



The Ecostructure consortium would like to wish you a Happy Christmas! Our researchers have been very busy over the last 6 months, for more information, check out the news bulletins below, visit our website and connect with us on social media!



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Ecostructure launch, June 2017



June 2017 saw the launch of the Ecostructure project, led by Aberystwyth University. The project kick off meeting on June 28th was hosted by project partners at Swansea University. Ecostructure aims to provide eco-engineering solutions to the challenge of adapting coastal infrastructure to climate change.

Ecostructure summer school students



Students on the Summer University Environmental Science course at Aberystwyth University in August designed their own 'Ecostructure' interventions for marine/coastal developments and pitched their ideas as part of their assessment.

Ecostructure at EWTEC 2017



Ecostructure researchers attended the European Wave and Tidal Energy Conference (EWTEC) 2017, from August 28th to September 2nd, hosted by University College Cork, home of Ecostructure partners MaREI. The conference was attended by over 500 experts across the fields of industry and academia, with a huge diversity of backgrounds and nationalities. Pictured: Dr Peter Robins (Bangor), Dr Ruth Callaway (Swansea) and Kathrin Kopke (UCC)

Ecostructure at Centre for Alternative Technology



Ecostructure researchers from Aberystwyth University and University College Dublin took part in the '100 Good Ideas: Making it Happen' conference on September 9th at the Centre for Alternative Technology, Wales. Ecostructure facilitated an audience led discussion and hands on workshop activities on improving the ecological value of sea defences.

Ecostructure researchers feature on BBC Radio 4!



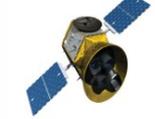
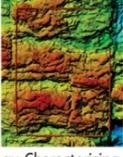
Dr Pippa Moore (Aberystwyth University, pictured) featured on BBC Radio 4's 'Today' programme on October 25th, speaking on research conducted as a precursor to the Ecostructure project. The interview is available [here](#) (skip to 2:50:00), and the corresponding article [here](#).

Ecostructure coffee morning



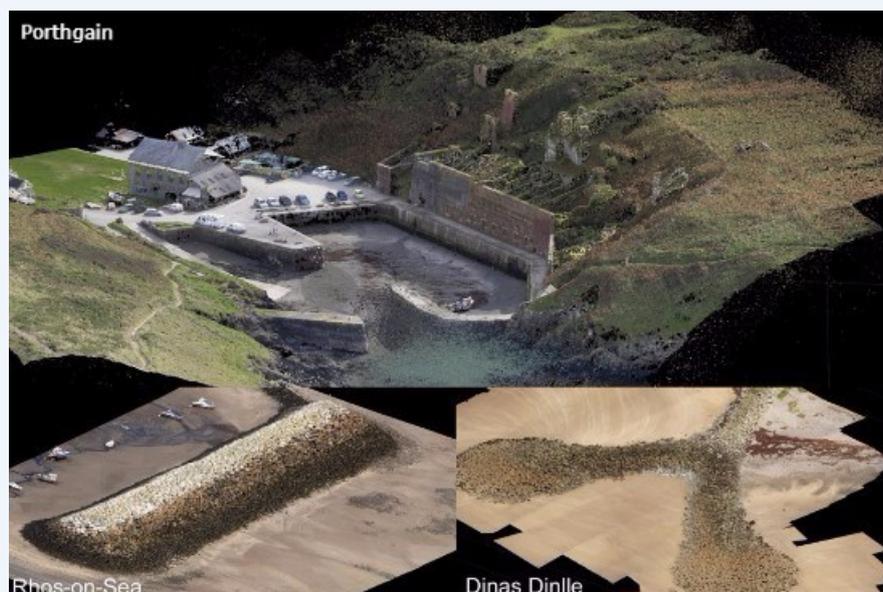
Ecostructure partners at University College Dublin hosted a coffee morning, to raise awareness of the project with their fellow researchers on October 26th.

Survey Methods

Spatial scale	Regional	Local	Micro
Methods	<p>GIS and Satellites</p>  <p>Broad-scale drivers in species distributions. Characterising wave exposure, salinity, connectivity potential from surrounding habitats and human activity.</p>	<p>Drone imaging and laser scanners</p>  <p>3D mapping, high resolution, geo-referenced data products. Characterising medium-scale variables such as: exposure, aspect, rugosity, extent of species.</p>	<p>Hi-res photogrammetry</p>  <p>Sub-cm scale structure from motion models of < 50cm x 50 cm areas using digital camera technology. Characterising small scale variables such as species coverage, abundance, richness, microtopography.</p>

Ecostructure partners in University College Dublin use a multiscale approach to map artificial structures. So far 2900 sites on the East coast of Ireland have been mapped from Louth to Cork. Research has also begun on a local scale, by mapping a subset of 52 structures associated with climate change adaptation e.g. seawalls.

3D Modelling



Ecostructure partners at Bangor University are developing three-dimensional models of artificial structures to enhance understanding of how structural properties affect marine organisms. Images above have been collected by unmanned aerial vehicles.

Invasive species monitoring



Samples of the invasive sea squirt *Didemnum vexillum* have been collected by partners from artificial substrates and natural shores around the Irish Sea for genetic analysis that aims to understand the dispersal and gene flow of this species. Experimental studies are to be carried out in Spring 2018 to better understand the fundamental ecology of invasive species and to enable the development of more effective biosecurity tools and protocols.



Planning is underway for a workshop in Spring 2018 that will bring together marina owners and operators, aiming to collect their views and priorities in relation to non-native species biosecurity. The outcomes of the workshop will drive Ecostructure research into biosecurity tools and protocols. Anybody interested in attending this workshop should contact s.vye@bangor.ac.uk for more information.

Preparations for 2018



The team at Aberystwyth are preparing for 2018, getting out and about to look at potential sites for next year's experiments. Their first round of experiments will begin in Spring/Summer 2018, testing Eco-engineering designs.

...and a happy new year!



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