

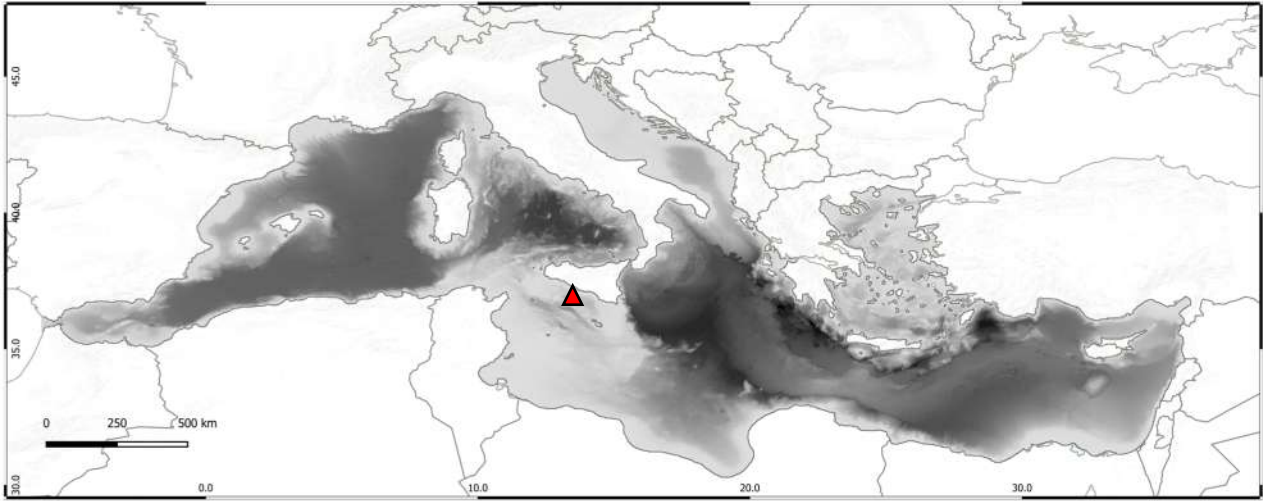
Supplementary Plate P1 - **Ocean Drilling Program (ODP) boreholes analyzed.**

Each well is displayed with its geographical location and simplified stratigraphy in the first page.

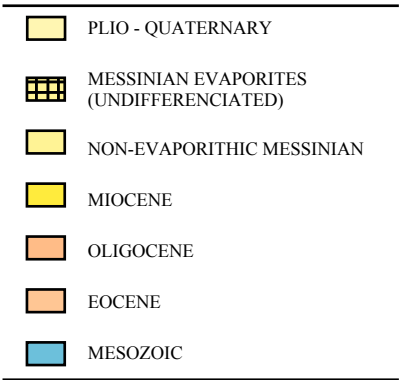
The salinity and temperature profiles and modelling results are displayed in the second page. Note that at the bottom of the second page is a close-up of the modelled hydrate stability in the subsurface.

ODP LEG 160
SITE 963

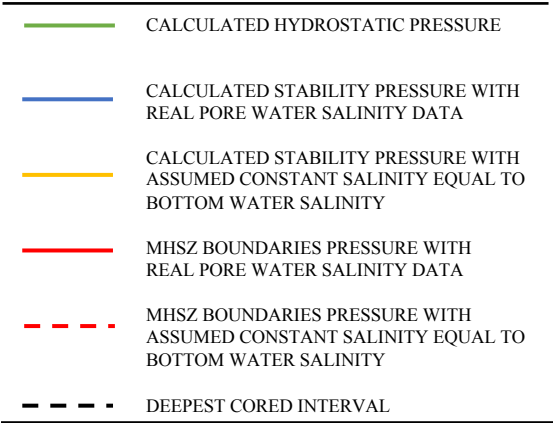
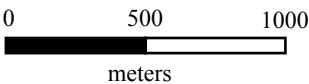
Strait of Sicily
Water depth: 469.8 m
Measured geothermal gradient in borehole : 50-70.842 °C/ km

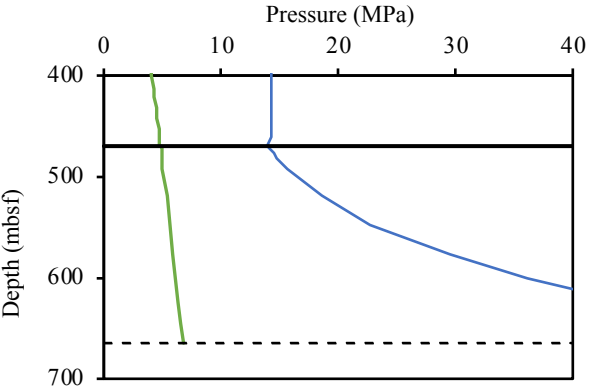
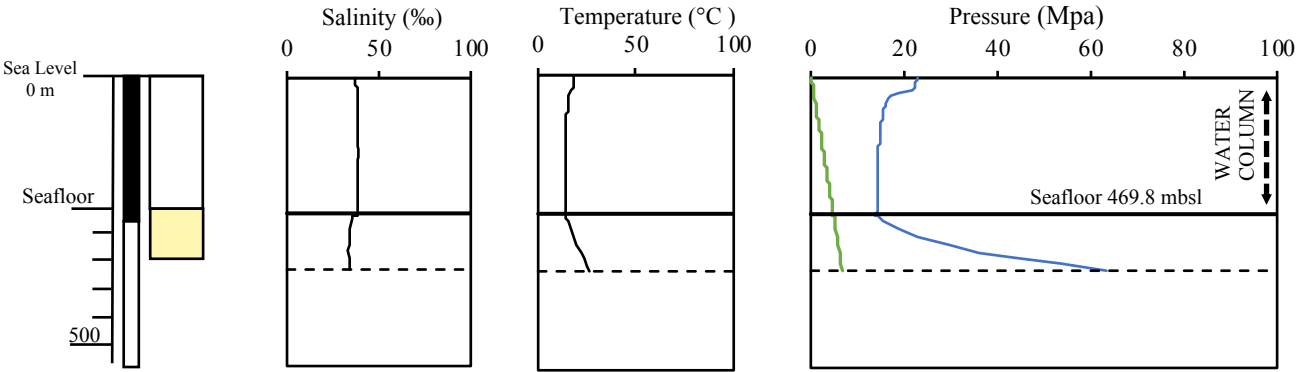


▲ ODP 160 963



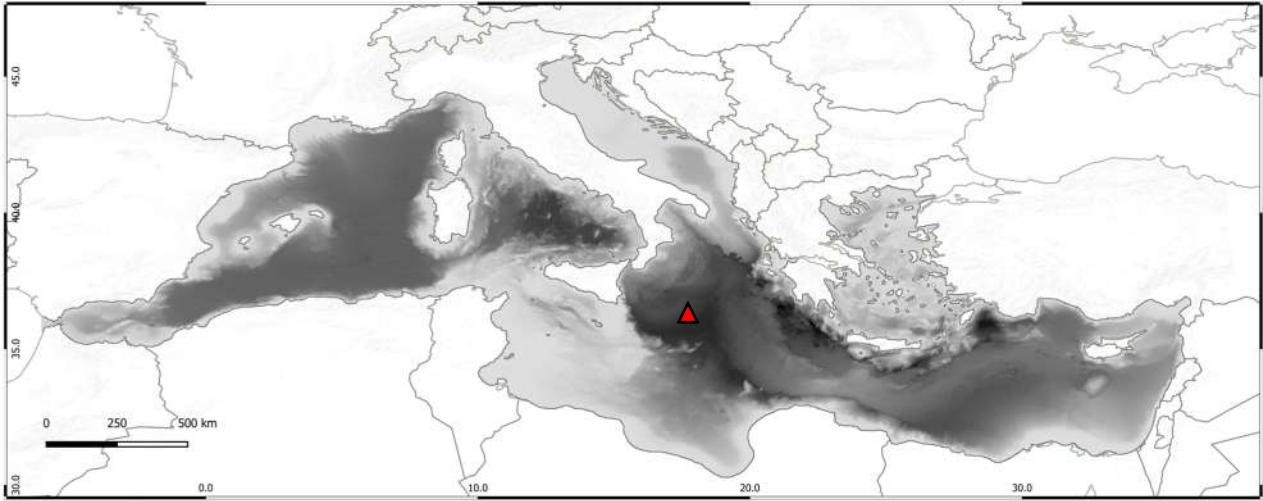
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil clay	0-204.5	late to early Pleistocene



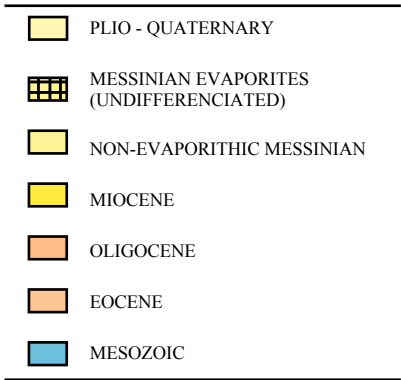


ODP LEG 160
SITE 964

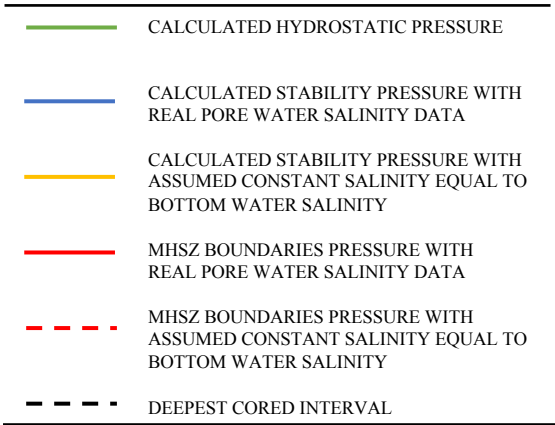
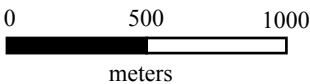
Calabrian Ridge, Ionian Basin
Water depth: 3657.7 m
Measured geothermal gradient in borehole : 17.391-44.828 °C/km

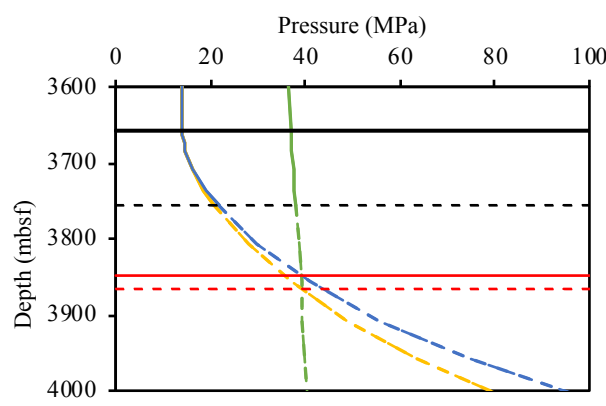
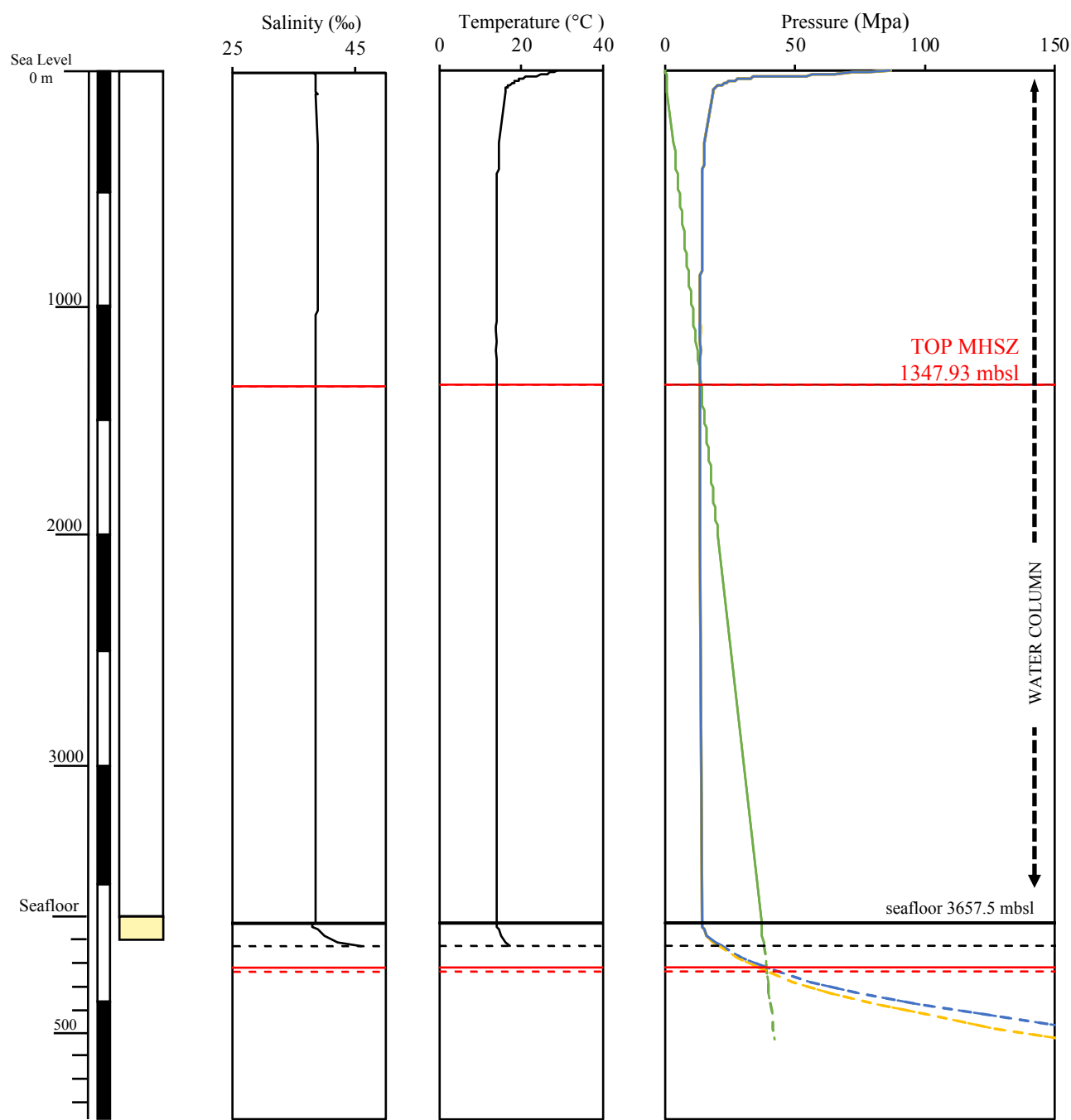


▲ ODP 160 964



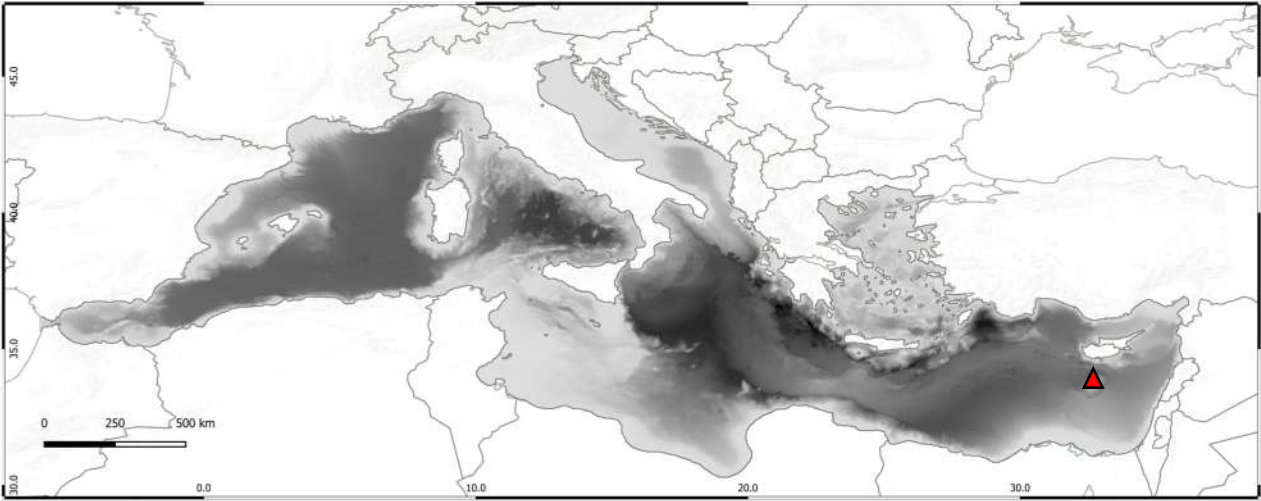
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil clay, clayey nannofossil ooze, and nannofossil ooze	0-108.6	early Pliocene to Holocene



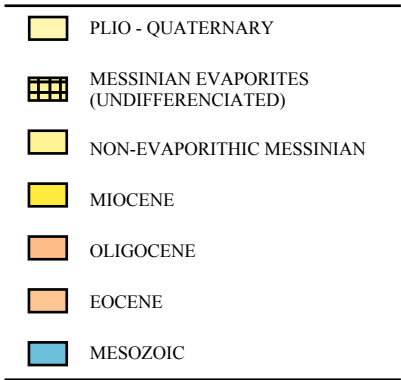


ODP LEG 160
SITE 965

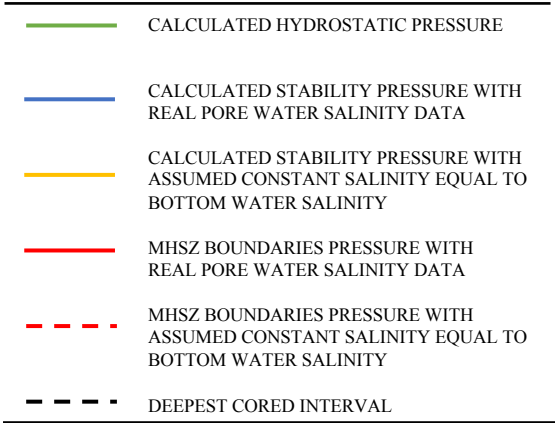
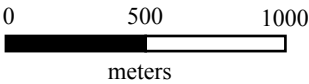
North to south Eratosthenes Seamount to Cyprus margin transect
Water depth: 1506.6 m
Measured geothermal gradient in borehole : 7.5 °C/km

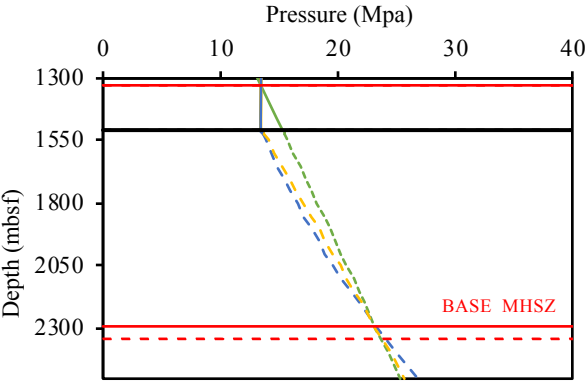
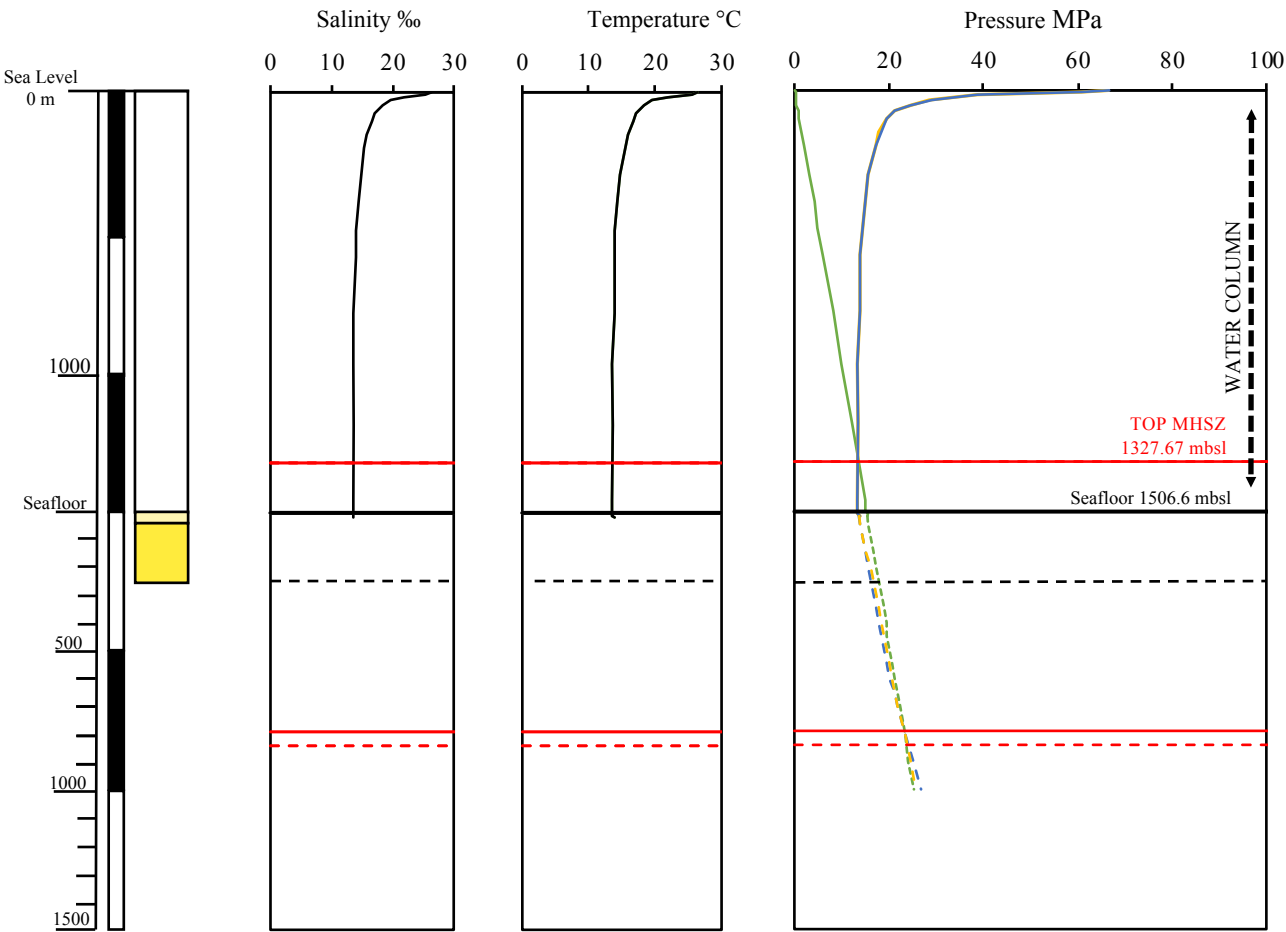


▲ ODP 160 965



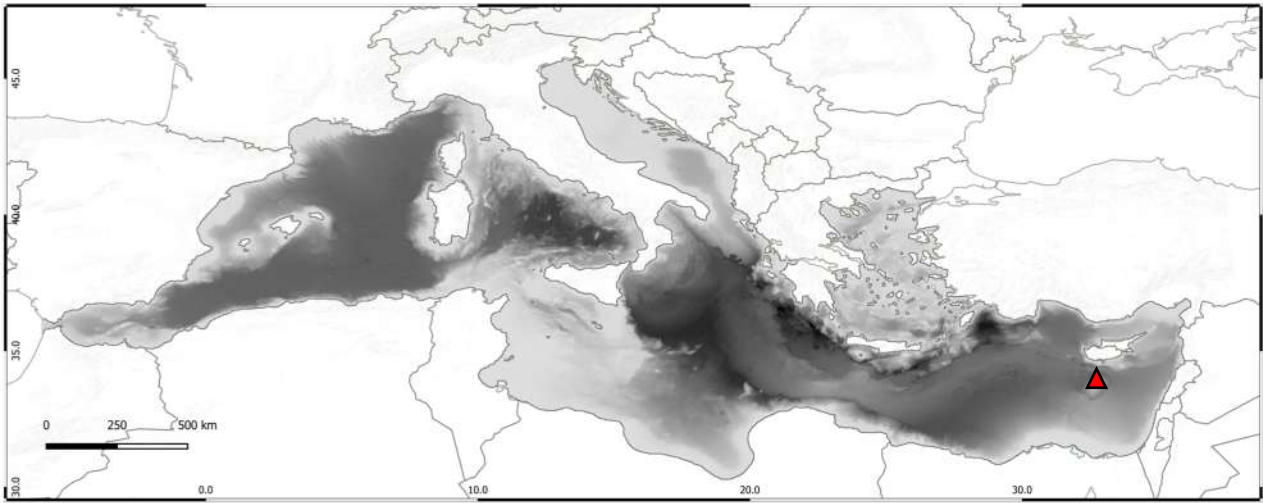
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil ooze, clayey nannofossil ooze, nannofossil clay, and foraminifer sand	0-23.0	early Pleistocene to early Pliocene
II	Mottled calcareous clay with scattered carbonate clasts	23-29.3	early Pliocene
III	Shallow-water carbonates	29.3-250.4	Miocene(?)



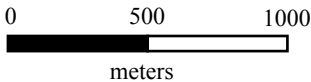
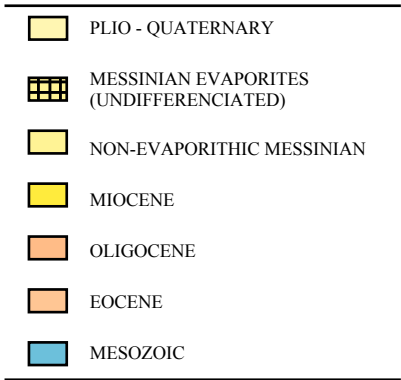


ODP LEG 160
SITE 966

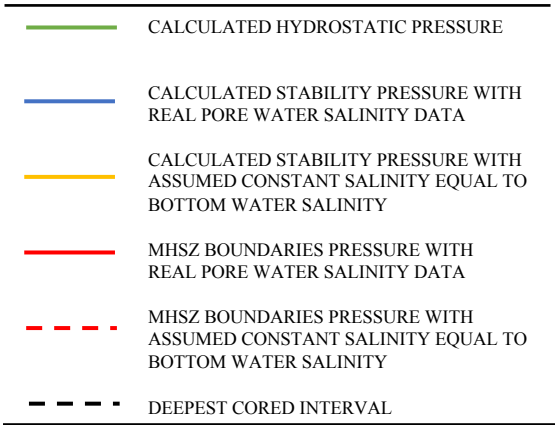
North to south Eratosthenes Seamount to Cyprus margin transect
Water depth: 926.3 m
Measured geothermal gradient in borehole : 25.06 °C/km

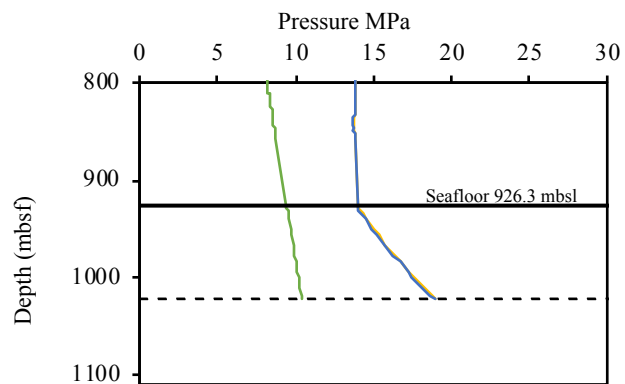
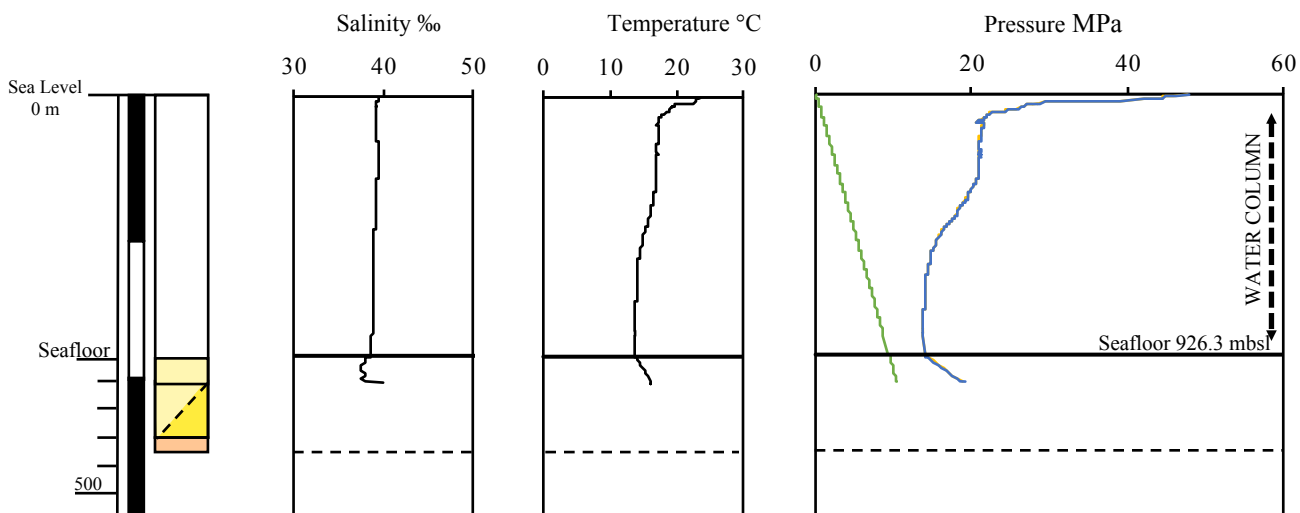


▲ ODP 160 966



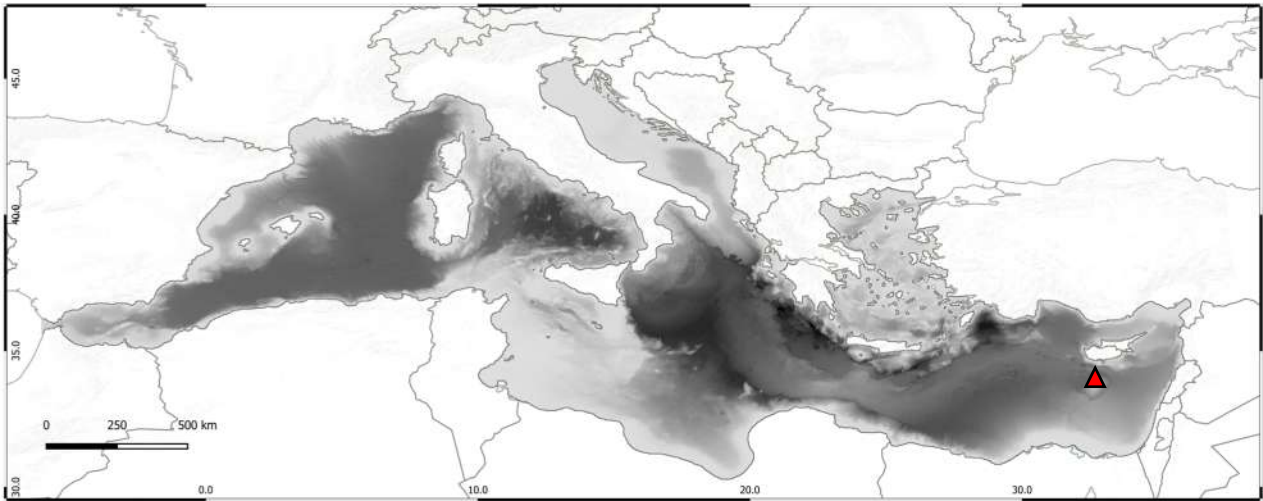
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil ooze, clayey nannofossil ooze, and nannofossil ooze with foraminifers	0-60	early Pliocene to Holocene
II	Calcareous paraconglomerate to limestone breccia	60-96.2	late Miocene(?) to early Pliocene
III	Shallow-water carbonate limestones	96.2-298.45	Miocene(?)
iv	Biomicrite with foraminifers	298.45-356	Eocene(?)



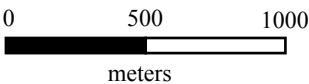
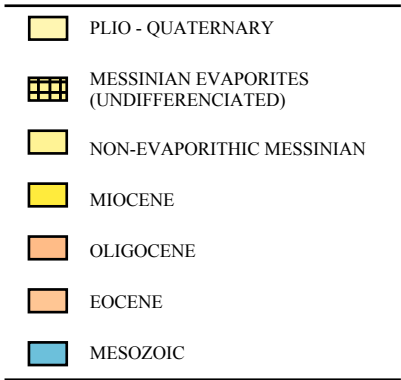


ODP LEG 160
SITE 967

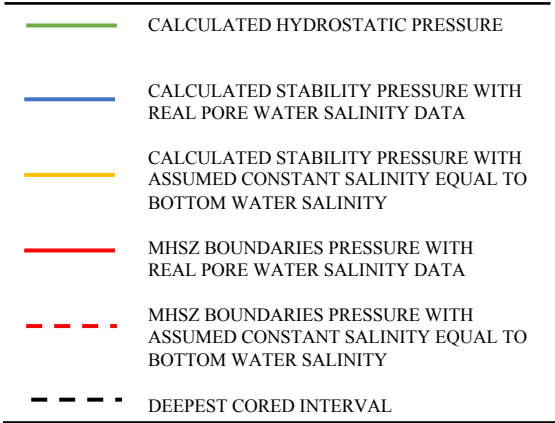
North to south Eratosthenes Seamount to Cyprus margin transect
Water depth: 2553 m
Measured geothermal gradient in borehole : 22.13 °C/km

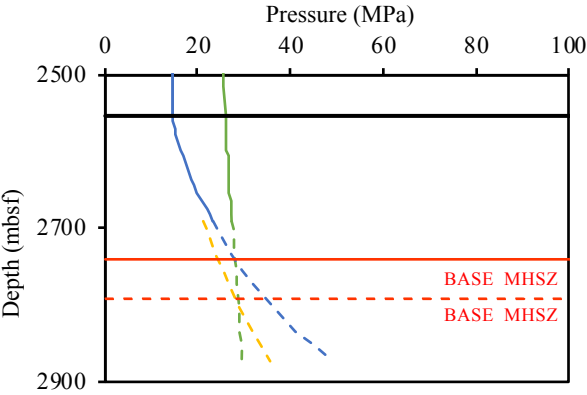
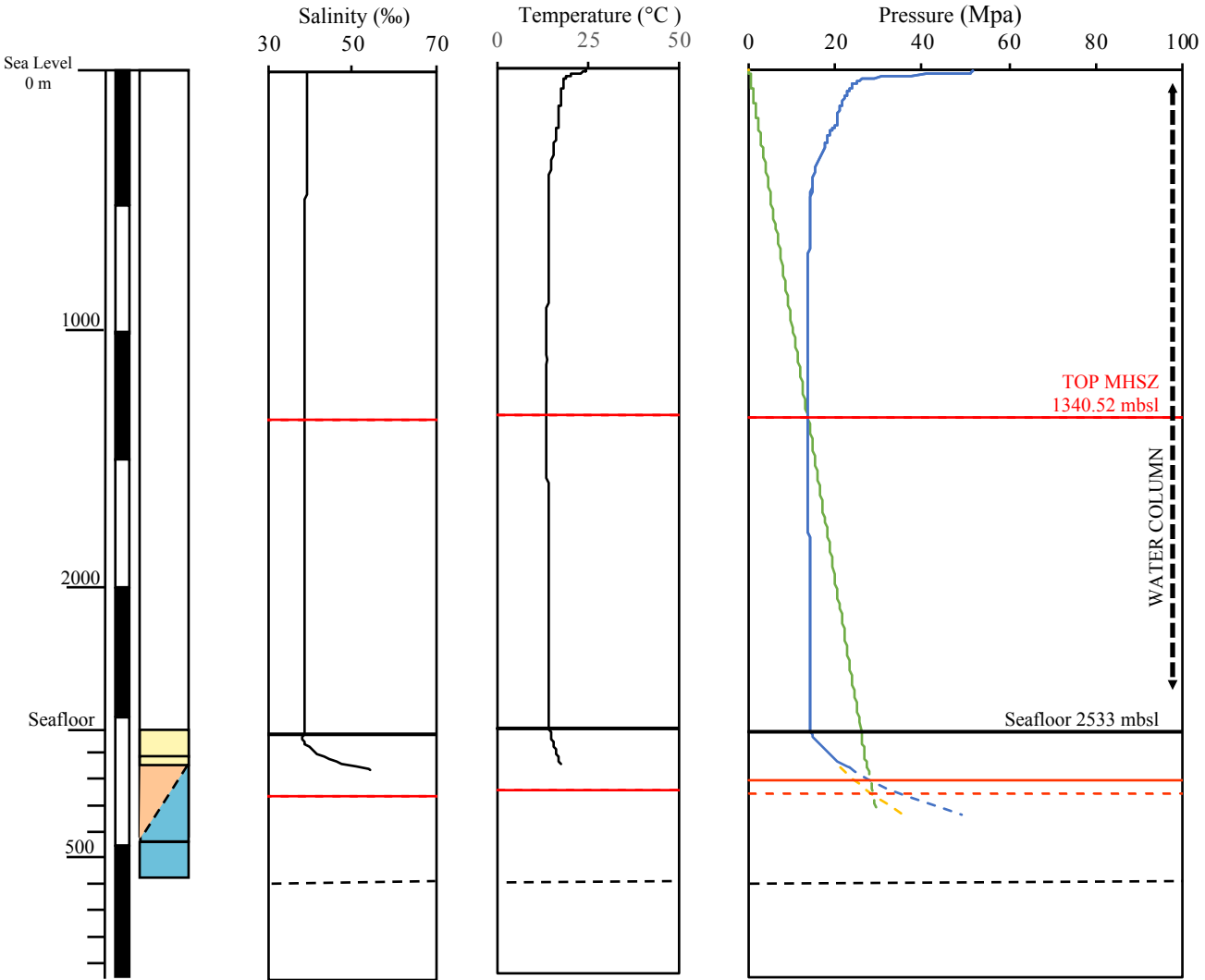


