

PANGAEA and the World Data Center for Marine Environmental Sciences – facilities for the final global data synthesis of JGOFS data

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The World Data Centre for Marine Environmental Sciences (WDC-MARE, <http://www.pangaea.de>) 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 its operating platform. PANGAEA in addition serves significant amounts of terrestrial, lacustrine, and glacial data. Essential services supplied by WDC-MARE / PANGAEA are project data management, data publication, and the distribution of visualization and analysis software (freeware products). Among the recent data management projects are the final global data synthesis for the Joint Global Ocean Flux Study (JGOFS) and the International Marine Global Change Study (IMAGES). Together with the WDC for Paleoclimatology, Boulder, WDC-MARE forms the essential backbone within the IGBP/PAGES Data System (Eakin, 2002). 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. A relational database management system (RDBMS) is used for information storage. Users access data from the database via web-based clients, including 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) in Bremerhaven, Germany.