



International Meteorological Cooperation

Output Group 1.4 – International Meteorological Activities – comprises a single Major Output ‘International Meteorological Cooperation’.

This output focuses on Australia’s involvement in the programs and activities of the United Nations World Meteorological Organization (WMO), a central feature of which is the Bureau’s operation in Melbourne of one of three World Meteorological Centres of the WMO World Weather Watch (WWW) Programme. The WMO involvement is complemented by participation in the activities of the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and a range of other multilateral and bilateral activities with other countries, mainly in the southwest Pacific and South-East Asia.

A fundamental principle embodied in the Convention and traditions of the WMO is that of international cooperation and voluntary contribution to the international meteorological system and the free exchange of essential data and products between National Meteorological and Hydrological Services (NMHSs) of all countries. Australia benefits greatly under this system, particularly through free access to the meteorological satellite data of Japan, the United States of America, China and Europe.

This output is coordinated by the International Affairs Section of the Executive and International Affairs Branch in the Bureau’s Head Office. The section provides the focal point for the planning and coordination of these activities and provides support to the Director of Meteorology as Permanent Representative of Australia with WMO, the Australian members of WMO Technical Commissions, and Bureau participants in other international programs.

Output Performance Information 2008-09

Output performance is measured against a number of performance targets. The results achieved for 2008-09 are provided below along with a commentary on significant variations.

Description of Output	Participation in the scientific and technical programs and the Voluntary Cooperation Program of the World Meteorological Organization (WMO) and related international exchange and bilateral technical cooperation activities.
Contribution to Outcome	International cooperation and goodwill, including the benefits of global meteorological cooperation under the Convention of the World Meteorological Organization and related international meteorological treaties and agreements.
Key result	Continued coordination with and participation in the international meteorological community from which Australia benefits through access to global meteorological systems and data sharing which, in turn, assists with the development of weather services, particularly in our region.

Key Performance Indicator	Target	Actual
Australia meets agreed international requirements for data exchange.	100% of the formal data exchange obligations designated by the WMO for the Melbourne World Meteorological Centre (WMC) and the Melbourne and Darwin Regional Specialised Meteorological Centres (RSMCs) are fulfilled.	Achieved
	The high level of satisfaction with Australian technical cooperation of developing National Meteorological and Hydrological Services (NMHS) in the region is maintained.	Achieved
	WMC Melbourne, RSMCs Melbourne and Darwin and the Specialised Oceanographic Centre, Melbourne of the Joint WMO-Intergovernmental Oceanographic Commission (IOC) Technical Commission for Oceanography and Marine Meteorology (JCOMM) are maintained.	Achieved
Australia can use its standing in international meteorology to influence international developments to national advantage.	A high level of demand for Australian officers to participate in WMO activities is maintained.	Achieved
	Australian influence, through occupancy of important senior positions in the WMO, the IOC and related organisations, is exercised.	Achieved
	Australia is represented in all WMO constituent bodies (viz. Congress, Executive Council, Regional Association V, all technical commissions).	Achieved
	Three or more major international meteorological meetings are hosted in Australia per year.	Achieved
Participation in international activities can be shown to contribute to the effectiveness and efficiency of Bureau operations and services.	The value achieved from scientific exchange visits and international cooperative projects undertaken with other countries is maintained.	Achieved



	The flow of accurate observational data to Australia, through provision of technical assistance and meteorological training to the NMHSs of developing countries, is increased.	Achieved
	Active bilateral cooperative programmes are maintained with the thirteen countries with which a Memorandum of Understanding (MOU) or treaty has been signed, and with Japan, with which informal letters have been exchanged on cooperation in meteorology and oceanography.	Achieved
The Bureau contributes to improved international tsunami warning systems.	Australia is a member of the IOC Intergovernmental Coordination Group of the Indian Ocean Tsunami Warning and Mitigation System and the Pacific Ocean Tsunami Warning and Mitigation System.	Achieved
The contribution of Australian expertise and support improves the quality and performance of NMHSs in the South-West Pacific and South-East Asia.	All AusAID projects offering capacity building by the Bureau, especially its Training Centre in Melbourne, to help develop meteorology in developing countries are supported.	Achieved

Comments on Output Performance

The Memorandum of Understanding (MOU) with Peru expired on 20 January. An additional MOU was signed with Indonesia's Badan Pengkajian dan Penerapan Teknologi (BPPT) on cooperation in tsunami monitoring in July, and a further MOU was signed with the US Geological Survey on cooperation in water information issues in February.

