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DIRECTOR OF METEOROLOGY

Review by the Director of Meteorology

Looking back over the past year at the Bureau's performance, I see a competent and highly regarded Australian institution that has continued to serve the Australian community while also dealing with significant challenges and change. The resilience of the Bureau was once again illustrated by the seamless continuation of all its many activities during the period following the resignation of Geoff Love, the former Director of Meteorology, in August and leading up to my appointment ten months later. Its performance is a credit to the very able, professional and dedicated staff at the Bureau.

It was an interesting and exciting year in many ways, and one with major achievements. The Bureau continued to work closely with water data-collecting agencies and end-users of water information to coordinate and implement a national water information system as part of the government's 'Water for the Future' strategy. A major milestone for the government's Australian Tsunami Warning System Project was the launch of the Joint Australian Tsunami Warning Centre, operated by the Bureau and Geoscience Australia. A successful trial of the Next Generation Forecast and Warning System demonstrated the scope for provision of more detailed and equitable forecasting services to cities and towns across Australia, while the coordinated acquisition of two interoperable supercomputers by the Bureau and the Australian National University, with support from CSIRO, will sustain operational weather forecasting and support climate modelling and research over coming years.

Prior to the breakdown of the 2008 La Niña event, conditions remained cooler than average in the Pacific and warmer than average in the Coral Sea and to Australia's north. As a result, above-normal rainfall fell across large parts of northern Australia, contributing to a partial filling of Lake Eyre. Severe storms battered southeast Queensland in both November and again in May, with the latter being the most significant since 1974. This event brought flooding to southeast Queensland and northeast New South Wales, with substantial coastal erosion. Despite these northern rains, large parts of southeast Australia entered the thirteenth consecutive year of drought. Melbourne experienced its driest January to June period since records began in 1855. Temperatures were warmer than average right across the continent, particularly over the north. An exceptional heatwave, which was associated with widespread severe bush-fires, impacted southeast Australia during late January and early February, with many records set for high day and night-time temperatures as well as for the duration of extreme heat. These temperature and rainfall extremes throughout the country highlight the complexity of forecasting for such a large continental mass. Nevertheless, the Bureau continues to maintain, and is increasing, the accuracy of its services and products.

Performance Overview

During 2008-09 the Bureau once again successfully met the challenges of providing meteorological and related services to the community. Some notable achievements included:

- completion of the second round of funding to State and Territory agencies under the $80 million Modernisation and Extension of Hydrologic Monitoring Systems Program;
- commencement of the receipt and collation of water data from agencies around Australia under the *Water Regulations 2008*;
- replacement or installation of weather radars at Broome, Darwin Airport, Adelaide Airport and Carnarvon, and installation of the Sydney Doppler radar at Terrey Hills, to improve the coverage of weather information available to the community;
- increased delivery of wind and temperature profiles from additional locations across Australia with the inclusion of QANTAS B737-838 aircraft in Australia's Aircraft Meteorological Data Relay (AMDAR) program;
- procurement and commencement of installation of a new, upgraded supercomputer that will enable the Australian Community Climate and Earth Simulator System (ACCESS) suite of numerical models to support more detailed, accurate forecasting and a higher level of research activities;
- completion of development and extensive testing of the shorter-term numerical weather prediction component of ACCESS which, when fully operational, will produce more detailed and accurate forecast guidance;
- reinstatement of an ionosonde station on Cocos Island to add greater reliability to the real-time data-based ionospheric services generated for the Western Australian region to manage the effects of space weather;
- implementation of the Fog Decision Support System at Melbourne Airport and the inclusion in the system of a component to give objective probabilistic guidance on the risk of fog;
- upgrades to the operational ocean prediction system, which is part of the BLUElink project and delivers ocean forecasts for the Australian region, including the development of a coupled limited-area model and improved physics incorporated in the global ocean model;
- expanded access to rainfall data on the Bureau's website, including daily rainfall for Bureau rainfall stations and monthly datasets of highest, lowest and mean maximum and minimum temperatures;
- prediction with high probability of an El Niño event developing by the 2009 winter and the issuing of associated advice, including briefings and a special media release, to inform decision-makers in the community;
- participation in ongoing high-level briefings to Ministers, Ministerial Councils and their supporting committees, and other State and Federal government departments on climate and climate change-related issues;
- fire weather services during the severe bushfires of 'Black Saturday' on 7 February, including provision of at least three days notice of extreme fire weather conditions to emergency management authorities and the community; and
- provision of flood warnings during January and February for significant flooding in Queensland and New South Wales, and in May when major flooding occurred in northern New South Wales, allowing significant advance preparations by emergency services.

