



Antarctic Ozone loss 1988-2008 history at Dumont d'Urville (67S, 140E)

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Even if the saturation of Antarctic ozone loss is almost achieved, the time of ozone recovery to pre-industrial level is still uncertain. In order to make amendments in international treaties aimed at controlling ozone depleting substances (ODS), the long term monitoring of ozone level by independent and complementary space borne and ground-based observations is mandatory. The consistency between the two approaches and model simulations is being investigated by comparison of ozone depleted amounts derived every year since 1988 by the transport method above the French NDACC station of Dumont d'Urville from the measurements of the G-B SAOZ UV-Vis and the series of TOMS-Nimbus, -Meteor, -Earth Probe and OMI, and simulations by the SLIMCAT 3D CTM. The loss derived from SAOZ is 5% larger than that shown by TOMS, whereas the difference vanishes in 2006 and 2007 with OMI. The cumulative depletion in the vortex estimated from a ten-day average of ozone loss at 475 K during the winter is 55% on average. The strongest depletion is occurred in 1994, 1995, 1997 and 2006 exceeding 60%, whereas the lowest of less than 50% is observed in 1988, 1992, 2002, 2005 and 2007. There is indication of an increasing trend in the ozone loss in 1988-1994 related to the increase in ODS, followed by a level off or a small decreasing trend since 1996.