

# The Marine Irish Digital Atlas: Providing Geospatial Information to a Wide Audience

Edward Dwyer<sup>1</sup>, Liz O'Dea<sup>2</sup> & Valerie Cummins<sup>3</sup>

<sup>1</sup> Dr., Coastal and Marine Resources Centre (CMRC), ERI, University College Cork, Naval Base, Haulbowline, Cobh, Co. Cork, Ireland. [n.dwyer@ucc.ie](mailto:n.dwyer@ucc.ie)

<sup>2</sup> CMRC. [lodea@ucc.ie](mailto:lodea@ucc.ie)

<sup>3</sup> Manager, CMRC. [v.cummins@ucc.ie](mailto:v.cummins@ucc.ie)

## ABSTRACT

The Marine Irish Digital Atlas (MIDA) is an initiative that aims to improve access to coastal and marine geospatial data and information for Ireland through a web-based GIS portal. In addition to allowing users to visualise and query geospatial data, a key aspect of the atlas is that it provides educational and informational materials on each of the data layers displayed as well as on general issues regarding the Irish coast. This information is aimed at a wide range of end-users, including government organisations, commercial enterprises and the general public. This poster outlines the development of a prototype atlas and shows how users with different technical skill levels can interact with the atlas and find it of use. It also discusses how end-users are being involved in the design process. The atlas, which can be found at <http://mida.ucc.ie>, will ultimately contribute to raising awareness of the state of Ireland's coastal and marine resources while serving as a gateway to geospatial data.

## 1. INTRODUCTION

Traditionally atlases have been presented as printed documents containing annotated maps, descriptive texts, photographs, tables and other graphics. With the advent of web-enabled Geographic Information Systems (GIS), atlases can now be delivered online. While retaining the basic content of traditional printed atlases, the level of interaction and information can be greatly extended by including items such as interactive maps, feature querying, multimedia elements and hyperlinks to other resources both within and without the atlas. Unlike their paper counterparts, web-based atlases are easily updateable and expandable. The Marine Irish Digital Atlas (MIDA) is such a web-based atlas, providing an informational resource on the coast of Ireland where maps can be visualised and coastal information and data can be accessed. A key design goal is that the atlas should be accessible and of use to a wide range of users, including educational establishments, commercial enterprises, public administration, non-governmental organisations and the general public, among others. In order to reach such a wide-ranging audience, user input has been incorporated in the design phase to make the atlas interface easy to use and intuitive for all.

In addition to providing information on Irish coastal and marine areas, the atlas is a repository for a wide range of digital datasets, which have been gathered from numerous agencies. This aspect of the atlas will be of particular interest to the professional user, who up to now has had difficulty in determining what data exists and who owns them. The atlas will help to reduce time

currently wasted in order to find and acquire even the most basic data layers, such as territorial limits and bathymetry (O'Dea et al., 2004).

This poster outlines the development of the atlas and the features it incorporates in order to appeal to a diverse audience. It also discusses the strategy developed in order to encourage the active involvement of end users in atlas design. The work carried out to date on the MIDA project, which has been underway since September 2002, has provided valuable insight into issues regarding the delivery of data and information to a disparate user group via a web-based GIS framework.

## 2. ATLAS DEVELOPMENT

A complete prototype atlas was developed to:

1. Illustrate the atlas and its components to potential end users in order to include their opinions and feedback in the final design.
2. Aid data collection by showing data providers how data and information will be displayed in the atlas.
3. Assist the next phase of atlas design by determining what works and doesn't work within the atlas, in terms of technology and data display.

The main atlas page consists of a map area, a layer list and an information area. The user selects one or more layers, from the layer list, for display in the map area, in which users can zoom to an area of interest. Map features can be

queried, and the data owner who supplies each dataset determines the level of detail provided. Downloading datasets in GIS format will also be possible, where the data owners provide consent.

For each layer, information is easily accessible from this main atlas window. There are links to interactive information pages related to the thematic layers displayed in the atlas. These pages aim to improve awareness of the coastal environment for the general public, as well as to provide resources at varying levels of detail to accommodate a range of audiences (from students doing research to professionals looking for links to organisations in a specific sector). Links to outside resources are provided for additional information. Users can also view metadata related to layers they select in order to learn more about each dataset, including the contact details of data providers.

### 3. USER GROUP PARTICIPATION

The MIDA's success, in part, depends on its appeal and relevance to a wide range of users. In order for it to achieve the goal of being the gateway to Irish coastal information, people must find the MIDA intuitive, user friendly, and informative. Development of a successful GIS tool for coastal information must be led by the demands of the users, and not by the technology or the data behind the tool (DEFRA, 2002).

To meet this challenge, a MIDA User Group Strategy was developed. The MIDA team met with representatives from some of the key data holders and users in Dublin in November 2003, and in Coleraine in January 2004. The initial prototype, completed in November 2003, was demonstrated and attendees were provided with an opportunity to interact with the atlas. Overall, feedback was positive towards the concept of the atlas. Suggestions were made in relation to priority requirements for specific data layers, improvements to the user interface, the development of enhanced search functions, and mechanisms for guiding different levels of users to their desired points of interest within the atlas. In general, attendees found the interface intuitive, the metadata useful and well-represented, and the layout clear and concise. Much valuable discussion was generated which assisted the team in further development of the prototype.

The MIDA development team is currently organising a series of focus user group meetings around the country to obtain additional input on the enhanced prototype. This will engage

representatives from each of the potential user groups, including government agencies, research facilities, educational institutions, local authorities, commercial organisations, non-governmental organisations, and the general public. These user groups will be called upon to provide feedback on the ease of use of the atlas and its relevance to their needs and interests.

### 4. CONCLUSIONS

Response to date has indicated a strong level of support for the Marine Irish Digital Atlas. While welcoming the atlas, some users have expressed concerns that the scale of the project is overly ambitious. A step-by-step approach is being taken to ensure the successful implementation of the project within its planned timeframe. It is envisioned that the first version, which will go live online before the end of 2004, will include priority datasets identified by the end users, with the most highly desired technical features incorporated. Detailed information pages will be available for all layers displayed. The sustainability and future expansion of the atlas will be dependent on future funding, thus it is imperative to demonstrate the value of the atlas for promoting education and awareness as well as providing data and information to aid better management of the coastal and marine environment.

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### REFERENCES

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