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Development of KORDI Ocean Data Portal Web Service for Integrated Data Service

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We established a "KORDI Ocean Data Portal (ODP)" web service as a portal web site for data service of archived oceanographic data in KORDI. The main functions of the KORDI ODP are as follows: 1) providing both information on the archived data and data itself of main database system in KORDI, 2) affording links to other data sets that operate independently in KORDI, 3) providing data that were gathered from available internet resources and offered with cooperation from Korea Meteorological Agent (KMA), and 4) offering application services, such as mapping, statistical analyses, and spatial analyses, etc. based on Geographic Information System (GIS) technology. The ODP database for archived data included many types of observation item; physical oceanographic data (temperature, salinity and currents), chemical oceanographic data (nutrients, DO, POC, heavy metals, etc.), biological oceanographic data (taxonomy and occurrences), marine geology data (size analysis, sediment type, geochemical values from core, suspended, and surface sediment, etc.). All the observation data were archived in RDBMS (Relational DataBase Management System), thus each data were classified as some data groups by the characteristic of data. An information retrieval service was based on a metadata management system. The metadata management system provides information of archived data according to user defined query condition such as locations and time, etc. End-users could get the final data referred the metadata in the RDBMS. The Oracle DB system (Oracle 11g) installed on Windows 2008 Server was adopted for RDBMS of archived data. Open source GIS tools (OSGeo) were used as a middle ware, whereas ArcGIS was selected for various application services.