Chapter 2
Coastal Web Atlas Features

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ABSTRACT
A growing number of coastal web atlases (CWAs) for different regions exist around the world. These atlases are developed to meet the needs of a particular organization or audience. Each atlas developer faces the challenge of how best to design a web site that clearly communicates their content in an intuitive way. While most of these CWAs are developed independently of each other, many of them share common features. Interactive maps enable users to visualize data along the coast. A variety of geographic data are presented to inform users about the coastal environment and show professionals what data is available. Atlases include tools and supplemental text for users to learn more about the coast. This chapter provides an overview of common features which are found in existing coastal web atlases.

INTRODUCTION
The Internet is a valuable tool to communicate and share information on coastal regions, ranging in scale from estuaries to nations. Some resources consist of textual web pages that provide overviews of coastal issues, such as NOAA’s Office of Ocean & Coastal Resource Management’s web site (2009). Others serve as a data repository where people can find and download coastal geospatial data of interest, such as Ireland’s Marine Data Online web site and Canada’s Coastal and Ocean Information Network Atlantic (Irish Marine Institute, 2009; Atlantic Coastal Zone Information Steering Committee & GeoConnections, 2009). In some cases, coastal web resources provide an interactive web map where users can visualize and query features in the map, like the Oregon Coastal Atlas and the Marine Irish Digital Atlas (OCMP et al., 2009; CMRC, 2009).
Coastal Web Atlas Features

Among these various online resources, a growing number of coastal web atlases are appearing. But what differentiates a coastal web atlas from other online coastal resources? A coastal web atlas (CWA) is defined as “a collection of maps with supplementary tables, illustrations and information which systematically illustrate the coast” (O’Dea et al., 2007, p. 1). It is more than just a data repository or an interactive map. A CWA can serve as a comprehensive web resource that pulls together textual information, related web links of interest, interactive maps, searchable geospatial data, and tools for targeted users such as coastal managers or recreationists. Each CWA is designed differently, incorporating any combination of these features provided in diverse ways.

MAP AREA

A key component of a coastal atlas is the map area of the main map web page. This is the area where the geographic data are displayed. Many coastal atlases have a central map that serves as the focus of the atlas, such as the Marine Irish Digital Atlas (MIDA) and the UK Coastal and Marine Resource Atlas (O’Dea et al., 2007). Others, such as the Coastal Atlas Flanders-Belgium (Belpaeme & Konings, 2004), contain maps on multiple pages which focus on specific topics. No matter the design, the map area is the most important feature of the atlas. It allows users to visualize the geographic data and see how the features in those layers relate to each other spatially.

Size

The size of the map area can vary from occupying a small section on the page, such as the Gulf of Maine Mapping Portal (GoMMaP) where the map takes up about a quarter of the web page, to covering the entire web page, such as in the Oregon Coastal Atlas or the MarineMap Decision Support Tool (DM Solutions & GoMOOS, 2009; OCMP et al., 2009). It is also possible to let the user choose the size of the map area they wish to interact with. In Oregon’s North Coast Explorer, for example, the user has the option of viewing a small, medium or large map (Oregon State University, 2009). Similarly, the African Marine Atlas lets the user select the pixel size of the map: 400 x 300, 600 x 450, or 800 x 600 (ODINAFRICA, 2009). This flexibility accommodates different screen resolutions and allows the user some control over how the page appears on their monitor.

Quantity

An atlas may choose to display maps on multiple thematic web pages. Each map can then be customized to display specific data that illustrate a topic and accompanying text. A good example of this can be seen in the Coastal Atlas Flanders-Belgium, where the maps are provided on thematic pages such as Coastal Defense, Fisheries and Agriculture, and Multifunctional Use of the Sea (Belpaeme & Konings, 2004). The maps contain only layers of relevance to the specific theme, displayed on top of base data.

Maps are used on multiple pages for other reasons as well. Static maps highlighting selected features are sometimes displayed in a pop-up window when a user identifies a point, line or polygon on a map, such as in the MIDA (CMRC, 2009). This is particularly useful when maps contain many features in a small area, making it easier to see the selected feature associated with the tabular Identify results. The Oregon Coastal Atlas Beach Public Access Tool, for example, displays multiple static maps in a pop-up window. When a user selects a beach of interest, a page opens with a map of the larger surrounding area and nearby popular beaches, along with a second map that displays an orthophoto of the beach selected. Both of these maps help the user to orient themselves (OCMP et al., 2009).
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