



World
Meteorological
Organization

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Weather • Climate • Water

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NEWS IN BRIEF

World Meteorological Congress: highlights

Fifteenth World Meteorological Congress met in Geneva in May 2007. Congress is the supreme body of the Organization. It meets once every four years to provide guidance, among other things, on WMO's scientific and technical programmes in accordance with its strategic goals. These are to strengthen the capabilities of National Meteorological and Hydrological Services (NMHSs) and increase recognition of their role in sustainable socio-economic development, protecting lives and property and safeguarding the environment.

Indeed, Congress amended the preamble of the WMO Convention to reflect the role of WMO in those vital areas.

Moreover, Congress decided that a third World Climate Conference will be convened in 2009. It will focus on the contribution of climate

predictions to socio-economic activities and risk management.

WMO's great strength lies in the integrated international system for the observation, collection, processing and dissemination of meteorological, hydrological and related data and products that it coordinates. This system is composed of networks of stations operated by the NMHSs of Member countries, which provide meteorological, hydrological and related information and services in support of national and, ultimately, international needs.

Congress endorsed disaster risk reduction as WMO's highest priority, together with the Disaster Risk Reduction Action Plan. Investment in meteorological, hydrological and climate services is critical, in particular with regard to the potential increase in hydrometeorological disasters associated with climate variability and change.

Congress underlined the importance of tsunami warning

systems, new operational ocean forecast and warning systems and maintenance and operation strategies. WMO coordinates six Regional Specialized Meteorological Centres around the world. A new Tropical Cyclone Warning Centre, located in Jakarta, Indonesia, will be on the alert in the event of tropical

predictions to socio-economic activities and risk management.

CLIMATE CHANGE 2007

The reports by the three Working Groups of the Intergovernmental Panel on Climate Change (IPCC) provide a comprehensive and up-to-date assessment of the current state of knowledge on climate change.

The Physical Science Basis—Summary for Policymakers (Working Group I) was released in Paris on 2 February 2007.

Climate Change Impacts, Adaptation and Vulnerability—Summary for Policymakers (Working Group II) was released in Brussels on 5 April 2007.

Mitigation of Climate Change—Summary for Policymakers (Working Group III) was released in Bangkok, Thailand, on 4 May 2007.

The summaries for policy-makers are available in pdf form at www.ipcc.ch.

The Synthesis Report integrates the information around six topic areas. It will be issued at the 27th session of the IPCC in November 2007 in Valencia, Spain.



Small islands and low-lying coasts in certain regions are at particular risk from climate change. WMO's goal is to build the capacity of National Meteorological and Hydrological Services so that they are in a better position to provide accurate and timely warnings to communities at risk and so promote sustainable development. These Services will also be better able to transmit important information to those of other countries.

cyclones in the south-east Indian Ocean as of November 2007.

Flash floods kill more people worldwide than any other natural disaster (more than 5 000 deaths) and cause millions of dollars' worth of property damage every year. WMO's Flood Forecasting Initiative has been assessing the state of hydrological forecasting services and applied knowledge in the field of flood forecasting with the overall aim of improving warning lead-times and adaptation measures. Congress endorsed WMO's Strategy and Action Plan, an outcome of the Initiative, to improve national and regional capacities for flood forecasting. It concentrates on interdisciplinary collaboration between National Meteorological and National Hydrological Services.

Least Developed Countries need support in their efforts towards strengthening productive capacities, reducing vulnerability to natural disasters, protecting the environment and adapting to climate change. This can be done through pilot projects based on best practices and success stories in the use of weather, climate and water information and products.

Heat health early warning systems

WMO, guided by its Commission for Climatology and the World

Health Organization (WHO), are at an advanced stage of preparing guidance on the implementation of heat health early warning systems (HHWS).

The European heat waves in the northern hemispheric summer of 2003 were responsible for the deaths of tens of thousands of people. This year, at the end of April and the beginning of May, at least five people died and hundreds—especially children—were treated throughout India for heat-related ailments as temperatures soared above 40°C, sometimes reaching as high as 45°C, during a two-week period.

Research has shown that the most vulnerable sections of society to heat are the elderly, the very young, the ailing and those engaged in outdoor activities.

Recently, there has been recognition that heat-related risks can be reduced through HHWS, which alert decision-makers and the general public to impending dangerous hot weather and serve as a source of advice on how to avoid negative health outcomes associated with hot weather extremes.

The purpose of the guidance is to outline, for National Meteorological Services (NMSs) and national health services, the issues surrounding heat waves and to show how an understanding of the biometeorology, epidemiology, public health and

risk communication aspects of heat as a hazard needs to be integrated within early warning systems.

Because they lack the spectacular and sudden violence of a tropical cyclone or a flash flood and because the related death tolls are not always immediately clear, heat waves rarely receive much attention.

They are, however, among the most dangerous of natural hazards. The guidance will act as a catalyst for bringing together key players in climate and health, emergency response agencies and decision-makers, as well as the general public, and initiating action for overall management.

