

Coastal Hazards and Climate Change

Integrated Solutions for Extreme Storm Events & Coastal Climate Change



Extreme storm events can create hazards that impact upon the social well-being, infrastructure and economy of coastal communities and waterfront industries.



The extent and severity of these hazards are expected to be exacerbated by projected climate change.

Coastal hazards include coastal erosion, inundation and sea level rise. Coastal communities or infrastructure may be considered “at risk” if they exist within:

- A short term erosion prone area defined by the extent of erosion caused by the design event (or sequence of events)
- A defined storm tide inundation area
- Low-lying land that is projected to be permanently inundated due to sea level rise

Contemporary coastal management plans and future adaptation strategies alike generally focus on urban areas and seek to deliver options to mitigate the hazard within an economic, social and environmental framework. BMT is a leader in delivering:

- Coastal inundation risk assessments
- Shoreline erosion management plans
- The design of coastal management solutions and management of the development application process
- Coastal climate change and adaptation plans

Our Experience

BMT has led numerous coastal hazard and climate change projects and initiatives, including:

- Storm tide coastal inundation assessments across Australia and site-specific ports abroad including cyclonic and non-cyclonic regions
- Tsunami inundation risk assessments for the west coast of Japan, Papua New Guinea and the Solomon Islands
- Shoreline erosion management plans for coasts, estuaries and rivers and managing the design and implementation of preferred solution(s)
- Climate Change Adaptation Planning for Choiseul Bay Township in the Solomon Islands - winner of the 2015 Planning Institute of Australia National Award for Planning Excellence (with Buckley Vann and University of Queensland)



Fully Integrated Solutions for Adaptation

BMT has a long history of successful collaboration with town planners and economic analysts to deliver fully integrated solutions that:

- Identify the scale and nature of the potential coastal hazards
- Define a range of structural and non-structural interventions to reduce the risk
- Cost-benefit analysis to understand the short and long term impacts on community, business and infrastructure

Our approach is encapsulated by five key steps:

