



Project of Strategic Interest NEXTDATA

Scientific Report for the reference period 1/01/2018-30/06/2018

Deliverable D1.5.B (June 2018)

Database of the paleoclimatic information from marine sedimentary cores recovered in keysites of the continental platform (Task 2)

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The research activities related to Deliverable D1.5B of project is dedicated as follows: i) to improve the quantitative analyses carried out on the selected marine keysites recovered in the continental platform from Adriatic, Sicily Channel and Tyrrhenian seas and ii) to upload all the data (planktonic foraminifera, calcareous nannofossils, stable isotope, Sea Surface Temperature reconstructed by Mg/Ca ratio and alkenones, radiocarbon age, tephra, radionuclides, pollens, paleomagnetic) in the WDB-Paleo Database (WP 2.4). Because of the acquisition of data is still in progress, this database will be continuously updated.

The sites recovered during NextData oceanographic cruises 2013, 2014, and 2016 are illustrated in Figure 1, with some sites available from Barcelona University (Balearic Island), Palermo University (south-east Tyrrhenian Sea) and from IAMC-CNR of Naples (Gulf of Salerno, Tyrrhenian Sea).

Paleoclimatic and chronological data acquired for the studied marine sedimentary cores are reported in Table 1.

This research activity has been proposed within a joint research agreement with two international research groups (Isabel Cacho of University of Barcelona and Marie-Alexandrine Sicre of Locean-CNRS Paris) and with Palermo University (Antonio Caruso).

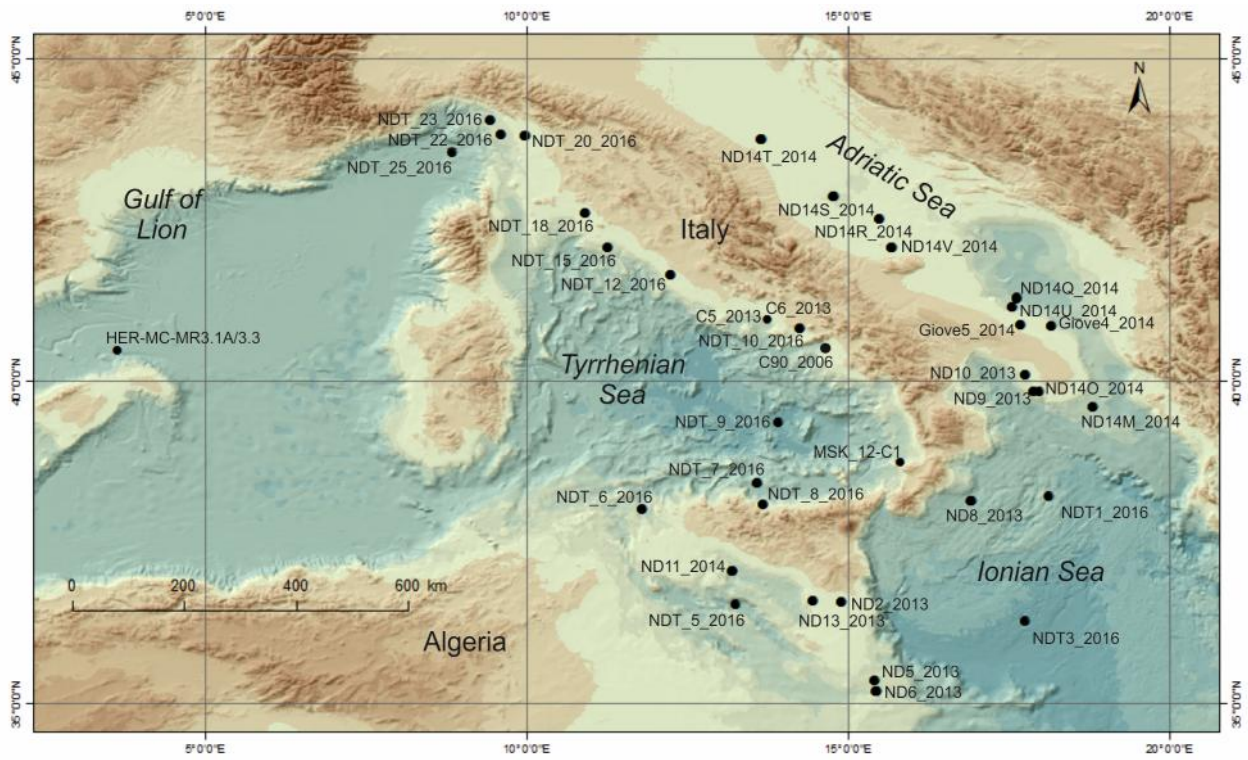


Fig. 1. Location map of the cores acquired during NextData project. Oceanographic cruises NEXTDATA2013, 2014 and 2016.

