

**AN INTEGRATED GLOBAL EARTH OBSERVATION SYSTEM
FOR THE TWENTY FIRST CENTURY**

**(Australian Statement for Earth Observation Summit,
Washington DC, 31 July 2003)**

Australia welcomes the opportunity to participate in this historic step towards an international integrated Earth observation system. Earth observation is fundamental to the sustainable management of the Australian environment and for a wide range of other applications in support of our national goals.

Forty years ago, on the initiative of the United States, the United Nations called for the development of a system for global cooperation in observing, understanding and predicting global weather and climate. The response of the World Meteorological Organization (WMO), in consultation with other specialised agencies and the international non-governmental scientific community, led to the establishment of the World Weather Watch with World Meteorological Centres in Washington, Moscow and Melbourne. That system represents a remarkable model of international cooperation in which every country in the world contributes, and has led to the free and unrestricted exchange of data and processed products which support the round-the-clock provision of essential forecasting and warning services. It has contributed to the mitigation of natural disasters and to the safety and welfare of the global community, and it has provided the principal basis for detecting and monitoring the changing patterns of global climate.

Four decades after the establishment of the World Weather Watch and a decade after the Rio Earth Summit underscored the need for a much more broadly based global environmental monitoring and service system, we have now been provided with an historic opportunity resulting from the convergence of four remarkable scientific, technological and socio-economic developments:

- International environmental and global change research programs are providing a far more integrated understanding of the working of the total earth system;
- *In situ* and remote sensing observation technologies and information processing technologies now enable us to monitor and model the structure and behaviour of the various components of the earth system in unprecedented detail;
- We have a number of highly successful models of international cooperation for observation of particular components of the earth system; and
- The world now faces an unprecedented need for the products and services of a truly integrated earth observation system in support of the full range of social, economic, environmental and security goals of communities and nations.

As a country which has played a leading role in the establishment, implementation and operation of the World Weather Watch, the Global Ocean Observing System (GOOS) and of the various special-purpose atmospheric, oceanographic, hydrological and ecological observing systems that have been gradually put in place to complement them, and especially in the development of the cross-cutting Global

Climate Observing System (GCOS), Australia warmly welcomes the platform which this Summit provides to reaffirm our readiness to join with the international community in grasping this historic opportunity.

As a developed country in the southern hemisphere, Australia can offer a unique perspective on the benefits of integrated earth observation systems. We rely on innovative and cost-effective information technologies which can be applied from continental to regional to local scale, and have developed leading approaches to informed decision-making and adaptive management. We have a strong interest in the role of observing systems in our region, including Antarctica and the Southern Ocean, and the Indian and the South Pacific Oceans.

The way ahead on earth observation will require leadership at all levels. We share the vision for an integrated system that combines measurement and monitoring across the major domains of ocean, atmosphere and land, and provides decision makers and the broader user community with the information they need.

Mapping of the oceans and the ocean floor through remote technologies has been crucial to progressing regional marine planning, establishment of marine protected areas and the management of the Australian marine jurisdiction. Integrated remote sensing of ocean systems provides valuable input to the sustainable management of fisheries and many other marine planning applications.

Carbon accounting is particularly important for Australia, as our land systems contribute a large part of our national greenhouse gas emissions profile. Our resource assessment and carbon accounting models are considered world-class, linking the latest science to responsive decision making processes. The Australian continental land cover satellite monitoring program is counted as one of the largest such programs in the world, and we rely on new remote sensing technologies and analytical techniques to further our goals.

Australia fully recognises the scientific, technological and organisational challenges involved in implementation of a fully integrated earth observation system. In our view, an integrated system should capture the combined benefits of:

- *in situ* and space based observing technologies;
- observing systems for the various environmental domains, including especially the ocean, atmosphere and land surface;
- research and operational observing systems and programs;
- the requirements of all the many and diverse applications sectors, from safety of life to agriculture, forestry, fisheries, mining, water resource management, environment protection and natural disaster reduction;
- the contributions of all the contributing countries and agencies; and
- the efforts of all the sponsoring international agencies and programs.

We also recognise that the successful implementation of a truly integrated global earth observation system will require the sustained commitment of governments over many decades and a high level of cooperation amongst international agencies, countries, disciplines and user communities. It will be essential that we develop robust protocols and strategies for transitioning from research to long-term

operational funding, for maintaining data quality, and for ensuring the long term continuity of essential observational systems and data services.

It will, of course, take time to formulate the detailed architecture of the eventual integrated earth observation system. We consider it essential, however, that, at the earliest possible opportunity, the major international agencies and programs be invited to contribute to this overall process and to identify their potential contribution to its implementation. In particular, we need to build on the experience of the enormously successful World Weather Watch concept, and the other observing systems that have already been put in place to supplement and complement it, by inviting the WMO and its partner organisations, especially the IOC, UNESCO, FAO, WHO, UNEP and ICSU to assume ownership of the international earth observation enterprise.

The involvement of the intergovernmental agencies and programs will provide the vitally important mechanism for fully involving all the developing and developed country Member States of these organisations, which of course go far beyond those attending this summit, and whose commitment to the implementation of an integrated earth observing system will be essential for its ultimate success. Australia will be pleased to work with the US and other Summit participants in design of the follow-up strategy, and in particular in the identification of bilateral and multilateral consortium initiatives that could contribute to the eventual integrated system.

Australia would like to reiterate its enthusiastic support for the concept of an integrated earth observation system and its great appreciation to the US initiators and sponsors of this Summit for providing us with the opportunity to contribute to the planning for its realisation. The Australian Government, through the various Australian agencies who will be cooperating in the further development of our national contribution to this important initiative, would like to place on record our appreciation to the US Government, and especially to the Secretaries of State, Commerce and Energy, for their invitation to participate in this Summit.