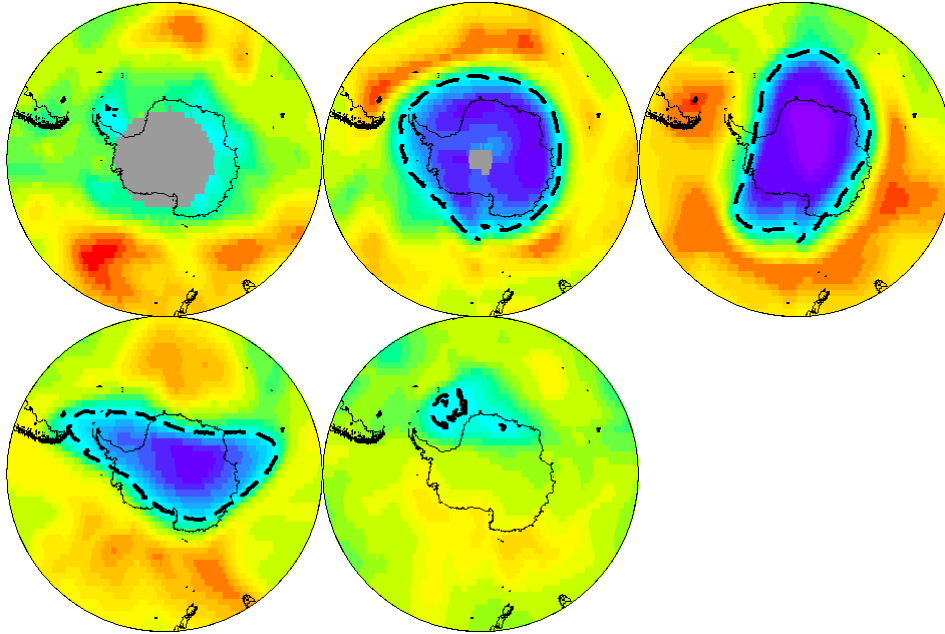


Weekly image: Week 4, 2007

Ozone over Antarctica



Snapshots of total ozone content from 15 Aug., 15 Sep., 15 Oct., 15 Nov. and 15 Dec. 2006. The dashed black curve outlines the extension of the ozone hole. Gray indicates where no data are available.

The images are part of the Satellite Eye for Galathea 3 project in which it is possible to retrieve daily new images showing the global ozone content.

What can we see?

The figures show the development of the ozone hole over Antarctica during the Austral spring and summer. The figures display the total ozone content in Dobson Units observed from the OMI satellite. According to NASA, an ozone hole is defined as an area where the total ozone is below 220 Dobson units, indicated with a dashed line. The ozone hole typically starts to expand during August and September and reaches a maximum in late September or beginning of October. This is also seen in the figures for 2006, where the largest extension is found in September and October and the minimum ozone Dobson unit values are found in the 15 October figure.

Technical information:

The satellite observations are from the Ozone Monitoring Instrument (OMI) on the EOS AURA mission (<http://aura.gsfc.nasa.gov/instruments/omi/index.html>). The observations are performed during daylight where OMI provides daily global coverage. The gray areas indicate where no data are available. The resolution of the global grid is 1.25 degrees in longitude and 1.0 degree in latitude and the absolute accuracy of the product is 3%.

The Dobson Unit (DU) is the unit of measure for total ozone. If you were to take all



the ozone in a column of air stretching from the surface of the earth to space, and bring all that ozone to standard temperature (0 Degree Celsius) and pressure (1013.25 millibars), the column would be about 0.3 centimeters thick. Thus, the total ozone would be 0.3 cm. To make the units easier to work with, the Dobson Unit is defined to be 0.001 cm. A thickness of 0.3 cm would then be 300 DU.

Links for more information:

News (in Danish) about the ozone layer:

http://www.dmi.dk/dmi/ozonlagets_sande_tilstand

NASA's ozone site: <http://ozonewatch.gsfc.nasa.gov/>

The EOS AURA mission: <http://aura.gsfc.nasa.gov/instruments/omi/index.html>