Project Title

Informatics in Support of Ecosystem Based Fisheries Management - Phase 1

Project Description

Data is a key input into the advice which drives fisheries management but access to it is often restricted to scientists. This project provides tools for a number of different audiences to discover and explore the fisheries data that is collected within Ireland. Data can be difficult to interpret if you are not familiar with its context so rather than just providing the data itself this project has developed graphical data-driven tools and applications that will make its interpretation easier.

Some fisheries data is confidential so all project work has been performed with security in mind with the aim being to make data sets as accessible as possible whilst respecting existing data protection and data sensitivity requirements.

Knowledge-sharing and capacity building is embedded within the project – this has taken the form of presentations by the project personnel at the Marine Institute, to local user groups, and to the wider public at events such as SeaFest. The computer code outputs from the project will also be shared in an open-manner so that the wider community can have access to them.

Partners

Phase 1 of the project has concentrated on the data that the Marine Institute collects and stores as part of Ireland's responsibilities under the reformed Common Fisheries Policy. Phase 2 of the project will widen its scope and see the Marine Institute working with partners such as DAFM, DHPLG, DCHG, SFPA, and BIM to design and deploy applications that are of joint interest.

Duration

The project is carried out in two phases. Phase 1 runs between 2017 and 2018 whilst Phase 2 will run in 2019 and 2020.

Project Outputs

The project is ongoing and completion of tasks is in progress:

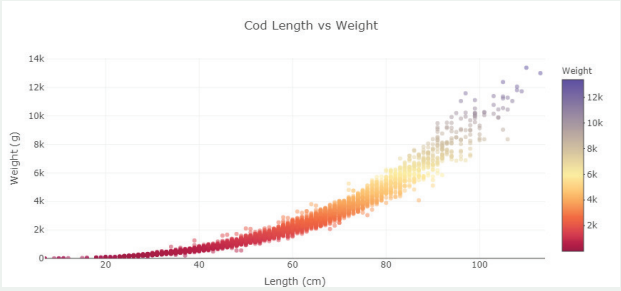
1. A reporting database infrastructure that allows a number of data sources to be harmonised and integrated with access control to allow different users and applications to access different levels of data. The reporting database is populated with the relevant data sets identified during the project

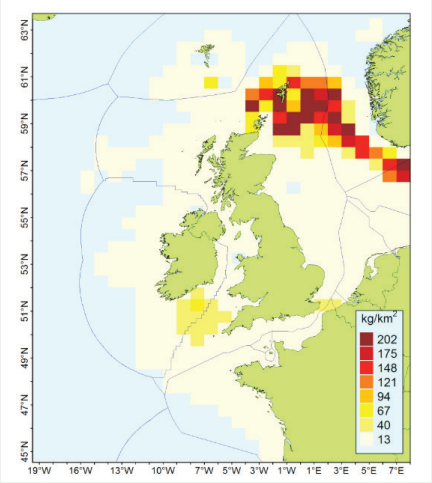
2. A number of applications are built using the reporting infrastructure. These include:

Species Dashboard

https://shiny.marine.ie/speciesdash

People can learn about fish species in Irish waters and explore their data with the Species Dashboard - this is a web application that makes biological fisheries data more available to all interested parties. In particular, it allows people to explore the length, weight, and age data of commercial species that are caught around Ireland and allows the effects of factors such as years, sex, area, and gear on the fish to be investigated.





Digital Stock Book

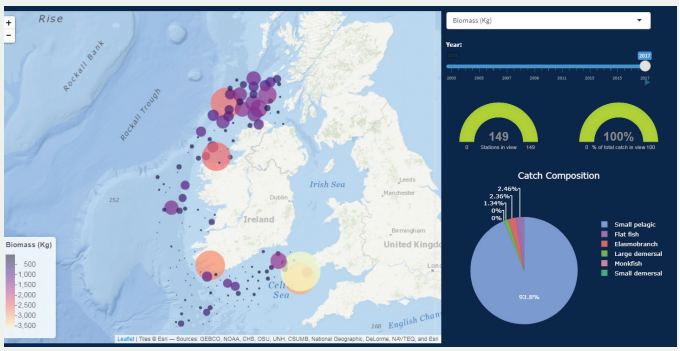
https://shiny.marine.ie/stockbook

The Stock Book is produced annually by the Marine Institute and provides up to date scientific information on the state of the fisheries resources exploited by the Irish fleet. It provides the latest scientific advice that informs fishing opportunities for the following year. The Stock Book has been published by the Marine Institute since 1993 and has evolved considerably over time. The Digital Stock Book app makes this advice available online in an interactive way – for example it includes a forecasting tool that allows users to see the projected impact of different fishing scenarios.

Irish Groundfish Survey (IGFS) Data Explorer

https://shiny.marine.ie/igfs (in development)

The IGFS is part of an internationally coordinated series of demersal trawl surveys that provides data on fish stocks that are not available from sampling commercial fishing trips. It provides both environmental and biological data on areas of high and low commercial activity. The IGFS app allows users to explore the results of the survey using a number of tools – people can explore the higher level summary information and delve into species specific data.



Expected Benefit

Integration and improved accessibility of different data sources of fisheries, environmental, and economic data to be used as decision making tools for a variety of end-users including policy makers, stakeholders, scientists and the general public.

Further details available on www.emff.marine.ie

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