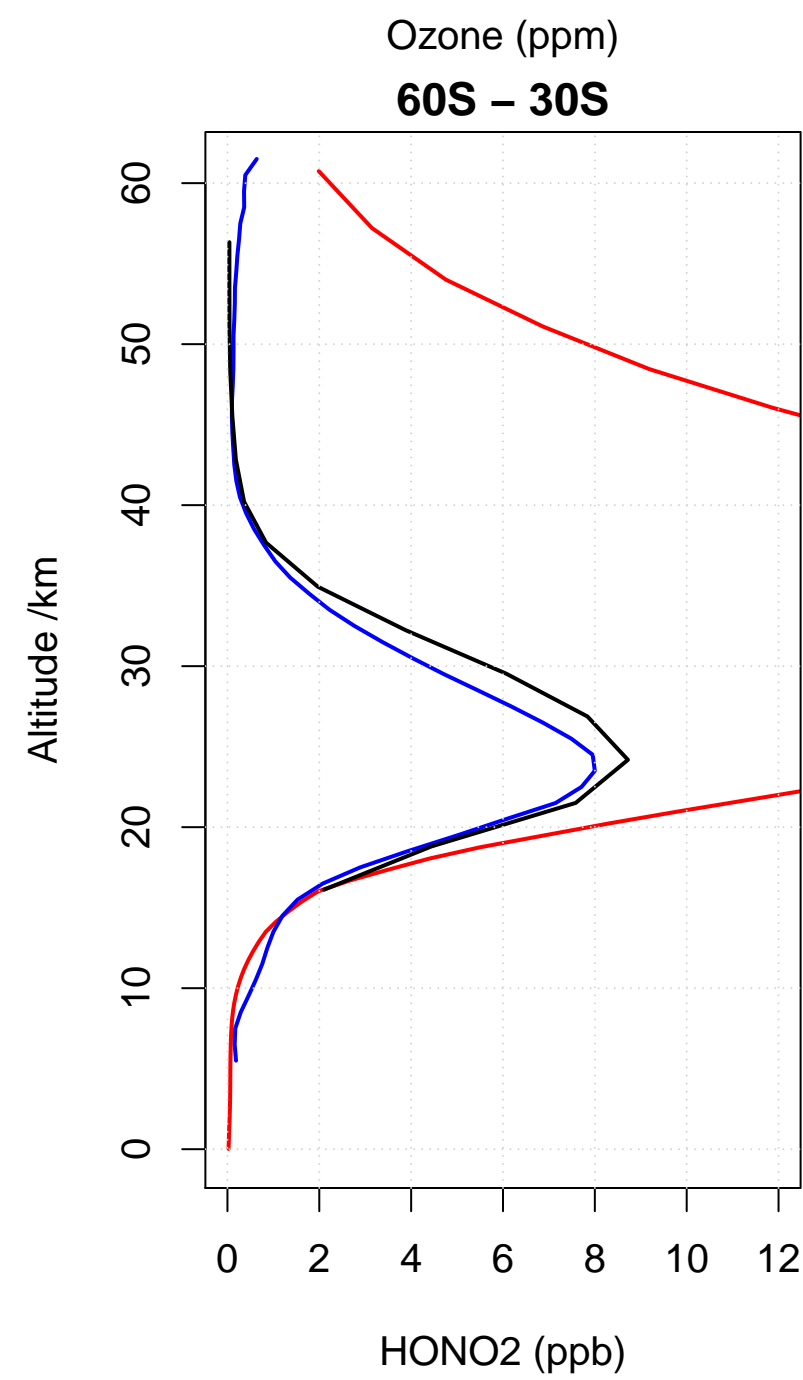
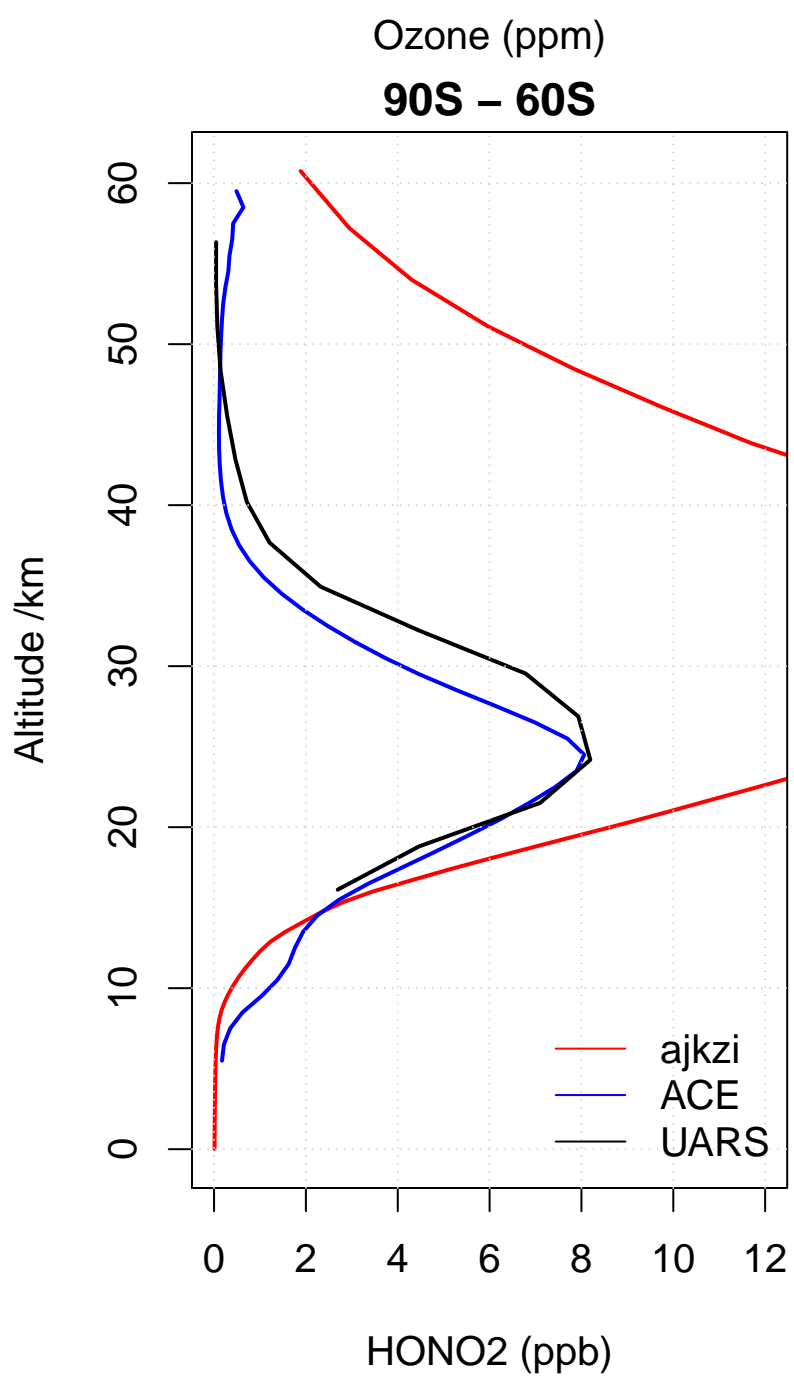
