

Temperature and salinity historical data collections for the european marginal seas: aggregation and quality assessment procedures

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Temperature and Salinity (TS) historical data collections from 1900 were created for each European marginal sea within the Framework of SeaDataNet2 (SDN) EU-Project. V1 collections of data were created to meet operational oceanography and climate change community requirements that need longer and longer time series of in situ observations to study long term ocean phenomena and their implications in the surrounding environment. This work has been developed in synergy with MyOcean In-Situ Thematic Assemble Centre (INS-TAC) to support and promote monitoring, modeling or downstream service development.

The harvesting procedure of temperature and salinity files was performed by a new CDI Robot that used the CDI Data Discovery and Access Service to query, shop and retrieve data sets from the distributed data centers (NODC) in an automatic way. Firstly the shopping mechanism has been tuned through a series of “massive” requests of data. Then the robot retrieved the whole dataset as ODV files including the full CDI metadata, which were then aggregated into a single TS Data Collection using SDN Importer of ODV 4.5.3. It followed the creation of regional and 1900-2012 subsets and the distribution to SDN regional groups, responsible of SDN products, in order to perform quality assessment analysis.

Before and during the harvesting and aggregation procedures many efforts have been done to assure the best quality of the V1 collections of data. A screening procedure was applied to identify duplicates and clean SDN infrastructure from redundancies. Numerous files were found to not comply with the ODV/SDN format specification and were rejected. These files have been corrected at the NODCs level.

Six TS data collections, one per each European marginal sea (Arctic Sea, Baltic Sea, North Sea, North Atlantic Ocean, Mediterranean Sea, Black Sea), were then analyzed at regional level

to assess and certify the quality of these products. The objective was twofold to report to the NODCs about further and necessary improvements for next data collection release and to report to the users all the procedures utilized. Basic quality check (QC) procedures were applied in a coordinated way to all data collections to assure a progressive harmonization of product quality.

SDN V1 TS data collections will be presented for the first time in occurrence to their official release. All basic QC procedures will be described and the results summarized.