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Mapping habitats and biotopes from acoustic datasets to strengthen the information base of Marine Protected Areas in Scottish w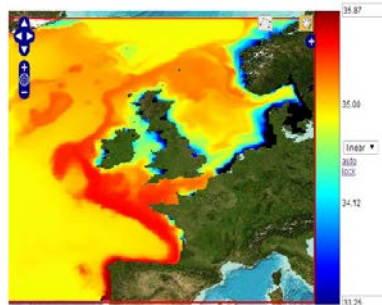aters: Mapping habitats and biotopes from acoustic datasets to strengthen the information base of Marine Protected Areas in Scottish waters

Introduction
The objective of this project was to generate seabed habitat maps for locations coinciding with Scottish MPA proposals with full coverage acoustic datasets to as detailed a hierarchical level as possible within the Marine Habitat Classification for

POLCOMS 40-year North Atlantic model run
BODC are pleased to announce the availability of a 40 year hindcast simulation of currents, potential temperature, salinity and sea surface height for the northwest European continental shelf.

As part of Natural Environment Research Council (NERC) National Capability work, the Proudman Oceanographic Laboratory Coastal Ocean Modelling System (POLCOMS) was used to derive potential temperature, salinity, sea surface height and both baroclinic and barotropic

News

Bathymetric and Port Electronic Navigational Charts for Peel Ports Pilots: OceanWise Ltd has provided the Marine Department at Peel Ports (Clydeport) with specialist tools that takes processed hydrographic survey data and converts it into Electronic Navigational Charts (ENCs) suitable for use within Portable Pilot Units (PPUs). Read more

MEDIN ArcGIS stylesheet for 10.1 & 10.2: MEDIN has now released ArcGIS 10.0 (service pack 3 and above), 10.1 and 10.2 stylesheet to create MEDIN discovery metadata. Read more

Response to the Inner Thames Estuary airport call for evidence: The Airports Commission is examining the need for additional UK airport capacity and recommending to UK Government

Britain and Ireland (version 04.05), also known as MNCR classification, (Connor et al 2004). The acoustic data were at various stages of processing and interpretation, therefore the mapping of habitats and biotopes in some areas have required a greater amount of work to reach the same level compared to other areas. The constituent polygons within the habitat/biotope maps are labelled to an appropriate level of the Habitat Classification and translated to the corresponding EUNIS code. In order to generate seabed habitat maps for the areas the data associated with each area were required to undergo some preliminary preparation and processing in order to ensure suitability and compatibility with the mapping methodologies employed.

The data were then processed using several techniques: a top-down rule-based approach was adopted based on the methods developed by MESH, UKSeaMap and EUSeaMap, which utilised the updated seabed

currents for the Atlantic margin of the northwest European shelf from 1960 to 2004.

The work was carried out by the National Oceanography Centre (NOC) Shelf and Coastal Impacts team in the Marine Systems Modelling Group. The data were generated as part of research looking at multi-decadal trends and variability in temperature over the northwest European continental shelf.

The dataset consists of

- 25 hour average east and northward velocity components (m s-1), depth averaged, for each model depth level across the model domain
- 25 hour average potential temperature (°C) and salinity for each model depth and sea surface height (m) across the model domain

The model simulation starts at 00:00 UTC 01 January 1960 and finishes at 24:00 UTC 31 December 2004.

The full dataset is now

how this can be met in the short, medium and long term. Read more

[Marine Science Calendar](#)

substrate information provided by BGS. In addition a bottom-up approach was taken to utilise the recently acquired point sample data and multi-beam bathymetry and backscatter data sets; this process took an object-based approach supplemented by supervised classification and categorisation.

Three maps for each location have been produced. The level of habitat detail which could be mapped was restricted to level 3 & 4 of the EUNIS classification with associated metadata and peripheral supplementary data to aid in future analysis and interpretation. A confidence assessment using the MESH confidence assessment method has been undertaken for each habitat map produced and certainty of classification maps accompany each habitat map also.

The assumptions and limitations of the data and the techniques and processes used to produce the maps are discussed to aid understanding and application of the maps. These maps make an

available for download at the BODC numerical modelling portal.

Image shows Sea water salinity from POLCOMS 40 year run. © British Oceanographic Data Centre (BODC), Natural Environment Research Council (NERC)

important contribution to the evidence base for the presence and extent of MPA search features underpinning the identification of MPA proposals in Scotland's seas.

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