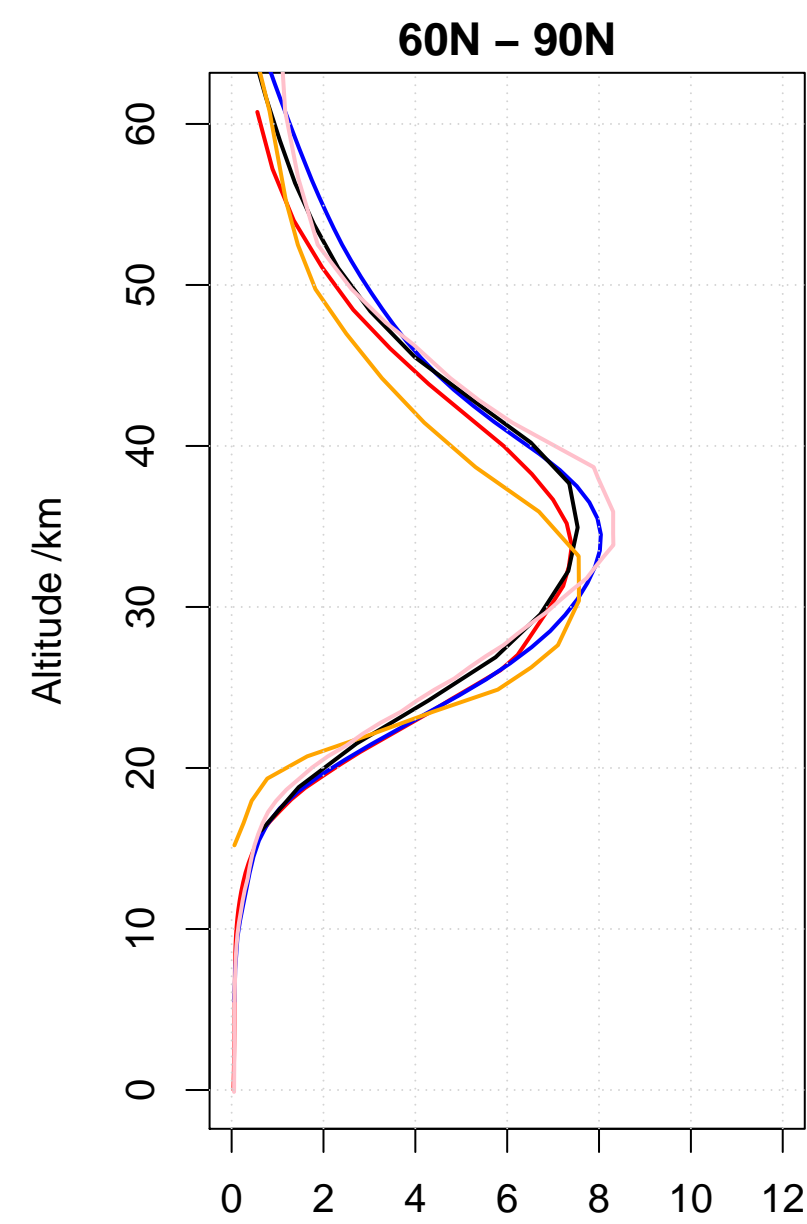
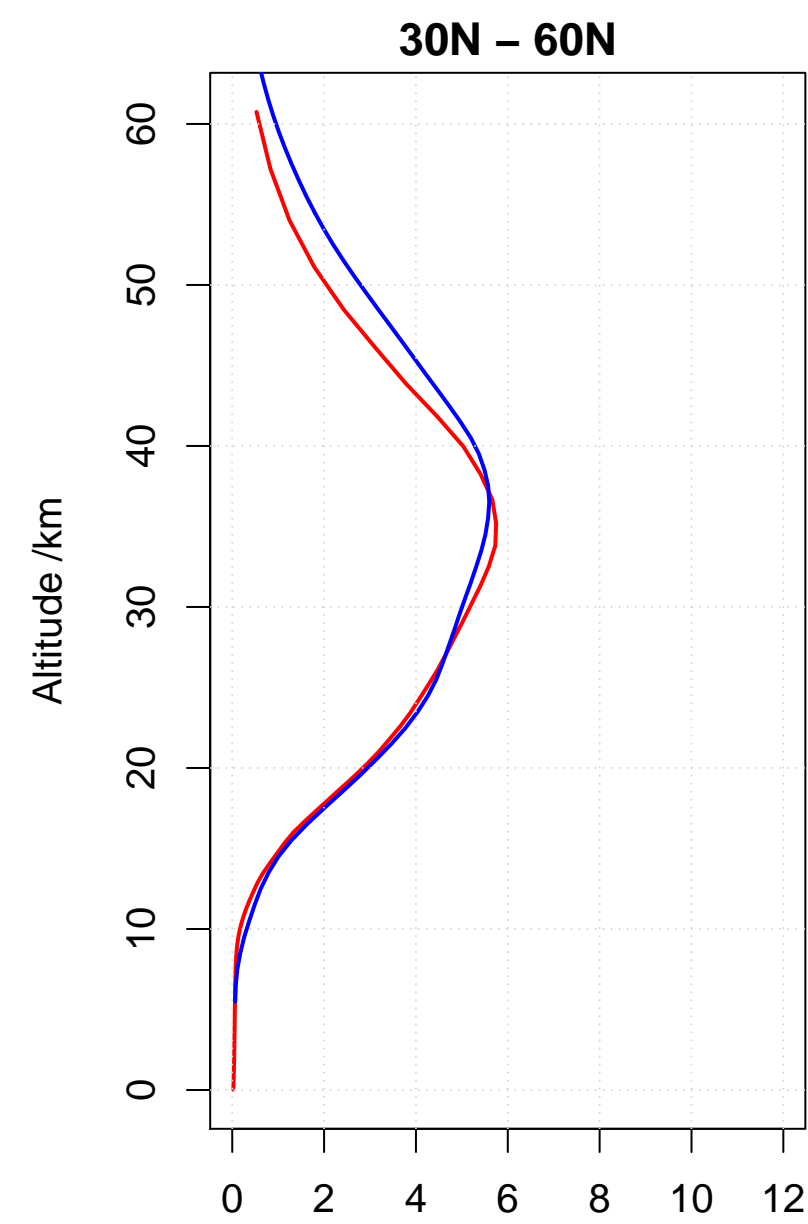
