

ECOLOGICALLY SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL PERFORMANCE

1. How the activities of, and the administration (if any) of legislation by, the agency, during the period accorded with the principles of ecologically sustainable development (Section 516A(6)(a) of the Environment Protection and Biodiversity Conservation Act 1999).

Activities which generally recognise and promote Ecologically Sustainable Development (ESD):

- The Bureau of Meteorology works closely with the Australian Greenhouse Office and other groups in the Departments of the Environment and Water Resources and Foreign Affairs and Trade to reach positions for Australia within international multilateral forums and organisations such as the Intergovernmental Panel on Climate Change.
- The Bureau is also involved in assisting the collection of, and access to, information and knowledge in support of ecologically sustainable development, as well as coordinating neighbouring developing country research on the topic. This is achieved through involvement in the Asia Pacific Climate Network project; the Asia Pacific Network for Global Change; production and distribution of monthly South Pacific Seasonal Outlook Reference Material; and the continuation of the AusAID funded Pacific Island - Climate Prediction Project, in which the Bureau's seasonal outlook service will be implemented within several countries.
- The Bureau has continued to improve the information available on long-term climate variability and change through the internet in collaboration with the Australian Greenhouse Office, and in support of the Australian Government's Climate Change Science Program and Climate Change Adaptation Programme.

Activities which integrate environmental, social, economic and equitable consideration:

- At the national level, the Bureau works closely with the Departments of the Environment and Water Resources, Agriculture, Fisheries and Forestry, and Transport and Regional Services, as well as relevant State water and agricultural agencies, to provide meteorological and related information and knowledge in support of ecologically sustainable management policy decisions.
- Several climate briefings were provided to Ministerial Councils and their subsidiary bodies on current seasonal conditions and outlooks and particularly on the severe rainfall deficiencies associated with the end of the 2006 El Niño event and the transition into more normal rainfall patterns in 2007.
- The Bureau participated in national processes for the protection and management of Australia's marine environment.
- The Bureau has continued to contribute to the Bureau of Rural Sciences/Bureau of Meteorology/CSIRO Australian Water Availability Project. This activity has led to a new system being developed to analyse Australian rainfall, vapour pressure, temperature and solar radiation. Analysis products from this system will contribute to the National Agricultural Monitoring System (NAMS) for streamlining the Exceptional Circumstance process for drought relief.

- The Bureau's National Climate Centre has continued to contribute to the work of the Bureau of Rural Sciences and other state agencies including trials of the NAMS by providing core data sets on rainfall distribution and rainfall evaporation temperatures. The NAMS provides a consistent and continuous flow of information on climate conditions and agricultural production statistics for assessing applications and renewals for support under the Exceptional Circumstances process and was made operational from 30 June 2006.
- Workshops and/or consultative meetings were conducted in most States and Territories to strengthen links between the Bureau and State Government Departments of Agriculture/Primary Industries.
- The Bureau has continued to improve client access to information and advice related to water resources and hydrometeorological design through the development of CD-based and web applications for delivering the information. This includes continuing progress with the Australian Water Data Infrastructure Project (AWDIP). The broad objectives of AWDIP are to improve the quality of and access to water resources information and data. The Bureau is actively participating in the project through the contribution of relevant climate data and cooperation in the development of data transfer and access technologies and protocols.
- The Bureau has maintained close relationships with the National Water Commission and assisted it through the provision of timely and relevant climate information in support of sustainable water resources management.

Activities which aim to promote conservation of the environment for the benefit of future generations:

- The Bureau continues to collaborate with other departments and organisations to ensure resources such as marine, fresh water and land resources are sustained for the benefit of future generations.
- The expansion in the number of fields being archived within the national climate database provides the capacity for both the public and specialised users to access a greater variety of meteorological data. For some data types, information at higher temporal resolutions has increased the utility of data for users.
- With the assistance of the Australian Greenhouse Office, the Bureau has continued its collaborative work with several Pacific Island countries to rescue and secure paper-based climate records that are at risk of being lost through degradation. As a start, catalogues of data available for digitisation are being established for the Pacific Island countries of Fiji, Kiribati, Papua New Guinea, the Solomon Islands, Vanuatu, and Samoa.
- With support from the Department of the Environment and Water Resources and the assistance of the State and Territory environmental agencies, the Bureau has begun developing a National Air Quality Database that will facilitate integrated assessments of Australia's air quality across all jurisdictions.