| Cores | Oceanographic Cruise (yr) | Water depth (m) | Recovery thickness (m) | Location | Magnetic Susceptibility | Planktonic Forams | Calcareous nanofossils | Stable Isotope | Sea Surface Temperature Mg/Ca | Sea Surface Temperature Alkenone | Pollens | Tephra | AMS ¹⁴ C | Radiocarbon dates | Paleoma g. | Time interval (BP) |
|-------------------|---------------------------|-----------------|------------------------|--|-------------------------|-------------------|------------------------|----------------|-------------------------------|----------------------------------|---------|--------|---------------------|-------------------|------------|--------------------|
| C90 | 1997 | 103 | 1.05 | Gulf of Salerno (central Tyrrhenian Sea) | X | X | X | X | | | | X | X | X | | hist 574 yr |
| C5 | 2013 | 93 | 4.46 | Gulf of Gaeta (central Tyrrhenian Sea) | X | X | X | X | | | | X | X | X | | hist 4867 yr |
| SW104-C5 | 2013 | 93 | 1.08 | Gulf of Gaeta (central Tyrrhenian Sea) | X | X | X | X | | | | X | X | X | | hist 327 yr |
| C6 | 2013 | 118 | 3.91 | Gulf of Gaeta (central Tyrrhenian Sea) | X | X | X | X | | | | X | X | X | | hist 1018 yr |
| ND2 | 2013 | 89 | 4.31 | eastern Sicily Channel | X | X | X | X | | | | X | X | X | | hist 3218 yr |
| SW104-ND2 | 2013 | 89 | 1.16 | eastern Sicily Channel | X | X | X | X | | | | X | X | X | | hist 430 yr |
| ND6 | 2013 | 577 | 4.47 | eastern Sicily Channel (east Malta) | X | X | X | X | | | | | | | | older than 10 kyr |
| ND6 SW | 2013 | 577 | 0.33 | eastern Sicily Channel (east Malta) | X | X | X | X | | | | | | | | older than 10 kyr |
| ND5 | 2013 | 335 | 3.24 | eastern Sicily Channel (east Malta) | X | X | X | X | | | | | | | | |
| ND5 SW | 2013 | 335 | 0.27 | eastern Sicily Channel (east Malta) | X | X | X | X | | | | | | | | |
| ND3 | 2013 | 165 | 3.9 | eastern Sicily Channel | X | X | X | X | | | | | | | | |
| ND 8 | 2013 | 1821 | 5 | east Ionian Sea | X | X | X | X | | | | | | | | |
| ND10 | 2013 | 174 | 3.17 | Gulf of Tarento (eastern part) | X | X | X | X | | | | | | | | |
| ND10 SW | 2013 | 174 | 0.55 | Gulf of Tarento (eastern part) | X | X | X | X | | | | | | | | |
| ND2 | 2013 | 176 | 4.8 | Gulf of Tarento (eastern part) | X | X | X | X | | | | | | | | |
| ND2 SW | 2013 | 176 | 1.34 | Gulf of Tarento (eastern part) | X | X | X | X | | | | | | | | hist 4719 yr |
| SW104-ND11 | 2013 | 475 | 1.33 | western Sicily Channel | X | X | X | X | | | | | | | | |
| ND11 | 2014 | 475 | 4.87 | western Sicily Channel | X | X | X | X | | | | | | | | hist 5327 yr |
| ND10 AR | 2014 | 1013 | 5.33 | south Adriatic Sea | X | X | X | X | | | | | | | | hist 17 kyr |
| SW104-ND10 | 2014 | 1013 | 1.16 | south Adriatic Sea | X | X | X | X | | | | | | | | hist 22 kyr |
| SW104-ND10 | 2014 | 113 | 1.13 | Gulf of Tarento (eastern part) | X | X | X | X | | | | | | | | hist 2689 yr |
| Grove 4 | 2014 | 255 | 4 | south Adriatic Sea | X | X | X | X | | | | | | | | hist 1194 yr |
| SW Grove 4 | 2014 | 92 | 0.93 | south Adriatic Sea | X | X | X | X | | | | | | | | |
| Grove 5 | 2014 | 92 | 4.44 | south Adriatic Sea | X | X | X | X | | | | | | | | |
| SW Grove 5 | 2014 | 92 | 1.05 | south Adriatic Sea | X | X | X | X | | | | | | | | |
| ND18R | 2014 | 140 | 1.26 | central Adriatic Sea | X | X | X | X | | | | | | | | |
| SW ND18R | 2014 | 140 | 5.27 | central Adriatic Sea | X | X | X | X | | | | | | | | hist 10 kyr |
| ND18S | 2014 | 259 | 1.35 | north Adriatic Sea | X | X | X | X | | | | | | | | |
| SW ND18S | 2014 | 259 | 4.3 | north Adriatic Sea | X | X | X | X | | | | | | | | hist 6000 yr |
