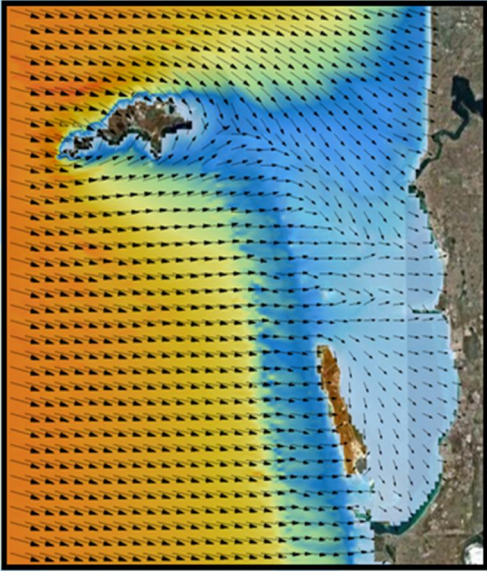


Coastal Dynamics

Wave Transformation Modelling



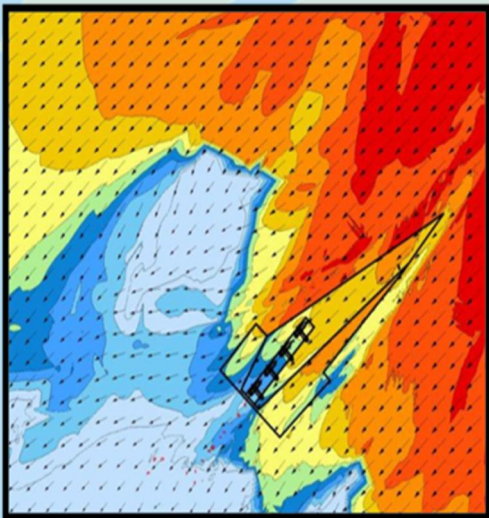
“ An intimate knowledge of wave climate is a fundamental component in the effective design of offshore, coastal and port structures. ”

data capture is therefore a key requirement for the modelling process.

BMT JFA can provide full design, set-up and operation of the required wave modelling to identify design wave conditions for coastal and port structures. BMT JFA will also identify data requirements and manage the deployment of oceanographic instrumentation to capture the required data. BMT JFA also works closely with the wider BMT Group, giving access to an in-house global wave model and database which have been calibrated against worldwide satellite observations. The global model can be used for a wide variety of hindcast services relating to the efficient planning of marine operations and the design offshore and nearshore structures. With a wide range of numerical modelling software available, BMT JFA can identify suitable software for each project based on the client requirements.

Key Capabilities

- Wave modelling including spectral and phase resolving modelling for harbour tranquility studies
- Establishment of design wave conditions



Spectral models are commonly used in simulating wave climate in both offshore and coastal areas and assist in establishing the type of conditions likely to be encountered by a structure in a given location. Good quality data inputs are essential in fully optimising the performance and outputs of the models. Effective

- Implementation of metocean data investigations
- Forecast and hindcast services
- Storm surge modelling including hydrodynamic and wave modelling
- Cyclone modelling
- Global wind modelling.

Related Projects

- Cape Lambert 320 Mtpa Upgrade
- Gorgon Barrow Island
- Mangles Bay Marina Development
- Fremantle Fishing Boat Harbour
- Albany Port Development
- Esperance Port Feasibility Study.

Services Offered

- Hindcast of offshore wave conditions using a calibrated global model
- Transformation of extreme hindcast wave conditions from offshore to nearshore
- Provision of wind and wave climate statistics, time series and spectra for any project location
- Storm surge modelling
- Forecast services, including offshore winds, waves, currents and water levels.

Software

- SWAN
- STWAVE
- CMS WAVE
- MIKE21 SW
- BMT Group in-house Global Metocean Model.