The seven influential senior positions held in WMO, IOC and the Group on Earth Observations (GEO) are: (i) Member of WMO Executive Council; (ii) Vice-Chairperson of the IOC; (iii) Member of GEO Executive Committee; (iv) Vice-Chair of the Intergovernmental Panel on Climate Change (IPCC) Working Group II; (v) President of the WMO Commission for Hydrology; (vi) Co-president of JCOMM; and (vii) Vice-president of the WMO Commission for Basic Systems.

Achieving the Outcome

International Meteorological Cooperation outputs are delivered through either multilateral or bilateral channels. Multilateral channels include the WMO, IOC, the International Civil Aviation Organization (ICAO), and the GEO. Of specific note is the Bureau's participation in the WMO World Weather Watch (WWW), a globally coordinated system for the real-time collection, processing and distribution of meteorological information which provides the common infrastructure to support a wide range of WMO activities at the national and international levels. The facilities of the WWW are used by other international organisations, in particular the ICAO, the IOC and the International Atomic Energy Agency (IAEA), and provide the essential foundation for the development of the Global Climate Observing System (GCOS) and the Global Earth Observation System of Systems (GEOSS).





Prof. Dr Jana T. Anggadiredja, Badan Pengkajian dan Penerapan Teknologi (BPPT), with Dr Ray Canterford, Assistant Director (Weather Services), sign a Memorandum of Understanding for cooperation in tsunami monitoring.

The *Meteorology Act 1955* empowers the Bureau to cooperate on a bilateral basis with the NMHS of other countries. At the close of 2008-09, the Bureau had bilateral protocols with the following 12 countries: China, India, Indonesia, Iran, New Zealand, Qatar, Republic of Korea, Russian Federation, South Africa, the UK, the US and Vietnam.

Major Developments 2008-09

- Dr Geoff Love was replaced by Mr Gary Foley as Permanent Representative of Australia with WMO on 14 August. Following his appointment as Dr Love's successor as Director of Meteorology, Dr Greg Ayers replaced Mr Foley as the Permanent Representative of Australia with WMO on 3 June and was elected as a member of the WMO Executive Council.
- The Bureau continued to contribute significantly to the development of meteorology in the South-West Pacific by: participating at the thirteenth Pacific Regional Environment Programme (SPREP) Regional Meteorological Service Directors Meeting, Nadi in May; providing meteorologist training through its Graduate Diploma in Meteorology Course 2009 to four officers from Fiji and one from each of Vanuatu, Singapore and Hong Kong; seconding an officer to assist with tropical cyclone forecasting and warning at RSMC Nadi; engaging in preparations for a SPREP Review of Regional Meteorological Services; and implementing AusAID projects in the Pacific such as the Pacific Islands - Climate Prediction Project

and the South Pacific Sea Level and Climate Monitoring Project. The Bureau affords high priority to meteorological cooperation with the Pacific Island countries which, as Australia's regional neighbours, can in turn contribute observational data (spread over vast ocean areas) to support the Bureau's numerical weather and climate prediction activities.

- Starting in early 2009, the Bureau assisted AusAID and the Department of Climate Change (DCC) with a new Pacific Climate Change Science Program (PCCSP) to be implemented over two years. The scientific results of this project will help to improve understanding of regional climate change and support the development of climate change adaptation strategies for the Pacific including early warnings.
- The Bureau continued to assist with the AusAID-funded project National Capacity Assessment of SOPAC Member Countries: Tsunami Warning and Mitigation Systems, in collaboration with 14 member countries of the Pacific Islands Applied Geoscience Commission (SOPAC), aimed at assessing their capacity to receive, communicate and respond effectively to tsunami warnings. So far, tsunami capacity assessment workshops have been conducted in Tonga, the Solomon Islands, Fiji, Vanuatu, Samoa, the Cook Islands, Kiribati, Papua New Guinea, Nauru, Niue and the Marshall Islands. This project has helped to raise the awareness within the Pacific Island countries of tsunami and to secure their commitment to operate Bureau-owned sea-level gauges installed in their territories. These gauges form part of the network that assists in warning of Pacific tsunami which may affect Australia's east coast.
- International meteorological cooperation between the Bureau and MetService New Zealand was enhanced during 2008-09 through the joint operation of a RANET/HF(Radio and Internet for the Communication of Hydro-meteorological Information for Rural Development/High Frequency) Email Project for the Pacific and participation in a Pacific Islands Technical Support Project, operated/funded by New Zealand, the United States and Australia, to assist the



