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Dr Wendy Craik AM
Commissioner
Productivity Commission
LB2 Collins Street East
MELBOURNE VIC 8003

Dear Dr Craik

Thank you for providing us with an opportunity to provide input to the Productivity Commission's draft report on '*Barriers to effective adaptation to climate change*'. We are very pleased to see that the report includes inputs we provided during our interview with the Productivity Commission on 30 March.

I would also like to draw your attention to the contribution Geoscience Australia makes to the availability of information underpinning many aspects of climate change adaptation in Australia. In particular, I would like to highlight the role of Geoscience Australia as a provider of nationally consistent information on natural hazard, vulnerability, exposure and risk. These data, models and tools developed by Geoscience Australia are open-source and freely available. They represent an important component of the Commonwealth's endeavour to provide ubiquitous access to quality and transparent tools and information so that all stakeholders can contribute to what is a critical national discussion.

Please find attached for your information a brief overview of the Geoscience Australia capability related to climate change adaptation. My team will also submit specific written comments on the report directly to your officers.

Yours sincerely

Chris Pigram
Chief Executive Officer

3 September 2012

OVERVIEW OF CLIMATE CHANGE ADAPTATION RELATED ACTIVITIES IN GEOSCIENCE AUSTRALIA

Geoscience Australia (GA) works with other Australian Government and international agencies to support domestic and international climate change policy and programs. GA provides scientific advice, data and information, and undertakes commissioned work for Commonwealth and State Government agencies on the risks posed by climate change to natural resources and the built environment. GA's outputs directly support the development of risk assessments which directly inform the development of adaptation strategies at national and local scales.

GA is engaged in a range of projects modelling ***the impact and risk of extreme events in a future climate***, which directly support developing adaptation strategies. For example:

- GA has conducted national and regional studies modelling coastal erosion, storm surge, flooding, bushfire and severe wind hazard in a future climate. Particular studies include a national review of the potential impacts of sea level rise on human settlements, published as part of the DCCEE National Coastal Risk Assessment Report (2009 and 2011), and national and regional wind risk assessments for 2100 climate scenarios. These studies support changes in regional building codes and local planning, and implement a methodology for quantifying the cost-benefit ratio of different adaptation options.
- GA has developed a suite of flooding inundation and storm surge damage models for Australian buildings. These models, developed with co-funding from DCCEE, enable assessment of the damage related costs of flooding and storm surge in a future climate.
- GA provides input to building regulations for climate driven hazards. The agency has participants on the committees for the wind loading standard and the standard under development for construction in flood prone areas.

GA works on the ***impacts of climate change on groundwater***. For example:

- GA has undertaken a national-scale vulnerability assessment of sea water intrusion into coastal aquifers. The assessment identified coastal groundwater resources currently affected by sea water intrusion and those potentially at risk of over-extraction, sea-level rise and/or recharge-discharge variations associated with climate change.

GA develops, manages and distributes a range of ***national fundamental data products to underpin adaptation studies*** in various areas. For example:

- National Exposure Information System (NEXIS), which contains information on the exposure of buildings, infrastructure and populations. This information is essential for any type of hazard impact study in either current or future climate.
- National geodetic datasets that support sea level rise measurements and the production of elevation models.
- National, regional and high resolution local digital elevation datasets accessible via the National Elevation Data Framework Portal (http://nedf.ga.gov.au).
- The National Coastal Geomorphological Database, which underpins the assessment of coastline response to future sea levels.