Near real time transfer and quality control of CTD data and Cruise Summary Report (CSR) metadata

D. Ivanković (1), F. Matić (1), V. Dadić (1), B. Grbec (1) and M. Bone (1)

(1) Institute of oceanography and fisheries, Split, Croatia (+385 21 358688)

Abstract

Marine Environmental Database of the Adriatic Sea (MEDAS)[1] has been developed as relational database using ORACLE 9i RDBMS. It consists of information on measurement data, area of measurements, responsible person and institutions with system for access control. Database includes data related to varies oceanographic parameters: meteorological, physical, and chemical as well as biological types of data. Application for managing data is developed under ORACLE 9i Application server (MOD PL/SQL) with mapping tool developed as Java applet.

On Institute of oceanography and fisheries, Split, Croatia was developed the methods of near real time transfer of CTD data and CSR (ROSCOP) metadata from research vessel using GPRS technology to MEDAS database. Automatic quality control procedures for CSR metadata and time and space crosscheck between CSR and CTD data using ship speed and predefined cruise of the vessel were developed on database. After transfer to database and passed linking with CSR, CTD data are automatically processed by SeaBird procedures. CTD data are quality controlled for elimination spikes and checked with climatologically values for detection of probe errors and decalibration. Final product is T0.5[2] level of reliability of data. Next step is on-line visual quality control using Java applet by scientist.

Under MEDAS database was developed real time initialization and assimilation of z-coordinate hydrodynamic model for Kaštela Bay using data from automatic mete-ocean station and CTD data. For proposes of verification and calibration of model, predicted and the in situ profiles are automatically plotted.

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[1] Developing of MEDAS database is founding by Croatian National Monitoring Programme
[2] According to IFREEMER, Brest, France quality control levels

CSR metadata (http://www.izor.hr/roscop/eng/), automatic meteo-ocean station and model results (http://www.izor.hr/eng/online/) are available on Internet.