"Over the coming decades, high quality global observations of ozone and ozone-depleting substances would be particularly critical in verifying the effectiveness of the actions taken under the Vienna Convention in 1985, the Montreal Protocol of 1987 and its amendments."

Michel Jarraud, Secretary-General of WMO

Many communities support the Vienna Convention and its Montreal Protocol in partnership.
WMO works closely with the Ozone Secretariat and the United Nations Environment Programme (UNEP), the International Ozone Commission (IO_3C), the Committee on Earth Observation Satellites (CEOS), and the World Health Organization and jointly sponsors the Global Climate Observing System (GCOS), the World Climate Research Programme (WCRP), the Intergovernmental Panel on Climate Change (IPCC), as well as national and international research programmes. WMO hosts the GEOSS Secretariat.

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Tel: (+41 22) 730 82 40
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Website: www.wmo.int/web/arep/gaw/gaw_home.html

Historical review

WMO activities to address protection of the ozone layer

1959
WMO takes responsibility for operational ozone measurements

1960
WMO World Ozone and UV Data Centre opens at Meteorological Service of Canada

1976
WMO document calling for "immediate action to protect the ozone layer" adopted

1976
WMO launches Global Ozone and Monitoring project

1977
World Plan of Action on the Ozone Layer adopted at WMO/UNEP meeting

1977
Coordination Committee formed outlining ozone convention by 1982

1981
WMO/NASA/NOAA release 1st Science Assessment: "The Stratosphere 1981: Theory and Measurements"

1985
22 countries sign Vienna Convention for the Protection of the Ozone Layer

1987-1999
Landmark Montreal Protocol for the phase out of ozone depleting substances and subsequent adjustments and amendments

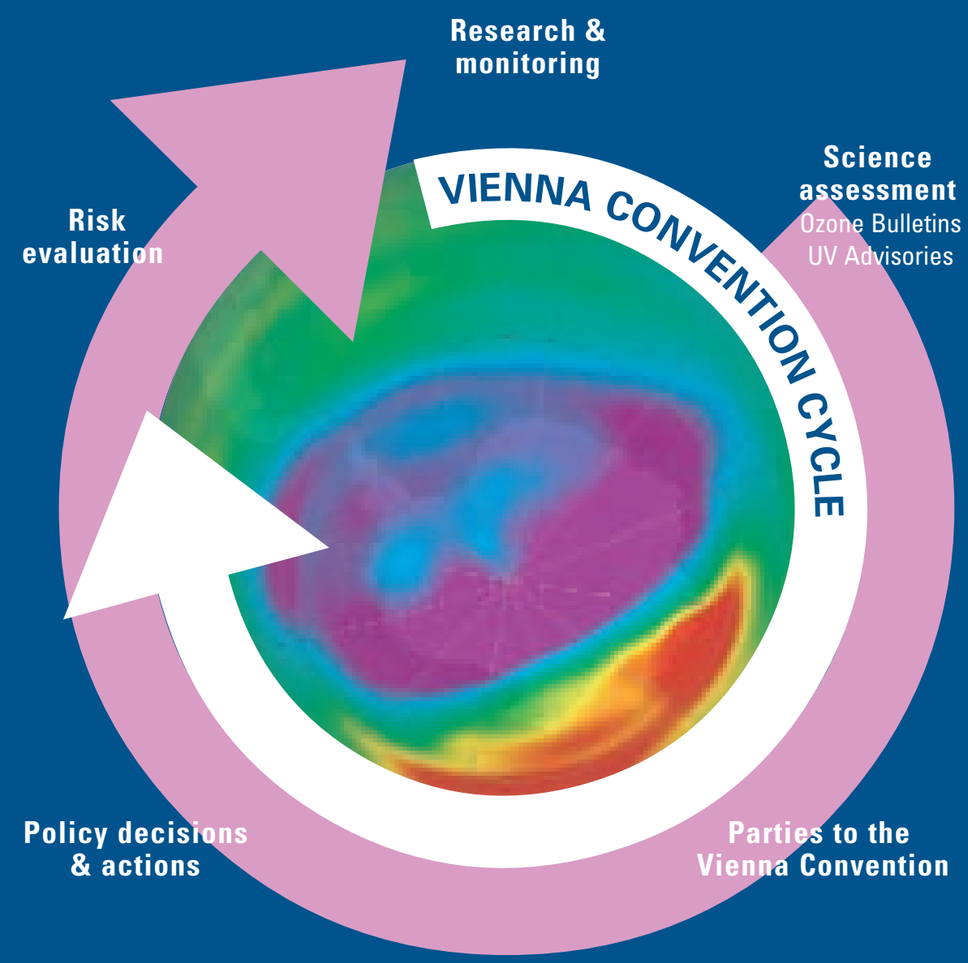
1988-2002
WMO and UNEP release five comprehensive ozone assessments

