



International Association of Meteorology and Atmospheric Sciences (IAMAS)

International Ozone Commission (IO₃C)

President
Professor Christos Zerefos
Tel: +30 10 7274133
Fax: +30 10 7274157
zerefos@geol.uoa.gr

Secretary
Dr. Sophie Godin-Beekmann
Tel: +33 1 44 27 47 67
Fax: +33 1 44 27 49 76
sophie.godin-beekmann@latmos.ipsl.fr

Vice President
Dr. Richard S. Stolarski
Tel: +1 301 614 59 82
Fax: +1 301 614 59 03
Richard.S.Stolarski@nasa.gov

former President
Professor Ivar Isaksen
Tel: +47 22 855822
Fax: +47 22 855269
ivar.isaksen@geo.uio.no

Director of Information
Professor Donald Wuebbles
Tel: +1 217 244 1568
Fax: +1 217 244 4393
wuebbles@atmos.uiuc.edu

Press Release

Twenty two years after the signing of the Montreal protocol, the ozone layer has stabilized but a large Antarctic ozone hole continues to occur on a yearly basis

The United Nations declared the 16th of September as the International Day for the Protection of the Ozone Layer to commemorate the 16th of September 1987, the date when the Montreal Protocol was signed. The Protocol controls the production and use of ozone depleting substances. It is an outstanding example of a successful cooperation between scientists, governments and industry as well as between developed and developing countries. It also provides an excellent paradigm to the international community for cooperation on complex environmental issues of global importance.

The theme of the International Day for the Preservation of the Ozone Layer on **16 September 2009** is: **“Universal participation: Ozone protection unifies the world”**¹.

The Montreal protocol has been highly successful in reducing the emissions and atmospheric abundances of most ozone depleting substances. Ground-based and space-based measurements show that the stratospheric amounts of chlorine and bromine, the species most harmful to the ozone layer, are now in decline.

Global ozone abundances have stabilized and even show some signs of an increase, particularly over Northern mid-latitudes. Nevertheless, the latest measurements show annual average values of ozone abundances to be respectively 3% and 6% below pre-1980 levels in the Northern and Southern Hemisphere mid-latitudes regions.

In addition, a large Antarctic ozone hole is still a regular seasonal feature in the Southern Hemisphere. In 2007 and 2008, the average area of the ozone hole was 22 and 25 million km² respectively (the Antarctic continent itself has a surface area of 14 million km²). The latest estimate of ozone hole area in mid-September 2009 is over 22 million km². Antarctic ozone is estimated to remain low through the next decade and first unambiguous signs of recovery are not expected to be detected before 2020.

¹ Please visit the web site of the Ozone Secretariat for the Vienna Convention at the following specific address where you will find suggestions for worldwide activities on the 2009 International Ozone Day.

http://ozone.unep.org/Events/ozone_day_2009/index.shtml

Arctic ozone depletion is strongly dependant on meteorological conditions, which is highly variable in the Northern Hemisphere. The loss of ozone in total column ranges between 0 and 30%. Large ozone losses were found in 2005 and 2008. In 2009 the ozone loss was smaller due to an early break-down of the winter circulation in the polar stratosphere. Large ozone losses in the Arctic will likely continue to occur in cold Arctic winters during the next two decades.

In the polar and sub-polar regions of the Southern Hemisphere, episodes of high solar UV-B radiation levels lasting for a few days have been observed, directly related to the Antarctic ozone hole. In mid-latitude regions, long-term measurements at some unpolluted stations indicate the stabilization or a decrease of solar UV-B radiation levels in accordance with the ozone behaviour at these locations. However, UV-B irradiances are still increasing at some Northern Hemisphere stations, partly due to long-term changes in the atmospheric aerosol content and cloud cover, which also affect surface UV radiation.

Recovery of the ozone layer is expected to occur around the middle of the 21st century as a result of the decrease of ozone depleting substances regulated by the Montreal Protocol. However, there is a strong interplay between increases in the concentration of greenhouse gases in the atmosphere and stratospheric ozone recovery. While climate change will affect the timing of the ozone layer recovery, future ozone changes will also affect climate, particularly in the Southern Hemisphere.

The Scientific Community is currently working on the next Assessment of the state of the ozone layer, which will be published in 2011. This assessment will in particular update results on the long term evolution of ozone, on the timing of its recovery and on the interactions between ozone and climate change.

The International Ozone Commission (IO₃C) of IAMAS-IUGG **urges all national and international Agencies**, which support scientific research and monitoring of ozone and related parameters to continue supporting these activities.

This text has been reviewed by the IO₃C members last on September 15th

For more information: Dr. Sophie Godin-Beekmann, Secretary of the International Ozone Commission, University Pierre et Marie Curie, Service d'Aéronomie, Centre National de la Recherche Scientifique 75252, Paris, Cedex 05, France, Tel.: +33 1 44 27 47 67, Fax: +33 1 44 27 49 67, mobile: +33 6 77 18 38 64, e-mail: sophie.godin-beekmann@latmos.ipsl.fr

IO3C: <http://ioc.atmos.uiuc.edu>,

WMO Northern Hemisphere Ozone Mapping Center: <http://lap.physics.auth.gr/ozonemaps>

WMO Antarctic Ozone Bulletin: <http://www.wmo.int/pages/prog/arep/gaw/ozone/index.html>

European Ozone Coordinating Unit: <http://www.ozone-sec.ch.cam.ac.uk/>

World Ozone and Ultraviolet Data Center: <http://www.woudc.org>

Ozone Hole Watch: <http://ozonewatch.gsfc.nasa.gov/>