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Post-deployment evaluation of T-S data measured by Argo floats in the Black Sea: Regional approach

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During the R/V “Akademik” cruise on 17-19 March 2011, a set of 3 autonomous profiling floats was successfully deployed in the Black Sea. This activity is part of the pilot BulArgo program funded by the Bulgarian National Science Fund of the Ministry of Education, Youth and Science. By BulArgo and upcoming Black Sea ARGO initiatives, a large number of T-S profiles will be collected. However, once an Argo float is launched in the sea, it is very difficult to recalibrate its sensors and to assess its drift due to the technical (moving) nature of the profilers, so Argo dataset is generally cheeked in an indirect way.
Over the last years, several methods have been used for validation of Argo data, including comparison with nearby measurements of different random ARGO floats, comparison of ARGO measurement with nearby shipboard CTD data, comparison with reference climatology etc. Due to the specific hydrological regime in the Black Sea, the standard delay mode quality control procedures of Argo data has been adapted to the Black Sea regional peculiarities. The BulArgo dataset has been validated using comparison with SeaDataNet climatology and reference CTD data. The method allows detection of significant errors and deviations in the Argo dataset that can not be recognized by standard Real-Time Quality Control procedures. The BulArgo profiles has been processed in delay mode as approximately 97% of it is assessed as good data (QF 1) and less than 3% of whole dataset are flgged as suspicious or bad (QF 3 and 4). The quality controlled data have been integrated in the Bulgarian National Oceanographic Database.