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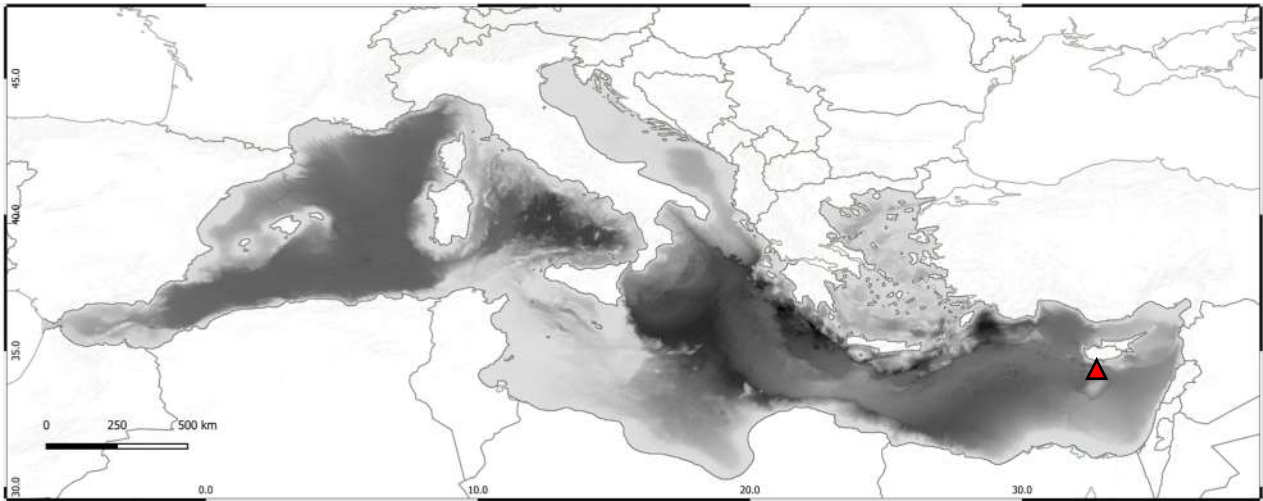
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil ooze and nannofossil clay	0-109.5	middle Pliocene to Holocene
II	early Pliocene to middle Pliocene	109.5-128.7	early Pliocene to middle Pliocene
III	Foraminifer nannofossil chalk	128.7-427.0	Late Cretaceous (Campanian) to middle Eocene
IV	Well-cemented shallow-water limestone	427.0-504.16	Late Cretaceous
V	Brecciated limestone	504.16-590.69	Late Cretaceous



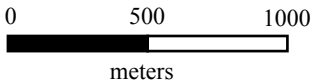
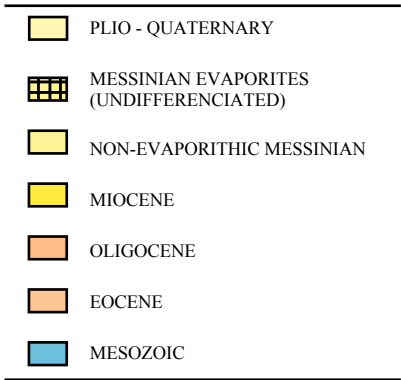


ODP LEG 160
SITE 968

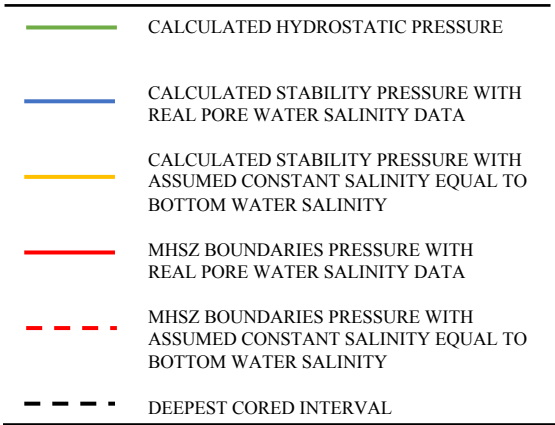
North to south Eratosthenes Seamount to Cyprus margin transect
Water depth: 1961.0 m
Measured geothermal gradient in borehole : 15.74 °C/km

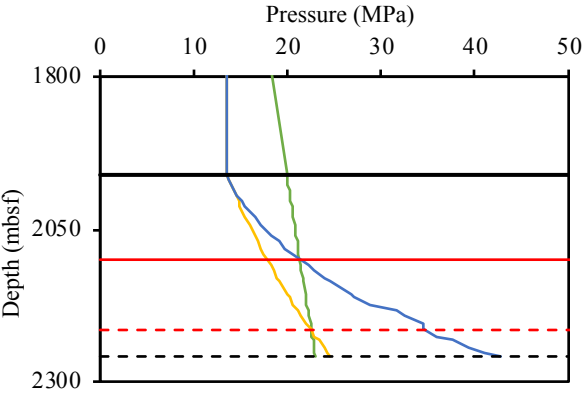
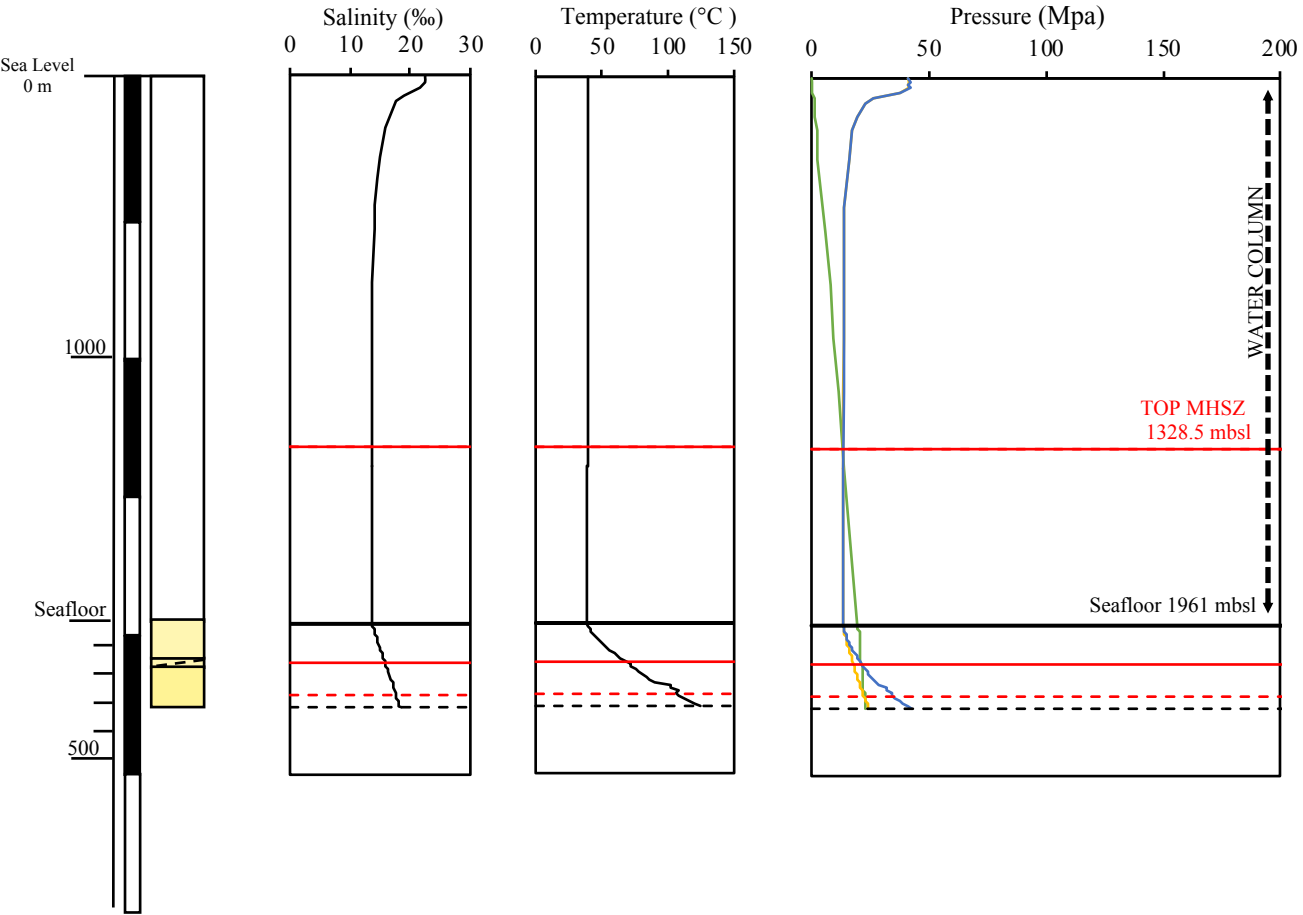


▲ ODP 160 968



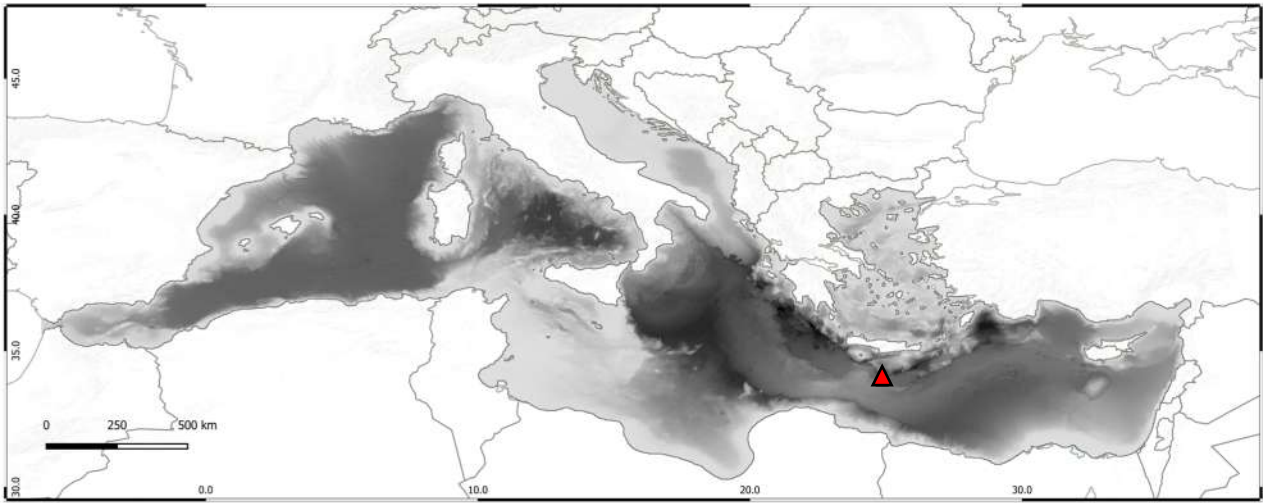
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil-rich fine-grained sediments	0-143	middle-late Pleistocene to early Pliocene
II	Nannofossil- and clay-rich fine-grained sediments	143-167	early Pliocene to Messinian?
III	Clay, silt, and minor sand	167-302.7	Messinian?



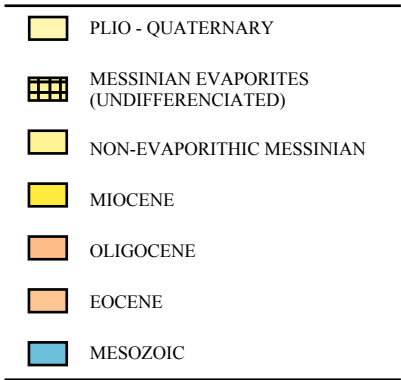


ODP LEG 160
SITE 969

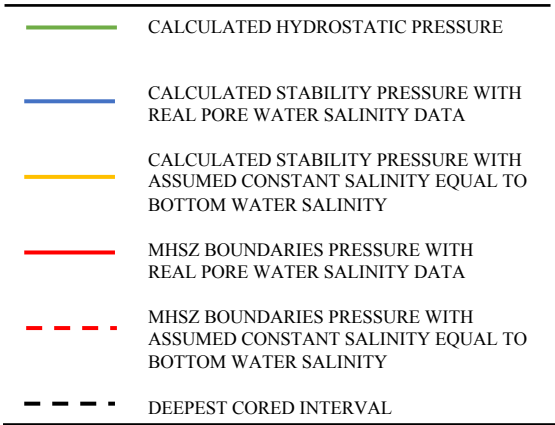
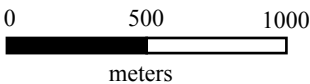
Mediterranean Ridge
Water depth: 2200.3 m
Measured geothermal gradient in borehole : 8-11.20 °C/km

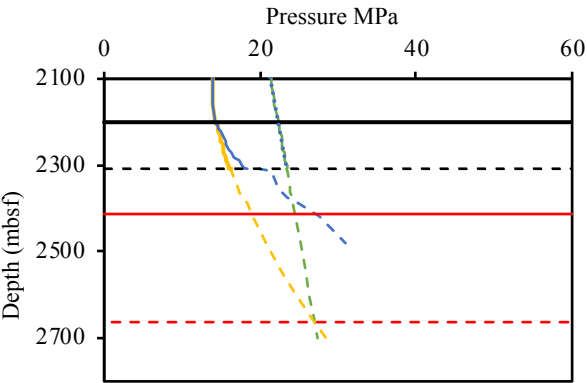
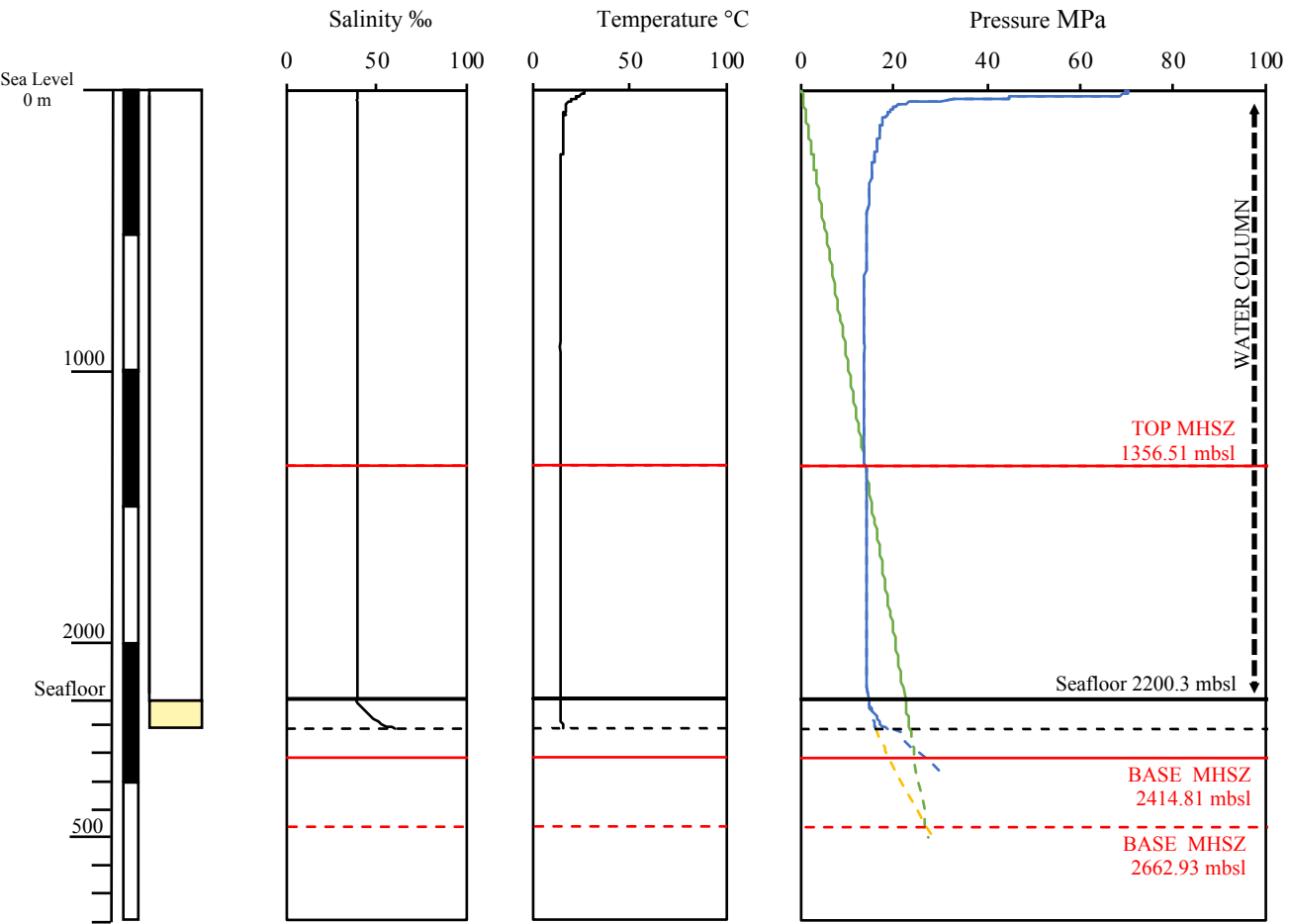


▲ ODP 160 969



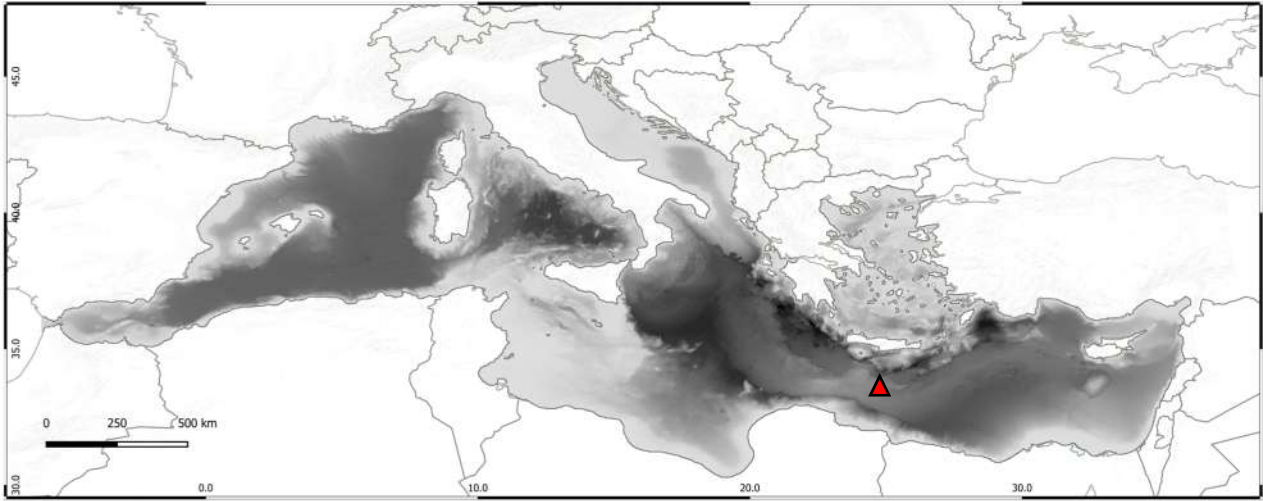
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil ooze, clayey nannofossil ooze, foraminifer nannofossil ooze, and nannofossil clay	0-116.2	early Pliocene to Holocene



