



# ACS

Australian Coastal Society Ltd

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Jo Mummery  
Assistant Secretary  
Adaptation Strategies Branch  
Australian Government Department of Climate Change  
GPO Box 854  
CANBERRA ACT 2600

Dear Jo

**Re: *Climate Change Risks to Australia's Coast – A First Pass National Assessment***

The Australian Coastal Society Ltd (ACS) recently wrote a letter to Minister Penny Wong, congratulating her and the Department of Climate Change (DCC) on the production and release of the report *Climate Change Risks to Australia's Coast – A First Pass National Assessment*, in November, 2009. The purpose of this letter is to raise some more detailed comments relating to the report.

*Imperative for Action*

The recent scientific and political debate over climate-change science and mitigation have the potential to cause a public distraction regarding the need for adaptation in the coastal zone. The ACS endorses the introductory statements in Chapter 6 of the DCC report that regardless of mitigation, sea-level rise for decades ahead is inevitable.

*Coastal variability and climate change risks*

The DCC report is particularly good in raising public awareness of the variability of the Australian coastline and in providing explanation of the different coastal processes involved in the evolution and ongoing natural coastal changes. The report also clearly outlines the different types of coast and the variable rates of change.

*Sea-level projections and planning guidelines*

The report is a welcome first stage in assessing the coastal risks from a projected sea-level rise of 1.1 m to the year 2100 and provides the first truly national coastal risk assessment. The release of the report was timely given the November, 2009 release of the NSW guidelines on coastal planning and development in relation to potential sea-level rise. The ACS notes that the DCC report is a scientific risk assessment, which is quite different to the various coastal planning guidelines adopted by different states. However, it does provide an important focal point for State-based discussion in determining appropriate sea-level rise levels in the formulation and revision of planning guidelines. Whereas a few States use a figure of 0.8 m as the upper limit of sea-level rise to the year 2100, the NSW Government last November created some controversy when it proposed a higher figure of 0.9 m.

The ACS recognises that there are political sensitivities in setting these levels but would like to point out that notwithstanding recent debate over various sea-level rise estimates, the SA Government has been using an upper limit of 1.0 m of sea-level rise in its coastal planning for the last 18 years, based on early IPCC projections.

#### *Risk assessment methodologies*

The DCC report acknowledges some methodological shortcomings such as the use of the 'bath tub' method to show elevated sea levels. The impact of this approach is useful in raising public awareness but the ACS encourages the use of more detailed analyses for specific coastal areas to demonstrate how the soft or hard rock coasts will respond over time.

Similarly, the use of the 'Smartline' GIS-based methodology contained within the DCC report is useful in providing a national coverage for mapping hard and soft coasts and has the advantage of providing a nationally consistent 'snapshot' of geomorphic coastal vulnerability. However, there is a danger that it could be misinterpreted by non-experts and open to criticism, for failing to incorporate factors such as artificial rock protection on soft coasts. The technique has potential for more detailed development such as the inclusion of modelled wave effects on different types of coast in the next stage of the 'Smartline'.

The risk assessment report appears to have used storm-surge modelling for some states but not others creating different levels of assessment. It would be particularly useful to refine these estimates using existing data available from states such as Queensland where tropical cyclonic storm surge modelling and inundation impacts which has already been completed by CSIRO for vulnerable low-lying cities such as Cairns, and South Australia which has a data base available for the 1:100 year storm event.

The report provides an understanding of the different types of coasts and variable risks. In particular, the report notes that it is not just the elevated water levels that will cause damage but the increased frequency of major storms, coastal erosion and flooding events. This is particularly important for the public to realise that today's 1:100 year storm event will become a more regular occurrence as will the flooding of low lying lands, referred to as the 'Venice Effect'.

Overall, this risk assessment provides an important contribution to the debate on adaptation and coastal planning. The report has avoided using alarmist figures of addresses at risk based on arbitrary elevations or distances from the coast. Instead it has adopted a realistic estimate of projected sea-level rise together with an understanding of the different types of coast and the resulting pattern of risk.

Yours sincerely



Professor Nick Harvey\* and Associate Professor Geoff Wescott\*\*  
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