IOWMETA - A modular metadata information system enabling the extraction of ISO-compliant metadata from heterogeneous sources

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Objective

The purpose of the metadata information system IOWMETA is to provide a comprehensive catalogue of research data stored at the Leibniz Institute for Baltic Sea Research Warnemünde (IOW). By means of standardized and detailed metadata IOWMETA not only ensures long-term availability of IOW’s marine research data but also enables international exchange.

1. Metadata Extraction

The system architecture supports straightforward extensibility. In order to complete the data stock in IOWMETA new modules are continuously developed extracting metadata from heterogeneous data sources.

2. Metadata Import

IOWMETA is based on the metadata standards of ISO 191xx. The extracted metadata are mapped to ISO 19115 in order to become storable in the metadata database.

3. Metadata Storage

A set of more than 40 ISO-elements (incl. the 19115 core) were put into practice as relational database consisting of currently 100 tables. In addition, a tool for resolving IOC GF3-Codes to other international vocabularies was developed. The resulting keyword mapping makes the metadata comparable to repositories based on international vocabularies.

4. Metadata Export

The metadata are converted to ISO 19139 compliant XML data structures. The resulting XML data constitute the basis for international retrieval and exchange.

5. GeoNetwork Server

A GeoNetwork Server is used to implement a web service infrastructure supporting standardized access and transfer of metadata and to provide a web-based graphical user interface with various search capabilities.

6. Automatic Transfer

Metadata can be automatically exchanged with distributed IOW applications, i.e. WebGIS or a THREDDS-Server.

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