| ND14T | 2014 | 55 | 1.27 | north Adriatic Sea | X | X | X | X | | | | | | | | |
| SW ND14T | 2014 | 641 | 3.5 | south Adriatic Sea | X | X | X | X | | | | | | | | |
| SW ND14T | 2014 | 641 | 1.34 | south Adriatic Sea | X | X | X | X | | | | | | | | |
| ND14V | 2014 | 78 | 3.11 | central Adriatic Sea | X | X | X | X | | | | | | | | |
| SW ND14V | 2014 | 78 | 1.19 | central Adriatic Sea | X | X | X | X | | | | | | | | |
| ND 14M | 2014 | 655 | 3.21 | north Ionian Sea | X | X | X | X | | | | | | | | hist 22 kyr |
| SW ND14M | 2014 | 655 | 1.1 | north Ionian Sea | X | X | X | X | | | | | | | | |
| NDT 1 2016(BIS) | 2016 | 2711 | 3.82 | Ionian Sea | X | X | X | X | | | | | | | | hist 10 kyr |
| NDT 3 2016 | 2016 | 3620 | 3.36 | Ionian Sea | X | X | X | X | | | | | | | | |
| NDT 5 2016(BIS) | 2016 | 1688 | 2.4 | central Sicily Channel | X | X | X | X | | | | | | | | |
| NDT 6 2016 | 2016 | 1066 | 4.14 | Tyrrhenian Sea (south western sector) | X | X | X | X | | | | | | | | hist 10 kyr |
| NDT 6 2016 SW104 | 2016 | 1066 | 1.26 | Tyrrhenian Sea (south western sector) | X | X | X | X | | | | | | | | |
| NDT 7 2016 | 2016 | 1493 | 4.45 | Tyrrhenian Sea (south western sector) | X | X | X | X | | | | | | | | |
| NDT 7 2016 SW104 | 2016 | 1493 | 1.21 | Tyrrhenian Sea (south western sector) | X | X | X | X | | | | | | | | |
| NDT 8 2016(BIS) | 2016 | 120 | 1.95 | Gulf of Tarento (north of Sicily) | X | X | X | X | | | | | | | | |
| NDT 8 2016 SW104 | 2016 | 120 | 1.22 | Gulf of Tarento (north of Sicily) | X | X | X | X | | | | | | | | |
| NDT 9 2016 | 2016 | 3359 | 5.7 | Tyrrhenian Sea (south eastern sector) | X | X | X | X | | | | | | | | hist 800 yr |
| NDT 9 2016 SW104 | 2016 | 3359 | 0.63 | Gulf of Naples | X | X | X | X | | | | | | | | |
| NDT 12 2016 | 2016 | 100 | 3.78 | Central Tyrrhenian Sea (western sector) | X | X | X | X | | | | | | | | |
| NDT 12 2016 SW104 | 2016 | 100 | 1.29 | Central Tyrrhenian Sea (western sector) | X | X | X | X | | | | | | | | |
| NDT 15 2016 | 2016 | 386 | 3.22 | Central Tyrrhenian Sea (western sector) | X | X | X | X | | | | | | | | |
| NDT 15 2016 SW104 | 2016 | 386 | 0.96 | Central Tyrrhenian Sea (western sector) | X | X | X | X | | | | | | | | |
| NDT 18 2016 | 2016 | 110 | 3.5 | North Tyrrhenian Sea | X | X | X | X | | | | | | | | |
| NDT 18 2016 SW104 | 2016 | 109 | 1.84 | North Tyrrhenian Sea | X | X | X | X | | | | | | | | hist 634 yr |
| NDT 20 2016(BIS) | 2016 | 73 | 2.9 | North Tyrrhenian Sea | X | X | X | X | | | | | | | | |
| NDT 20 2016 SW104 | 2016 | 73 | 1.25 | North Tyrrhenian Sea | X | X | X | X | | | | | | | | hist 400 yr |
| NDT 22 2016 | 2016 | 436 | 3.2 | North Tyrrhenian Sea (Gulf of Genova) | X | X | X | X | | | | | | | | |
| NDT 22 2016 SW104 | 2016 | 436 | 1.29 | North Tyrrhenian Sea (Gulf of Genova) | X | X | X | X | | | | | | | | |
| NDT 25 2016 | 2016 | 2294 | 4.78 | North Tyrrhenian Sea (Gulf of Genova) | X | X | X | X | | | | | | | | |
| NDT 25 2016 SW104 | 2016 | 531 | 3 | North Tyrrhenian Sea (Gulf of Genova) | X | X | X | X | | | | | | | | |
| NDT 23 2016 | 2016 | 531 | 1.15 | North Tyrrhenian Sea (Gulf of Genova) | X | X | X | X | | | | | | | | |
| MSK 12-Cl | 2012 | 604 | 1 | Cape Vaticano (south sea Tyrrhenian Sea) | X | X | X | X | | | | | | | | hist 382 yr |
| HERM-GCMR/LA/3.3 | 2009 | 2117 | 0.27 | Minoan Basin (western Mediterranean) | X | X | X | X | | | | | | | | hist 2577 yr |

Tab 1. List of the sites recovered and analyzed during NextData project, with the analyses for each sites.