

National Centre for Coasts & Oceans

guiding sustainable development

guiding exploration, management, and protection of coastal & marine resources

- mapping seafloor resources
- environmental assessments and surveys – sedimentation, pollution, erosion, restoration
- forecasting for the marine environment
- oceanography & ocean productivity
- coastal ecology
- environmental monitoring & modelling

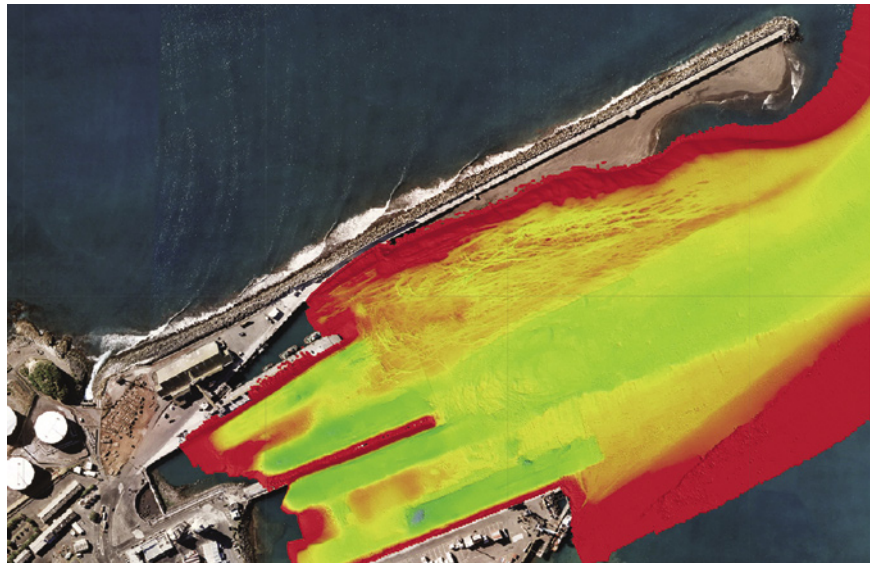
www.niwasience.co.nz/ncco

Picture perfect for port

In March 2005, the engineering services firm Duffill Watts & King commissioned us to survey Port Taranaki for Westgate Transport. They wanted to get a clear picture of the seabed before the harbour was deepened.

In a single day, we surveyed both the proposed dredge areas alongside the wharves and the proposed spoil disposal site outside the harbour.

Our EM3000D multibeam system acquired over 2.3 million individual seafloor data points in less than four hours inside the harbour. This density of data not only shows clearly the new and previous areas of dredging, but also the type of seafloor material and the size and distribution of large boulders which will require blasting. Such data can provide valuable information for project planning and underpin a more efficient dredging programme.



great services



Wave forecasting service launched

Shipping companies, port authorities, and fishers are among those benefiting from our new wave forecasting service (www.niwasience.co.nz/ncco/forecast).

The National Centre for Coasts & Oceans launched the free service in January 2005. We forecast wave height and direction for the New Zealand region, the Southwest Pacific, and the Southern Ocean for up to 5 days ahead.

Our model currently uses 5-day forecasts of winds over the world's oceans from the US National Oceanic and Atmospheric Administration. We convert those wind forecasts into wave patterns, taking into account the physics of how waves build up, travel, and dissipate. NIWA's atmospheric scientists are currently developing wind forecasts for the New Zealand area that will further refine the wave forecasting.

NIWA is also working with clients to adapt the model for their particular needs and location. For example, port authorities want to know about any wave conditions which may hinder safe port operations.