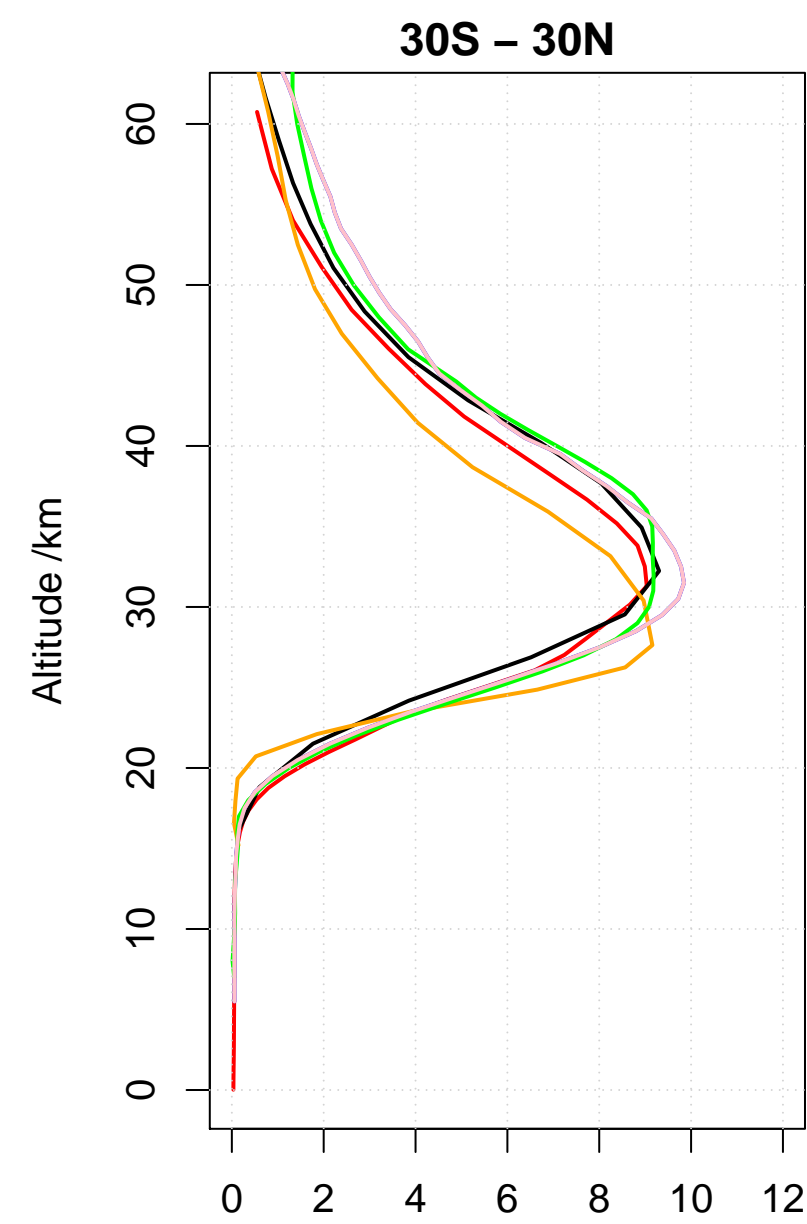
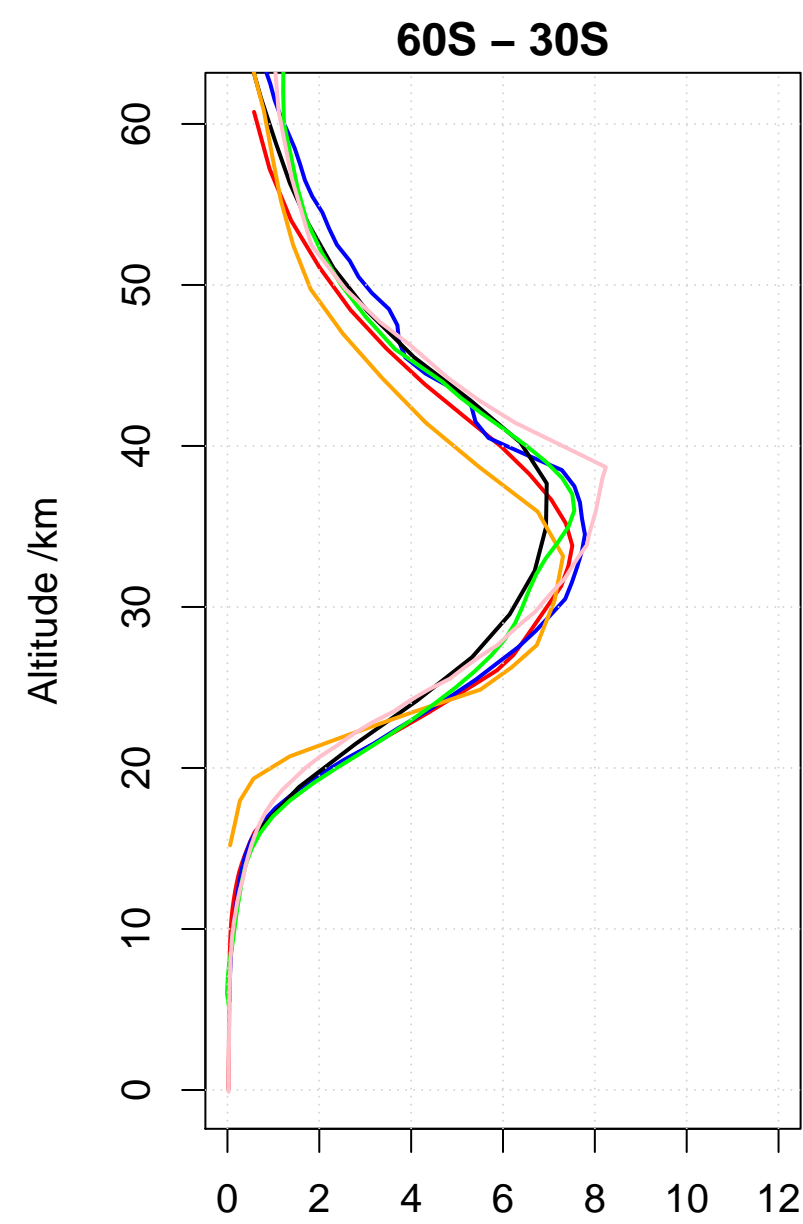
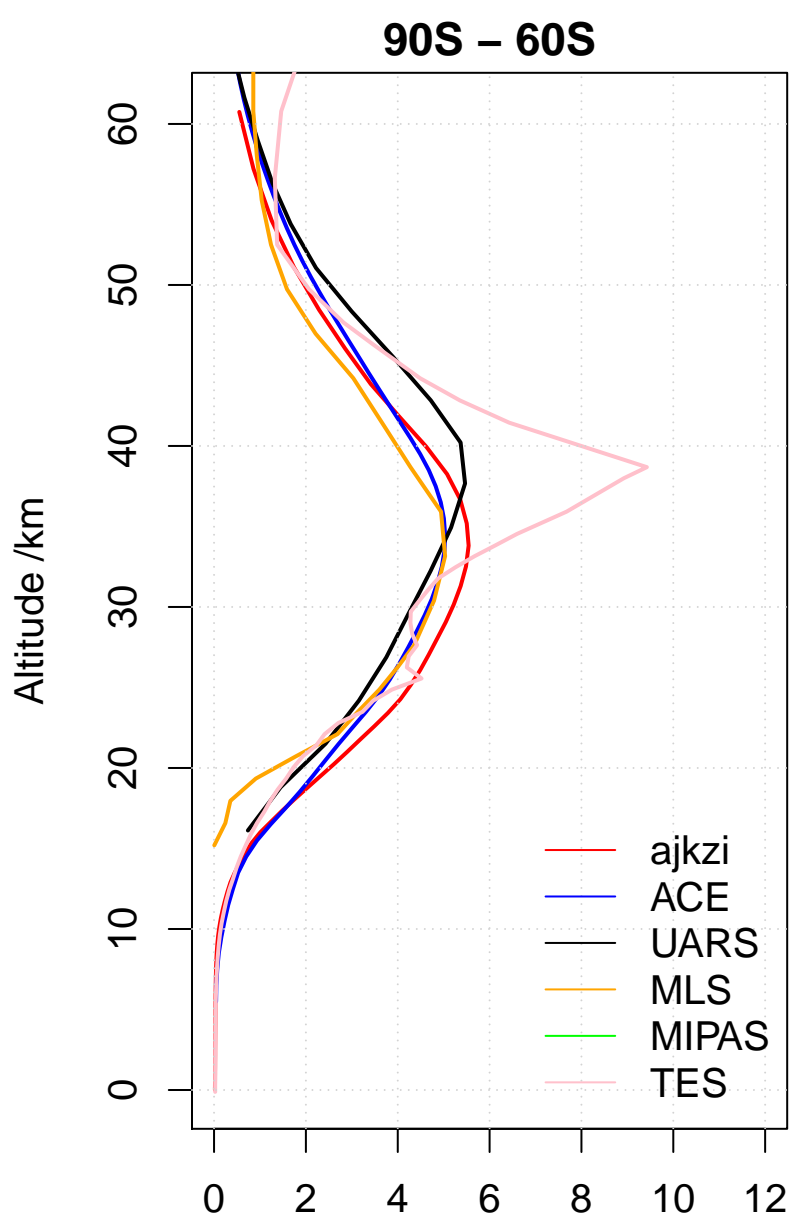




