New Zealand National Institute of Water & Atmospheric Research

Media Release

Record loss of ozone over Antarctica this year

5 November 2003

Recent analysis of satellite-based measurements by NIWA scientists shows that record amounts of ozone were destroyed over Antarctica in September this year.

On each day over the period 23 to 26 September the amount of ozone lost over Antarctica exceeded the previous daily record of 45.5 million tons recorded in 2000. On 25 September this year a record loss of 47.3 million tons was reached.

'This is a significant amount of ozone,' said NIWA scientist Greg Bodeker. 'It's equivalent to about 8 kg of ozone for every person on Earth. The amount lost this year (47 million tons) is the amount that would be required to restore Antarctic ozone levels to the minimum levels that were measured before the onset of the Antarctic ozone hole in the early 1980s.'

The calculations are based on measurements made by satellite-based instruments operated by NASA and the European Space Agency. NIWA scientists have compared these measurements with measurements from ground-based instruments, including those operated by NIWA at Scott Base in Antarctica, and at NIWA's atmospheric research laboratory at Lauder in Central Otago, and combined them to create a single, global, long-term database of ozone.

'This technique combines the global coverage of satellite-based instruments with the long-term stability and accuracy of ground-based measurements,' said Dr Bodeker. 'We are one of a few organisations in the world to create such combined databases of ozone measurements.'

Dr Bodeker said this ozone-depleted air would spread out over the southern hemisphere, including New Zealand, at the end of November–early December when the ozone hole breaks up, and would lead to high UV levels during summer.

'We expect the ozone hole to recover over the coming decades following international restrictions of CFC (chlorofluorocarbons) emissions, but the record ozone depletion measured this year shows that we haven't reached the turning point yet.'

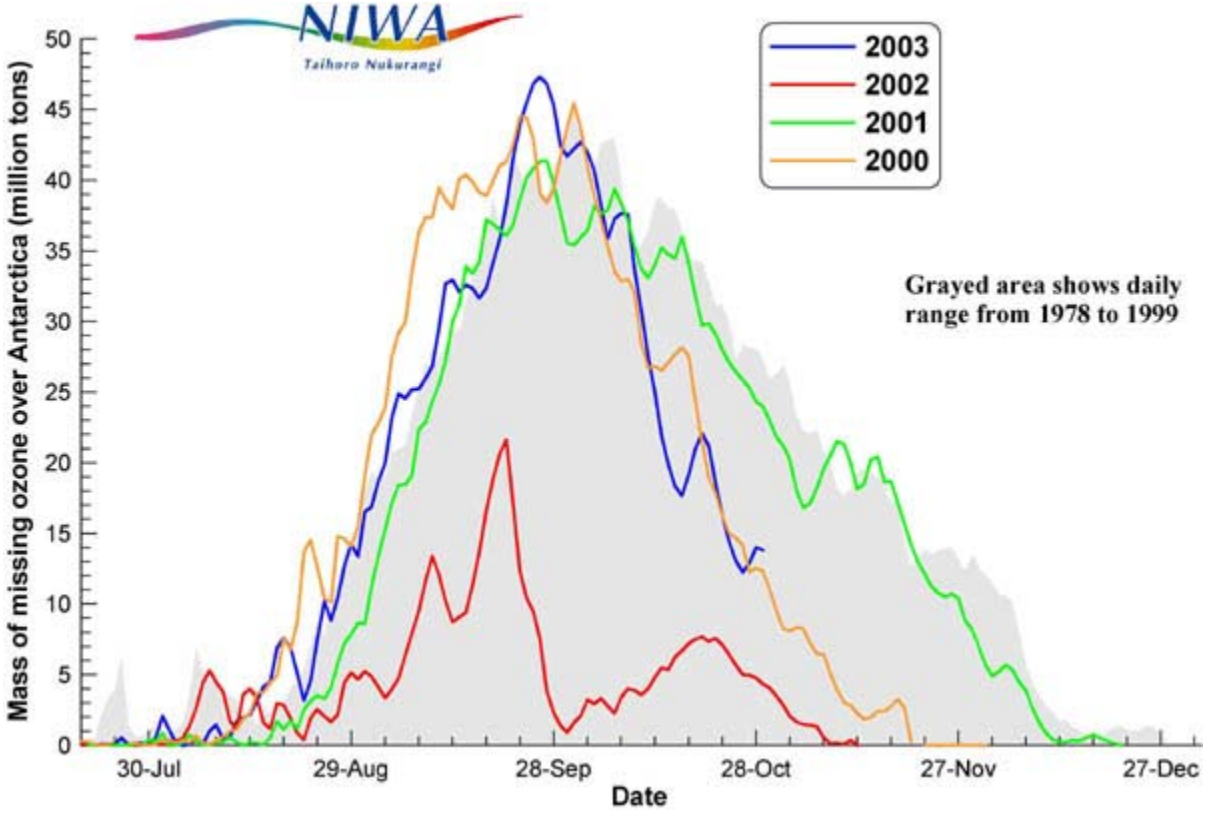
For more information, contact:

Dr Greg Bodeker (for questions about the NIWA combined ozone database)
Phone +64 3 440 0438

Dr Stephen Wood (for questions about ozone measurements in Antarctica)
+64 3 440 0426

Dr Richard McKenzie (for questions about UV levels over New Zealand) Phone +64 3 440 0429

Geoff Baird
Communication Manager
Phone +64 4 386 0543
Mobile +64 25 229 6314



amount of ozone missing from the Antarctic stratosphere in 2003, 2002, 2001, and 2000 compared to between 1978 and 1999.
Download a high resolution JPG version of this image.