



## Atlas of tropospheric species observed from space

a) Mean summer column density of tropospheric O<sub>3</sub> (DU) from TOMS measurements 1979-2005.

Data provided by Jack Fishman [Fishman *et al.*, 2003].

[http://asd-www.larc.nasa.gov/TOR/TOR\\_Data\\_and\\_Images.html](http://asd-www.larc.nasa.gov/TOR/TOR_Data_and_Images.html)

b) Mean tropospheric column density of NO<sub>2</sub> (10<sup>15</sup> molec/cm<sup>2</sup>) derived from SCIAMACHY measurements 2003-2007.

Data provided by Steffen Beirle.

c) Mean column density of CO (10<sup>18</sup> molec/cm<sup>2</sup>) derived from nighttime IASI measurements July 2008.

Data provided by Matthieu Pommier/Cathy Clerbaux.

d) Mean column density of HCHO (10<sup>16</sup> molec/cm<sup>2</sup>) derived from OMI August 2006.

Data provided by Thomas Kurosu.

e) Mean CHOCHO column density (10<sup>15</sup> molec/cm<sup>2</sup>) from SCIAMACHY measurements 2003-2007.

Data provided by Mihalis Vrekoussis [Vrekoussis *et al.*, 2009].

f) Mean column density of SO<sub>2</sub> (DU) from SCIAMACHY measurements 2007.

The shaded area over South America/South Atlantic masks improper fit results owing to the South Atlantic Anomaly (SAA).

Data provided by Andreas Richter.

g) Mean tropospheric mixing ratio (ppm) of CO<sub>2</sub> derived from SCIAMACHY measurements in May 2003.

Data provided by Michael Buchwitz [Buchwitz *et al.*, 2007b].

h) Mean tropospheric mixing ratio (ppm) of CH<sub>4</sub> derived from SCIAMACHY measurements 2004.

Data provided by Christian Frankenberg [Frankenberg *et al.*, 2008].

i) Mean tropospheric column density of H<sub>2</sub>O (10<sup>22</sup> molec/cm<sup>2</sup>) derived from GOME measurements 1996-2004.

Data provided by Thomas Wagner [Wagner *et al.*, 2006].

j) Mean tropospheric column density of BrO (10<sup>13</sup> molec/cm<sup>2</sup>) derived from GOME measurements September 1997.

Data provided by Nicolas Theys/Michel van Roozendaal.

k) Mean tropospheric column density of IO (10<sup>13</sup> molec/cm<sup>2</sup>) derived from SCIAMACHY measurements 2004-2008.

Data provided by Anja Schönhardt [Schönhardt *et al.*, 2008].