4th Workshop on Long-Term Changes and Trends in the Atmosphere
Sodankylä Geophysical Observatory, Finland
4th – 8th September 2006

The search for signs of recovery of the ozone layer

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Evidence of mid-latitude ozone depletion and proof that the Antarctic ozone hole was caused by humans spurred policy makers from the late 1980s onwards to ratify the Montreal Protocol and subsequent treaties, legislating for reduced production of ozone-depleting substances. The case of anthropogenic ozone loss has often been cited since as a success story of international agreements in the regulation of environmental pollution. Although recent data suggest that total column ozone abundances have at least not decreased over the past eight years for most of the world, it is still uncertain whether this improvement is actually attributable to the observed decline in the amount of ozone-depleting substances in the Earth\'s atmosphere. The high natural variability in ozone abundances, due in part to the solar cycle as well as changes in transport and temperature, could override the relatively small changes expected from the recent decrease in ozone-depleting substances. Whatever the benefits of the Montreal agreement, recovery of ozone is likely to occur in a different atmospheric environment, with changes expected in atmospheric transport, temperature and important trace gases. It is therefore unlikely that ozone will stabilize at levels observed before 1980, when a decline in ozone concentrations was first observed.