

## A REVIEW OF SOUTH AUSTRALIAN PLANNING PROCESSES IN RESPONSE TO PREDICTIONS OF SEA-LEVEL RISE: A KINGSTON SE CASE STUDY

### INTRODUCTION:

South Australia is vulnerable to sea-level rise and extreme events as over 90% of the population lives near the coast and nearly half of the South Australian coast is composed of sandy beaches (Department of Climate Change, 2009). Socio-economic impacts of sea-level rise are likely to include a loss of economic, ecological and cultural values associated with the loss of land, infrastructure and coastal habitats, along with an increased risk of flooding to people, land and infrastructure (Feenstra *et al.*, 1998, Bedsworth and Hanak, 2010). Continued development in coastal settlements will increase the risks faced by governments resulting from loss of life and/or property, increased pressure to provide costly protection measures, the relocation or replacement of infrastructure, and litigation.

### PROJECT SIGNIFICANCE TO ADAPTING AND PROTECTING AUSTRALIA'S SETTLEMENTS AND INFRASTRUCTURE:

Land-use planning is widely accepted as a climate change adaptation strategy. The Council of Australian Governments' National Climate Change Adaptation Framework has called on States to assess the effectiveness of their planning systems to reduce vulnerability to climate change. This research responds by analysing whether South Australian planning processes adequately plan for and respond to projected sea-level rise in coastal settlements associated with climate change.

The research involved a review of the latest climate change science, global and regional sea-level rise projections, and the use of land-use planning as a climate change adaptation strategy for coastal areas in Australia. Current State Government land-use planning and coastal legislation, policy and governance arrangements were then analysed to determine their efficacy in reducing the vulnerability of coastal settlements to sea-level rise. A case study focusing on the small regional settlement of Kingston SE was used to test the findings and provided a practical application of the research. The Kingston District Council was identified in the First Pass National Assessment as having 40–70% of residential buildings at risk of a 1.1m sea-level rise (Department of Climate Change, 2009), and is representative of other local government authorities in regional South Australia that are significantly under resourced and have limited adaptive capacity to plan for climate change impacts.

### MAJOR FINDINGS AND OUTCOMES:

South Australia has remained firmly committed to the sea-level rise benchmarks and policies it introduced twenty years ago. Adaptation to sea-level rise is incorporated as a land-use planning policy within all coastal volumes of the State's Planning Strategy, and state-wide policy in the general section of coastal planning schemes. The research found that while the South Australian planning system provides a sound framework for the consideration of sea-level rise, its efficacy is limited by:

- Planning decisions that are inconsistent with coastal hazard advice provided by the Coast Protection Board

- A focus on protection and accommodation as the predominant forms of adaptation to sea-level rise, with little consideration of planned retreat as an alternative adaptation option



3. The Kingston District Council Development Plan should be amended to implement minimum floor levels across all zones that include land that is vulnerable to sea-level rise consistent with Coast Protection Board policy.
4. The Coast Protection Board and the Kingston District Council should consider whether the minimum floor