

A weekly electronic news service on ozone protection & related issues compiled by: UNEP DTIE OzonAction Programme, Paris

## 14 May 2001

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## 1. British Antarctic Survey (BAS) Ozone Bulletin 04/00 - Annual Summary

The 2000 ozone hole reached its greatest extent in early September at 28.4 million square kilometres and was the largest ever-recorded ozone hole. It reached this maximum extent unusually early, as the hole is normally largest in late September. Minimum ozone values were measured in early October and were amongst the lowest on record. The edge of the ozone hole passed over the tip of South America and the Falkland Islands for significant periods between October 6 and 24. The hole also closed in unusually early and the event was essentially over by early December. This early closure of the hole is probably linked with the QBO/ENSO and in retrospect was to be expected...

Ozone values over the Arctic are normally at their lowest in September and 2000 was no exception as can be seen from the TOMS images. Although the values were low, they were low because of stratospheric dynamics and not chemistry. The temperature in the Arctic ozone layer was above -55 °C, far too warm for stratospheric clouds to form. Hence there was no chemical depletion taking place and no ozone hole above the Arctic. In mid-October there were regions of low ozone over Siberia. Stratospheric temperatures in this area were generally above -65 °C, so again these features had a dynamic, not chemical origin. The temperature of the Arctic stratosphere did fall below the threshold for PSC formation at times in small regions during 2001 January and February. These regions developed ozone values lower than elsewhere in the Arctic, and in mid-February values below 250 DU were recorded by TOMS over a small area of northwest Europe. Ozone values are currently high

over most northern temperate and polar latitudes...

Full Text / Data @: http://www.nerc-bas.ac.uk/public/icd/jds/ozone/bullet

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## 2. Earth Losing Air-Cleansing Ability, Study Says

The Earth's atmosphere is beginning to lose its natural ability to remove air pollutants, a condition that could spread smog and accelerate the accumulation of greenhouse gases, according to a study published today in the journal Science.

The study documents for the first time the modest, two-decade-long worldwide decline of a key molecule that cleanses the air. Without enough of the molecules, emissions that contribute to the greenhouse effect, smog and the hole in the ozone layer do not get destroyed as fast as humans release them...

... Scientists have discovered a decrease in levels of hydroxyl radicals, the naturally occurring chemicals that destroy air pollutants and many gases involved in ozone depletion and the greenhouse effect. Here's how pollution forms and the role of the hydroxyl compound:

Hydroxyl radicals (OH) are energized oxygen compounds, formed in part by nitrous oxides from lightning strikes. They last only fleetingly, cleanse the air of pollutants and transform some gases into less harmful forms...

**Full text @:** <u>http://www.latimes.com/news/science/science/20010504/t000037688.html</u> **Source:** Los Angeles Times, 4 May 2001, By Gary Polakovic, Environmental Writer

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