



Project of strategic interest NEXTDATA

Deliverable D2.4.1 Archive of sediment core data and key sites and data transmission to the General Portal

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The activities performed during the first year were devoted to an exhaustive archival research, based on the inspection of the national and international scientific literature (Appendix 1) and of international databases on sediment cores drilled in the Mediterranean Basin. The bibliographic research on sedimentary cores in specific extra-Mediterranean sectors is postponed to the second year.

After a comparative analysis of the various databases, we have identified the following databases which provide relevant information on the Mediterranean area:

- 1) Geo-Seas
- 2) Marine Geology Data Ocean Drilling Data Deep Sea Drilling Project & Ocean Drilling Program Data (<http://www.ngdc.noaa.gov/mgg/geology/drill.html>)

Additional selection criteria were applied to these databases to identify:

- 1) The sites drilled through the use of a sampling device able to collect undisturbed sequences of marine sediments, such as:
 - a) gravity corer – piston corer – Kullenberg piston corer – rotary drilling;
 - b) box-corer.
- 2) the sites located on the continental shelf and in the abyssal plain, because these areas are suitable for the recovery of undisturbed marine sedimentary sequences.

This preliminary bibliographic selection for the Mediterranean Basin allowed for recognizing 1517 sites, divided as follows:

- 170 sites sampled through the use of a box-corer
- 817 sites sampled through the use of a gravity corer
- 427 sites sampled through the use of a piston corer
- 35 sites sampled through the use of a Kullenberg piston corer
- 68 sites sampled through the use of rotary drilling

The choice of the selection criteria described above (continental shelf and abyssal plain, and the sampling devices used for the cores recovery) was supported by the analysis of the national and international scientific literature focused on the Holocene time interval and the Mediterranean area. Appendix 1 reports the list of references which we have collected and analysed.

The comparison between the data collected for the 1517 drilling sites and the information contained in the scientific literature, has allowed us to propose, during a meeting held on 15/11/2012 at the University of Cagliari with the researchers of WP2.1, WP2.3 and WP2.4, a conceptual scheme useful for metadata publishing and a Geodatabase for the recording of marine sediment data. As an outcome of the meeting, the SHARE GeoNetwork structure for cataloging metadata was selected, to store marine sediment data (see Fig. 1).

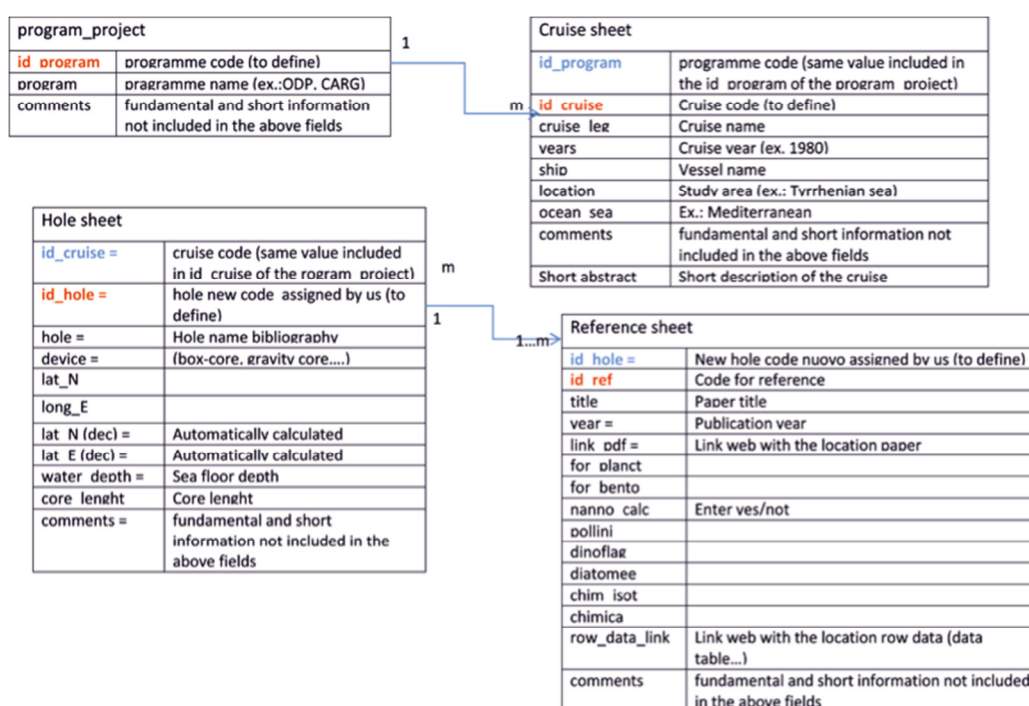


Figure 1. Logical scheme for the storage of marine sedimentary cores

A hierarchical Parent/Child structure was identified, as follows:

Project ---- > Cruise ---- > Sampling sites

This structure could be subsequently modified as a result of the review and analysis of the national and international literature, to be completed in the second year of the NextData Project.

At variance with the activities foreseen in the Executive plan, during the first year we have not transmitted the data to the General Portal. This delay is due to a difficulty encountered in adapting the metadata cataloging structure of the SHARE GeoNetwork to the description of marine sediment cores and to the need of finding the most suitable configuration for the hierarchical structure of the archive. The latter issue was addressed in the meeting held on 15/11/2012 at the University of Cagliari, with the scientific coordinators of WP2.1, WP2.3 and WP2.4.

Appendix 1

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