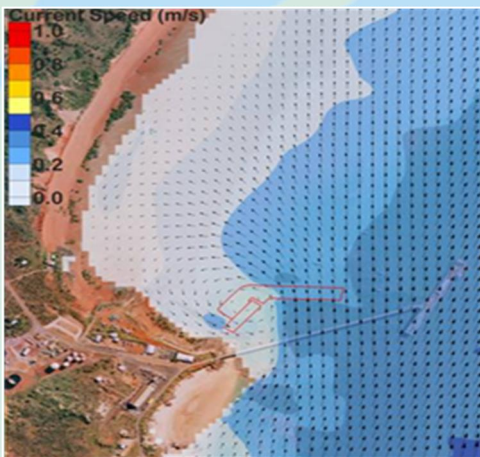
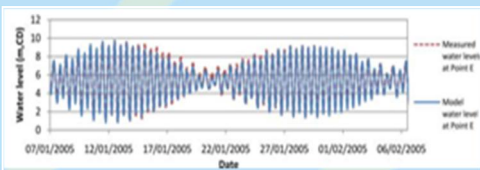
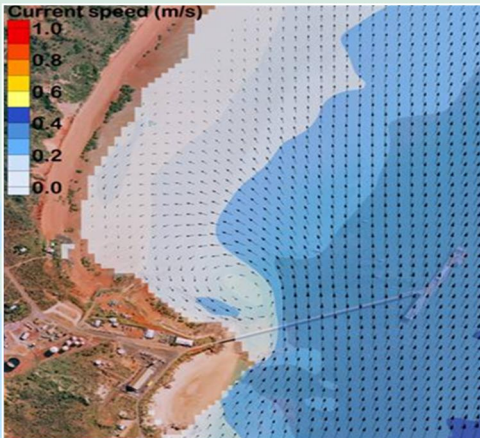


“Where will our knowledge take you?”

Broome Boating Facility Hydrodynamic Modelling and Channel Stability Assessment

Department of Transport



Location

Broome, Western Australia

Date

2010 - Ongoing

“ **BMT JFA were commissioned to establish a hydrodynamic model and characterise the tidal currents at Roebuck Bay to assess the impact of the new proposed boating facilities.** ”

The Department of Transport (DoT) commissioned JFA to provide technical assistance in the planning stages for a new boating facility located adjacent to the Broome Jetty with respect to sedimentation and to develop a suitable methodology for further study of sedimentation issues.

BMT JFA carried out a review and desktop study of the available data and previous reports. Subsequently BMT JFA established a 2D TUFLOW model to simulate the macro tidal current regime.

The model was calibrated against available measured data and was able to reproduce the tidal flood and dryings well. The model was used later to investigate the impacts of different layout options on the nearshore current pattern in the vicinity of the project area. The review of the bed shear stress output of hydrodynamic model identified potential locations which are prone to risk of scour and siltation.

BMT JFA Role

- Desktop review of available data including survey, geotechnical data, wind, wave, water level and current measurements
- Establishment and calibrations of a 2D hydrodynamic modelling
- Characterise tidal flows and circulation pattern in Roebuck Bay
- Investigation of the impacts of different layout option on the nearshore currents
- Provide advice regarding the scope of further data and study requirements
- Produce a report outlining the findings of preliminary channel assessment and a possible scope and methodology for further investigation.

Services & Expertise Provided

- Hydrodynamic study
- Coastal process study
- Channel design
- Review of sediment transport
- Metocean Measurement Scoping.