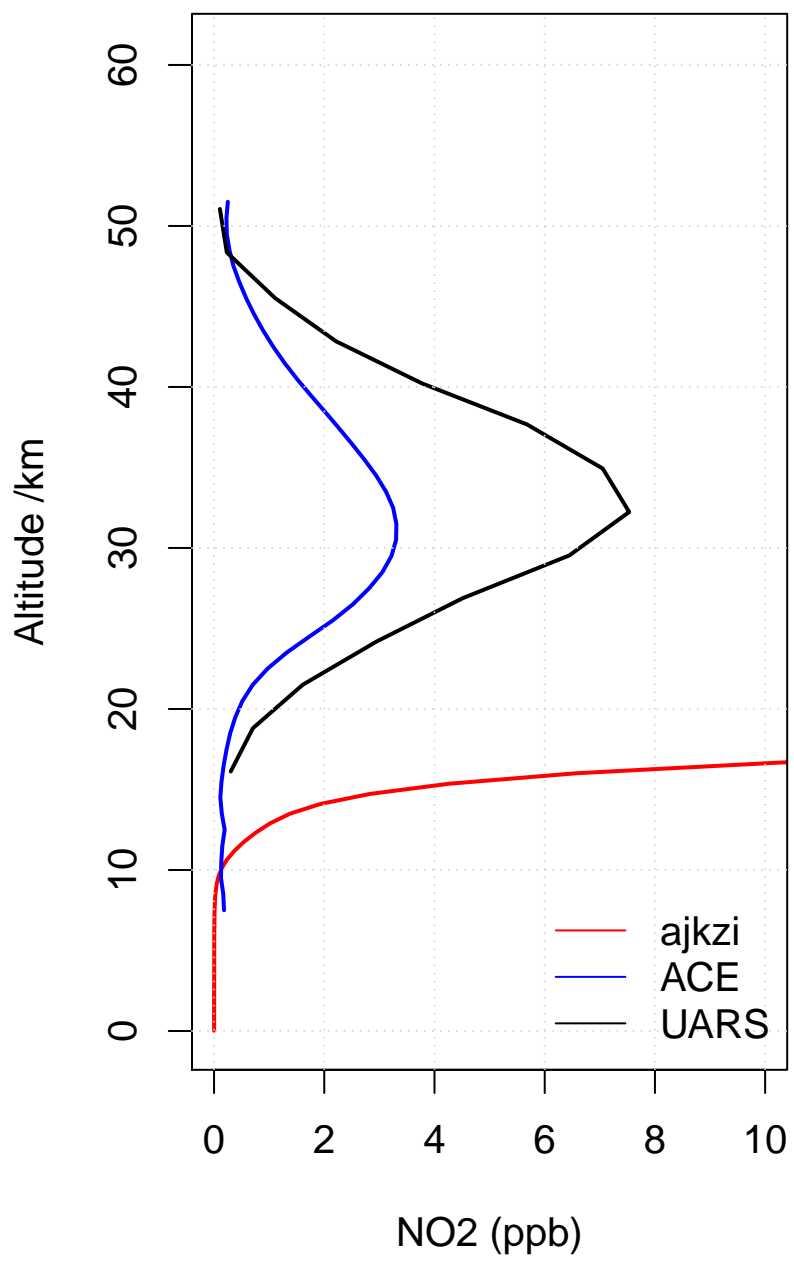
# UKCA Ox deposition ajkzi