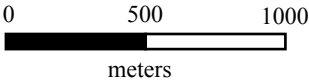
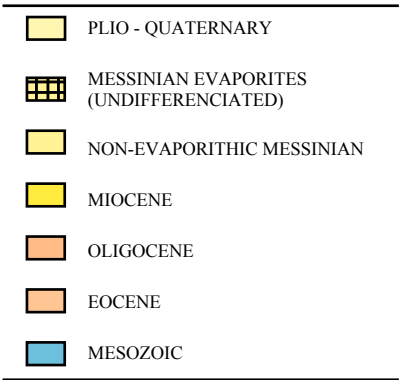


ODP LEG 160
SITE 970
HOLE A

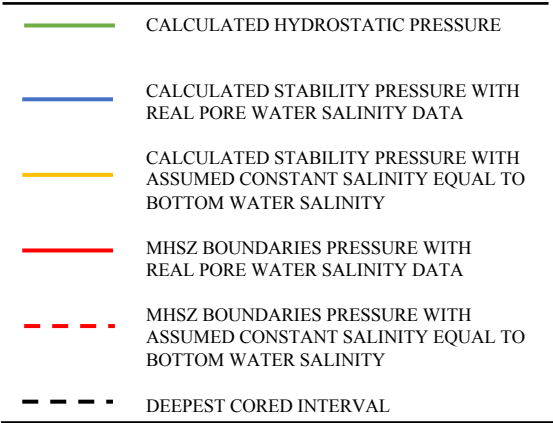
Milano mud dome
Water depth: 2075.5 m
Measured geothermal gradient in borehole : 11.76-18.36°C/km

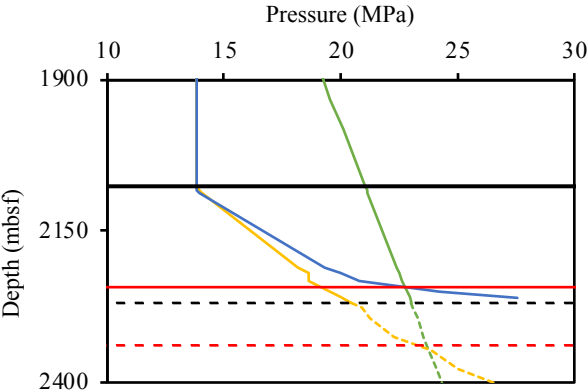
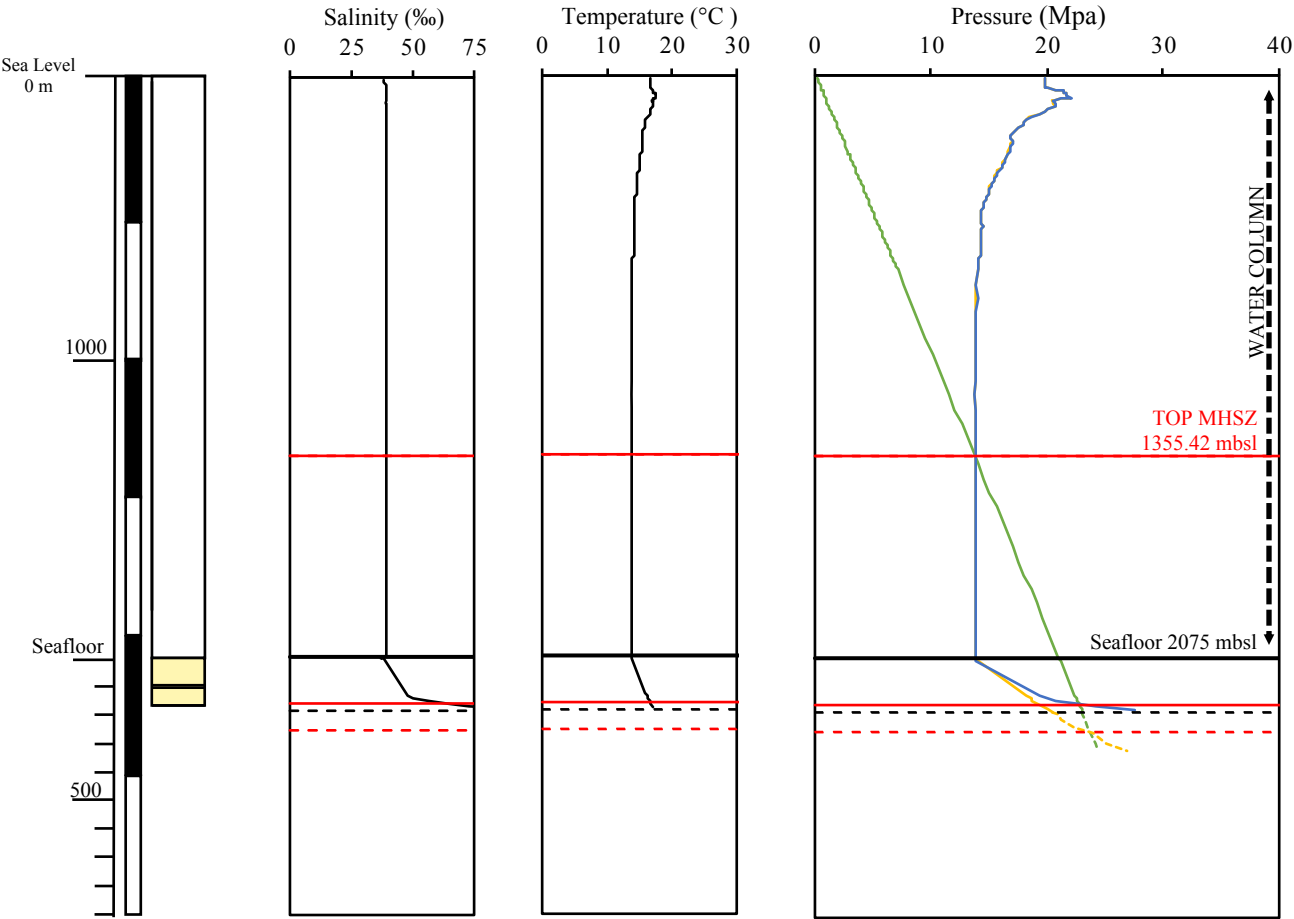


▲ ODP 160 970 A



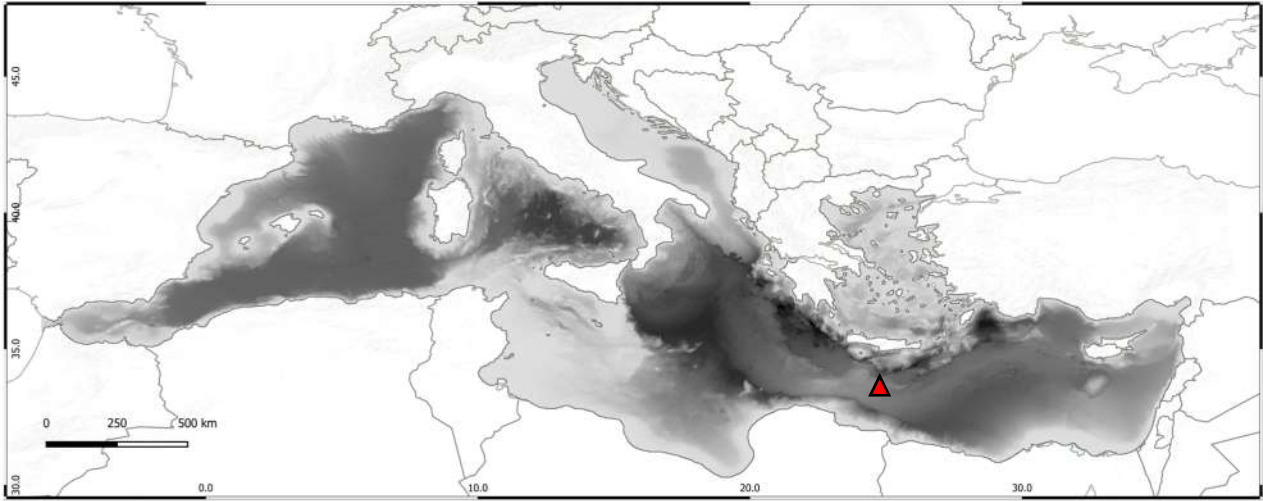
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil clay, nannofossil ooze, and clayey nannofossil ooze	0-0.6, 18.73-19.74, 134.0-153.47, and 192.3-201.4	late Pliocene to late Pleistocene
II	Matrix-supported clast-rich debris-flow deposits, matrixsupported breccia/conglomerate, and polymictic gravel	0.6-18.73, 19.74-134.0, 153.47-192.3	Pleistocene
III	Clay, silt, and minor sand	167-302.7	Messinian?



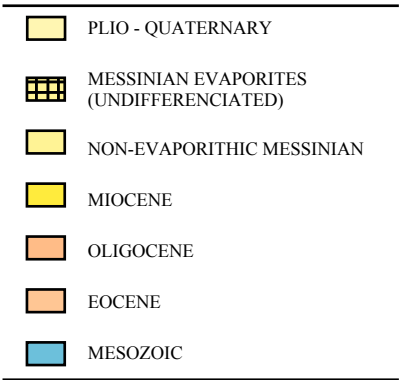


ODP LEG 160
SITE 970
HOLE B

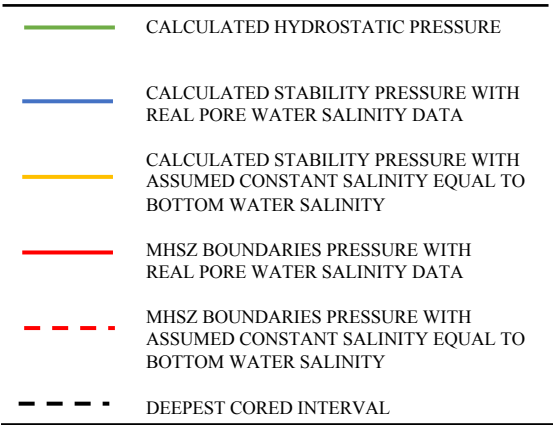
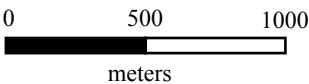
Milano mud dome
Water depth: 2078.6 m
Measured geothermal gradient in borehole : 11.76 °C/km

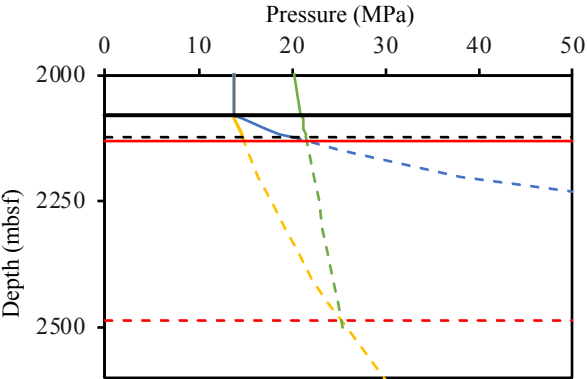
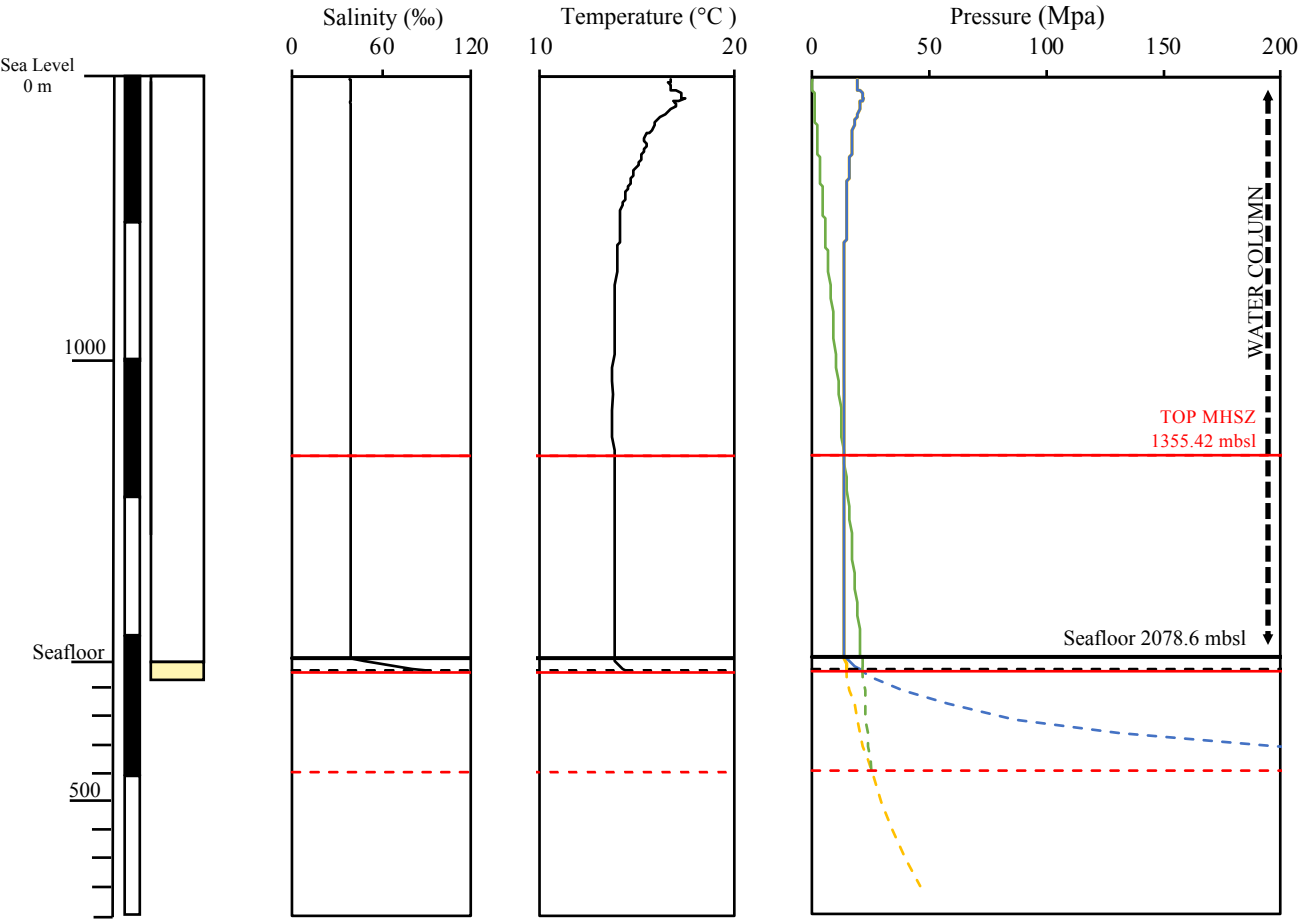


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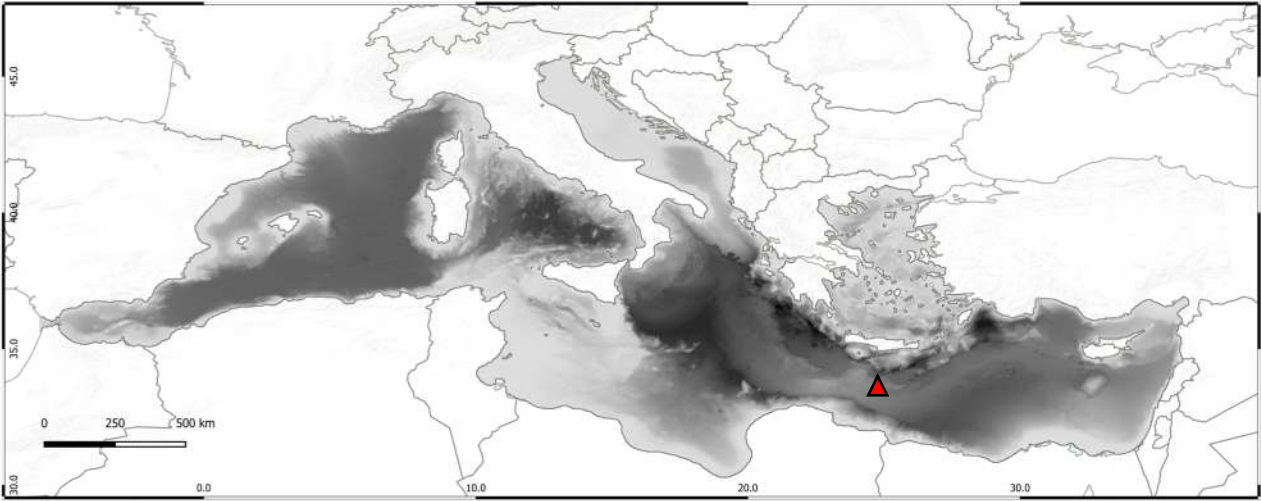
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil clay, nannofossil ooze, and clayey nannofossil ooze	0-47.5	late Pliocene to late Pleistocene



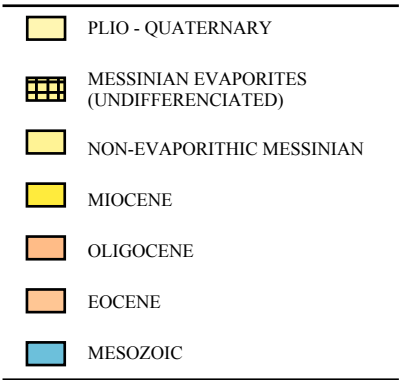


ODP LEG 160
SITE 970
HOLE C

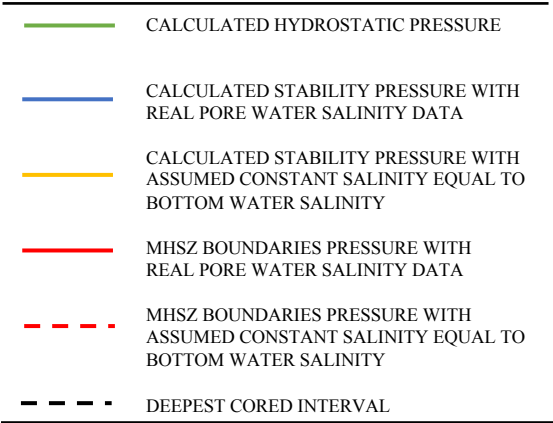
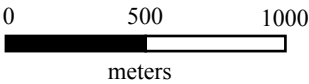
Milano mud dome
Water depth: 2036.9 m
Measured geothermal gradient in borehole : 11.76 °C/km

