

# NSW Coastal Zone Climate Change Impact Study

It is likely that future climate change will have a significant impact on coastal communities and ecosystems. Climate change driven sea level rise and variations in the local wave climate are likely to modify long-shore and cross-shore sediment transport patterns. This has the potential to increase the risk of severe coastal inundation and erosion at some locations

BMT WBM was commissioned by the NSW Department of Environment and Climate Change (DECC) to undertake a study assessing the likely impacts of climate change on the coastal zone for two select case study locations in NSW. The case study locations, Woolli Woolli and Batemans Bay, were selected as representative locations for the north and south coasts of NSW. It is expected that the rationale and methods adopted in this climate change study will provide a benchmark for future studies of this nature at other locations in NSW.

Based on climate change driven changes in the wave climate and water level, defined by the CSIRO, computer modelling techniques were developed capable of predicting likely shoreline change within a 100 year timeframe using a probabilistic approach.

Using the developed modelling techniques, likely shoreline response resulting from climate change was defined and documented using a risk based framework. These results were mapped in GIS and will be used by the NSW DECC to assess the likely cost of the physical impacts of climate change in the coastal zone.

**Client**

NSW Department of Environment and Climate Change

**Date**

2008

**Services & Expertise Provided**

Development of modelling techniques capable of modelling shoreline response to climate change driven forcings using a probabilistic framework; and

Definition and mapping of shoreline response to climate change for the 30 year and 70 year planning periods.