The thirteenth South Pacific Regional Environment Programme (SPREP) Meteorological Services Directors Meeting held in Nadi, Fiji from 4-9 May 2009. The meeting was attended by representatives from the Bureau, SPREP member countries and meteorological services organisations.



collection of meteorological observations in Papua New Guinea. The additional observations from the Pacific Island Countries collected through RANET/HF Email and from the Global Climate Observing System (GCOS) Upper-Air Network (GUAN) station at Port Moresby will be valuable for weather forecasting and warning in Australia. RANET is a collaborative effort of numerous NMHS, non-government organisations, and communities.

- Bilateral Joint Working Group meetings were held with Indonesia in July and with the Russian Federation in June. The Bureau also hosted delegations from the United Arab Emirates, Indonesia, Vietnam, China, Oman and Germany. A senior officer of the Korea Meteorological Administration began an 18-month attachment to the Bureau on 1 December.
- The Bureau continues to coordinate Australian efforts to further develop the Global Earth Observation System of Systems (GEOSS), which is an initiative of the Group on Earth Observations (GEO). The Bureau, along with other relevant Australian Government departments, contributed funds to the GEO Secretariat for the fourth year running, to assist with the continued activities of GEOSS. Through an interdepartmental committee convened and chaired by the Bureau and a national web page and general correspondence, the Bureau distributes relevant domestic material as well as information from the GEO Secretariat to other relevant agencies and facilitates group involvement in GEOSS tasks. In June, the Bureau formed the Australian delegation to the 15th GEO Executive Committee (ExCom15) session in Geneva, which oversees the operation and performance of the GEO Secretariat and the delivery of GEOSS. The GEO Secretariat also accepted Australia's offer to host four GEO working committee meetings, plus an overall coordination meeting, in late 2009. Australia commenced its three-year term as a representative of Asia-Oceania on the Executive Committee of GEO, following its election at GEO-IV in Cape Town (December 2007). Consistent with expectations of Executive Committee members, Australia has also taken on a position of Co-chair on the Science and Technology Standing Committee and is leading the Interim Finance Task Team. The Bureau-coordinated Australian support to GEOSS will help to shape its future in a way that will best serve the needs of the Australian community for meteorological and related data.
- Australia became a major sponsor of the WMO World Climate Conference-3 (WCC-3) and former Director of Meteorology, Dr John Zillman, was appointed Chair of the WCC-3 International Organizing Committee. The conference will be held in Geneva from 31 August to 4 September 2009, with a ministerial segment on 3-4 September. This event is expected to lead to the development of a new Global Framework on Climate Services with Australia as one of the participants.
- The Bureau's participation in WMO technical cooperation programs, including the Voluntary Cooperation Programme, increases the availability of more timely and accurate observational data, particularly from data-sparse areas in the South-West Pacific (see table below). These observations in turn help the Bureau to improve its weather prediction products covering Australia, the South-West Pacific Region and the globe.



The number of operational observational stations available in WMO Region V* (South-West Pacific)

Year	Surface observations	Upper-air observations
2004	273	55
2005	273	51
2006	281	55
2007	291	57
2008	282	58

* recorded during the WMO 15-day Annual Global Monitoring Period



Dr Sue Barrell, Australia's Principal Delegate to the Intergovernmental Group on Earth Observations (GEO), participated in the GEO Executive Committee meeting in Bucharest, Romania. Australia, together with China and Republic of Korea, represents the Asia-Ocean region on the Executive Committee.

