



## **PANGAEA and the World Data Center for Marine Environmental Sciences**

M. Diepenbroek (1), H. Grobe (2)

(1) MARUM – Institute for Marine Environmental Sciences, University of Bremen, Germany,  
(2) Alfred Wegener Institute for Polar and Marine Research (AWI), Bremerhaven, Germany

The World Data Center for Marine Environmental Sciences (WDC-MARE) is aimed at collecting, scrutinizing, and disseminating data related to global change in the fields of environmental oceanography, marine geology, paleoceanography, and marine biology. WDC-MARE uses the scientific information system PANGAEA (Network for Geosciences and Environmental Data) as operating platform ([www.pangaea.de](http://www.pangaea.de)).

Essential services supplied by WDC-MARE / PANGAEA are project data management (e.g. for the PAGES project IMAGES, the International Marine Global Change Study), data publication, and the distribution of visualization and analysis software (freeware products). Organization of data management includes quality control and publication of data and the dissemination of metadata according to international standards. Data managers are responsible for acquisition and maintenance of data. The data model used reflects the information processing steps in the earth science fields and can handle any related analytical data. The basic technical structure corresponds to a three tiered client/server architecture with a number of comprehensive clients and middleware components controlling the information flow and quality. On the server side a relational database management system (RDBMS) is used for information storage. The web-based clients include a simple search engine (PangaVista) and a data mining tool (ART). With its comprehensive graphical user interfaces and the built in functionality for import, export, and maintenance of information PANGAEA is a highly efficient system for scientific data management and data publication.

WDC-MARE / PANGAEA is operated as a permanent facility by the Centre for Marine Environmental Sciences at the Bremen University (MARUM) and the Alfred Wegener Institute for Polar and Marine Research (AWI), Bremerhaven.