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Press Release

Ozone remains depleted over the poles and the middle latitudes of both hemispheres

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 first signed. The Protocol controls the production and use of anthropogenic species which since the early 1970s have destroyed about 10% of the earth's ozone shield which protects life from the harmful solar ultraviolet radiation. The Protocol is an example of selfless cooperation between the developed and developing countries and provides an excellent paradigm to the international community for cooperation in complex environmental issues of global importance.

The theme of the International Day for the Preservation of the Ozone Layer on **16 September 2003 is: "Save O_3ur Sky: There is a Hole Lot More to Do for Our Children"**.

Please visit the web site of UNEP at the following specific address where you will find suggestions for several activities on the 2003 International Ozone Day.

http://www.unep.org/ozone/ozone_day2003/

Last summer WMO/UNEP released the "Scientific Assessment of Ozone Depletion: 2002", which was prepared by the Scientific Assessment Panel of the Montreal Protocol on Substances that deplete the Ozone Layer. These assessments in 1989, 1991, 1994, 1998 and 2002 led to subsequent Amendments and Adjustments of the 1987 Protocol by advancing our understanding and providing the input required to the decision making process. Since the last assessment there were numerous studies and observations that have produced new key findings and have strengthened the overall understanding of the ozone layer and its effect on UV radiation.

Springtime Antarctic Ozone depletion due to halogens, known as "ozone hole" has been large throughout the last decade. The ozone hole area has increased in size during these years, which however varies from year to year and it is not yet possible to say whether the area of the ozone hole has maximized. Following the WMO Antarctic Ozone Bulletin, during the past 1-2 weeks the ozone hole has grown more rapidly than usual. The early period of the 2003 ozone hole is in this way very similar

to that observed in 2000.The ozone hole now appears to cover more than 25 Million km^2 in area, 10% below the record size recorded in mid-Sept. 2000.The ozone mass deficit (a measure of the ozone mass deficiency versus the pre-1976 ozone average) has already reached 50 million tons, which is also 10% below the record set in mid-Sept. 2000. The size, depth and persistence of the ozone hole are expected to vary substantially from year to year and are strongly influenced not only by ozone depleting substances but by meteorological changes as well. As was the case in 2000 when the ozone hole was the largest on record and in 2002 when it was the smallest since 1988, a single year cannot be used to infer a general trend in the ozone hole parameters. Models predict that the Antarctic ozone levels will start recovering by 2010 due to projected decreases of halogens in the stratosphere, but it is not expected to reach pre-1980 levels before the middle of this century.

In recent cold Arctic winters maximum total column ozone losses due to halogens have reached 30%. Recent observations in the stratosphere indicate that the total chlorine abundance is at or near a peak, while the same may also be true for bromine. Arctic ozone depletion is highly variable and the time of ozone recovery is generally difficult to determine at present.

Ozone remains depleted in the middle latitudes of both hemispheres. Over Northern Hemisphere midlatitudes the largest long-term ozone decreases in the past two decades are observed during winter spring (about 4% per decade), while over the Southern Hemisphere midlatitudes, ozone decreases are about 6% per decade during all seasons.

Measurements continue to confirm that decreases of ozone column amounts lead to increases in the biologically active part of UV radiation. UV irradiance has increased since the early 80's by 6-14% over the middle and high latitudes of both hemispheres.

During the last years emphasis has been given on the issues of interconnections between ozone depletion and climate change. New research has begun to explore the coupling between climate change and the recovery of the ozone layer. Water vapour, carbon dioxide, methane and other greenhouse gases all influence ozone depletion. In turn, ozone depletion through its association with UV-B increases influences the chemical composition of the atmosphere.

It has to be emphasized that failure to comply with the Montreal Protocol would delay or could even prevent the recovery of the ozone layer. For example continued constant production of ozone depleting substances at the 1999 amounts would likely extend the expected recovery of the ozone layer well past the year 2050.

The International Ozone Commission (IO_3C) 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. The IO_3C is ready to collaborate and make significant scientific contributions, as has been done in the preparations of the Ozone Assessments in the past decades. Also, the International Ozone Commission is organizing its Quadrennial Ozone Symposium to be held in Greece in June 2004 (www.QOS2004.gr)

This text has been reviewed by the IO_3C members last on September 12, 2003

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