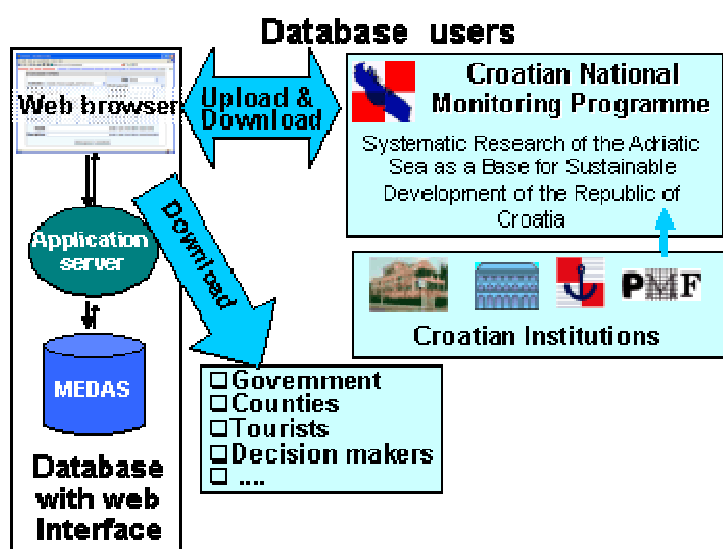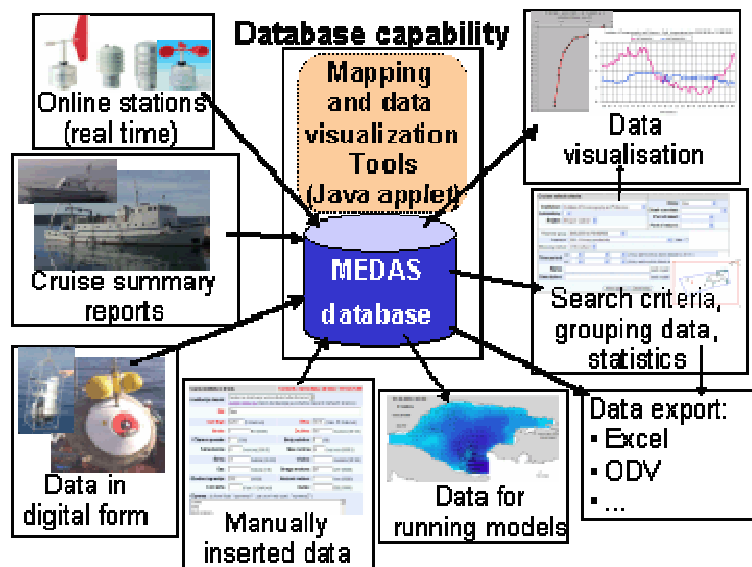# MEDAS system for Internet presentation, management and validation of Oceanographic metadata and data

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MEDAS database with web interface based on ORACLE 9i RDBMS and Application server represents the useful tool for Internet presentation and management of CSR (Cruise Summary Report) metadata and oceanographic data management and validation. It consists of information on measurement data, area of measurements, the people responsible for the research and institutions. The database also has system for access control – unauthorized and authorized part with logging of authorized access. Database includes data relating to various oceanographic parameters: meteorological, physical and chemical as well as biological types of data. Two kinds of applications are used to manage the data: the first is developed as PL/SQL procedures with JavaScript (Oracle application server) and is used for alphanumeric information; the second is developed as Java applet and is used to visualize the area of measurements and for visualization and validation of data.

Advances of web-based database interface are platform, and software independent database access with only required Internet connection. With this facility we can assure inserting of CSR metadata directly from research vessels (GPRS, satellite internet connection) and from various different institutions. Also metadata and data can be access and used by various types of users and by scientist from many institutions what is important for join project work, as is national monitoring program.

Database is also used for real time data, for running numerical models and for various data extractions and data mining. Database contains procedures for automatic check of Cruise Summary Report data (time-spatial crosscheck). All CSR data are available online http://www.izor.hr/roscop/eng/ with detailed information about time, station position, measured parameters, responsible persons, projects, institution and ship details (extended GF3 format). Working area is frame based. Also data validation tools are developed as web application connected to CSR application. Java applets are used for data visualization and interactively work wits Application server forms.

Some of benefits for Research community are:

- Easy and efficient way to plan, document, and control joint project with many institutions.
- Quality controlled metadata what is essential for sea research (spatial, time, and instrumentation and methods information).
- Possibility to link measured data to metadata, and quality control of measured data.
- Visualizations of spatial component (for better understanding of areas of interest), visualizations of measured data (for quality control) and various statistic reports (for analyzing data and metadata).