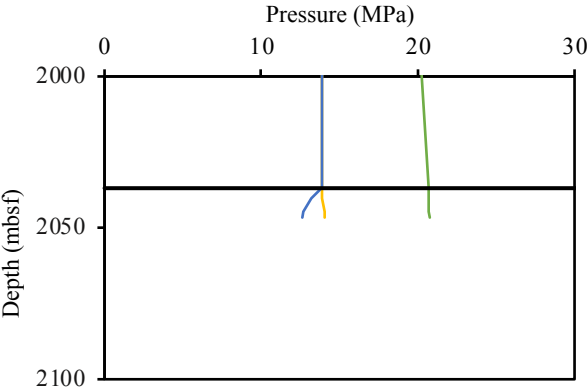
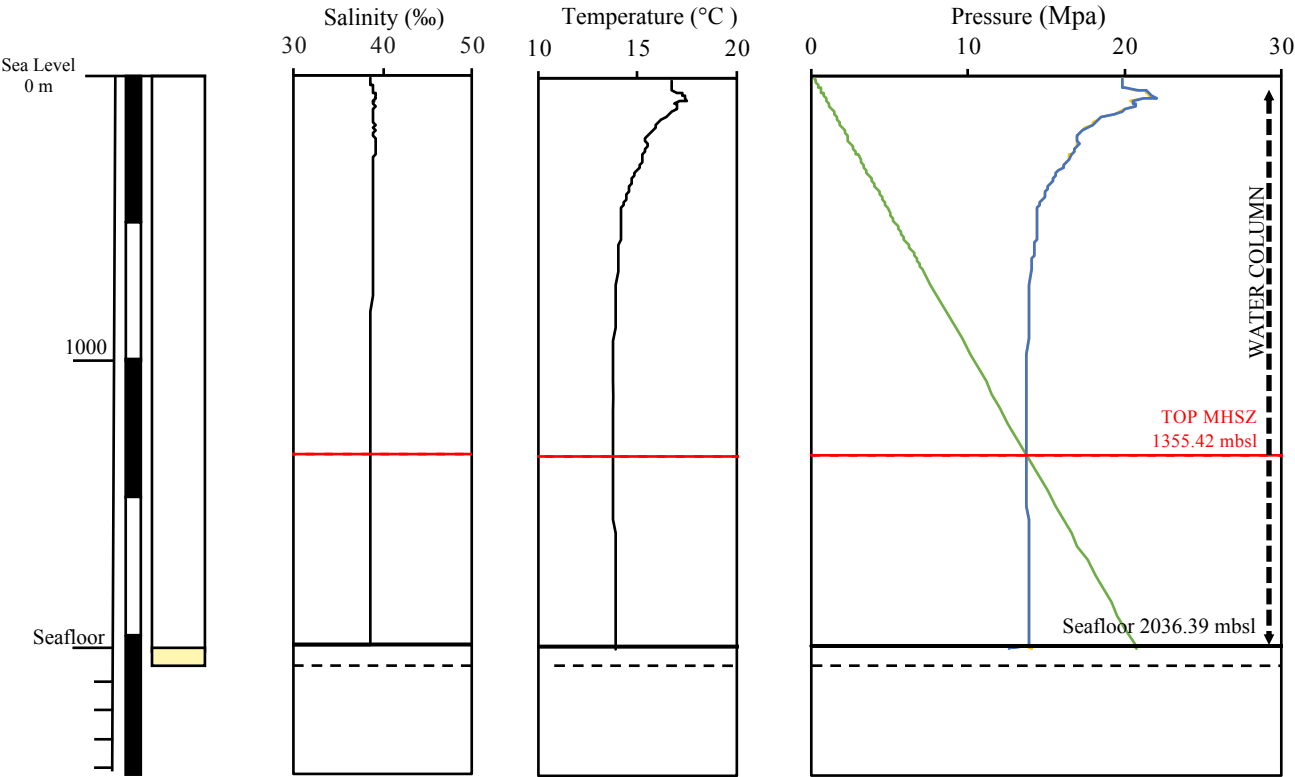


▲ ODP 160 970 C



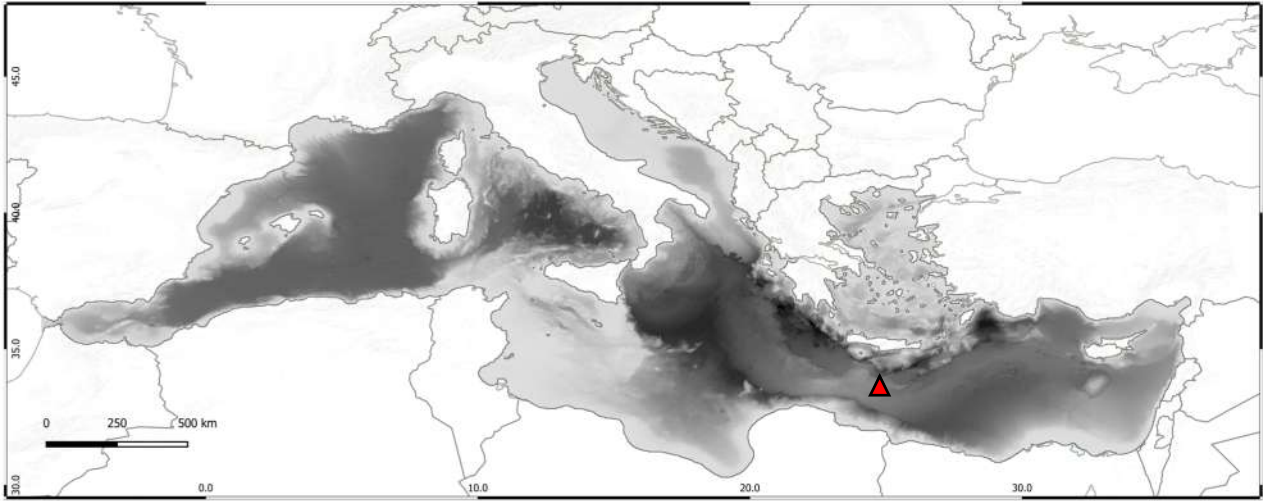
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
II	Matrix-supported clast-rich debris-flow deposits, matrixsupported breccia/conglomerate , and polymictic gravel	0-35	Pleistocene



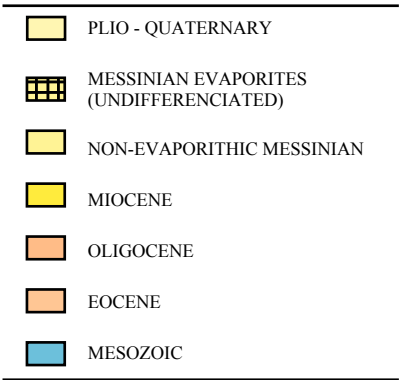


ODP LEG 160
SITE 970
HOLE D

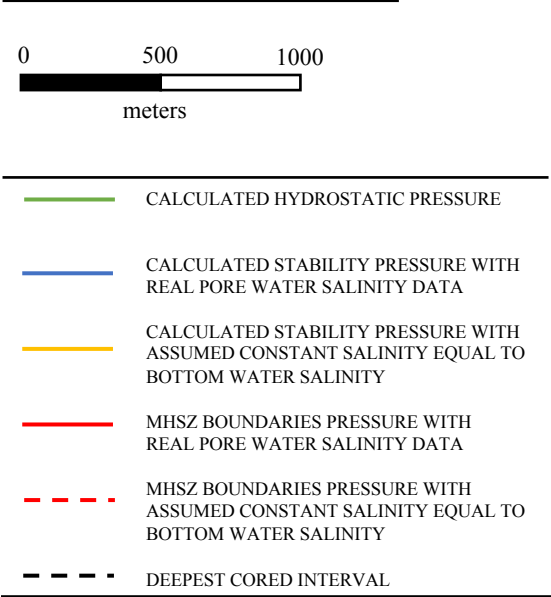
Milano mud dome
Water depth: 1953.7 m
Measured geothermal gradient in borehole : 11.76 °C/km

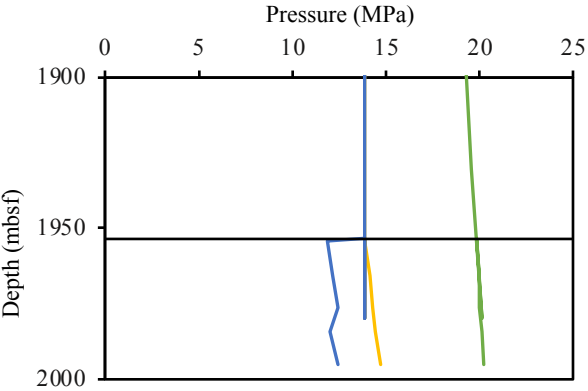
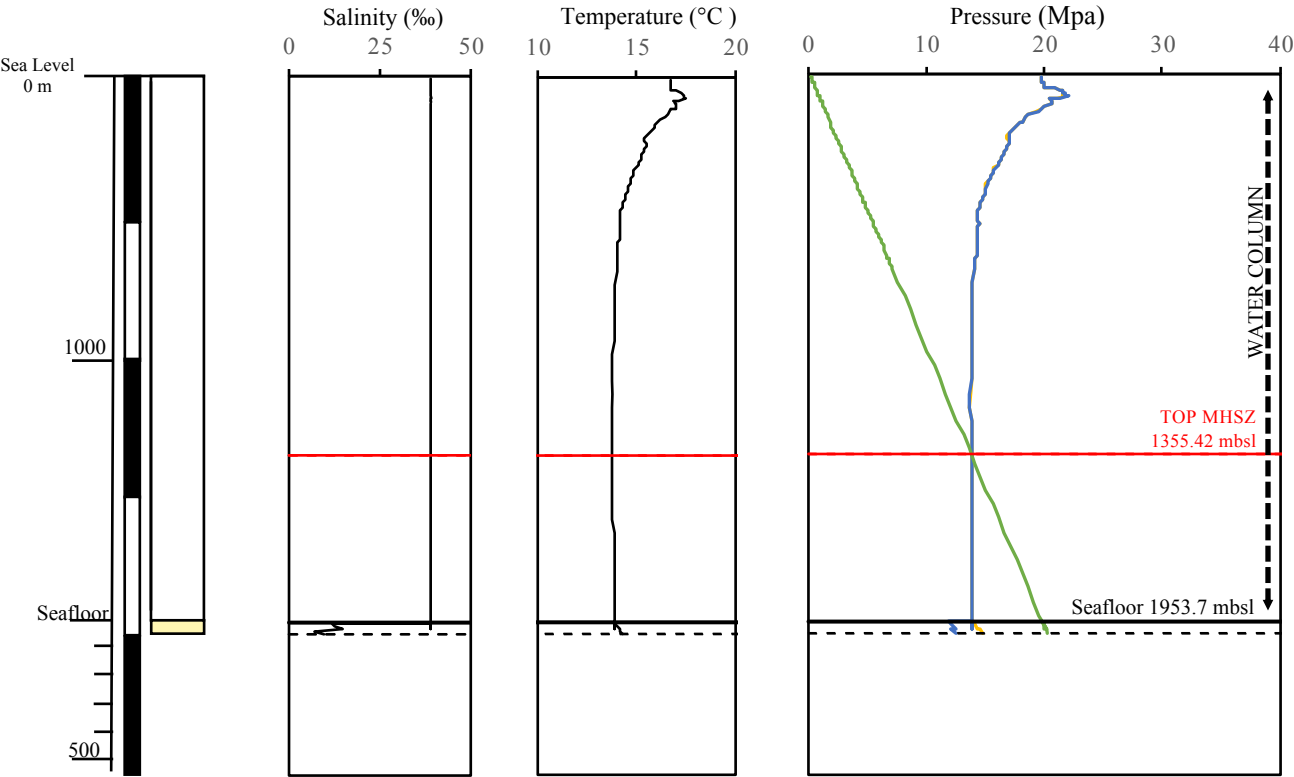


▲ ODP 160 970 D



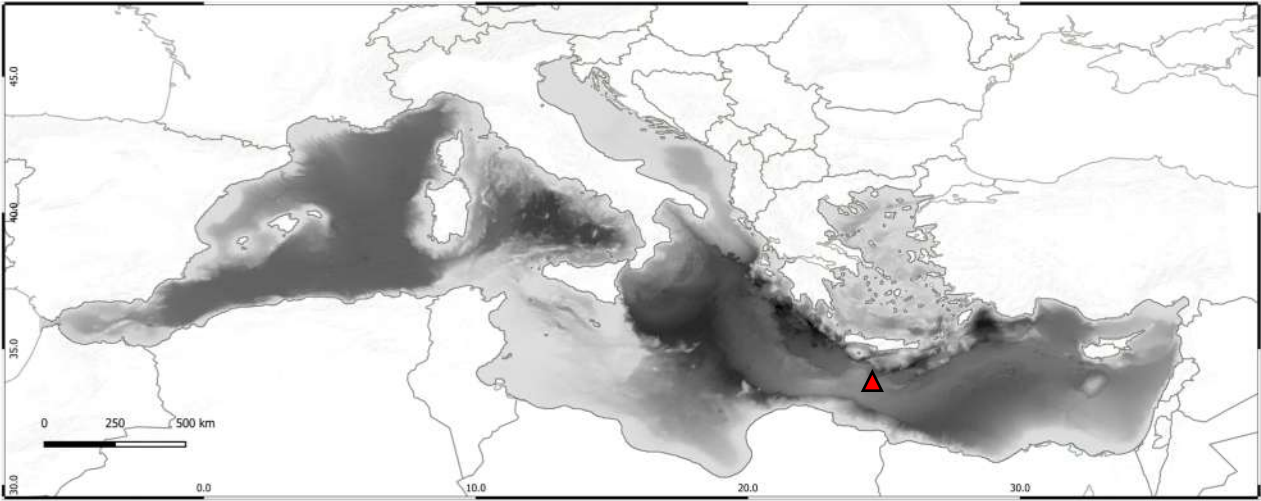
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
II	Matrix-supported clast-rich debris-flow deposits, matrixsupported breccia/conglomerate, and polymictic gravel	0- 42.80	Pleistocene



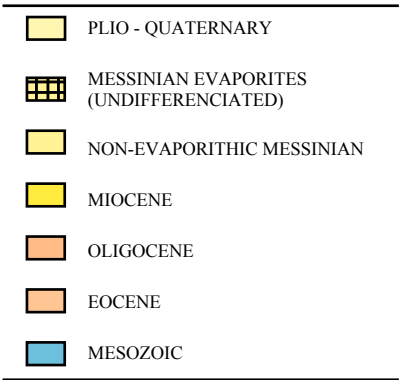


ODP LEG 160
SITE 971
HOLE A

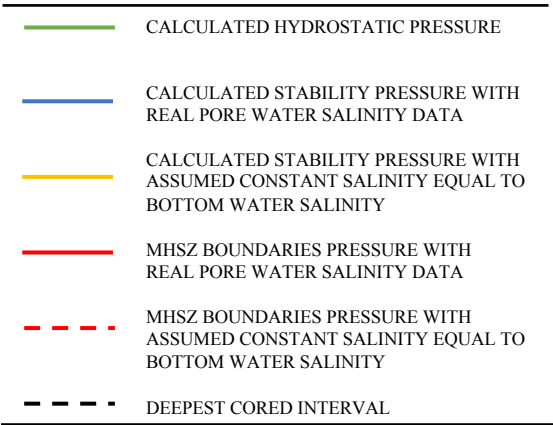
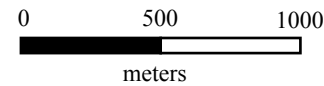
Napoli mud dome
Water depth: 2026.1 m
Measured geothermal gradient in borehole : 23.816 – 45.19 °C/km

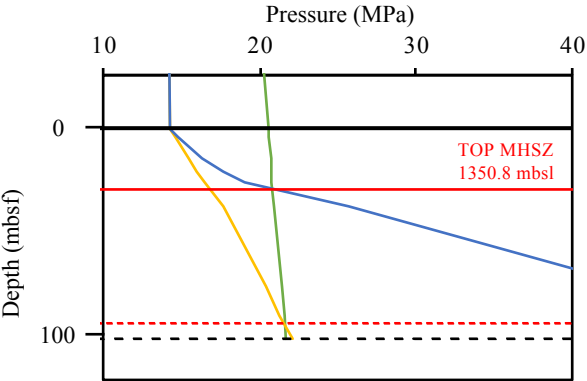
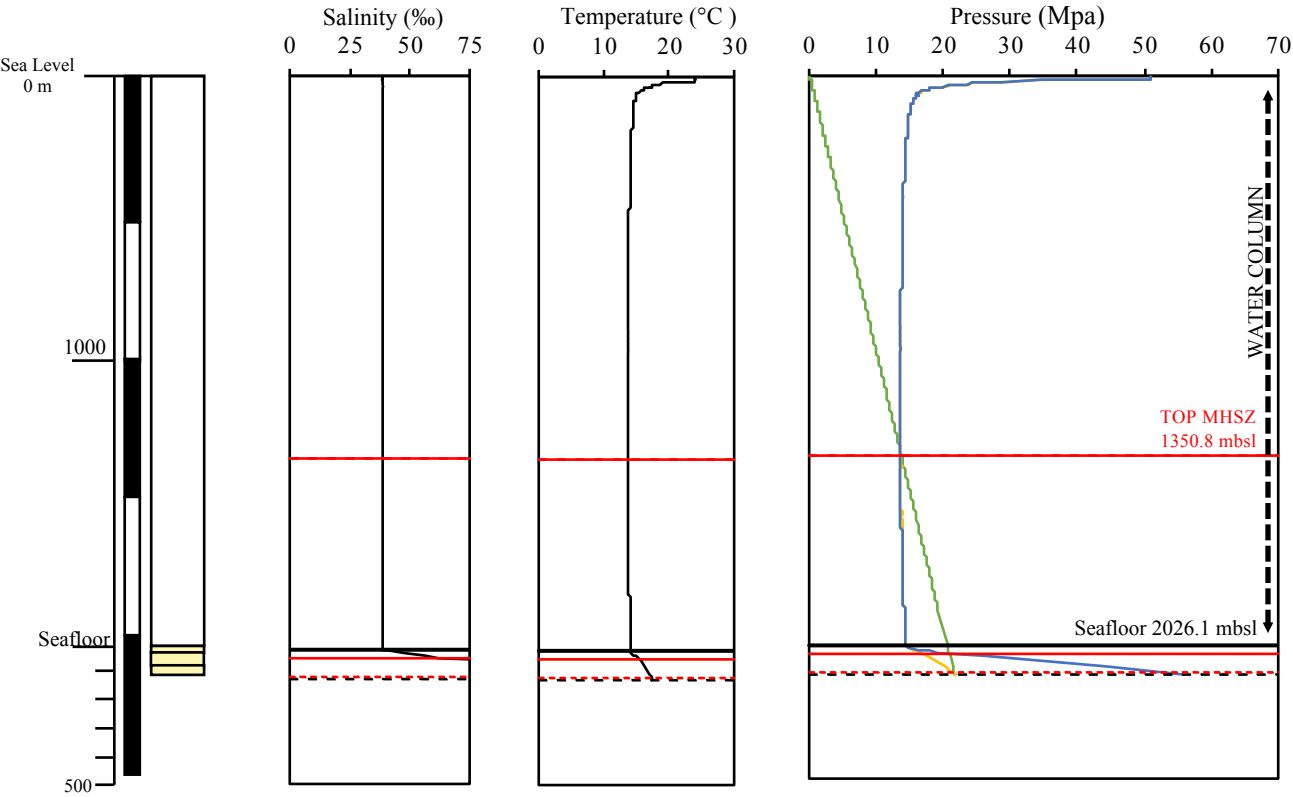