Activities which ensure that biodiversity and ecological integrity are fundamental to decision making:

- The Bureau continues to provide quality information which enables informed considera-

tion of biodiversity conservation in decision making.

- The Bureau continues to contribute climate related information to initiatives such as the National Biodiversity and Climate Change Action Plan and the National Approach to Biodiversity Decline coordinated by the Department of the Environment and Water Resources.

Activities which aim to improve valuation, pricing and incentive mechanisms:

- The Bureau continues to promote the benefits of improved information and knowledge regarding the variability and extremes of Australia's climate in relation to sound economic, social and environmental management.
- The Bureau has assisted the National Water Commission by reviewing proposals for funding as required.
- The incorporation of more information about natural disasters into the national climate database will enhance knowledge and understanding of extreme events and disasters, which are essential for planning effective mitigation strategies.
- The Bureau has contributed, as appropriate, to the activities of the Environment Protection and Heritage Council and Standing Committee.

2. How the outcomes (if any) specified for the agency in an Appropriations Act relating to the period contribute to Ecologically Sustainable Development (ESD).

The role of the Australian Bureau of Meteorology is to achieve the major outcome of Australia benefiting from meteorological and related science and services. While not explicitly contributing to ecologically sustainable development, the quality information and knowledge provided in the Bureau's outputs contribute to ecologically sustainable development decision making processes across the Australian community, covering diverse areas such as marine, agriculture, water, climate and aviation.

3. The effect of the agency's activities on the environment.

The Australian Bureau of Meteorology contributes positively to the protection and conservation of the environment through provision of quality information to numerous decision makers needing to take account of environmental factors. Bureau activities in climate, marine, severe weather, water, agriculture and aviation contribute positively to the actions of other organisations.

In the course of its normal operations the Bureau contributes to a number of negative impacts on the environment through its use of non-sustainable resources such as fuel, electricity, water, paper and other materials consumed and its generation of waste products. Of particular note is the high level of electricity usage of some of the Bureau's essential infrastructure and equipment used for critical operations, communications and computing, such as the Central Computing Facility and Doppler radars.

4. Any measures the agency is taking to minimise the impact of activities by the agency on the environment.

The Australian Bureau of Meteorology monitors a range of its operational activities including energy management, transport (fleet management), and waste management and purchasing. The Bureau is moving to minimise the impact of its operations on the environ-

ment by a process of continual improvement within these areas.

Achievements include:

- Incorporation of energy saving features within its offices at 700 Collins Street, Docklands which will provide long term savings in tenant light and power consumption;
- Implementation of incremental improvements to premises to assist in achieving Commonwealth energy targets;
- Implementation of a waste recycling programme at the Bureau offices at 700 Collins Street, Docklands;
- Introduction of environmentally friendly processes within the operational network, for example, improvements in hydrogen generation;
- Diverse use of sustainable resources such as the use of geothermal technology for the provision of mechanical services, wind generation and solar power at operational sites e.g. Willis Island;
- Innovative designs pursued to the extent possible to achieve greater energy efficiency within operational and accommodation facilities; and
- Water-saving initiatives such as:
 - provision of water tanks at new radar and meteorological field station facilities and housing;
 - specifications for gardens and surrounds at new facilities that do not allow for reticulation, mandate the use of native plants and grasses, and include the provision of mulch garden beds;
 - giving emphasis to features which assist energy and water efficiency in procuring new leased accommodation for staff and equipment, e.g. additional office space recently leased in the Melbourne CBD is in a building where greywater is used for non-potable purposes; and
 - the introduction of waterless urinals in the Bureau's building at 700 Collins Street, Docklands.

5. The mechanisms, if any, for reviewing and increasing the effectiveness of those measures.

The Bureau's energy usage database provides a framework for measuring the effectiveness of actions taken to date to minimise negative environmental impacts and for considering and addressing environmental impacts within the context of continuous improvement.

Furthermore, the Bureau of Meteorology has an Agency-wide energy management plan that addresses the fundamentals of energy conservation as was required under past guidelines. However, during 2007-08 and consistent with the Energy Efficiency in Government Operations Policy of September 2006, the Bureau plans to review environmental and energy management in all Bureau-occupied buildings, with a view to improving monitoring, reporting and utilisation of both energy and water. Detailed information on water usage has been requested for the Bureau's primary water-consuming premises, to support improved water management.