

BOSCASTLE ‘MOLE’ HYDRODYNAMIC STUDY

Location: Boscastle, Cornwall

Project Dates: October 2019 – March 2020

Clients: National Trust

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Scope of work:

- Determine the effect of the harbour ‘Mole’ on hydrodynamics
- In-situ measurement of wave climate around Harbour structures
- Numerical modelling of waves and hydrodynamics within the harbour
- Model comparison with and without the presence of the harbour Mole

“CMAR was the perfect organisation for this project. The research has delivered tangible results which we can use to inform our management of this property in the face of future climate change”

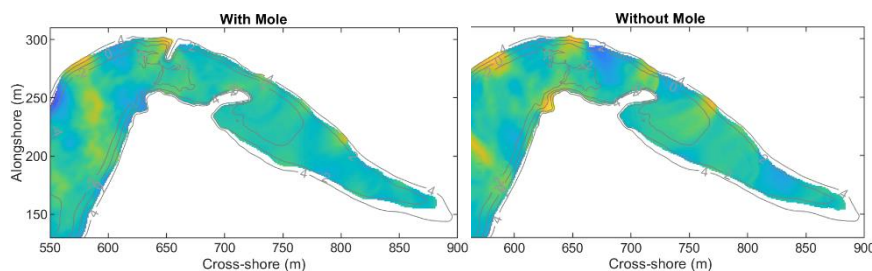
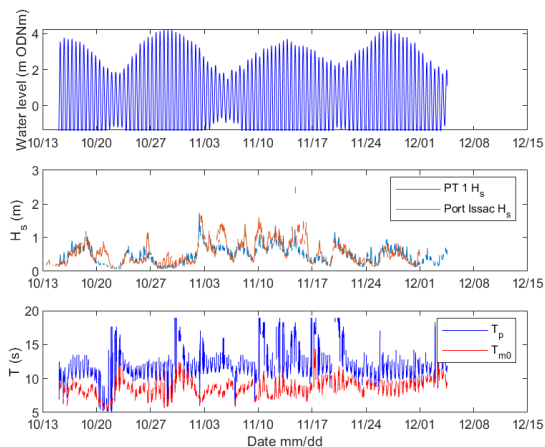
J. Cherrington; Lead Ranger North Cornwall, National Trust

PROJECT DESCRIPTION

The National Trust are custodians of many stretches of coastline in the UK, including historic ports. The National Trust wanted to better understand the role of the historic harbour structure known as the ‘Mole’ at Boscastle, in terms of wave attenuation within the inner harbour to help them develop a management plan for future maintenance.

LIDAR data combined with in-situ measurement of wave energy throughout the harbour were used to validate numerical model simulations that explored the role of the ‘Mole’ on harbour hydrodynamics through detailed simulation of waves with and without the Mole present in the model.

Upper: The outer ‘Mole’ at Boscastle Harbour. *Middle:* Time-series plot of wave measurements from outside of the harbour entrance including water depth, wave height and wave period. *Lower:* modelled wave crests in the harbour with and without the outer Mole present (from XBeach NH)



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