

Agency mission/charter

The Bureau of Meteorology is Australia's national weather service. The purpose of the Bureau is to contribute to Australia's social, economic, cultural and environmental goals through the performance of the functions of a National Meteorological Service in the public interest generally and for the purposes of the Defence Force, navigation and shipping, civil aviation, and supporting primary production, industry, trade and commerce. The Bureau's mission is to observe and understand Australian weather and climate and provide meteorological, hydrological and oceanographic services in support of Australia's national needs and international obligations. This involves four separate basic missions of monitoring weather, research, services and international activities.

Key objective/s with respect to space-related activity

Space related activities are part of Bureau objectives such as: operation of observations, communications and data processing systems to support weather services; research to improve understanding of Australia's weather and climate; meeting user needs for high quality weather and climate data, and forecast and warning services; meeting Australia's obligations in international meteorology; undertaking public education activities and meteorological education and training. The Bureau's Observations Program includes space-based observations with outputs encompassing satellite data required for the Bureau's Output Programs (e.g weather forecasting/warning), and for the Bureau's meteorological archive; policy development and advice, and national and international meteorological satellite activities.

Current space-related activities/responsibilities

- Operation of a national satellite ground station network;
- Operating satellite ground stations to help maintain Chinese geostationary satellites in their correct orbits, via a bilateral agreement;
- Acquisition of satellite data/products via internet or special bilateral agreements;
- Archives of satellite data and products;
- Use of satellites for data relay from remote automatic weather stations;
- Derivation of satellite-derived geophysical parameters over the Australian region from raw satellite data e.g. atmospheric temperatures and winds;
- Protection of Bureau observational systems (e.g. satellite reception, weather radars) from radio frequency interference;
- Implementation of international and national working arrangements for meteorological satellite activities including data use/acquisition, rapid dissemination and exchange;
- Research and development activities on utilisation of satellite data e.g. assimilation into computer models for improving forecasts or tropical cyclone movement prediction;
- Organisation of international training programs in satellite meteorology.

Recent major achievements

- MTSAT-1R (Japanese geostationary meteorological satellite) reception and processing facilities established in Melbourne and in several capital city Bureau Regional Offices;
- Upgrade of polar orbiting satellite ground station facilities in Darwin, Perth, Melbourne and Casey in Antarctica;
- Improvements to satellite applications such as sea surface temperatures, fog/low cloud, and solar radiation estimates;
- Improved satellite data assimilation systems for computer weather prediction models;
- Enhanced internet services delivery for satellite products;
- Hosting several international satellite meetings;
- Planning for involvement in advanced satellite systems;
- Development of new ultra-low-cost satellite reception and processing systems;
- Establishment of national standardised satellite data processing systems;
- Establishment of cooperative agreement with Japan covering satellite and related activities;
- Establishment of new system to exchange advanced satellite sounding data with other countries to better meet the needs of national meteorological services, especially computer weather production centres;
- Success in international fora in ensuring protection of some radiofrequency bands that are critically important to meteorological operations.

Agency expenditure in space-related activity

Year	Estimated funds committed to space-based observations program	Estimated satellite-related staff payments (excl overheads)	Satellite-related asset expenditure	Satellite-related running costs	Satellite-related asset value
1998-99	\$6.0M	\$2.0M	\$0.05M	\$0.3M	\$5M
1999-00	\$6.7M	\$2.0M	\$0.4M	\$0.3M	\$5M
2000-01	\$6.7M	\$2.0M	\$0.25M	\$0.3M	\$5M
2001-02	\$9.0M	\$2.0M	\$1.2M	\$0.3M	\$5M
2002-03	\$9.2M	\$2.1M	\$0.4M	\$0.3M	\$5.5M
2003-04	\$8.5M	\$2.2M	\$0	\$0.3M	\$6M
2004-05	\$8.8M	\$2.4M	\$0.3M	\$0.3M	\$6M
2005-06	\$10.3M	\$2.6M	\$1.4M	\$0.3M	\$6.5M

Note: Associated infrastructure costs not included.

Legislation administered by agency

- *Meteorology Act 1955*

International space-related agreements

- Exchange of Letters with Japan on satellite and related activities;
- A large number of bilateral agreements including a Memorandum of Agreement with USA's NOAA (National Oceanic and Atmospheric Administration);

- Partner in the TRMM (Tropical Rainfall Measuring Mission) satellite program;
- Participation in other international satellite program announcements of opportunity.

Agency involvement in other space-related agreements/arrangements

These include Bureau membership of national consortia that own and operate satellite receiving stations e.g. Western Australian Satellite Technology and Applications Consortium (WASTAC) and Tasmanian Earth Resources Satellite Station (TERSS); plus cooperative establishment of receiving stations with the Australian Antarctic Division and the Australian Centre for Remote Sensing (ACRES).

The Bureau is the lead agency coordinating the Asia-Pacific Regional ATOVS Retransmission System, which is part of a new global system for real time exchange of satellite data to better meet user requirements.

The Bureau also plays a major role in Asia-Pacific Satellite Data Exchange and Utilisation meetings, held annually.

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