

The BMDC database: a tool for scientists and decision makers

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In 1996, the Belgian federal government launched its first 'Scientific support plan for a sustainable development policy'. One of the main themes of this five-year programme was the sustainable management of the North Sea. This action gathered the skills of more than 25 teams, active in a wide variety of scientific disciplines.

It appeared early and clearly that one of the most important challenges to make the programme effectively support the policy-making process was to 'ensure a smooth and scientifically sound flow of data between the data producers and the end users'. This was the motto of the IDOD project, partly funded by the scientific support plan. It still is the motto of the Belgian Marine Data Centre (BMDC) created within MUMM to carry out the project and, afterwards, to run this marine database as a permanent public activity.

THE CHALLENGE: INTEGRATING MANY DATA TYPES IN ONE INFORMATION SYSTEM

The data to be considered cover a wide range of physical, chemical or biological processes, from, *e.g.*, salinity to community structures through contaminant concentrations in biological tissues or optical properties of the seawater. Our choice was to design the system in such a way that it would be able to handle as many data types as possible in one consistent structure. For the data manager, the main benefit is to minimise the variety of procedures necessary to validate, incorporate and manage the various data sets. To the user, this design offers an easier cross-handling of different data types, from different sources. Such a strategic decision means more userfriendliness, and more time for the data managers to concentrate on the data, but at the price of more effort during the design phase.

FROM A DATA BASE TO AN INFORMATION SYSTEM

Data, especially those collected at sea, are invaluable because of the information they contain on the state of our environment at a given place and time and because of the considerable resources they required for their collection and analysis. It is therefore of the utmost importance to preserve the data in the best possible condition for their present uses and for the future. This requires a database, and associated quality control procedures, designed according to far-sighted technological choices. However the mission given to the BMDC is more ambitious, *i.e.* to deliver tools and services fitting the practical needs of the users. Thanks to the comprehensive but versatile design of the core database, a set of spatial and statistical analysis tools has been developed. These tools, together with the basic browsing and retrieval functions, are made available to the users through the Web, making the whole a true information system.

THE RESULTING SERVICE

The first version of the information system was released during summer 2002. Our presentation will discuss the early strategic decisions, the resulting design and the implementation, and, last but not least, will detail some specific scientific applications it has already made possible, such as eutrophication level assessment in marine coastal waters and habitat classification.