Total Ox Deposition =  $1.21 \times 10^3$  Tg/yr

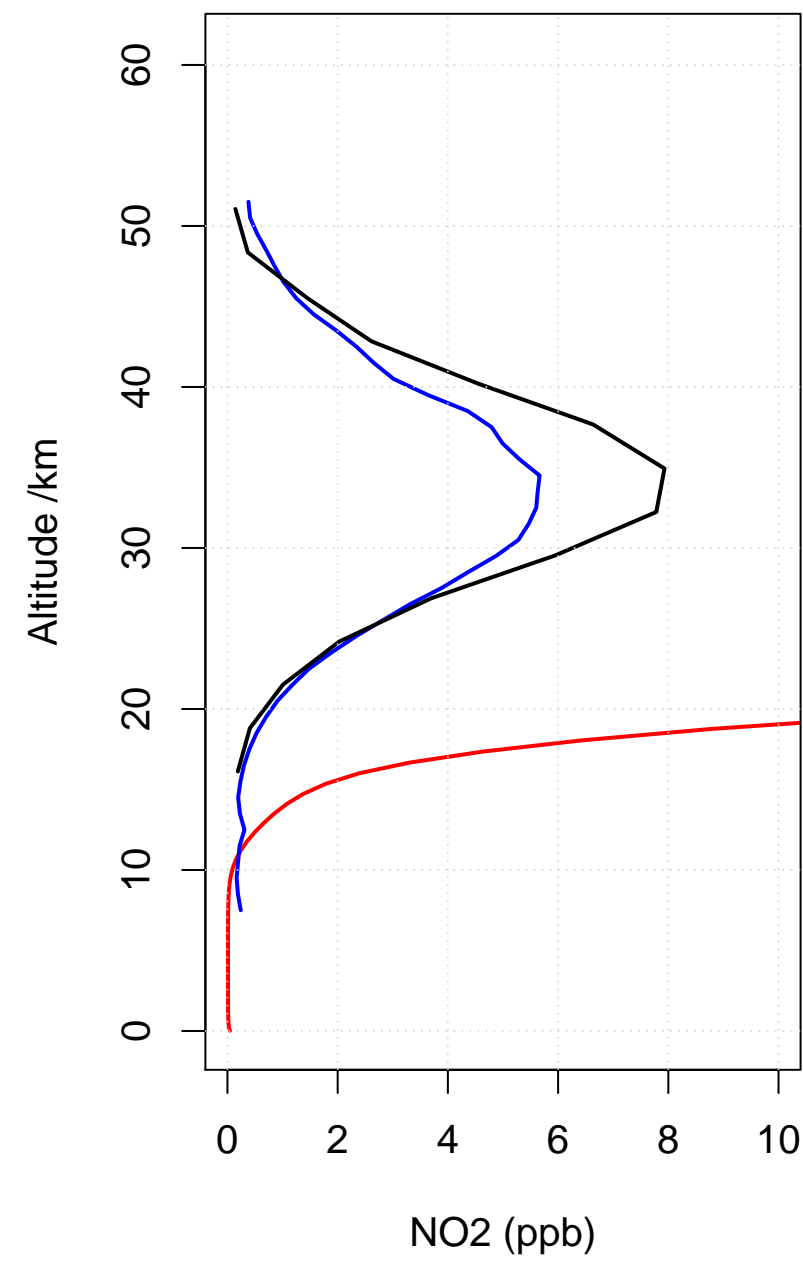




