
The implementation of a data management plan to uplift historical data: long-term change detection in the Belgian Continental Shelf

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The amount of marine data collected during research and monitoring programs is increasing continuously. Based on these data, long-term changes have been reported in all measured indicators defining an ecosystem status. Over the years not only the climate is changing, also the know-how has undergone an immense evolution. First of all, methods for data collection and analyses have improved, and secondly means for data handling and storage have been upgraded. As in the past a lot of data were stored locally, today more than ever there is a need for integrated quality-checked, intercalibrated and integrated datasets. The project “4 Decades of Belgian Marine MONitoring: uplifting historical data to today’s needs” (4DEMON) has the challenge of integrating data on contamination, eutrophication and ocean acidification gathered in the past with recent data from the Belgian Continental Shelf (BCS). This both safeguards the historic data and uplifts its value as it can serve many new and cross-disciplinary research objectives.

To streamline the resuscitation process a data management plan was implemented. At the base is a workflow with all data management tasks, the latest processes and tools. This involves a secure online file sharing system (MDA), a Data Inventory and Tracking system (DITS), the import process in large integrated databases (IDOD and IMERS) and international dissemination via projects like OBIS and EMODNet by the National Oceanographic Data Centres (VLIZ and BMDC).

The intermediate results are very promising: thanks to the inventorisation of over 1000 datasources an immense amount of data could be resuscitated. As a result, the project could already indicate shifts in species, test standardization methods and relate trends to reduction policies. The adequate data management plan can be applied in many projects.