

## Good news on climate

### Ozone hole hope

CSIRO researchers, using data from the Cape Grim Baseline Station in Tasmania, have found that the levels of chlorofluorocarbons (CFCs) in the atmosphere have at last begun to decline.

CFCs are the main source of man-made stratospheric chlorine, largely responsible for global and Antarctic stratospheric ozone depletion over the past 25 years.

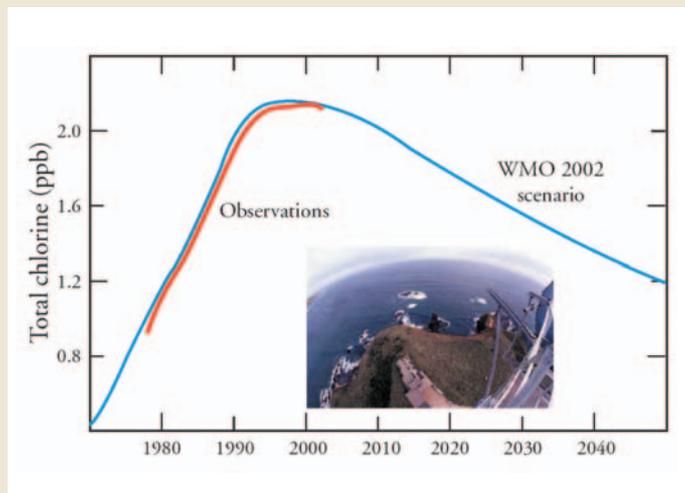
CSIRO observations from Antarctic ice samples showed that there were no CFCs in the atmosphere before the 1950s. After that, CFC concentrations increased continuously for 50 years before peaking in 2000

but are now falling by almost one per cent per year.

Despite the decrease, this year's hole in the ozone layer over Antarctica was one of the biggest ever. Its extent reached nearly 29 million square kilometres, more than three times the area of Australia and close to the record size seen in September 2000.

Nonetheless, the observed fall in CFC concentrations, a response to continuing global adherence to the 1987 Montreal Protocol on international CFC reduction, suggests that the ozone hole could close by about the middle of this century.

● Simon Torok



CFC measurements from Cape Grim (pictured), Tasmania, show levels of CFCs have at last begun to decline.

### Better predictions from WA's climate initiative

The Western Australian State Government's Indian Ocean Climate Initiative (IOCI) is aiming for greater understanding of WA's climate across seasons, years and decades.

Improved national climate and drought predictability will also come from growing knowledge of our major Southern Hemisphere weather

patterns: the Pacific Ocean's El Niño and La Niña effects and their counterparts in the Indian and Southern oceans.

Rainfall has slowly declined in the South-West since the 1940s. Whilst it is tempting to attribute this solely to the Greenhouse Effect, evidence points more to a sudden rise in Indian Ocean sea surface

### Methane levels out



CSIRO Land and Water/John Copp

Kakadu National Park. Wetlands release significant amounts of global methane but are not a controllable source.

CSIRO results from Tasmania's Cape Grim facility have shown that atmospheric concentrations of methane have stopped growing in the global background atmosphere.

'Over the past four years there has been no growth in atmospheric methane compared to a 15% rise over the preceding 20 years and a 150% rise since pre-industrial times. This is a very exciting result,' says Dr Paul Fraser from CSIRO Atmospheric Research.

Methane has been responsible for 20% of the enhanced greenhouse effect over the past 200 years. It is 23 times more potent than carbon dioxide and

is released to the atmosphere from agriculture – rice, cattle and sheep – from landfill, from the mining and use of fossil fuels – coal, oil and gas – as well as from natural wetlands.

'Although we can't be certain why methane concentrations have levelled out, we think it is in response to emissions declining due to better management of the exploration and use of fossil fuels and the extensive recovery of landfill methane,' Dr Fraser says.

If the global decline in methane emissions continues, global atmospheric methane concentrations will start to fall. However, global emissions of the most important greenhouse gas, carbon dioxide, are set to continue to increase.

● Simon Torok

More information:  
[www.dar.csiro.au/information/ozone.html](http://www.dar.csiro.au/information/ozone.html)

then be developed.

'This work will have implications beyond Western Australia,' says Dr Ian Smith of CSIRO Atmospheric Research. 'Potentially it will lead to better climate prediction across Australia and possibly the whole Southern Hemisphere.'

● Simon Torok

More information:  
[www.dar.csiro.au/climate/coca.html](http://www.dar.csiro.au/climate/coca.html)