



## WORLD METEOROLOGICAL ORGANIZATION

The United Nations' authoritative voice on weather, water and climate at the service of sustainable development

Weather and climate know no national boundaries. Sustaining our environment for the future calls for a delicate balance between conservation and exploitation. Without accurate weather, climate and hydrological information, this balance cannot be found. With the active participation of nearly every country and through global monitoring of the atmosphere, the oceans and the Earth's surface, WMO provides a related international cooperative framework and the scientific basis for sustainable development.

### Weather forecasts

Everyone in daily life benefits from the coordination by WMO with the National Meteorological and Hydrological Services — aviation, marine services, agriculture, tourism, business.

The World Weather Watch system collects reliable and regular data from 10,000 land-based and 1,000 upper air stations, 100 moored buoys, 600 drifting buoys, 3,000 aircraft, 7,300 ships and 10 meteorological satellites. The System provides accurate and instant information — in a free and unrestricted manner — across the globe. Terrestrial and meteorological satellite networks broadcast real-time weather information including 30,000 weather reports and 2,000 weather charts several times a day to more than 1,000 locations.

Apart from the incalculable benefit to human well-being, virtually every dollar invested in meteorological and hydrological services produces an economic return ten times greater.

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### Advance warning

Nearly three-quarters of all natural disasters are weather- and climate-related. Breakthroughs in weather and climate forecasting spear-headed by WMO save lives and property and contribute to the protection of the environment.

- In Bangladesh advance warnings of tropical cyclones reduced loss of life to 200 in 1994 compared to 138,000 in 1991 and 300,000 in 1971.
- Improved forecasting of El Niño a few seasons in advance enables better planning and policy-making. Farmers can sow and harvest following seasonal predictions.
- Timely distribution of information on seismic activity, tsunamis, environmental emergencies, movement of forest fires, volcanic ash and radioactive and toxic substances in the atmosphere contribute to the protection of life and property.

### Water quality and resources assessment

Water is life. It is essential for everything from hydroelectric power to irrigation, sanitation and drinking. Yet it is a finite and vulnerable resource for which there is growing competition as global water resources are both diminishing and deteriorating.

WMO has forged the establishment of a global hydrological network of some 450,000 rainfall stations for water quality monitoring and water resources assessment of surface and ground water. It provides hydrological forecasts needed to plan water storage and to mitigate water-related hazards.

### Climate change

WMO alerted the world in 1976 to the potential effects of increased greenhouse gases: global warming, climate change, sea-level rise and the consequences on natural ecosystems. Analysis of climate data collected over the years and climate research indicate that there is now new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities.

This warming of 1.4 to 5.0 degrees centigrade is expected to produce changes in weather patterns and climate zones, with potential increases in severe weather, droughts and floods and all the associated dangers to human well-being, including desertification, and damage to ecosystems and food production. WMO was instrumental in initiating and negotiating the UN Framework Convention on

Climate Change and continues to monitor and issue an annual report on the state of the global climate.

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### Pollution alerts

More than 300 sophisticated stations in over 80 countries monitor greenhouse gases, chemicals, ozone, acid deposition, aerosols, radioactive gases in the urban environment, radioactive substances and other pollutants as well as long-term atmospheric changes.

WMO's warnings issued since 1975 generated efforts to protect the ozone layer through the Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol. WMO continues to monitor and report on the ozone layer.

### World Meteorological Organization (WMO)

WMO is a United Nations specialized agency headquartered in Geneva, Switzerland, with a current membership of 185 States and Territories. It was established in 1950 as a successor to the International Meteorological Organization (founded in 1873).

### For more information:

To learn more about about air, water and climate — the natural resources vital to our health and prosperity:

Website: [www.wmo.ch](http://www.wmo.ch)

