



Proudly Presents

Storm Tide Hazard – Study for Moreton Bay

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Presented by:

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Cardno Lawson and Treloar

Presentation Overview

In November 2007, Cardno Lawson Treloar were commissioned to undertake a storm tide hazard study for the Moreton Bay Regional Council, Redland Shire Council and Logan City Council Local Government Areas.

The aims of the study were to:

- Prepare storm tide and joint occurrence wave parameters of events between 50 to 10,000 years ARI for present and future climate scenarios throughout the study area
- Prepare inundation mapping of the LGA for selected ARI events
- Undertake a vulnerability assessment and address mitigation options

The study has been overseen by a steering committee composed of representatives from each LGA, the Environmental Protection Agency and the Bureau of Meteorology. Throughout the project, the steering committee has provided a review and technical input function.

This presentation will provide an overview of the study including a description of the study approach, validation of the model systems and draft outcomes. Due to the extent of the study area, innovative modelling techniques have been developed to enable high resolution simulation of storm tide through the whole of Moreton Bay and the Broadwater. Both cyclonic and non-cyclonic storms have been considered.

The *Delft3D* based model systems have been validated for four historical storm events that vary significantly in meteorological character and also observed long term storm tide within Moreton Bay. An important outcome of the modelling has been a clearer understanding of the interaction between wave processes near the entrances to Moreton Bay and its impact on water levels (including storm tide) observed inside Moreton Bay.

Presenters

Paul Prenzler is a senior engineer in the Brisbane office of Cardno Lawson Treloar and has over ten years of industry experience. His expertise lies in coastal management and planning, hydrodynamic and sediment transport modelling, catchment and floodplain modelling, and water quality processes. Before joining the Cardno Lawson Treloar team in 2005, Paul was a senior engineer with the Queensland Environmental Protection Agency and in this role undertook investigation and coastal planning activities associated with the Queensland Beach Protection Authority.

David Taylor is the manager of the Perth office of Cardno Lawson Treloar and has more than 7 years of industry experience and has provided professional services in project management of major coastal and environmental design criteria projects. David has professional experience including project management in Australia, South-East Asia, Middle East and North America. His expertise lies in coastal, ocean, port and water resources engineering fields with particular expertise in numerical modelling, design of coastal protection and structures, wave climate and current field investigations, estuarine numerical modelling, and water quality and sediment transport investigations for infrastructure design and environmental impact assessments. David has a specialist Masters of Engineering degree from Queens University, Canada in coastal and hydrotechnical engineering. David has published and presented papers in national and international conferences and journals.

Doug Treloar: Doug's skills and proficiency in coastal, ocean, estuarine and the marine environments are sought after worldwide. Doug has more than 30 years of industry experience and has provided professional services in major coastal and ocean projects, including investigations, data analysis, numerical modelling and environmental design criteria preparation. His particular expertise lies in wave climate, water, siltation and current field investigations, estuarine numerical modelling and sediment transport investigations for infra-structure design and environmental impact assessments.

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