Habitat Suitability Models for cold-water corals - Progress  
(PhD candidate Anna Rengstorf; Supervisors: Prof. Colin Brown and Dr. Anthony Grehan)

Regional high resolution HSM for Irish waters

A regional high resolution habitat suitability model for cold-water coral reefs along the Irish continental margin was developed (Anna Rengstorf, Chris Yesson, Colin Brown and Anthony Grehan). This model is based on a wide range of terrain-based, hydrodynamic and water chemistry variables and predicts potential coral reef habitat on mound features and in canyon areas along a narrow band following the slopes of the Irish continental margin, the Rockall Bank and the Porcupine Bank. The resulting high resolution habitat suitability maps can be used for future survey planning and to support management decision making, for example Marine Protected Area network design.

![Figure 1: Illustration of the high resolution habitat suitability model showing one of the Irish cold-water carbonate mound provinces. Red indicates high, blue indicates low probability of reef occurrence (image courtesy Anna Rengstorf).](image)

BOBECO cruise 2011

In September 2011, researchers from the NUIG Biogeoscience group (Dr. Anthony Grehan and PhD student Anna Rengstorf) joined a 6-week CoralFISH research expedition aboard the French vessel RV PourquoiPas? (IFREMER) in order to explore cold-water coral ecosystems along the Irish and French continental margins. The IFREMER’s ROV VICTOR was used to conduct high definition video surveys of carbonate mounds and canyon systems, take samples for species identification and genetic analyses and collect high resolution ROV-borne multibeam data of an Irish cold-water carbonate mound province. A short movie about the cruise can be found here [http://www.youtube.com/watch?v=meDxvtqIInU](http://www.youtube.com/watch?v=meDxvtqIInU). The cruise blog describing the science and the life on board the PourquoiPas? is available here: [http://coralfish.wordpress.com/category/bobeco-2011/](http://coralfish.wordpress.com/category/bobeco-2011/).
Figure 2: Some of the participating scientists in front of IFREMER’s RV PourquoiPas?

Figure 3: Deployment of IFREMER’s ROV VICTOR
Publications:

Presentations:
1. “In situ and longline census of fish abundance in coral and control areas off the west coast of Ireland” Rengstorf, A., van den Beld, I., Grehan, A., CoralFISH Science Meeting, 29th November – 2nd December 2010, Milan, Italy

Posters:
2. “The predicted distribution of the cold-water coral Lophelia pertusa in Irish waters using a maximum entropy model” Rengstorf, A., Yesson, C., Grehan, A., Brown, C., Ryan research day 2011, Galway, Ireland