The Bureau's performance exceeded many of the key performance indicators identified in the 2008-09 Portfolio Budget Statements. The specified indicators were reviewed as part of the 2008-09 Budget process to stretch performance and promote continuous improvement.

Significant Issues

Many challenges continued to face the Bureau of Meteorology in 2008-09, including:

- preparations for the issue of new reporting requirements as part of the Bureau's role as water information provider under the government's 'Water for the Future' strategy;
- planning for the upgrade of the Bureau's supercomputer, power upgrades to the Central Computing Facility and the relocation of the Bureau's Disaster Recovery Site;
- continuing work on the weather radar network under the initiative funded through the 2003-04 budget;
- finalisation of the Australian Tsunami Warning System Project; and
- recasting of the Bureau's activities and financial operations in line with the new government framework based on outcomes, programs and functions.

Financial Results

The Bureau achieved an operating surplus of $7.8 million for the year ending 30 June, with an overall growth in revenues of $18.8 million relative to the previous year. The growth in revenues was driven by increased appropriation funding ($12.6 million), resulting primarily from the full-year impact of the transfer of the Ionospheric Prediction Service to the Bureau, and increased funds relating to the Bureau's water functions. The Bureau also achieved growth of $6.2 million in sales of goods and services compared with 2007-08.

Total operating expenditure increased by $11.2 million compared with the previous year, reflecting increased activity levels from both appropriation-funded activities and sale of goods and services. Employee expenditure rose by $5.5 million on the previous year, driven by increased activity levels. Similarly, supplier expenses experienced a growth of $8.8 million. The growth in these expenses was offset by a reduction in depreciation expense.

The increase in employee expenses was lower than expected due to the delay in finalising negotiations for a new Collective Agreement which was expected to have been completed prior to June.

Outlook for 2009-10

The year ahead is shaping up to being very exciting with several new initiatives, as well as the continuation of existing programs, that will further enhance the Bureau's ability to meet future, and increasing, community needs for weather, water and climate services and information. These include:

- national implementation of the Next Generation Forecast and Warning System which will build on the successful demonstration pilot conducted in Victoria from October. This system will be progressively rolled out across Australia over a five-year period and will provide a comprehensive state-of-the-art weather forecast service for both city and rural communities, with more detailed forecasts available for many more locations across Australia than currently is the case, resulting in a more equitable nationwide service;
- the Strategic Radar Enhancement Project, which will result in new radars installed progressively at Croker Island/Maningrida in the Northern Territory, Hobart in Tasmania,

Mount Isa in Queensland and Wollongong in New South Wales, addressing significant gaps in weather radar coverage;

- the government's 'Water for the Future' initiative with the continuing development and implementation of water reporting and information systems to contribute toward water security for the Australian community; and
- the ongoing development of world-class coupled climate and earth system models to understand and project future climate change and its impacts.

External Recognition

Aspects of the Bureau's work were recognised during the year through several awards from external organisations.

The Bureau was well represented in the 2008 Australian Safer Communities Awards, sponsored by Emergency Management Australia (EMA), a division of the Attorney-General's Department, in conjunction with States and Territories. The awards recognise best practice and innovation by organisations and individuals that have developed and successfully implemented an initiative which helps to build safer communities across Australia. Awards that involved the Bureau were as follows:

- The Tasmanian Flood Warning Consultative Committee, which is chaired by the Bureau, won the Tasmanian award and the National award in the 'Education, Training and Research Bodies' category for the 'Floods and You' teaching resource.
- The Mitigation of the Adverse Impact of Cyclones Steering Group Queensland (of which the Bureau is a senior member) was Highly Commended in the National awards in the 'Projects of national significance or cross-jurisdictional' category for the development of guidelines on 'Mitigating the Adverse Impacts of Cyclones - Evacuation and Shelter'.

The Bureau was also both a winner and highly commended in the Australian Government's Comcover Awards for Excellence which recognise exceptional and inspiring examples of risk management and demonstrate the importance of risk management to the success of Australian Government agencies. In these awards:

- the Bureau's Disaster Mitigation Program won the top award for its nomination 'Reducing Community Risk Through Disaster Mitigation'; and
- the Bureau and co-nominees Geoscience Australia and Emergency Management Australia were Highly Commended for the Australian Tsunami Warning System (ATWS) project.

As in several previous years, the Bureau also featured in the Hitwise Top 10 Awards. Hitwise is an online competitive intelligence service, providing about 1,500 clients around the world with information on how their customers interact with competitive websites, and how their competitors use different tactics to attract online customers. Twice a year, Hitwise present awards to the ten most accessed websites across each of its 160-odd categories. In these awards the Bureau received three awards for having the largest market share in three categories of web usage: Education – Reference; Government – National; and News and Media – Weather.