

AMOS information statement on possible changes to atmospheric and oceanographic research

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Australia needs a stable ongoing infrastructure for atmospheric and oceanographic monitoring, modelling, data management, research, and prediction, if we are to continue to build a resilient economy and meet the challenges of severe weather, our highly variable climate, and the impacts of climate change.

Nationally and internationally important activities and programs in the meteorological and oceanographic (Earth systems) sector include:

1. Australia has weather, climate and oceanographic observing and modelling programs that have been integrated and co-ordinated between agencies for many decades. This coordination has been beneficial both to research and services to the community. Any new arrangements for these research and services should be carefully arranged so as not to undermine this coordination.
2. The monitoring and prediction efforts by CSIRO underpin many related programs and services in academia and other agencies, such as climate modelling for ozone hole detection and research¹, seasonal to inter-annual prediction, etc. It is in the national interest to ensure that monitoring, data custodianship, modelling and prediction systems are maintained and that they are well integrated with related national research and services.
3. The investment made in scientific expertise (particularly for climate and the oceans) should be continued, preserved and utilised effectively to meet national needs.
4. Australia is recognised for its global good citizenship in its international commitments and linkages – for example, in fulfilling its commitments under the Montreal Protocol on substances that deplete the ozone layer, its operation of the Cape Grim Baseline Air Pollution Station, its commitment to international cooperation in observing programs for weather forecasting, etc. This has also brought strong benefits to Australia and its neighbours in the southwest Pacific. Australia has made commitments under the Paris accord, and to meet those commitments will need to maintain climate monitoring, modelling, applications, adaptation and community services programs.

Australia derives considerable benefit from the role it plays in Southern Hemisphere meteorology and oceanography (for example partnerships on access to high quality satellite and other remote sensing data provided by Northern Hemisphere nations). These reciprocal relationships are part of the infrastructure that enables 24-hour-365-day coverage of severe weather monitoring and hazard risk assessments, among other science-derived services. Any changes to Australian research and operations should be done in such a way that does not undermine these benefits.

¹ It is important to remember that climate models are used for a range of purposes. One example of the use of climate models beyond their well-known use for understanding the impacts of carbon dioxide, is their use in understanding the past and future evolution of the ozone hole over Antarctica. An animation derived from a climate model combined with observed ozone concentrations: “**Southern Hemisphere total column ozone 1960-2005**” can be found at: <https://www.youtube.com/watch?v=S7581KijUqI>