▲ ODP 160 971 A



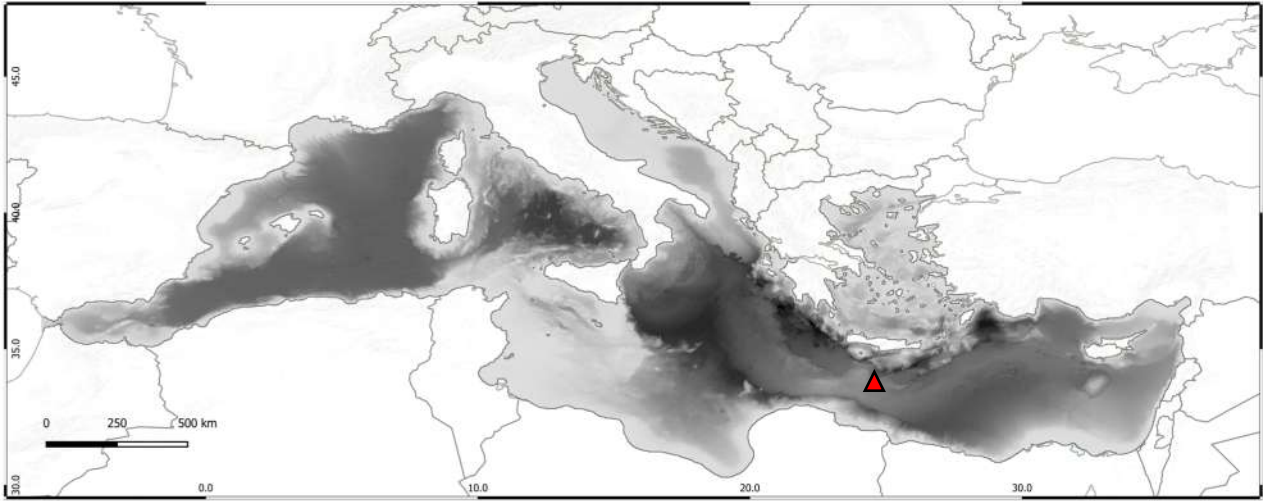
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil clay, nannofossil ooze, and clayey nannofossil ooze	0-16.5 77-105.9	late Pliocene to Holocene
IIA	Matrix-supported clast-rich mud debris-flow deposit, mud debris-flow deposit, mousselike silty clay to sandy silt	16.5-71	Pleistocene



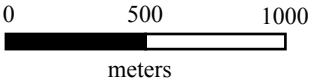
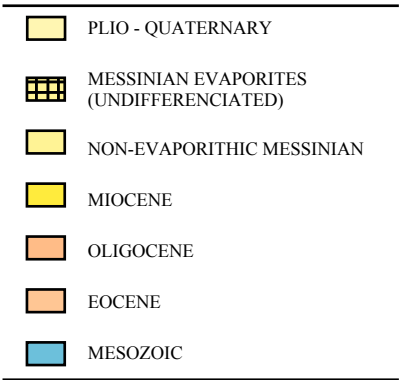


ODP LEG 160
SITE 971
HOLE B

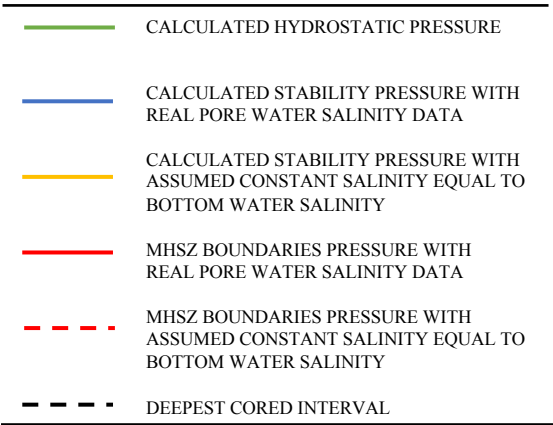
Napoli mud dome
Water depth: 2140.9 m
Measured geothermal gradient in borehole : 23.81-45.19 °C/km

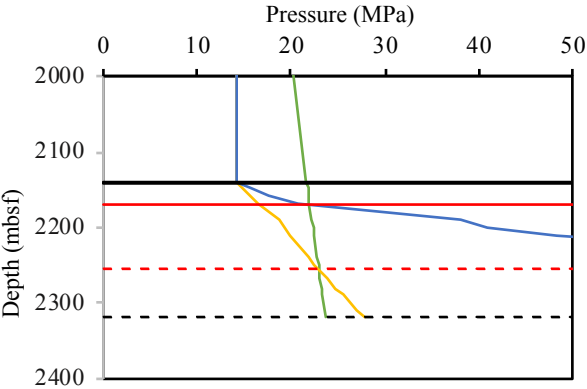
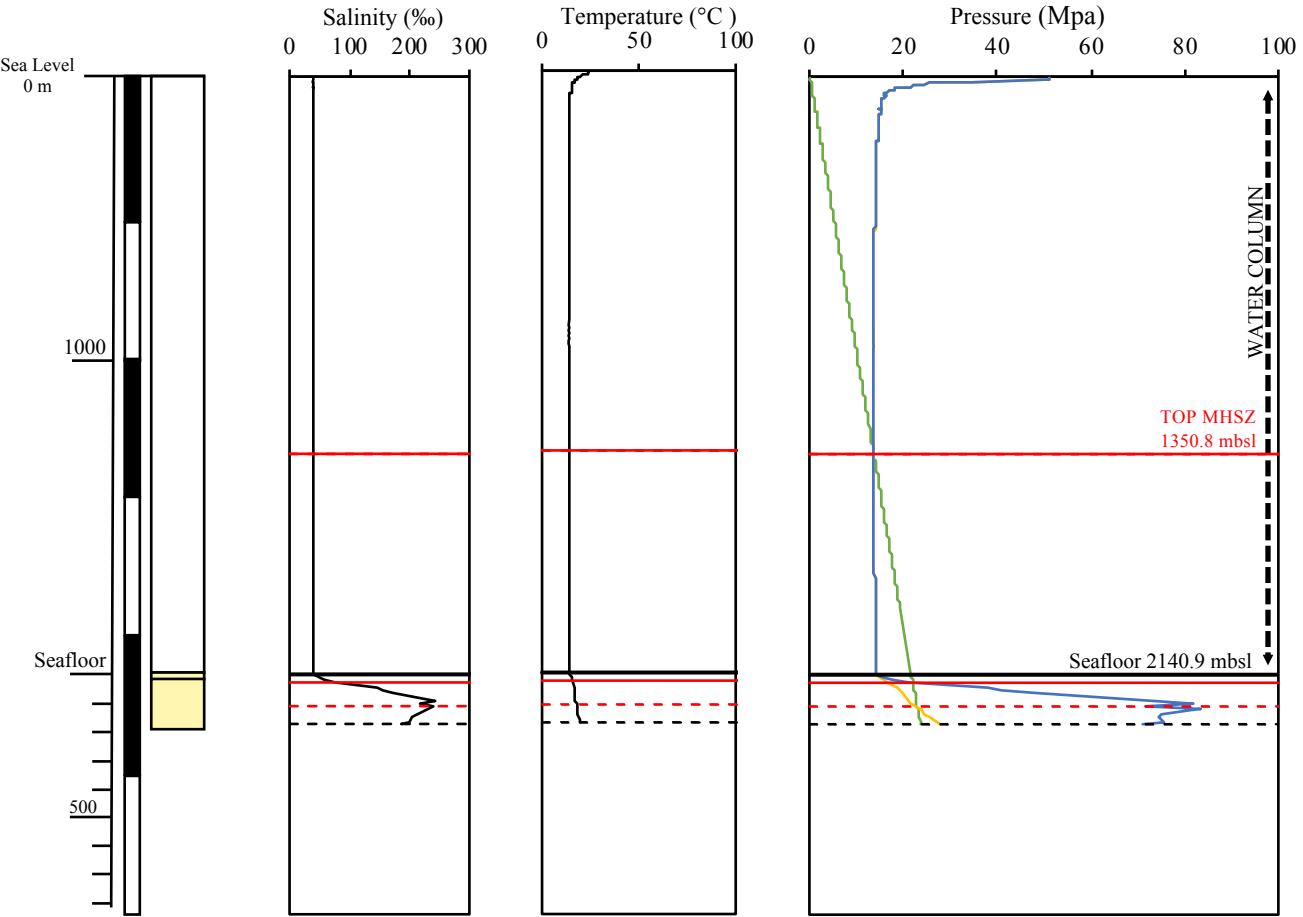


▲ ODP 160 971 B



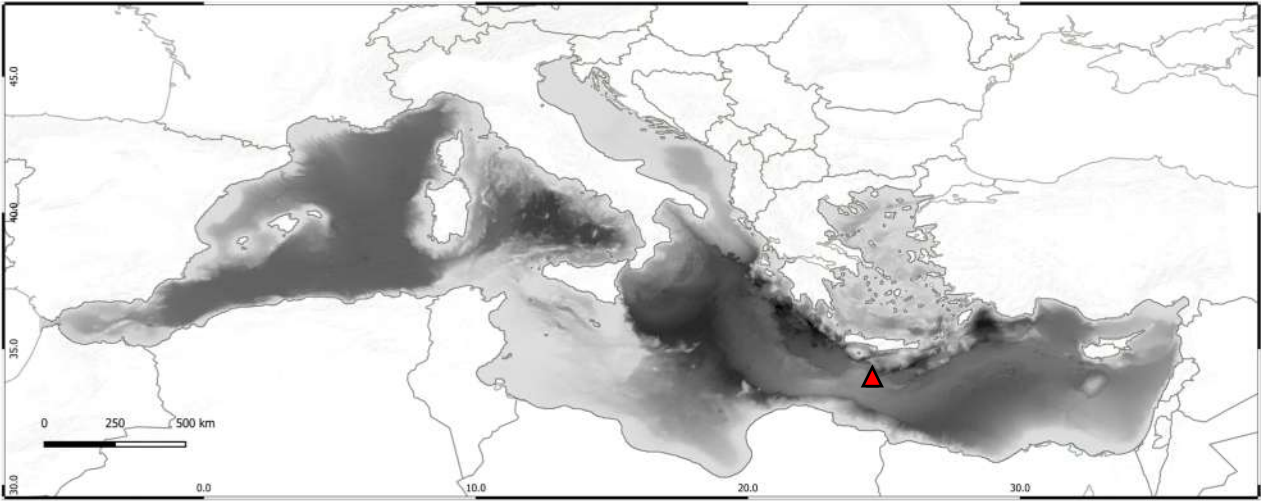
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil clay, nannofossil ooze, and clayey nannofossil ooze	0-20	late Pliocene to Holocene
IIA	Matrix-supported clast-rich mud debris-flow deposit, mud debris-flow deposit, mousselike silty clay to sandy silt	20-203.5	Pleistocene



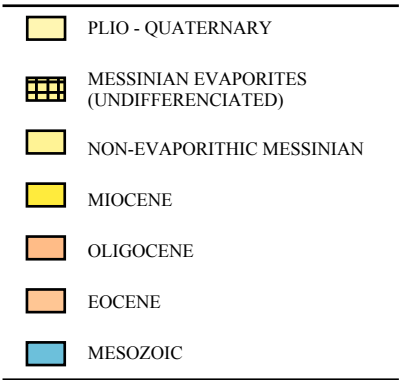


ODP LEG 160
SITE 971
HOLE D

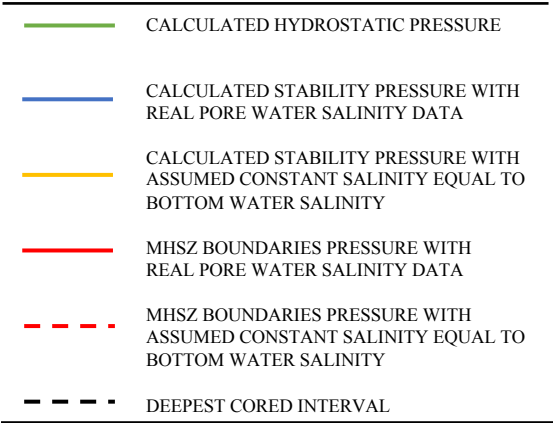
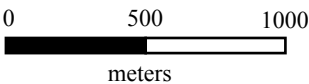
Napoli mud dome
Water depth: 1933.1 m
Measured geothermal gradient in borehole : 45.19 °C/km

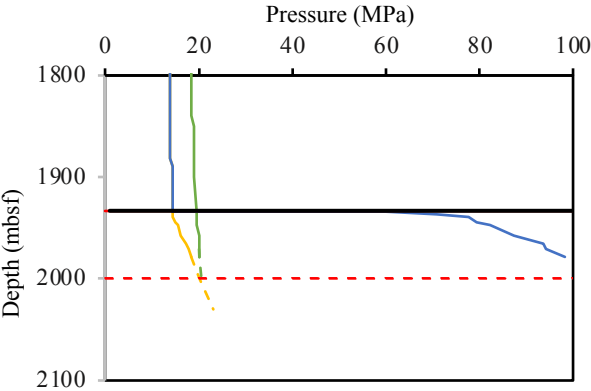
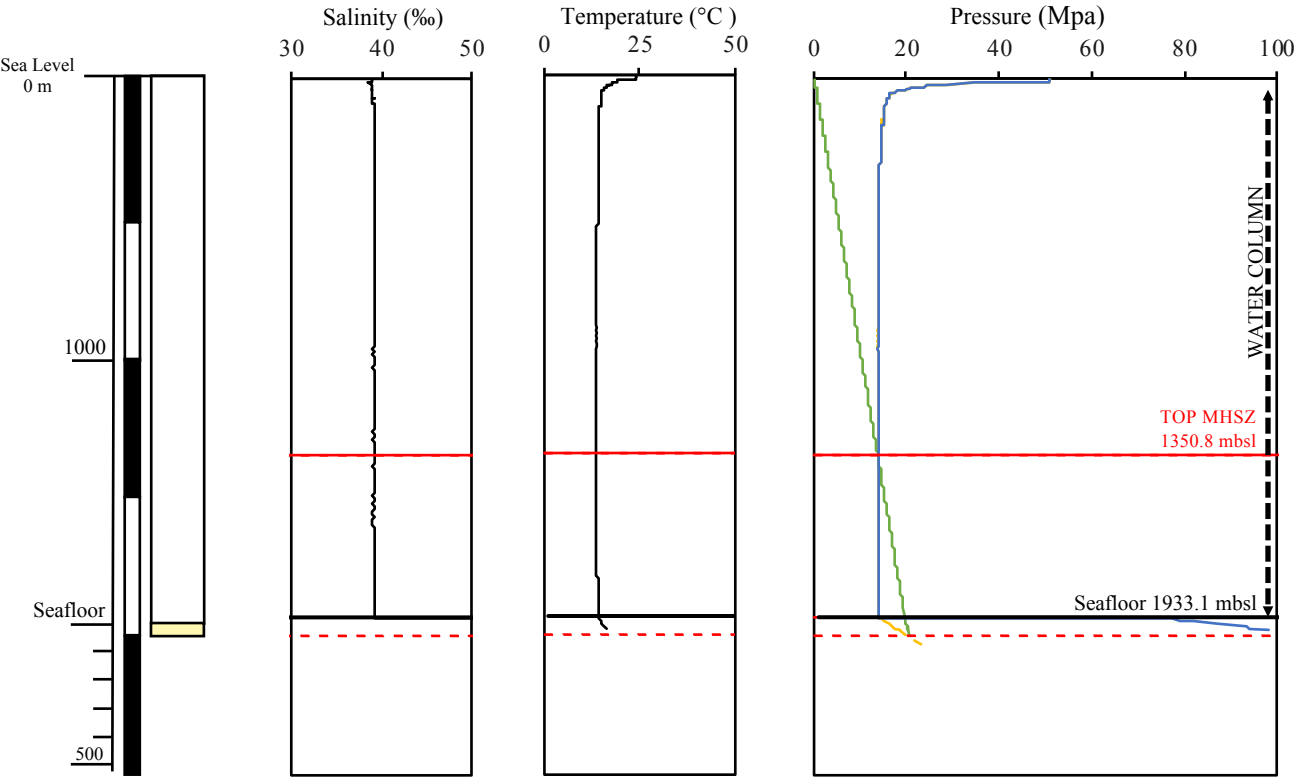


▲ ODP 160 971 D



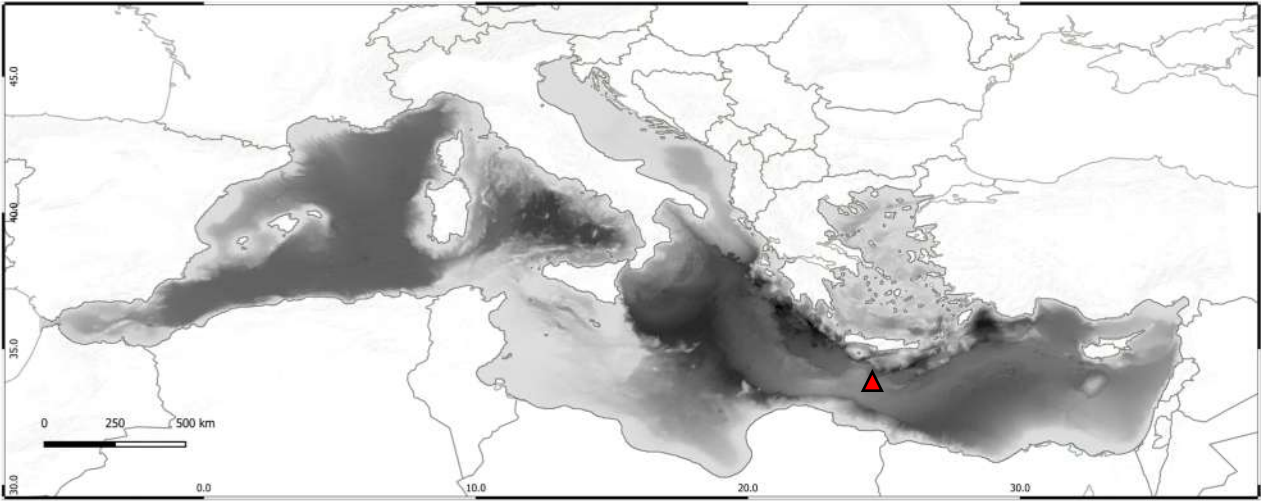
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
II	Matrix-supported clast-rich mud debris-flow deposit, mud debris-flow deposit, mousselike silty clay to sandy silt	0-46	Pleistocene



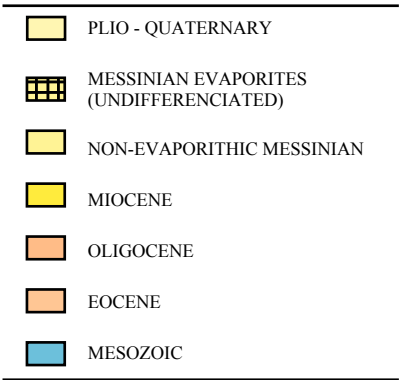


ODP LEG 160
SITE 971
HOLE E

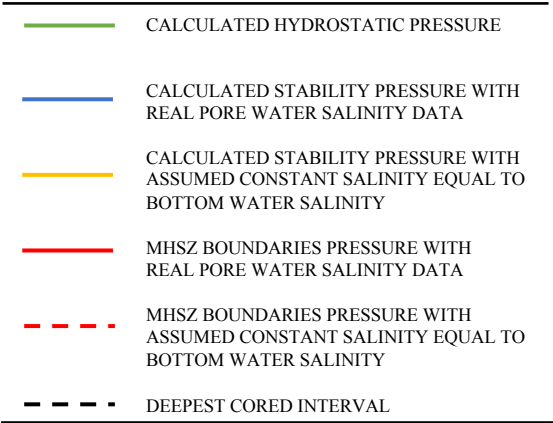
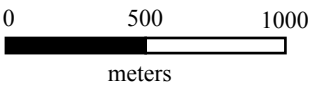
Napoli mud dome
Water depth: 1943.6 m
Measured geothermal gradient in borehole : 45.19 °C/km