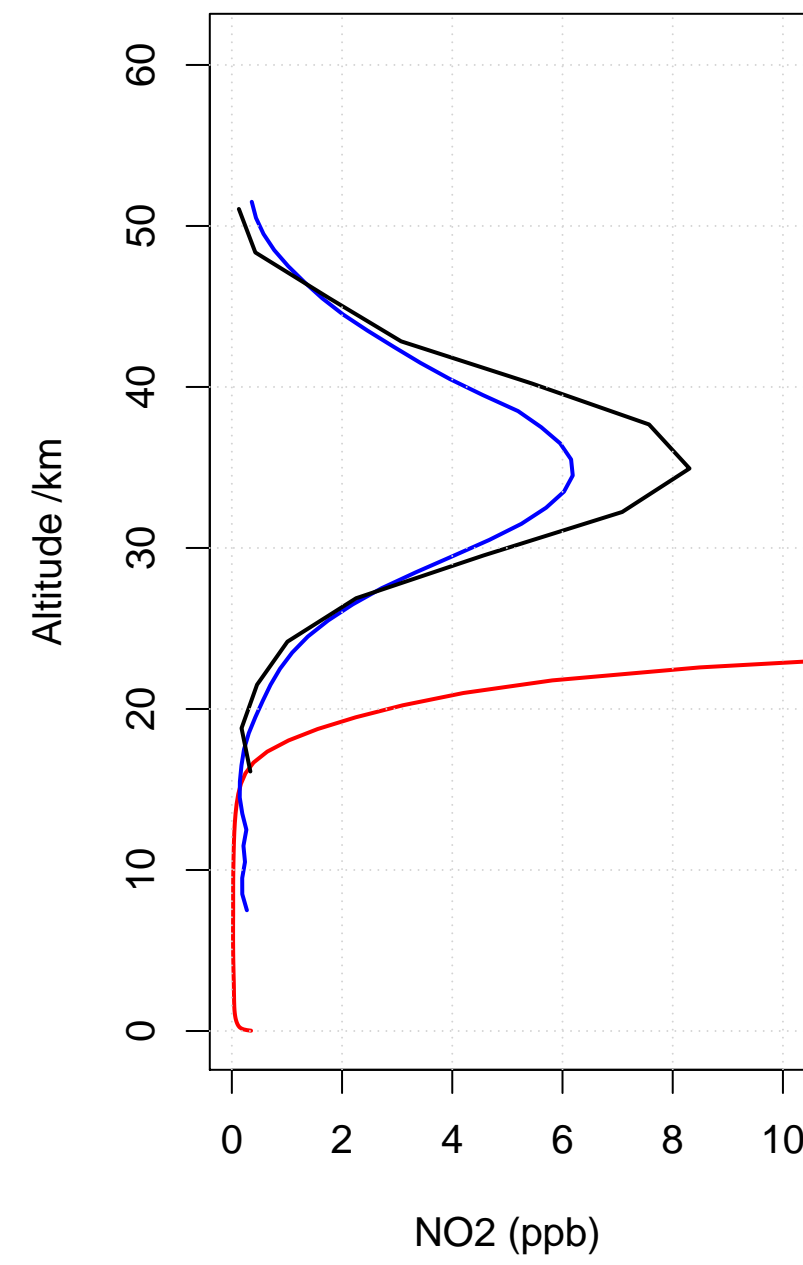
90S – 60S



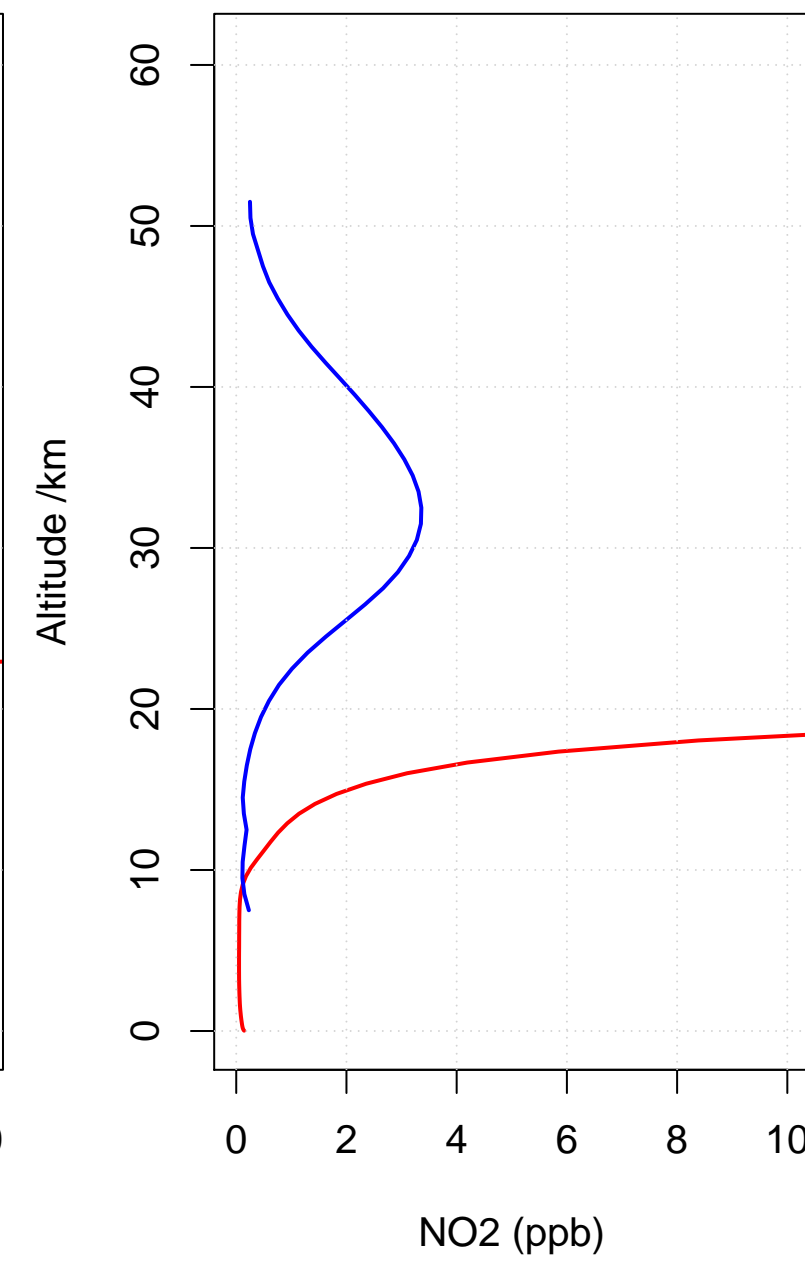
