

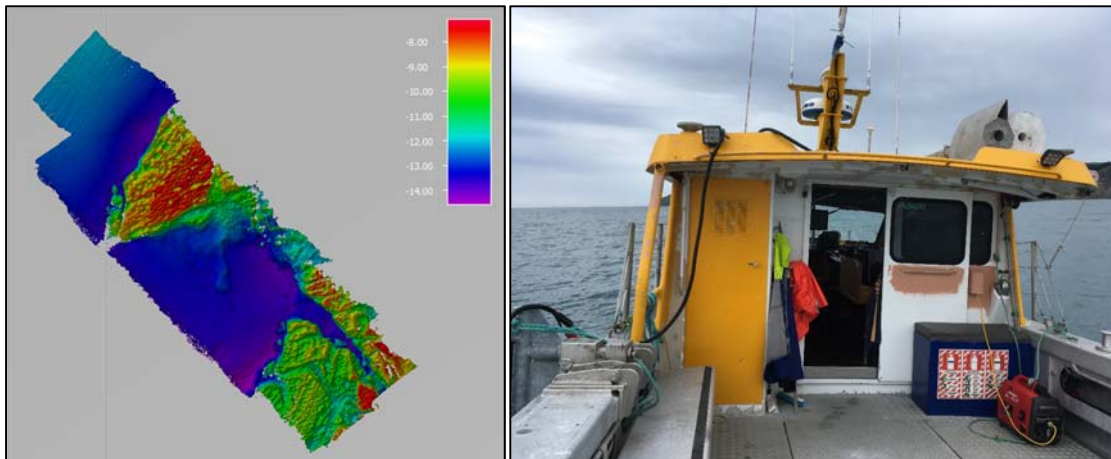
Hydrographic measurements as spatial predictors of marine habitats and processes

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Abstract: In Aotearoa New Zealand we are highly connected to our oceans and coast; food, shipping and transport, traditional Māori gathering areas, recreation, protection zones (MPA to mātaītai and taiapure), runoff and sedimentation, flooding events, sea level rise and tsunamis are among our key concerns - yet it is estimated that we have mapped only 13% of our Exclusive Economic Zone (EEZ) in detail.

Advances in digital acoustic technology have inspired a high-resolution revival of exploration at sea and allow users of the marine environment to be better informed about its processes, which in turn can lead to better management practices. In science-informed marine management high resolution echo sounding is used to create detailed maps of an area and spot sampling of substrate material, photography and diving is used to interpret the mapped intensity returns and textures as specific materials. The resulting habitat map products are often reported as providing complete spatial coverage, with minimal consideration for how errors in the remotely-sensed data may propagate through the analysis, generating uncertainty in the final products. Without understanding uncertainty inherent to the measurement, any conclusions drawn from mapped habitats or changes (due to processes) in these may be overstated or simply incorrect.

This presentation considers hydrographic measurement tools and ancillary requirements, spatial relationships with other marine data and marine data collection protocols that could aid hydrographic data collected for scientific purposes such as marine habitat and process mapping.



Biography: Emily is a PhD student and hydrographic surveying lecturer at the University of Otago's School of Surveying. She researches underwater acoustics, bathymetry and backscatter analysis for spatial prediction in habitat mapping and geomorphology on the coast, shelf and lakes.

School of
Surveying
Te Kura Kairūri

12:00 noon, Thursday, 26 April 2018

**L1 Lecture Theatre
School of Surveying
310 Castle Street**

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