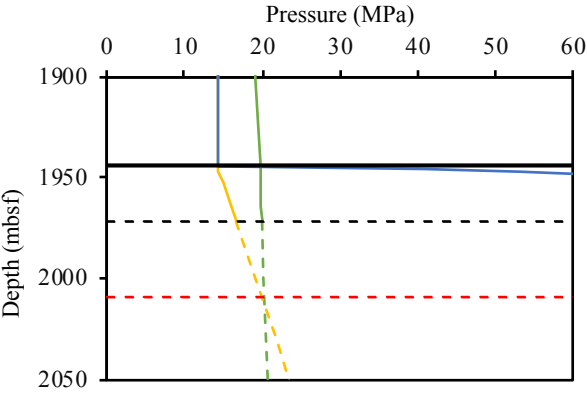
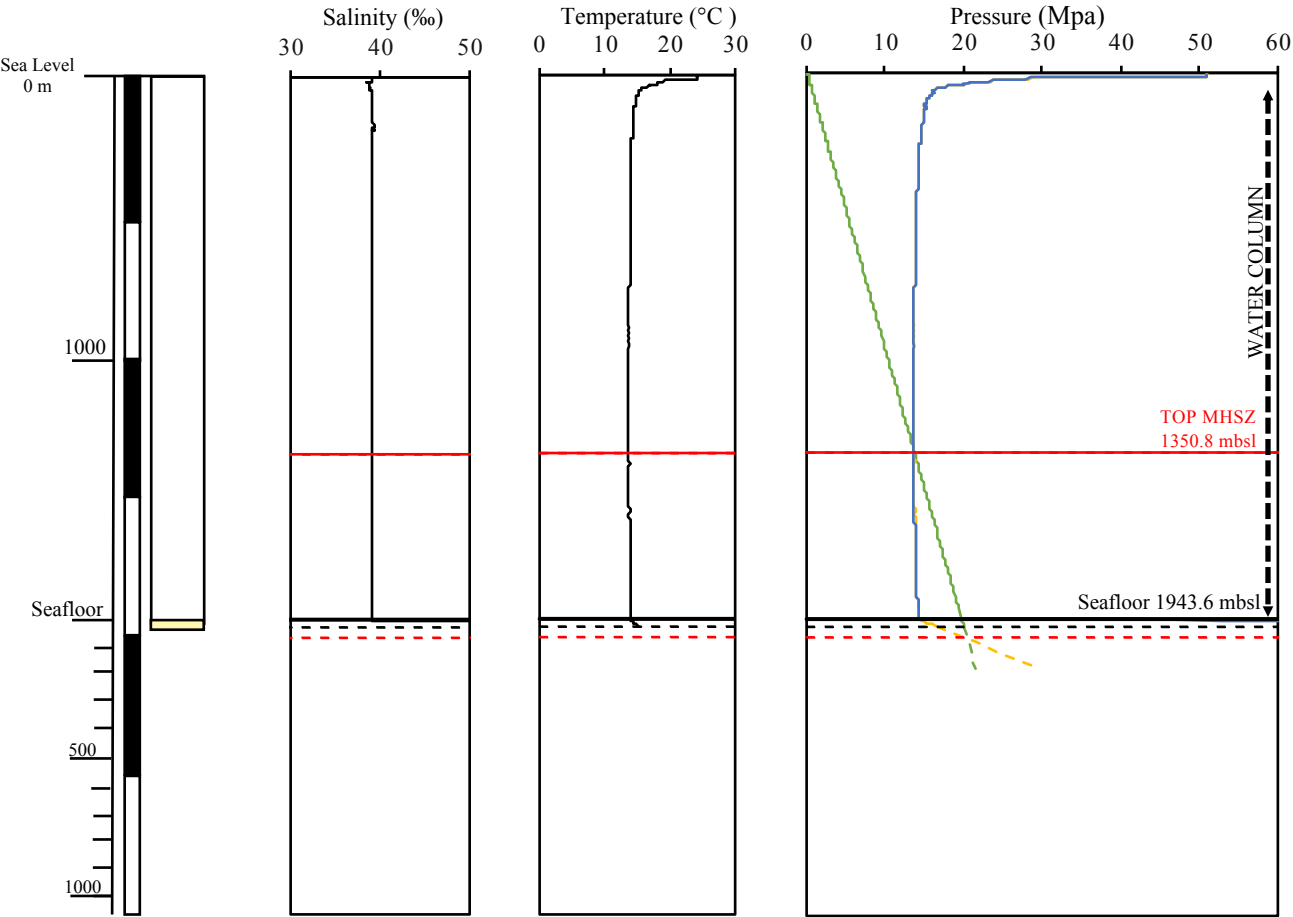


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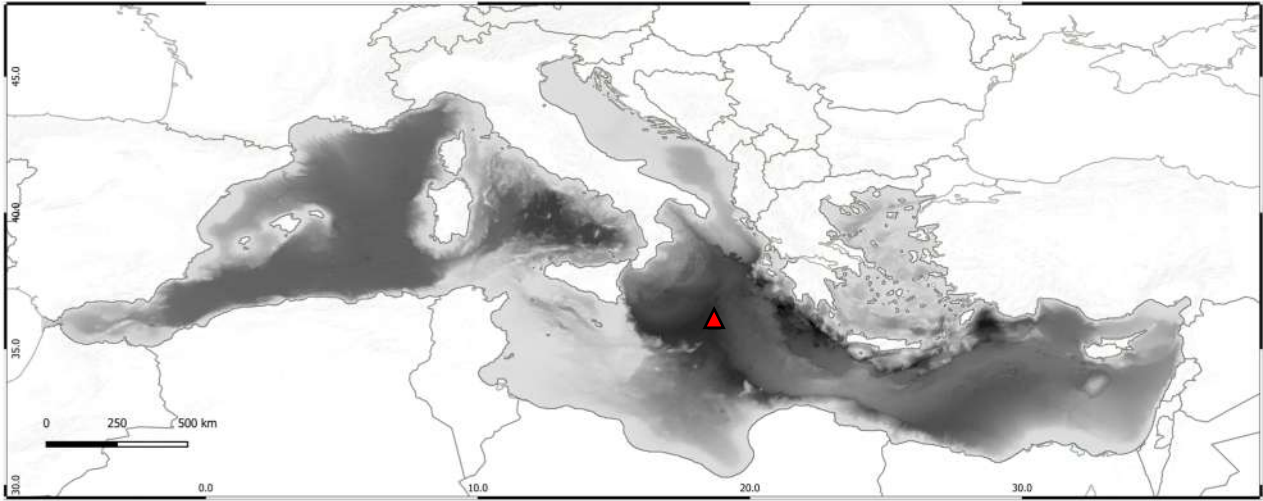
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
II	Matrix-supported clast-rich mud debris-flow deposit, mud debris-flow deposit, mousselike silty clay to sandy silt	0-28.5	Pleistocene



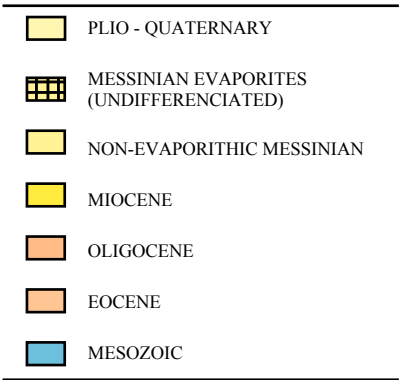


ODP LEG 160
SITE 972

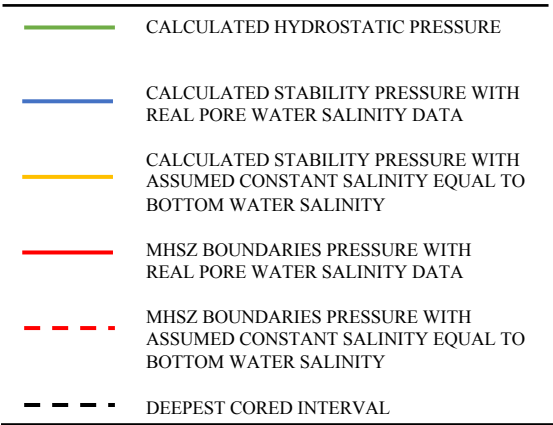
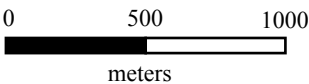
Mediterranean Ridge
Water depth: 3930.6 m
Measured geothermal gradient in borehole : 15.26-28.46 °C/km

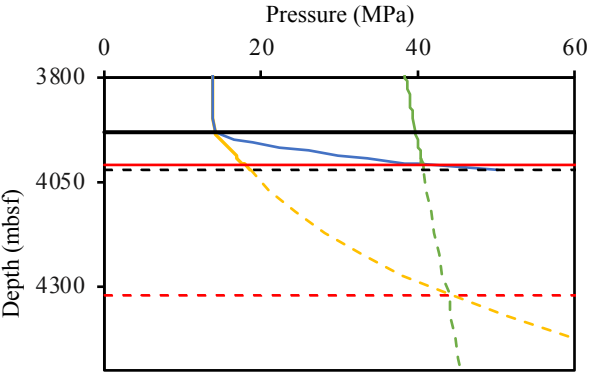
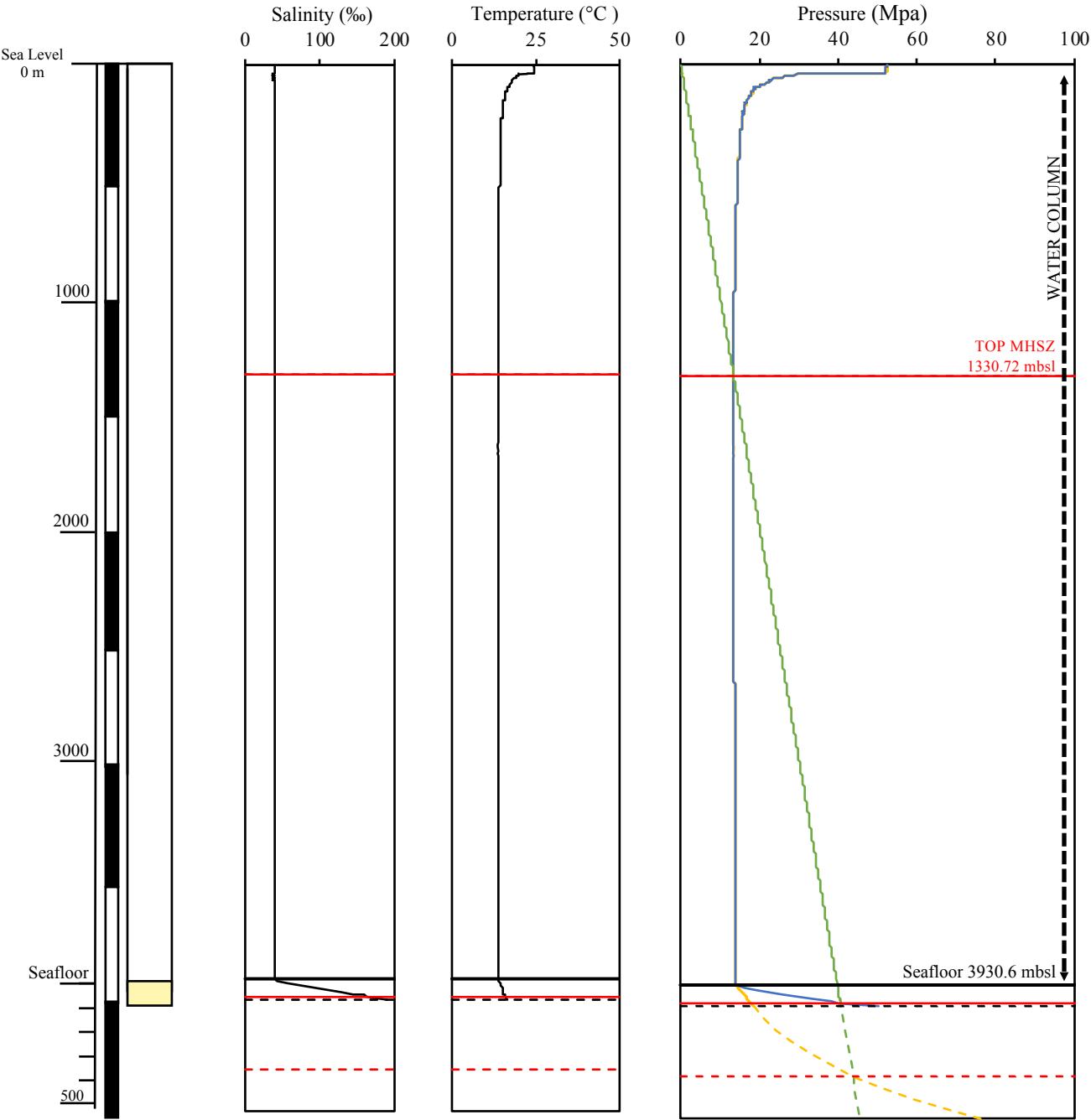


▲ ODP 160 972



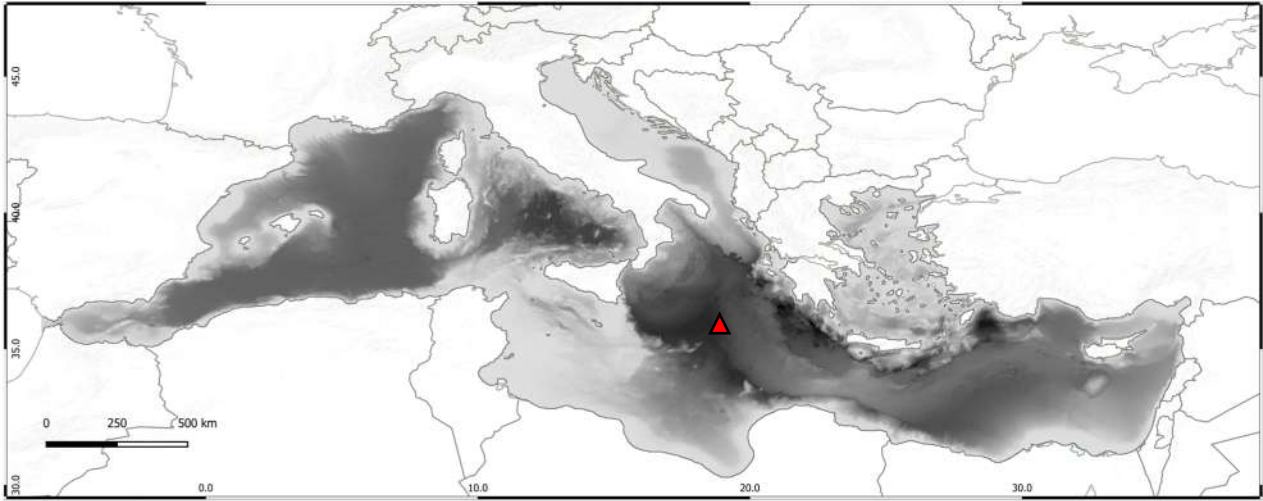
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil clay, clayey nannofossil ooze, and nannofossil ooze	0-95.4	latest Pliocene to Holocene



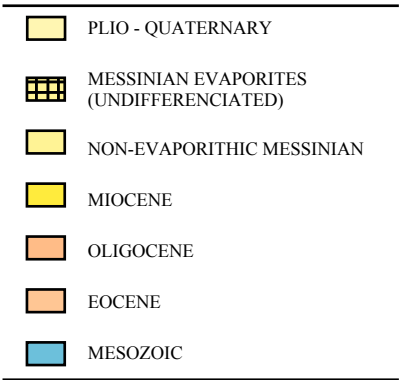


ODP LEG 160
SITE 973

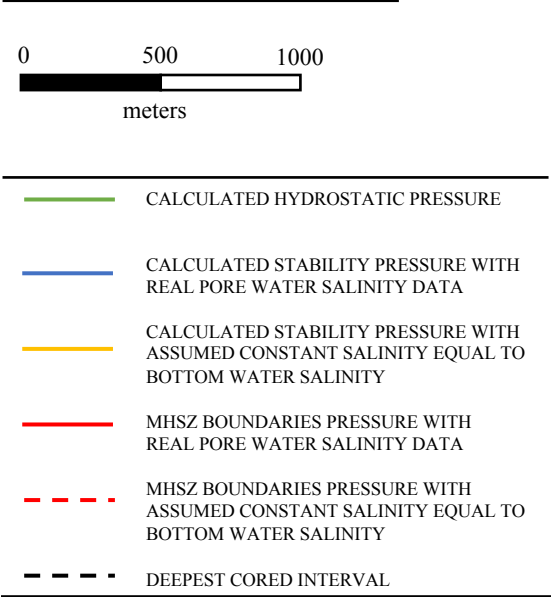
Mediterranean Ridge
Water depth: 3695 m
Measured geothermal gradient in borehole : 19.29-31.45 °C/km

