

“Where will our knowledge take you?”

Coastal Dynamics

Coastal Process Studies



“ BMT JFA has extensive experience in the development of coastal management plans and coastal process studies which apply advanced numerical models in providing innovative solutions for complex coastal problems. ”

sediment transport patterns, it is essential to consider the full range of coastal processes which influence the shoreline morphology, including nearshore waves and tides (hydrodynamic forcing) and the offshore metocean conditions. Knowledge relating to historical rates of change are also critical in establishing past behaviour of the coast and in determining potential sediment budgets under a range of future scenarios.

BMT JFA works closely with other partners to provide global wave and hydrodynamic modelling to determine sea level rise effects and setback requirements for both coastal stabilisation projects and natural foreshore areas.

Key Capabilities

- Coastal processes and geomorphology
- Numerical modelling of waves/ hydrodynamics/ sediment transport/ morphology
- Setback, scour and sea level rise studies.

Related Projects

- Cape Peron Marina

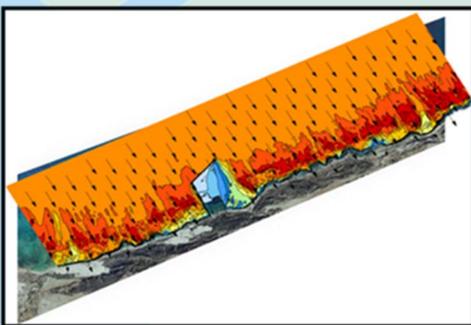
- development Mangles Bay
- Broome Boat Harbour Development
- Mandurah Sand Bypassing
- Penguin Island Coastal Management.

Services Offered

- Coastal processes and geomorphology studies, (including climate change impact assessment)
- Design and management of coastal monitoring and survey programs
- Advanced numerical modelling of waves, currents, water levels and sediment transport
- Hydraulic and sedimentation studies for estuaries, ports and waterways projects, including design and appraisal for inlet bypassing schemes and scour
- Strategic coastal zone and estuarine management planning
- Design and appraisal of coastal stabilisation works, including groyne fields, seawalls, revetments and offshore breakwaters.
- Identification of sustainable solutions for coast stabilisation schemes
- Design and implementation of setback (managed realignment).

Software

- Tuflow FV
- XBeach
- Genesis
- Gencade
- SBeach
- MepBay
- CMS
- Mike21.



Anthropogenic development that takes place within the dynamic coastal zone inevitably influences the natural coastal processes. The magnitude of this influence depends on the scale of development and the relative degree of disruption. Harbours and their approach channels have had significant impacts on alongshore drift and this area often requires detailed study. When investigating shoreline response to the disruption of