60S – 30S



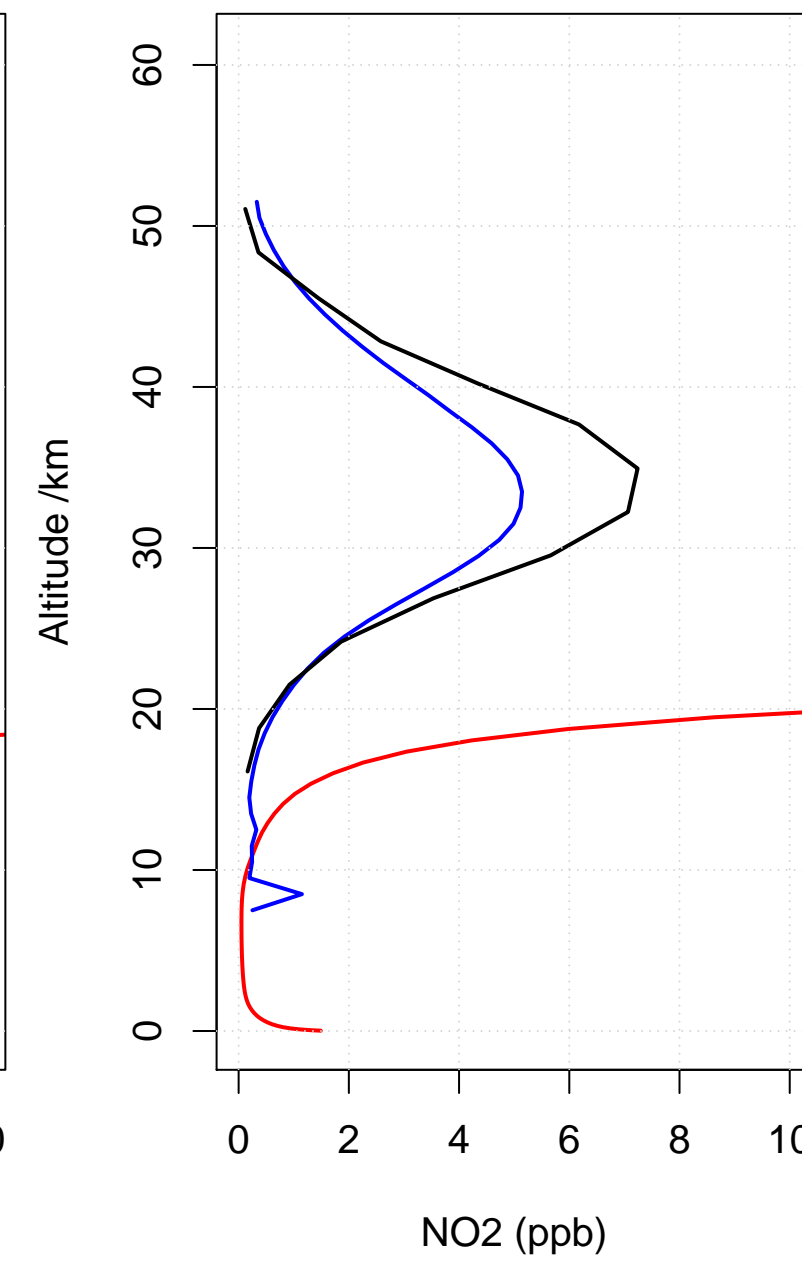
30S – 30N



30N – 60N



60N – 90N



# UKCA ajkzi

% CH<sub>4</sub> + OH flux (moles cm<sup>-3</sup> s<sup>-1</sup>)

