



World Meteorological Organization

Information for climate action

The World Meteorological Organization (WMO) helps to better understand the behavior of the climate system and how it is influenced by human activity.

It constitutes an authoritative source of information that policymakers, communities and individuals need for making the best choices of actions for mitigating and adapting to climate variability and change. WMO monitors climate change indices - over land, ocean and in the atmosphere - and the changes in the atmospheric concentrations of greenhouse gases, pollutants, ozone and other gases. WMO also coordinates global climate data collection and climate prediction.

The Intergovernmental Panel on Climate Change (IPCC), founded and sponsored jointly by WMO and UNEP in 1988, was awarded the 2007 Nobel Peace Prize jointly with Mr Albert Gore Jr for "efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change."

The global climate databank

The observing networks of the National Meteorological and Hydrological Services (NMHSs) of WMO's 188 Members provide the basic climate related measurements that are needed for all scientific studies. NMHSs provide climate data and contribute to climate modeling and climate change scenarios that underpin the IPCC assessments.

NMHSs have a long history of recording high-quality weather, climate and hydrological observations, which, when compiled over long periods of time, provide the climatology of specific locations. They are the building blocks of the WMO Global Observing System (GOS) - a global network of observations over land, sea and in the atmosphere.

NMHSs are responsible for the systematic collection, processing and archiving of climate data. This activity is the basis for world climatological statistics and climate diagnostics that provide a deeper understanding of climate variability and the associated processes.

Now that the global character of climate change is well established, observational and research efforts should be increased, rather than reduced. Uncertainties and gaps still remain, due to lack of data from many areas of the world. For instance, there are just over 1,150 weather observing stations in Africa, which is equivalent to a density of one station per 26,000 square km—eight times lower than the WMO minimum recommended level.

Climate predictions as a basis for action

By improving forecasting, multi-hazard early warning systems and disaster preparedness, the WMO aims to minimize the destruction and loss of life caused by natural disasters and thus to contribute more effectively to sustainable development. Some 90 per cent of the natural disasters are caused by weather-, climate- or water-related hazards. While the numbers of these disasters and the associated economic losses have increased significantly from the 1950's to 2005, the reported loss of life has decreased by a factor of 10 thanks to early warnings combined with emergency preparedness and response planning.

The re-activation/restoration of meteorological stations in the Pacific in 2007, for instance, came at a critical time for many islands of the region, where weather-related disasters have increased dramatically and rising sea-level related to climate change is already a serious threat.

WMO helps countries, in particular developing ones, to become more aware of their vulnerability to climate impacts, so that they can take better-informed actions for responding and adapting to climate change.

WMO promotes the use of weather-, climate- and water-related information for safe and smooth transportation, water management, the protection of health, property and the environment and food security. Carbon-dioxide-induced climate change and desertification are inextricably linked because of feedbacks between land degradation and precipitation. WMO provides key information for land-management responses. Examples can be found in a WMO booklet, entitled "Climate information for adaptation and development needs" (WMO-No 1025).

Addressing the challenge of timescales

At its latest – quadrennial – meeting held in May 2007, the World Meteorological Congress decided to convene a **World Climate Conference – 3 in 2009**, on the overarching theme of "Climate prediction for decision-making".

The First World Climate Conference in 1979 and the Second World Climate Conference in 1990 convened by WMO were milestones in building awareness and gaining recognition that climate was an issue of international importance that required concrete actions.

The First World Climate Conference decided on initiatives which ultimately led to the establishment of the Intergovernmental Panel on Climate Change (IPCC) in 1988. By calling for the creation of a climate convention, the Second World Climate Conference added momentum to international efforts that resulted in the United Nations Framework Convention on Climate Change (UNFCCC) in 1992.

WMO is the United Nations' authoritative voice on weather, climate and water

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