



Climate Change Impacts on Coastal Regions of Western Australia

Similar to coastal communities around the world, combined effects of an altered wind wave climate and the magnitude and frequency of storm surges together with relative sea level rise as a result of climate change could have important implications for coastal vulnerability in Western Australia.

In WA, many parts of the coast have been shown to have significant sensitivity to sea-level rise and associated storm impacts. These include the southwest where the tidal range is small (~0.5m) and therefore small changes in mean sea level have a large influence. Fremantle tide data have shown that the mean sea level has increased almost 20 cm at a rate of 1.54 mm per annum since 1897. From 1991, an acceleration of the rate of sea level rise has been observed at Fremantle, a rate of 5 mm per annum - a rate more than 3 times the trend over the previous 100 years.

North (West) Australian Climate Change Study (NACCS), an initiative of Woodside Energy Ltd, has predicted atmospheric variables over the next 70 years under several IPCC enhanced climate scenarios using 6 different climate models. In this study, funded through the Western Australian Marine Science Institution (WAMSI) output from the NACCS study will be used to predict climate change scenarios for winds, waves and sea level changes at regional scales for Western Australian coastal areas, particularly along the south-west and subsequently the beach response in Western Australia.



Contact and links

Winthrop Professor Charitha Pattiaratchi
School of Environmental Systems Engineering
The University of Western Australia
Tel: +61 8 6488 3179
Email: Chari.Pattiaratchi@uwa.edu.au



western australian
marine science institution