2006
WMO/UNEP Scientific Assessment of Ozone Depletion

World Meteorological Organization
Weather • Climate • Water

September 2005
GAW 163
WMO/TD-No. 1288

Protecting the ozone layer
A priority for WMO

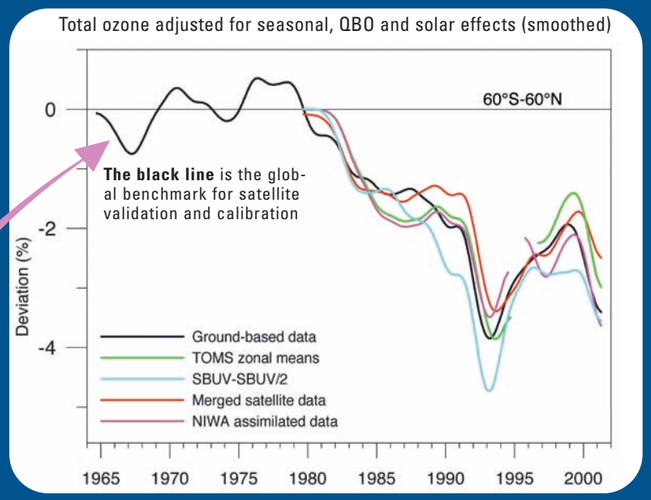


Global Atmosphere Watch

GAW

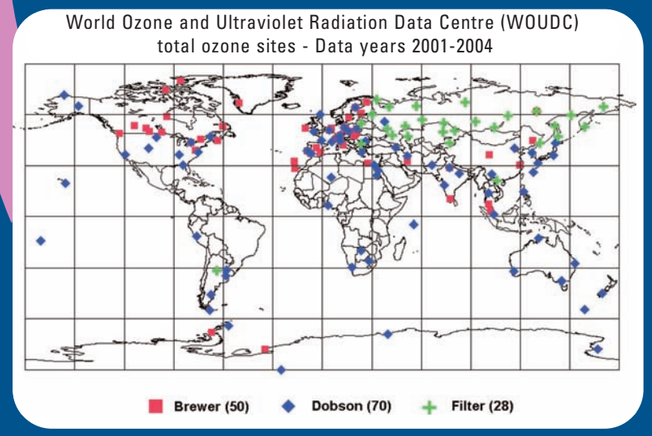
OZONE DEPLETION IS NOT JUST IN POLAR REGIONS

TRENDS IN TOTAL ATMOSPHERIC OZONE IN NON-POLAR REGIONS (60ºN TO 60ºS)



WMO Global Atmosphere Watch (GAW) networks are anchors of the global ozone observing system and offer the longest, most stable observational record (black line in figure above).

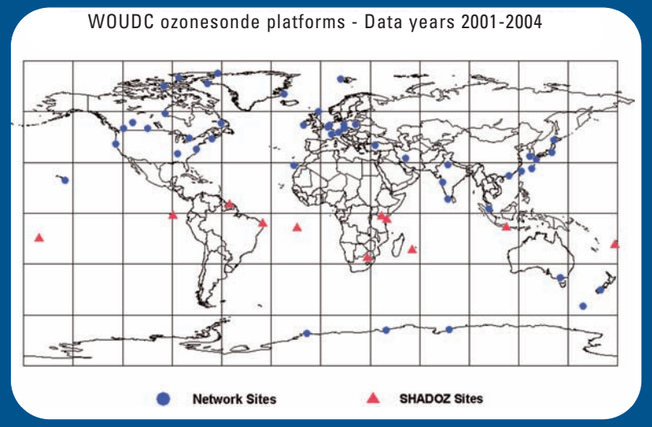
WMO/GAW TOTAL COLUMN NETWORK



Dobson Reference Standard
NOAA, USA

Brewer Reference Standard
MSC, Canada

WMO/GAW BALLOON SONDE VERTICAL PROFILE



World Calibration Centre for Ozone Sondes (WCCOS)

Ozone Sonde Intercomparison Experiment (BESOS)

