

Chapter XII

World Meteorological Organization (WMO)

In 2002, the World Meteorological Organization (WMO) continued to facilitate worldwide cooperation in the generation and exchange of meteorological and hydrological information and the application of meteorology to aviation, shipping, water problems, agriculture and other activities. It also promoted operational hydrology and encouraged research and training in meteorology.

The WMO Executive Council, at its fifty-fourth session (Geneva, 11-21 June), reviewed the organization's programmes and activities, including coordination in the UN system of geosciences and their applications; the exchange of international meteorological and hydrological data and products; climate matters; hydrology and water resources; and the role and operation of national meteorological and hydrological services.

WMO's membership remained at 179 States and six Territories at the end of 2002.

World Weather Watch Programme

The World Weather Watch Programme (WWW), WMO's scientific and technical programme, provided meteorological data and products to member States, offering up-to-the-minute worldwide weather information, analyses and forecasts through its Global Observing System (GOS), Global Telecommunications System, Global Data-processing System and data management and system support activities, collectively known as the basic systems. It also included the Tropical Cyclone Programme, the Instruments and Methods of Observation Programme and WMO satellite and environmental emergency response activities.

WMO's main objectives in implementing WWW continued to be the redesign of GOS and the strengthening of the system's infrastructure in developing countries, particularly in Africa. The Implementation/Coordination Team on the Integrated Observing Systems (Geneva, 14-18 October) reviewed GOS performance, improvement of satellite system utilization, redesign of GOS, climatological observations, updates of regulatory material, the future composite GOS and its impact on developing countries.

The WMO Technical Commission for Basic Systems (Cairns, Australia, 4-12 December) adopted five recommendations and one resolution, complemented by guidelines and directives for the de-

velopment of integrated observing systems and their surface- and space-based components. The WMO Commission for Instruments and Methods of Observation, at its thirteenth session (Bratislava, Slovakia, 25 September-3 October), concentrated on measures to demonstrate continuous improvement in the quality of observations; instrument intercomparisons; reviewing and updating the WMO Technical Regulations; and evaluating Regional Instrument Centres.

World Climate Programme

In 2002, the World Climate Application and Services Programme, including Climate Information and Prediction Services, focused on food and agriculture, water resources and health.

The World Climate Research Programme, undertaken jointly by WMO, the International Council of Scientific Unions and the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization, continued studies on the scientific basis for predictions of global and regional climate variations and made projections of the magnitude and rate of human-induced climate change. The Global Energy and Water Cycle Experiment contributed to advances in understanding cloud processes.

Atmospheric Research and Environment Programme

During 2002, the Atmospheric Research and Environment Programme (AREP) continued to promote research in atmospheric and related sciences. The Commission for Atmospheric Sciences (Oslo, Norway, 12-20 February) reviewed and endorsed AREP's activities and programmes. It re-established its Working Groups on Environmental Pollution and Atmospheric Chemistry, on the Physics and Chemistry of Clouds and Weather Modification Research, and on Tropical Meteorology Research. The First World Weather Research Programme International Conference on Quantitative Precipitation Forecasting (Reading, United Kingdom, 2-6 September) covered issues such as the measurement and forecasting of precipitation to the application and benefits of quantitative information on precipitation fields. The fifth WMO International Workshop on Trop-

ical Cyclones (Cairns, 3-12 December) reviewed observing systems, forecast methodologies and research directions in tropical cyclones.

Applications of meteorology

The Applications of Meteorology Programme continued to support member States in a wide range of socio-economic activities, including the protection of life and property and safeguarding the environment. The Commission for Agricultural Meteorology (Ljubljana, Slovenia, 10-18 October) decided to focus programme activities on agrometeorological services for agricultural production; support systems for agrometeorological services; and the impact of climate change/variability and natural disasters on agriculture. The International Workshop on Reducing the Vulnerability of Agriculture and Forestry to Climate Variability and Climate Change (Ljubljana, 7-9 October) identified ways to promote the use of climate forecasts and bulletins in agricultural planning and operations. WMO also co-sponsored the International Conference on Drought Mitigation and Prevention of Land Desertification (Bled, Slovenia, 11-15 April); organized an expert group meeting on Internet applications for agrometeorological products (Washington, D.C., 6-9 May); and co-sponsored an expert group meeting for Africa on the application of climate forecasts for agriculture (Banjul, Gambia, 9-13 December).

The twelfth session of the Commission for Aeronautical Meteorology (Montreal, Canada, 16-20 September) discussed the qualification and training of aeronautical meteorological personnel, alternative service delivery, the use of the Internet and the commercialization of aeronautical meteorological data and products.

The Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) commenced implementation of its work plan, established in 2001 [YUN 2001, p. 1425], focusing on the integration of operational in situ marine observing systems and data management, and created the JCOMM Ship Observations Team.

The Public Weather Services Programme strengthened the capabilities of WMO members to deliver high-quality weather forecasts, warnings and related information, and to improve the

public understanding of, and access to, those products and services.

Hydrology and water resources

The Hydrology and Water Resources Programme continued to assist national hydrological services, particularly in water resources assessment, through conferences, seminars, training courses and field projects. In 2002, greater emphasis was given to management issues. An international expert meeting (Centurion, South Africa, 20-24 August) discussed the preparation of management guidelines on national hydrological services.

WMO, jointly with the UN Economic Commission for Africa, organized the Regional Seminar on African Water Resources Assessment (Cairo, Egypt, 22 July), which developed proposals based on strategies agreed upon at the 1995 Conference on Water Resources: Policy and Assessment [YUN 1995, p. 1502].

Technical cooperation

In 2002, WMO technical assistance, valued at \$18.79 million, was financed by the WMO Voluntary Cooperation Programme (\$7.05 million), the United Nations Development Programme (\$3.2 million), trust funds (\$7.61 million) and the WMO regular budget (\$0.93 million).

Secretariat

As at 31 December 2002, WMO staff totalled 260, including 118 in the Professional and higher categories and 142 in the General Service category.

Budget

A regular budget of 126,150,000 Swiss francs (SwF) for the 2002-2003 biennium was approved by the WMO Executive Council in 2001. The Thirteenth World Meteorological Congress, in 1999, approved a maximum expenditure of 252,300,000 SwF for the thirteenth financial period (2000-2003).

NOTE: For further details regarding WMO activities, see *World Meteorological Organization Annual Report 2002*, published by WMO.

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