

New technology for remotely mapping beaches

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The intertidal zone

Science and industry will now be able to map beaches and sandbanks without getting any feet wet. This follows three years of collaborative research resulting in a new commercial licence between National Oceanography Centre (NOC) and Marlan Maritime Technologies to sell new coastal mapping technology.

The depth and pattern of sediment on the floor of the intertidal zones changes daily, yet understanding where this sediment resides is vital to being able to better manage coastal areas.

For example, knowing how beach sediment movement is influenced by coastal protection measures could help inform how effective they are relative to the investment. The improved understanding of long-term erosion could also benefit coastal town planning by monitoring areas at greater risk of coastal flooding. Furthermore, the data can provide advance warning of sediment transport into navigation channels allowing more effective use of survey and dredging vessels, this helps maintain ports such as Liverpool.

Currently these intertidal areas are mapped using satellites, lasers, cameras or wading into the water with a measuring stick. However satellite resolution is relatively low, laser surveys are expensive and cameras are limited in the distance they can observe and are only practical during daylight. This new radar-based technology enables high-resolution, low-cost remote mapping of the intertidal zone, continuously and over a long period of time without the need to get any feet wet.

This novel and cost-effective technique makes use of rapidly deployable radar installations, enabling repeated collection of survey data every fortnight from one deployment.

Alex Sinclair, Managing Director of Marlan Maritime Technologies Ltd, said "Working with NOC and the University of Liverpool for several years has been great and we are thrilled that the efforts of those involved have produced a genuinely beneficial service that is in demand by the maritime community. Protecting our coastal environment is important to us and this technology will make a real difference, not only around Liverpool but around the world. We've just begun our next venture with NOC; a two year Knowledge Transfer Partnership (KTP) which will

help us to scale-up to meet global demand."

Executive director of the NOC, Professor Ed Hill said "An important part of the mission of the NOC is to turn great science into great innovation, supporting UK businesses. This technology will significantly drive down the cost of mapping the intertidal zone with important benefits for the many users of the marine environment."

Provided by National Oceanography Centre, Southampton

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