The guidance considers who is at risk from heat and outlines approaches to assessing heat stress. It presents the science and methodologies associated with the development of HHWS and overviews heat intervention strategies which are a necessary part of any truly integrated HHWS. Moreover, it considers the problem of communicating heat risk and how to evaluate HHWS and draws attention to the essential elements of summer heat plans within which HHWS are nested.

The climate component of HHWS is the responsibility of NMSs and WMO. Much of the responsibility concerning the societal response component lies with the health and social service sectors.

Planning for a number of demonstration projects is underway, with the expectation

that regionally applicable practical advice for implementation and operation of HHWS will be developed. Several WMO Members have expressed an interest in hosting these important research initiatives.

The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)—Climate Change 2007—states that, over the last 50 years, hot days, hot nights and heat waves have become more frequent.

It projects that heat waves are likely to continue to become more frequent and could affect the health status of millions of people in some parts of the world, particularly those with low adaptive capacity.

Longer-term initiatives for managing heat as a hazard are also presented in the guidance.

Gender equality in meteorology and hydrology

WMO is committed to promoting equal opportunities for women and men in meteorology and operational hydrology. It has, in recent years, conducted two global surveys on gender issues and organized two major conferences and one expert meeting, geared towards developing mechanisms to implement gender mainstreaming at all levels in WMO.

In March 2007, WMO organized the Expert Meeting on Gender Mainstreaming in Geneva. The



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main objective was to draft WMO policy on gender mainstreaming. The meeting also drafted an outline of an implementation plan for the draft policy.

The draft policy seeks to promote, encourage and facilitate gender equality across WMO and to establish a mechanism by which progress can be measured. It proposes four key result areas to underpin gender mainstreaming in NMHSs and the WMO Secretariat: governance, service delivery, employment, and monitoring and evaluation.

The draft policy also proposes the adoption of the definition relating to gender mainstreaming as "the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality".

It is hoped that these efforts will culminate in the evolution of WMO into a world Organization that will enable women and men to render services to mankind in an environment where gender diversity will no longer be an issue but, rather, will serve to contribute to the safety and well-being of people throughout the world and to the economic benefit of all nations.

Training in tropical cyclone research

WMO organizes, on a regular basis, research-oriented international workshops which provide training and experience in new knowledge gained from recent advances on tropical cyclone research. They also show how best to apply the new knowledge to operational prediction activities in order to enhance the accuracy and usefulness of tropical cyclone forecasts and warnings.

Such workshops enable participants to be aware of the issues

associated with disaster mitigation, such as factors contributing to human and economic losses, conveying forecasting and warning information to stakeholders, users and the general public, evaluating the effectiveness of warning systems, mitigation strategies and community capacity-building for disaster reduction.

Typical subjects are how to effectively harness the full potential of research to enhance the accuracy and lead time of tropical cyclone forecasts and warnings, as well as focused activities in tropical cyclone research that can provide added value and build capacity to address the needs of national tropical cyclone warning centres.

These workshops are attended by operational forecasters from WMO's five tropical cyclone regional bodies and the lecturers are leading experts in the field of tropical cyclone research and forecasting.

Contributing to food security

Educating farmers

Despite increases in agricultural productivity, millions of people are still hungry and malnourished. Between 2001 and 2003, 854 million people were undernourished, of whom 820 million were in developing countries.

Subsistence farmers in many developing countries depend on rainfed agriculture for their survival and the productivity of crops on their farmlands is impacted heavily by seasonal-to-interannual climate variability. In addition, extreme events, such as floods, droughts, forest fires and tropical cyclones, have increased, accelerating the process of soil degradation caused by water and wind erosion.

Projections from the Intergovernmental Panel on Climate Change state that increases in the frequency of droughts and floods are already exercising a negative effect on local crop production, especially in subsistence sectors at low latitudes.

When user-focused weather and climate information is available to farmers and they know how to

apply it wisely, losses resulting from adverse weather and climatic conditions can be minimized, thereby improving the yield and quality of agricultural products.

WMO is addressing weather and climate impacts on world food security by educating farmers, especially in developing and Least Developed Countries.

WMO and National Meteorological and Hydrological Services (NMHSs) are educating farmers on these issues through one-day seminars which sensitize them to the value of weather and climate information and its application in operational agricultural management. They learn how to manage risk and use natural resources for agricultural production in a sustainable manner.

Farmers are provided with information on weather patterns

and weather forecasts in their region, as well as seasonal climate patterns, forecasting, drought alerts and use of rainfall records.

Experts describe the climatic risks involved in producing different crops and how better risk management practices can be employed. Time is then devoted to obtaining feedback from participants in order to improve weather and climate services to farmers.

Coping with drought in Europe

To assist countries to cope better with droughts and therefore improve food security, WMO is promoting the establishment of Drought Management Centres.

