











The impact of climate change on the Irish Sea shellfish industry and the production of guidelines for a sustainable shellfish industry for the future is the focus of an Ireland/ Wales INTERREG research programme led by Dr Shelagh Malham, Research Lecturer at Bangor University.

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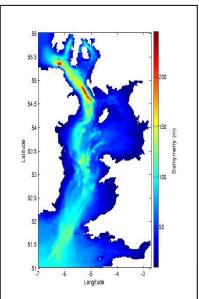
Shellfish productivity in the Irish Sea: working towards a sustainable future



Exploitation of shellfish is of huge socio-economic importance in Ireland and Wales. The Total economic revenue from Irish Sea shellfisheries (62M € in 2002) exceeds revenues from finfish, but could suffer because of climate change in the next decades. Already, mortality in shellfish in the Irish Sea may be linked to a changing climate.

This collaborative project, funded by the European Regional Development Fund (ERDF), brings together experts from Bangor, Aberystwyth and Swansea Universities in Wales and the University College Cork in Ireland to model the likely effects of climate change on Irish Sea shellfish populations. It will generate guidelines to ease economic impact and establish sustainability of the shellfish industry in a changing climate, whilst protecting the wider biodiversity and environmental quality of the marine ecosystem at the same time.





The Irish Sea model domain showing bathymetry (m relative to Ordnance Datum Newlyn). The model is forced at the SW and NW open boundaries and on the sea surface. The grid dimensions are 172*300*20(depth) and the horizontal grid resolution is approximately 1.8 km.

Meteorological data and oceanographic models will be used to predict the potential changes in shellfish distribution under varying climatic conditions, economic data will then be complied to help predict the potential changes in shellfish distribution under varying climatic conditions, economic data will then be complied to help predict likely economic impacts.

The effects of increased temperature and ocean acidification in the ecology, physiology, immunology and disease status will be estimated in key commercial species (cockles, crabs, oysters, mussels, razor clams) and genetic analysis will be used to assess connectivity between populations. The results from this research will inform the process of drawing up the sustainability guidelines.

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