



**United Nations
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WMO/UNEP Ozone Research Managers of
the parties to the Vienna Convention for
the Protection of the Ozone Layer

Twelfth Meeting
Geneva, 24-26 April 2024

Provisional agenda *(updated on 25 April 2024)*

24 April (Wednesday)

- 08:00 onwards Registration
- 09:00 – 09:45 Opening of the Meeting
- Opening statement, *Meg Seki, Executive Secretary, Ozone Secretariat*
 - Welcome statement, *Paolo Laj, World Meteorological Organization (WMO)*
 - The 2022 WMO/UNEP Scientific Assessment of Ozone Depletion, *David Fahey and Bonfils Safari, Co-Chairs of the Scientific Assessment Panel (SAP)*
 - Overview of the interface between the Scientific Assessment, the Ozone Research Managers (ORM) recommendations and the resultant decisions of the twelfth meeting of the Conference of the Parties to the Vienna Convention, *Hector Estevez and Kenneth Jucks, ORM11 Co-Chairs*
- 09:45 – 09:55 Election of the Co-Chairs of the 12th meeting of the ORM (ORM12)
- 09:55 – 10:00 Adoption of the ORM12 agenda

Session 1: Issues related to the General Trust Fund for Research and Systematic Observations

This session aims at providing an overview of the status of Trust Fund, the activities supported by it and the work of the Advisory Committee overseeing those activities.

- 10:00 – 10:30 Work under the Trust Fund
- The status of the Trust Fund, *Sophia Mylona, Ozone Secretariat*
 - Report on activities under the Trust Fund, *John Rimmer, WMO*
 - Report of the Advisory Committee of the Trust Fund, *Sophie Godin-Beekmann, Advisory Committee Chair*
- 10:30 – 10:50 Discussion

10:50 – 11:10 Clarification of the tasks and roles of discussion leaders, rapporteurs and experts in the breakout groups to frame recommendations on: Research needs; Systematic observations; Gaps in the global coverage of atmospheric monitoring of controlled substances and options to enhance such monitoring; Data archiving and stewardship; Capacity building.

11:10 – 11:30 *Coffee/tea break*

Session 2: The state of the ozone layer and factors impacting the speed of its recovery

This session aims at summarizing research on the status of the ozone layer, the surface ultraviolet (UV) radiation, expected levels in the 21st century, links with climate change and related emerging issues.

11:30 – 11:50 Updates on the state of the ozone layer, *Wolfgang Steinbrecht, German Meteorological Office (DWD)*

11:50 – 12:10 Benefits of the Montreal Protocol: effects on climate, UV radiation, and stratospheric ozone, *Janet Bornman, Environmental Effects Assessment Panel (EEAP) Co-Chair*

12:10 – 12:30 Emerging issues of interest to the parties, *Lucy Carpenter, SAP Co-Chair and Bella Maranion, Technology and Economic Assessment Panel (TEAP) Co-Chair*

12:30 – 14:00 *Lunch*

Session 3: Interactions between ozone layer depletion, climate change and related emerging issues

This session aims at summarizing the links between stratospheric ozone and climate, trends of ozone-depleting and climate gases and the effects of stratospheric aerosol injection.

14:00 – 14:20 Links between stratospheric ozone and climate, *Amanda Maycock, University of Leeds, United Kingdom*

14:20 – 14:40 Trends of hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs) controlled under the Montreal Protocol and other substances that affect the ozone layer and climate, *Guus Velders, Dutch National Institute for Public Health and the Environment (RIVM)*

14:40 – 15:00 Stratospheric aerosol injection and the ozone layer, *David Fahey, National Oceanic and Atmospheric Administration (NOAA)*

15:00 – 15:30 Discussion

Session 4: International monitoring programmes for ozone and UV

This session aims at taking stock of the current and future activities on monitoring of ozone and UV radiation.

15:30 – 15:50 The International Ozone Commission (IO₃C), *Irina Petropavlovskikh, IO₃C*

15:50 – 16:10 The WMO Global Atmosphere Watch Ozone Observing System, *Matt Tully, Chair of the WMO Scientific Advisory Committee (SAG) on Ozone and UV radiation*

16:10 – 16:30 The Network for the Detection of Atmospheric Composition Change (NDACC), *Martine De Mazière, Royal Belgian Institute for Space Aeronomy (IASB-BIRA)*

16:30 – 16:50 *Coffee/tea break*

16:50 – 17:10 The Brewer Networks and their future, *Alberto Redondas, Meteorological State Agency (AEMET) and John Rimmer, WMO*

17:10 – 17:30 International ozonesonde activities, *Roeland Van Malderen, Royal Meteorological Institute of Belgium*

- 17:30 – 17:50 Atmospheric Processes And their Role in Climate (APARC), *Michaela Hegglin, Institute of Energy and Climate Research, Germany*
- 17:50 – 18:10 The World Ozone and Ultraviolet Radiation Data Centre (WOUDC) - Data reporting and archiving, *Sum Chi Lee, Environment and Climate Change Canada*
- 18:10 – 18:30 Discussion
- 18:30 – 20:00 Cocktail Reception (WMO Attic, 9th floor)**

25 April (Thursday)

Session 5: International monitoring programmes on substances controlled by the Montreal Protocol

This session aims at taking stock of the current and future activities on monitoring of gases controlled under the Montreal Protocol.