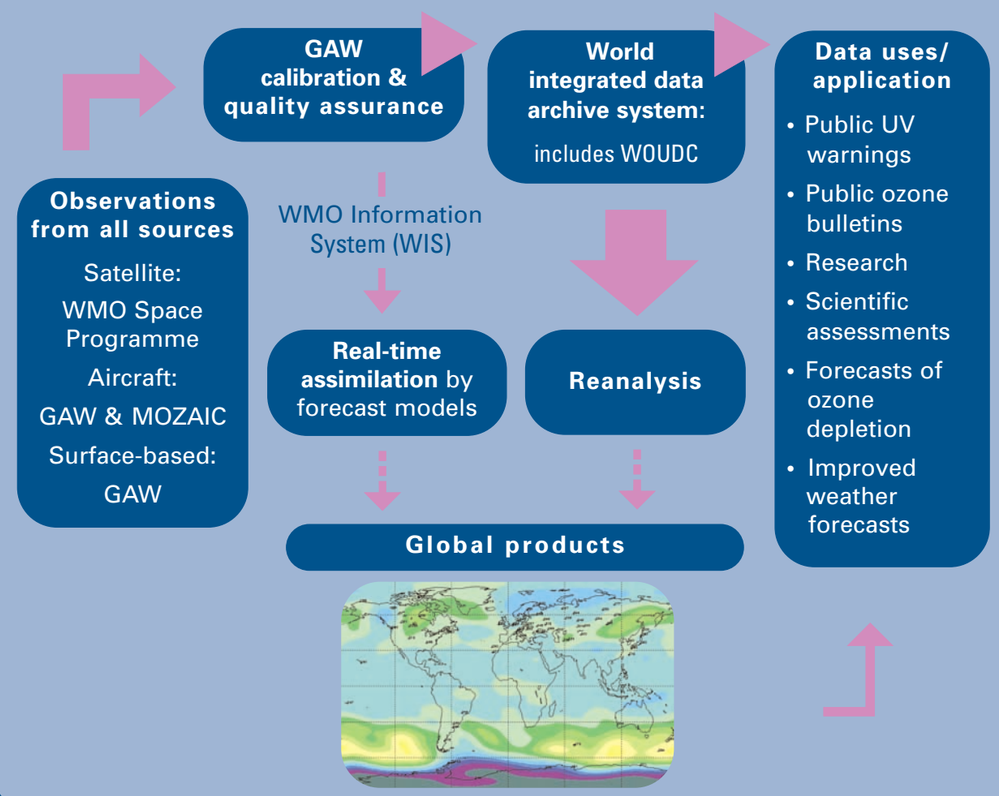
BRINGING TOGETHER OZONE OBSERVATIONS

FROM GAW NETWORKS, AIRCRAFT AND SATELLITES AS A CONTRIBUTION TO THE GLOBAL EARTH OBSERVATION SYSTEM OF SYSTEMS (GEOSS)

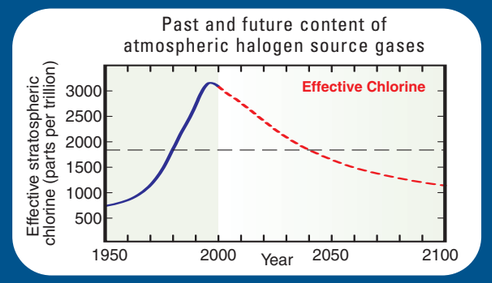
IGACO-Ozone

Interpolation and analysis of observations using new-generation weather forecast and climate models facilitate ozone science assessments.

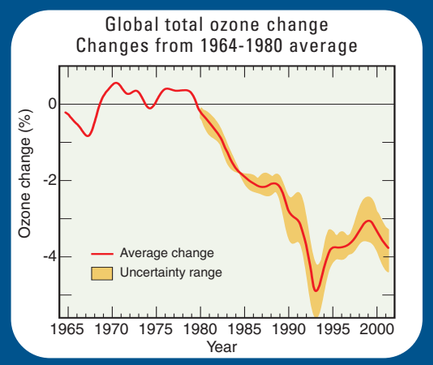
INTEGRATED GLOBAL OZONE OBSERVATIONS: IGACO-Ozone



Although ozone-destroying chlorine and bromine are expected to decrease slowly as a result of emission reductions made under the Montreal Protocol . . .



. . . the recovery of ozone has not yet been observed.



Integrated Global Atmospheric Chemistry Observations (IGACO) - Atmospheric Chemistry Theme of IGOS. Implementation by an international GEOSS effort led by WMO.
Four foci: IGACO-Ozone (Secretariat Finnish Meteorological Institute), IGACO-Greenhouse Gases, IGACO-Aerosols, IGACO-Air Quality/Long-Range Transport of Air Pollution. Contact arep@wmo.int