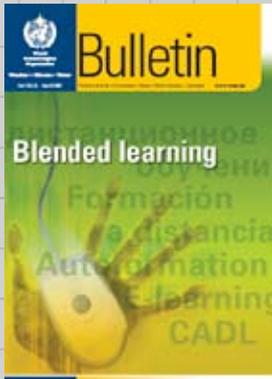
WMO and the Secretariat of the United Nations Convention

COMING EVENTS

- 22-27 July: Fourth International Conference on Fog, Fog Collection and Dew (co-sponsored by WMO) (La Serena, Chile)*
- 1-4 August 2007: Training Workshop on Nowcasting (co-sponsored by WMO) (Cairns, Australia)*
- 18-27 August: Typhoon Operational Forecasting Training (Tokyo, Japan)*
- 10-14 September: Public Weather Services Training Workshop for the Southern Hemisphere Small Island Developing States (Melbourne, Australia)*
- 10-22 September: Seventh South Hemisphere Training Course on Tropical Cyclones (Melbourne, Australia)*
- 2-6 October: First JCOMM Scientific and Technical Symposium on Storm Surge Modelling, Forecasting and Hindcasting (Seoul, Republic of Korea)*
- 22-25 October: Ninth WMO Scientific Conference on Weather Modification and Weather Modification Workshop (Istanbul, Turkey)*
- 12-16 November: IPCC-27th session (Valencia, Spain)*

Recently issued

WMO Bulletin April 2007
issue (Vol. 56(1)) – theme
“Blended learning (in
meteorology and hydrology)”
[E] - [F] [R & S in preparation]



Elements for Life
(Published by Tudor Rose)
[E]



Systematic observation
requirements for satellite-
based products for climate
(GCOS-107) (WMO/TD
No. 1338) [E]

WCRP Annual Report 2005-
2006: New futures: building
on great success (WCRP-127)
(WMO/TD No. 1349)
+ CD-ROM [E]

Papers presented at the
WMO Technical Conference
on Meteorological and
Environmental Instruments
and Methods of Observation
(TECO 2006) (WMO/TD1354)
[E]

to Combat Desertification (UNCCD) organized a series of workshops and meetings that led to the establishment of the Drought Management Centre for South-Eastern Europe (DMCSEE) within the context of the UNCCD.

Slovenia will host the DMCSEE, which will serve 10 other countries (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Former Yugoslav Republic of Macedonia, Greece, Hungary, the Republic of Moldova, Romania and Turkey).

Working closely with the National Meteorological and Hydrological Services of these countries, the DMCSEE will coordinate and facilitate the development, evaluation and application of drought risk management tools and policies with the goal of improving preparedness and reducing impacts.

WMO collaborates with a number of international organizations and agencies, as well as relevant national and regional institutions, in the areas of climate and food security.

Earth observations

Greater use of Earth observations significantly improves weather, climate and water services and helps increase protection of life and property around the world.

Increased access to, and application of, observations, facilitated by the observing and telecommunication networks coordinated by the Group on Earth Observations (GEO) and supported by WMO afford benefits for many and diverse areas of society—not only in direct relation to weather, climate and water but also in the energy, health and agriculture sectors. Significant observing capabilities are being integrated to improve forecasts and protect life and property.

The aim of the Global Earth Observation System of Systems (GEOSS) is the availability of Earth observations from land- and ocean-based instruments, as well as from aircraft and satellites, in an integrated fashion so that the

data may be transformed into vital information for society.

Elements which have been introduced recently are the Indian Ocean Tsunami Warning System, which has seen the deployment of the first Indian Ocean buoy station in the Deep-ocean Assessment and Reporting of Tsunamis project. Amongst these new elements are additional WMO Global Telecommunication System components, tide-gauge stations and radio and Internet community information centres capable of transmitting critical warning information to rural and remote areas.

The US National Oceanic and Atmospheric Administration (NOAA) recently shifted its GOES-10 satellite to a new position to provide continuous coverage for the benefit of countries in Central and South America. This coverage was interrupted in the past by hurricanes or other severe weather events in the USA. Applications include fire detection in the Amazon rainforest, as well as flood warnings and forecasts.

Components being integrated into GEOSS include:

- Unmanned aircraft system platforms;
- Autonomous underwater vehicles, which are used to map the seafloor, documenting in detail the physical environment and characteristics of ecosystems;
- Tags on sea turtles, which carry specialized sensors out into the ocean.

The GEONETCast programme is making available large volumes of valuable data from incompatible databases with near-global coverage.

Unmanned aircraft
system platforms
can remain aloft
for many hours and
operate in areas
that are dangerous
for manned flights.
(Photo: NOAA)



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In the health sector, experts have recognized a clear relationship between rainfall and malaria, where outbreaks of the disease peak towards the end of the rainy season. Earth observation products are being used to fight malaria and save lives from this potentially lethal health hazard.

WMO plays a key role in facilitating and coordinating all these efforts. The Organization's World Weather Watch is an essential component for GEOSS as it enables countries to exchange data for forecasts and warnings.

One of the many systems in GEOSS is WMO's Global Observing System, which comprises more than 10 000 surface and upper-air stations. It has been providing continuous and reliable global observations for use by WMO Members since 1963.