- 09:00 – 09:20 Ground-based networks for measuring ozone- and climate-related trace gases and current state of the atmosphere, *Stephen Montzka, NOAA*
- 09:20 – 09:40 Gaps in the global coverage of atmospheric monitoring of controlled substances and options on ways to enhance such monitoring, *Paul Newman, NASA/A.R. Ravishankara, Colorado State University/Ray Weiss, Scripps Institution of Oceanography*
- 09:40 – 10:00 Discussion

Session 6: Satellite research and monitoring

This session aims at taking stock of the current and planned monitoring from space, addressing also vertical profiling of chemicals by satellites.

- 10:00 – 11:00 Ozone layer and climate observations from space: Status of activities and challenges ahead
- North American Satellite Programmes: National Aeronautics and Space Administration (NASA), NOAA, Canadian Space Agency (CSA) and Other Agencies, *Kenneth Jucks, NASA*
 - European Space Agency (ESA) Activities, *Michael Eisinger, ESA*
 - The development and application of satellite remote sensing for total ozone column in China, *Pengfei Ma, center for Satellite Application, Ministry of Environment and Ecology of China*
 - CEOS AV-VC¹ ozone harmonization projects, *Diego Loyola, German Aerospace Centre (DLR)*
- 11:00 – 11:15 Summary of the key issues in space-based measurements: Identification of future needs and opportunities, *Jean-Christopher Lambert, IASB-BIRA*
- 11:15 – 11:40 Discussion

¹ CEOS AV-VC: Committee on Earth Observation Satellites, Atmospheric Composition Virtual Constellation.

Session 7: National and regional reports on ozone research and monitoring

In this session, region representatives will present the situation of ozone monitoring and research at the regional and national levels, focusing on the key issues raised by the countries in the national reports submitted for the meeting. Representatives are also expected to highlight activities related to the implementation of the ORM11 recommendations.

- 11:40 – 12:00 **Region 1:** Africa, *Bonfils Safari, University of Rwanda*
- 12:00 – 12:20 **Region 2:** Asia, *Toshinori Aoyagi, Japan Meteorological Agency (JMA)*
- 12:20 – 12:40 **Region 3:** South America, *Damaris Kirsch Pinheiro, Federal University of Santa Maria, Brazil*
- 12:40 – 14:00 *Lunch*
- 14:00 – 15:00 **Region 4:** North America, Central America, and the Caribbean
- USA, *Kenneth Jucks, NASA, and Stephen Montzka, NOAA*
 - Canada, *Sum Chi Lee, Environment and Climate Change Canada*
 - Central America, Mexico and the Caribbean, *Hector R Estévez Pérez, Geophysics Institute, National Autonomous University of Mexico (IGUM – UNAM)*
- 15:00 – 15:20 **Region 5:** South-West Pacific, *Matt Tully, Australian Bureau of Meteorology*
- 15:20 – 15:40 **Polar regions**
- Antarctica and the Arctic, *Thomas McElroy, York University, Canada*
- 15:40 – 16:00 *Coffee/tea break*
- 16:00 – 17:00 **Region 6:** Europe
- European Union: Copernicus Atmosphere Monitoring Service, *Richard Engelen, European Centre for Medium-Range Weather Forecasts (ECMWF)*
 - Northern Europe, *Thomas Carlund, Swedish Meteorological and Hydrological Institute (SMHI)*
 - Western, Central and Eastern Europe, *Stefan Reimann, Swiss Federal Laboratories for Materials Science and Technology (EMPA)*
 - Southern Europe, *Alkis Bais, Aristotle University of Thessaloniki, Greece*
- 17:00 – 18:30 **Discussion and formation of breakout groups to frame initial recommendations**
- Review of research areas
 - Systematic observations of ozone
 - Gaps in the global coverage of atmospheric monitoring of controlled substances and options to enhance such monitoring
 - Data archiving and stewardship
 - Capacity building.

26 April (Friday)

Session 8: Discussion on and adoption of recommendations

In this session, short introductory presentations will be given on the draft recommendations arising from the breakout groups, followed by discussion and adoption of the final recommendations.

- 09:00 – 09:45 **Research needs:** Presentation of initial draft by Lucy Carpenter and David Fahey, Ken Jucks, Rapporteur
- 09:45 – 10:30 **Systematic observations:** Presentation of initial draft by Sophie Godin-Beekmann and Damaris Kirsch Pinheiro Stefan Reimann, Rapporteur

- 10:30 – 11:15 **Gaps in the global coverage of atmospheric monitoring of controlled substances and options to enhance such monitoring:** Presentation of initial draft by A.R. Ravishankara and Ray Weiss
Stephen Montzka, Rapporteur
- 11:15 – 11:30 *Coffee/tea break*
- 11:30 – 12:15 **Data archiving and stewardship:** Presentation of initial draft by Martine De Mazière and Tove Svendby
Alberto Redondas and Victoria Sofieva, Rapporteurs
- 12:15 – 13:00 **Capacity building:** Presentation of initial draft by Presentation of initial draft by Samuel Paré and Sergio Moreno
Irina Petropavlovskikh, Rapporteur
- 13:00 – 14:30 *Lunch*
- 14:30 – 17:00 Discussion and adoption of the recommendations
- 17:00 – 17:30 Other matters
- 17:30 **Closure of the meeting**
