

The General Trust Fund for Financing Activities on Research and Systematic Observations

A viable tool for the continued protection of the ozone layer

Our planet avoided a catastrophe. The concerted actions under the Montreal Protocol of the Vienna Convention virtually eliminated the emission of ozone-depleting substances (ODSs). Thanks to this action, the ozone layer, the invisible shield that protects all life on Earth from harmful ultraviolet (UV-B) radiation from the sun, is slowly recovering. Assuming continued compliance with the Protocol, the ozone layer should completely heal by 2060, continuing to protect the health of people, ecosystems and economies.





But we cannot afford to rest on our laurels. We need to keep observing the ozone layer and the remaining amounts of ODSs in the atmosphere, monitoring the impacts of our actions and evaluating the recovery of the ozone layer. The unexpected increase in emissions of ozone-depleting trichlorofluoromethane (CFC-11) reported by scientists in 2018 shows the importance of our continued vigilance. Had we not been monitoring the atmosphere for ODSs, we would never have detected the unexpected emissions, which may be due to illegal production of CFC-11. This scientific finding spurred the parties to the Montreal Protocol to launch an urgent response.

More resources are needed to facilitate monitoring of the recovery of the ozone layer and inter-calibration of current and future satellites dedicated to ozone surveillance. The Trust Fund for Research and Systematic Observations, which operates under the Vienna Convention for the Protection of the Ozone Layer, plays an important role in this effort.

How does the Trust Fund support research and systematic ozone observations?

- The fund supports national and international research and monitoring activities in developing countries and countries with economies in transition.
- An Advisory Committee, established in 2015, advises the Ozone Secretariat and the World Meteorological Organization (WMO) on planning, developing and implementing the Trust Fund's activities.
- Decisions on how to distribute the funds effectively are in line with the long-term strategy and short-term plan of action which is, in turn, informed by the recommendations of research and monitoring needs developed by the Ozone Research Managers.

The key elements of the long-term strategy of the Trust Fund are:

-  Identification of gaps and needs in research and monitoring of ozone and related climate variables;
-  Exploration of the use of new instrumentation and fostering of cooperation with and support by relevant programmes and institutions;
-  Fostering of stronger relationships with scientific institutions and related global networks to build capacity and the infusion of knowledge for the activities under the consideration of the Advisory Committee;
-  Development of a strategic plan for mobilizing public and financial resources and in-kind contributions for the Trust Fund.

What has been achieved?

With funding of about US\$ 940, 000 since 2003, the Trust Fund has endorsed 22 activities. The geographical distribution and status of those activities as of September 2024 is presented in the map below.

An interactive map can be accessed at: <https://ozone.unep.org/activities>.



Project types	No of projects
Brewer calibrations	3
Brewer relocation	1
Dobson intercomparisons	7
Dobson relocations	3
Ozone observatory	1
Ozone sondes ¹	2
UV-B monitoring	1
Workshops ²	4
Total	22

¹ Ozone sondes include launch and training.

² Workshops on data quality, data management, training of Dobson and Brewer instrument operators, Dobson calibration.

A new call for proposal submission was sent to developing countries and countries with economies in transition in November 2023

What needs to be done for continued protection of the ozone layer?

- We need to enhance the contribution of developing countries and countries with economies in transition to ozone layer science. This effort should include calibrating, intercomparing and relocating monitoring instruments as well as capacity-building for optimal results. Such participation will improve global data availability and enable these countries to participate in ozone layer science as equal partners with developed countries, for the global good.
- The ground-based ozone observing system is not adequate, particularly in the tropics, where the changing climate plays a major role in influencing the recovery of the ozone layer. As this greatly limits the understanding and prediction of future ozone layer changes, more observations are needed at those locations.
- Current observational “gold standard” instruments are expensive and difficult to deploy. They are getting old. Moreover, the expertise to use and repair them has dwindled to a few people who will be retiring soon. We therefore need to deploy newer, smarter, more affordable and easy-to-use sensors and intercompare them with these current instruments.

How can the Trust Fund help?

- The fund can address the above needs by providing seed funding to catalyze action by the many developing countries and countries with economies in transition, which are ready and willing to play their part.
- The fund, if expanded to help monitor ozone depleting substances, can greatly contribute to ongoing research and monitoring activities that provide early warning on whether unanticipated chemicals are threatening the ozone layer’s recovery.

Who will benefit from the Trust Fund?

- The emerging scientific workforce of the developing world, the global scientific community, policymakers and ultimately all people, who rely on a robust ozone layer for their protection, will benefit from increased monitoring through the fund, as everybody relies on the ozone layer to shield us from harmful UV-B radiation. More contributions to the fund are needed to ensure:
- Better capacity and capability in observations and related science in the developing world;
- Better integration of scientists from the developing world into the global science community;
- Better data for international activities, such as the WMO - Global Atmosphere Watch and scientific assessments;
- More informed decision-making based on science at all levels thanks to increased engagement of developing countries and countries with economies in transition.

What will donors get?

- Scientific data from new locations will have many uses, including validation (ground-truthing) of the satellite observations;
- Strengthened cooperation and partnership between the developed and developing world;
- Increased buy-in from the developing world on addressing and solving global environmental issues;
- Value-added global ozone research as a result of targeting efforts where other organizations and countries cannot;
- Assurance that risks to human health and economies are recognized early and addressed effectively;
- Great appreciation for supporting the global efforts of the Trust Fund.

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