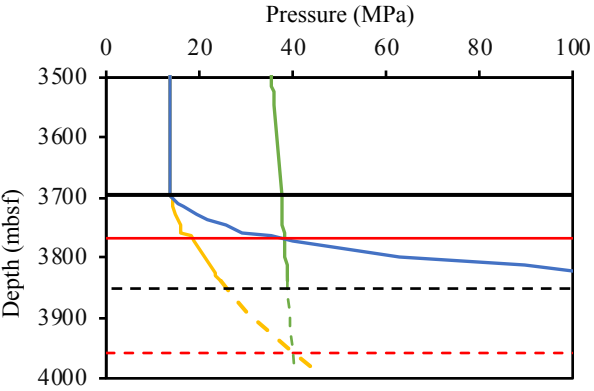
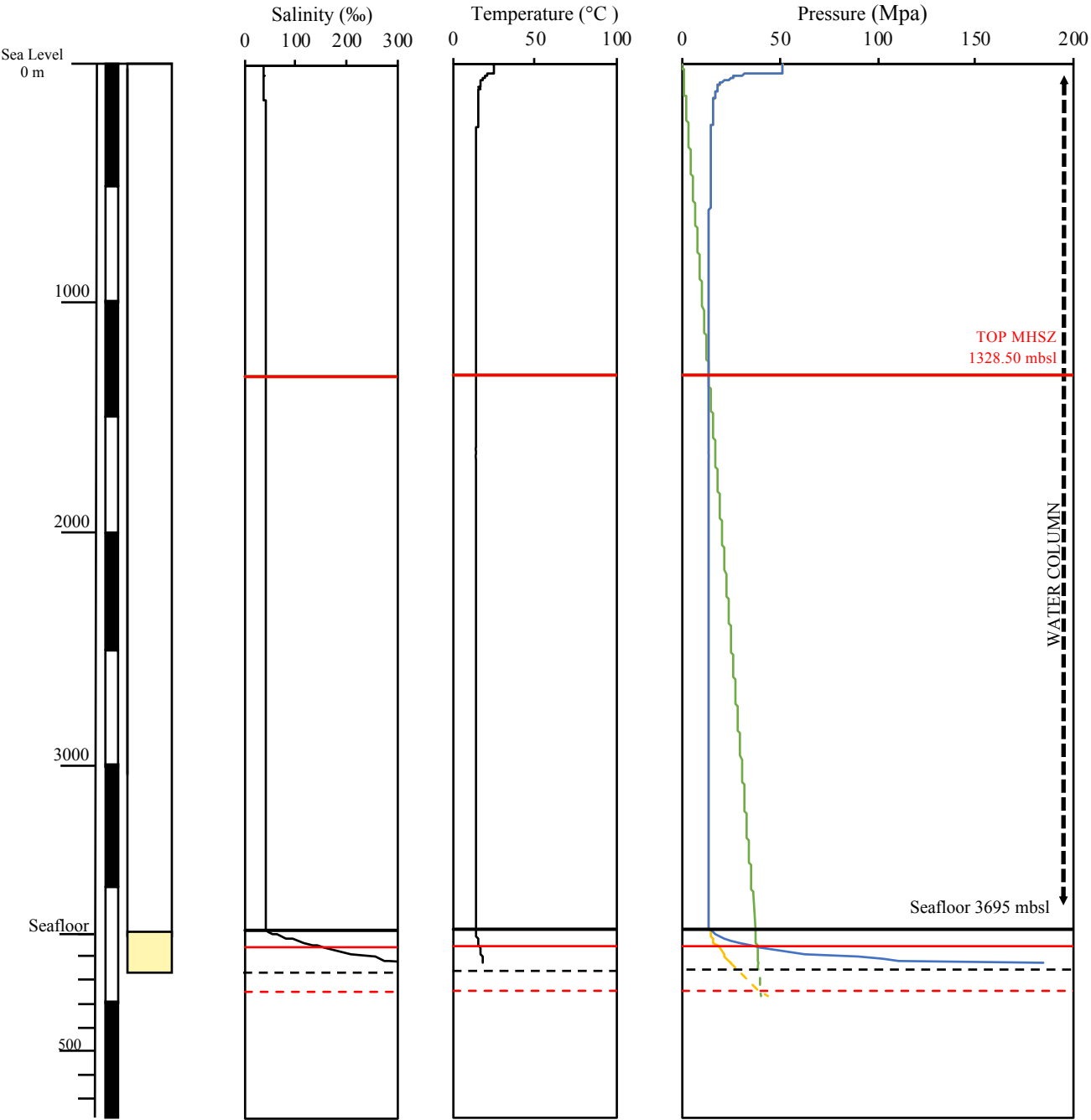


▲ ODP 160 973



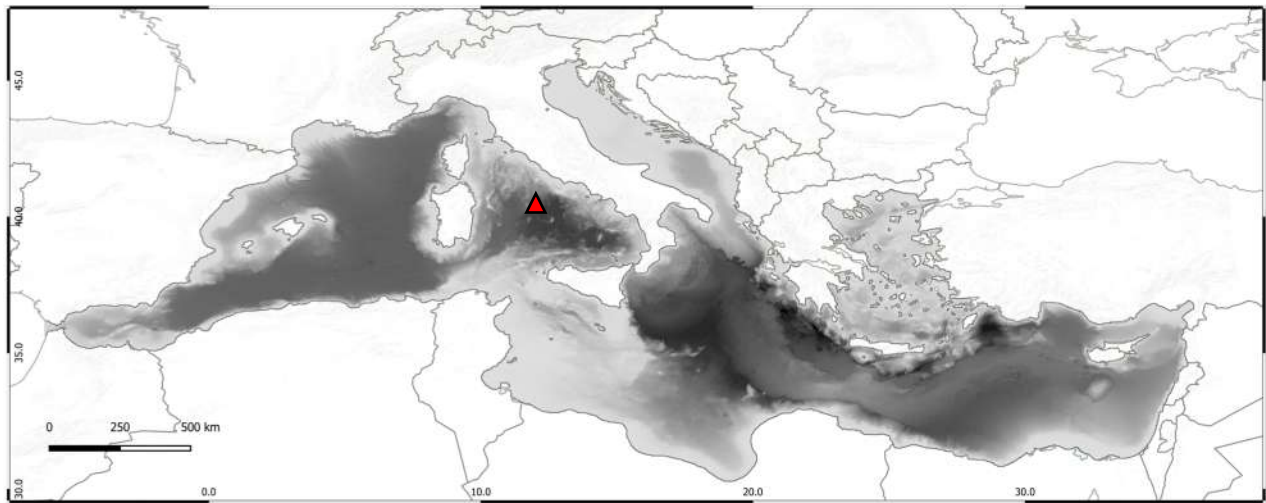
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil ooze, clayey nannofossil ooze, sands, silts, clays, and mixed sediments	0-62.4	late Pliocene to Holocene
II	Clayey nannofossil ooze	140-152.6	early-late Pliocene



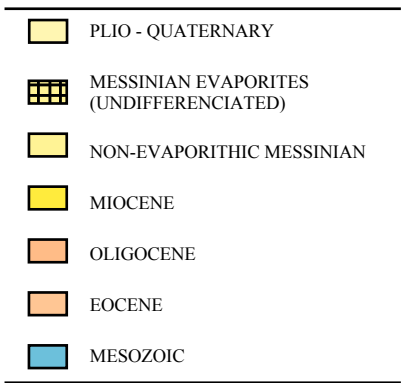


ODP LEG 161
SITE 974

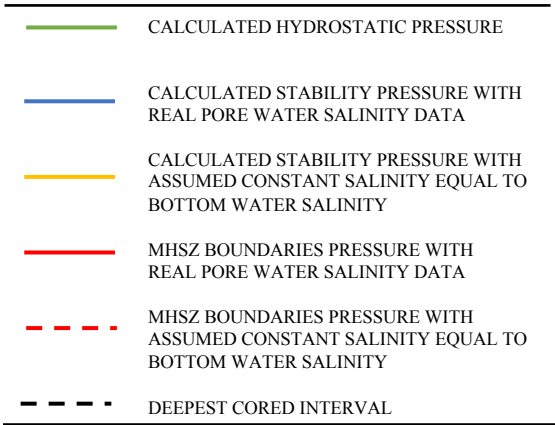
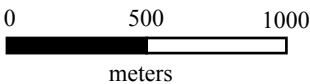
Tyrrhenian Sea
Water depth: 3453.9 m
Measured geothermal gradient in borehole : 132.67°C/km

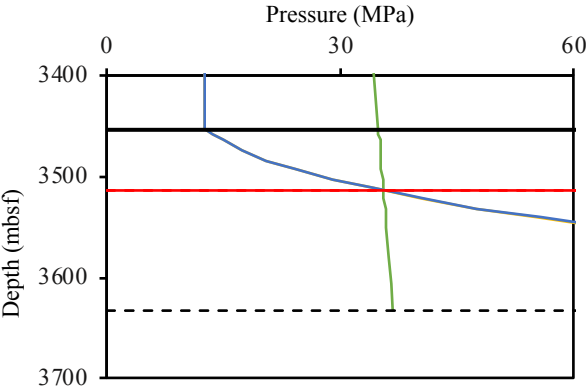
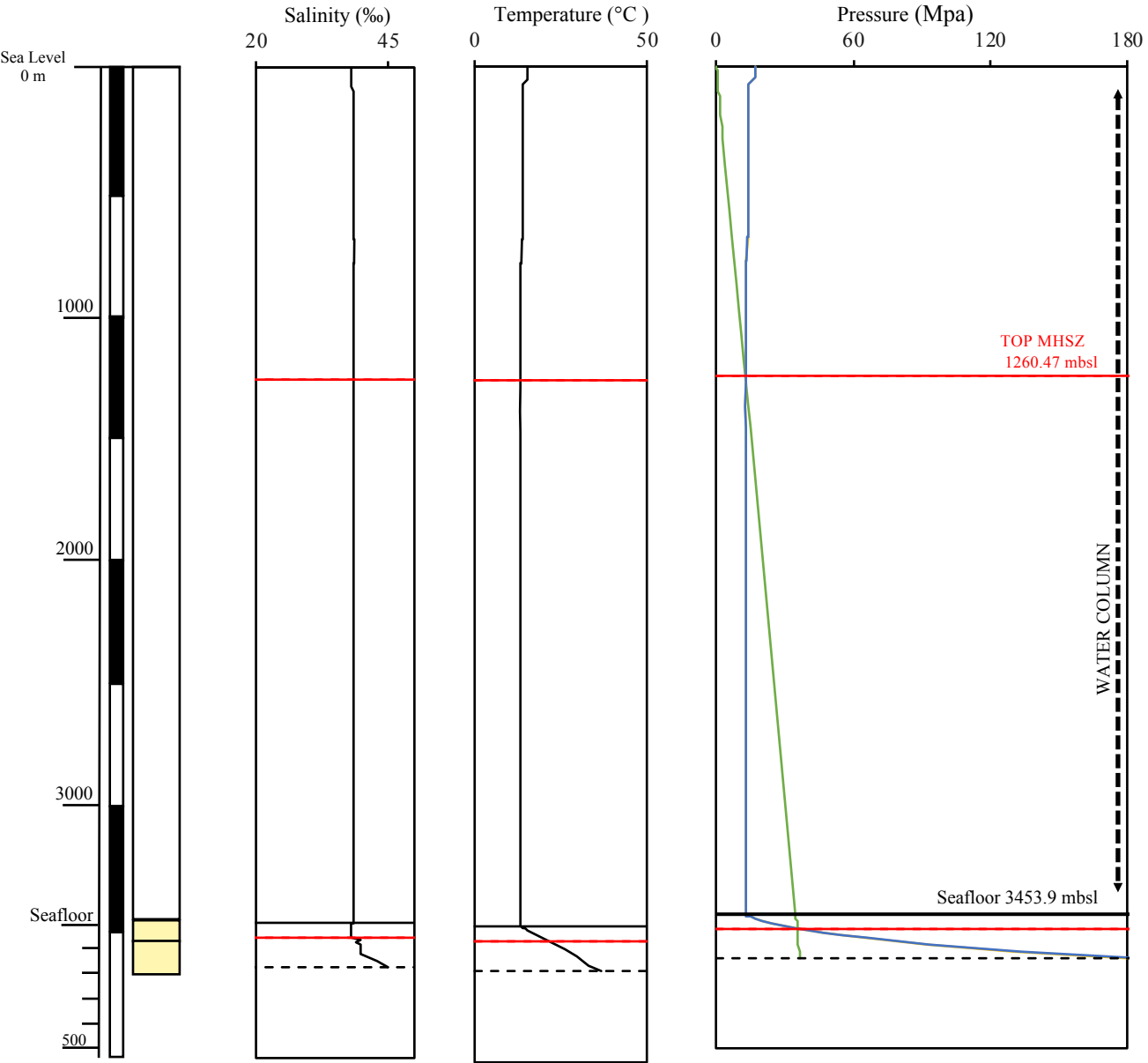


▲ ODP 161 974



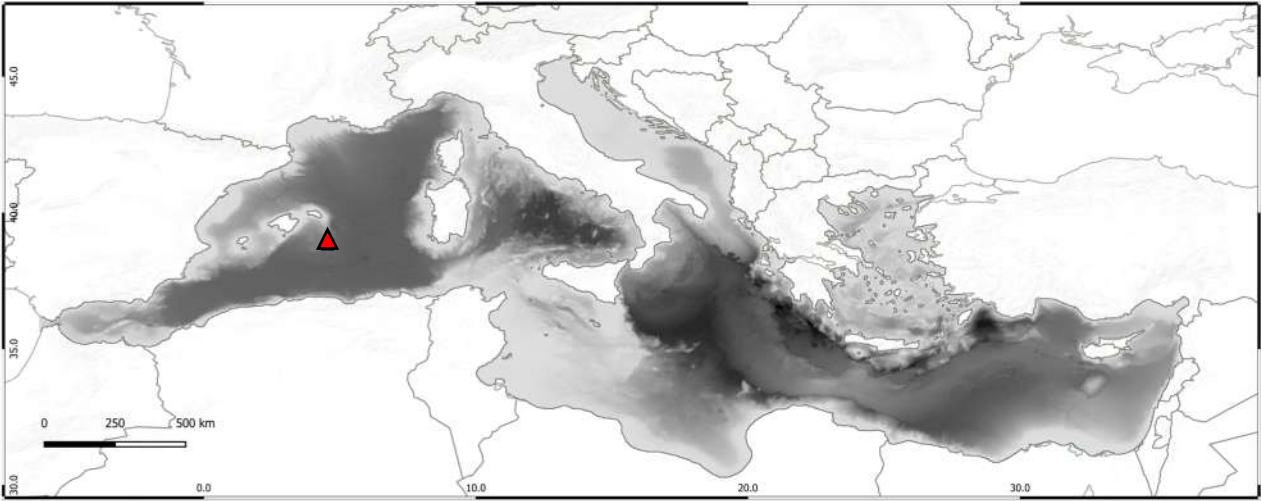
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil-rich clay to nannofossil-rich silty clay with minor nannofossil clay	0-90.1	Pliocene to Pleistocene
II	e light olive grey to pale olive nannofossil clay and nannofossil ooze with a minor amount of foraminifers	90.1-200.32	Pliocene
III	Clay, calcareous silty clay, silt, and sand	200.32-202.48	Miocene



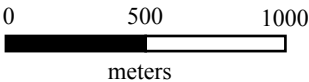
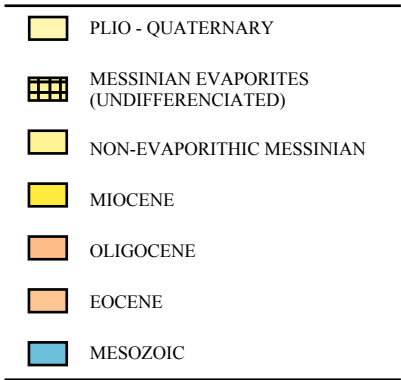


ODP LEG 161
SITE 975

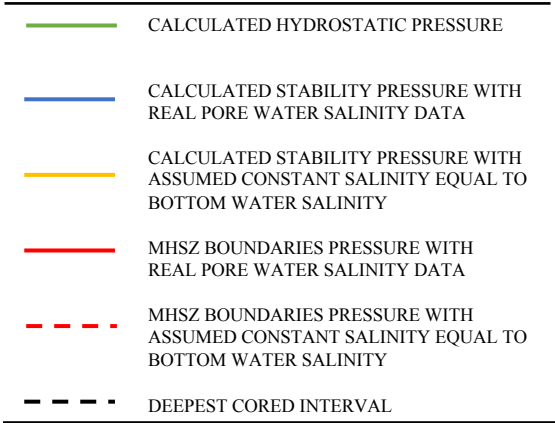
South Balearic Margin
Water depth: 2415.5 m
Measured geothermal gradient in borehole : 65.71°C/km

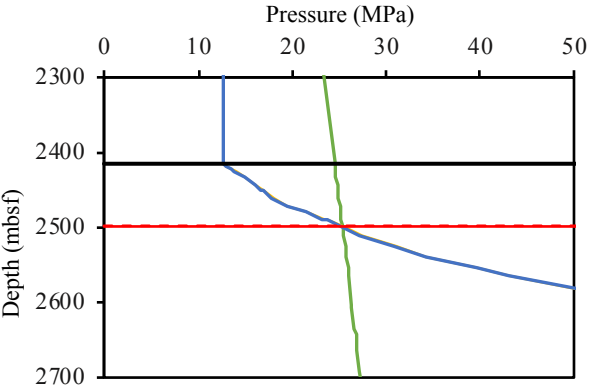
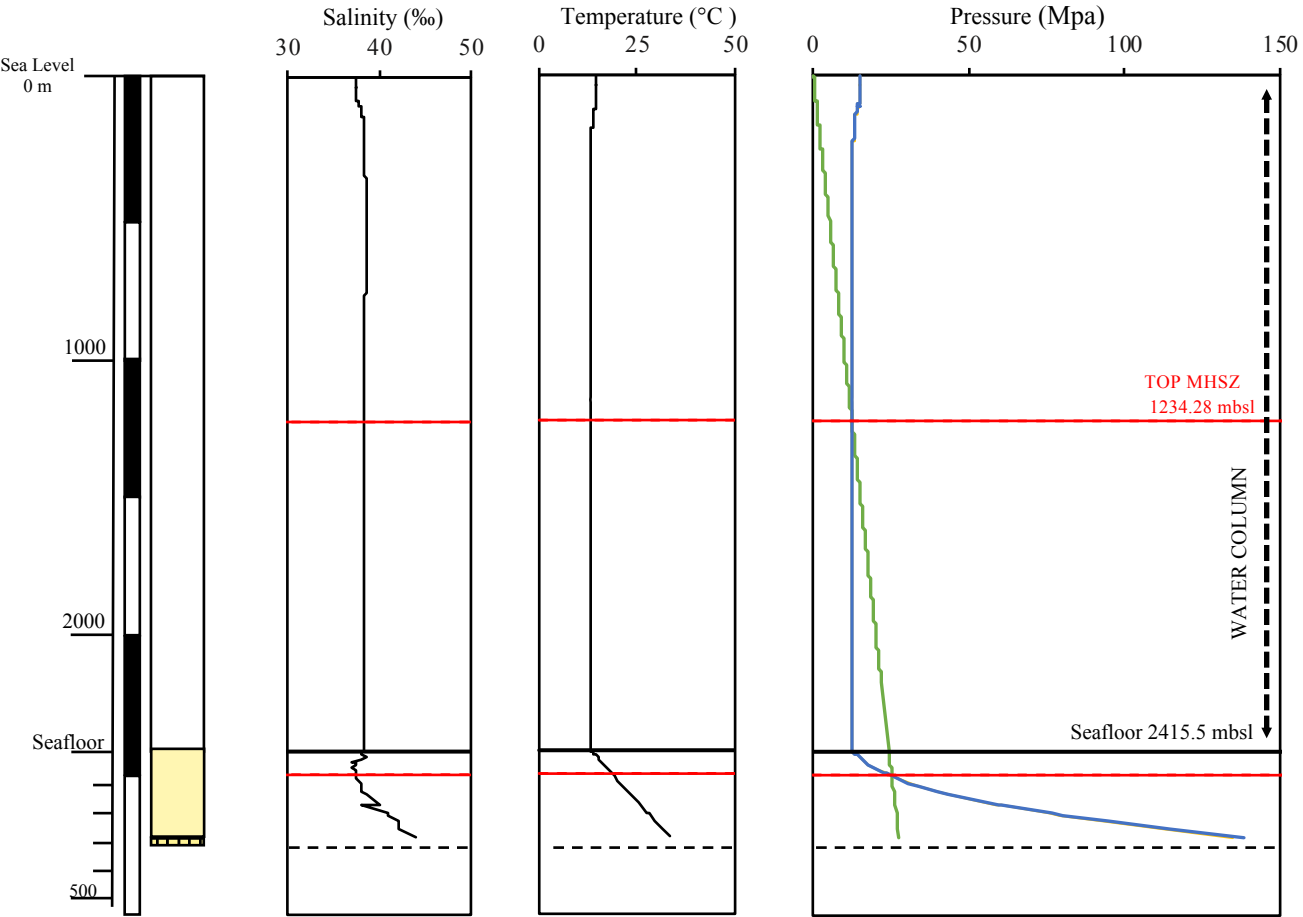


▲ ODP 161 975



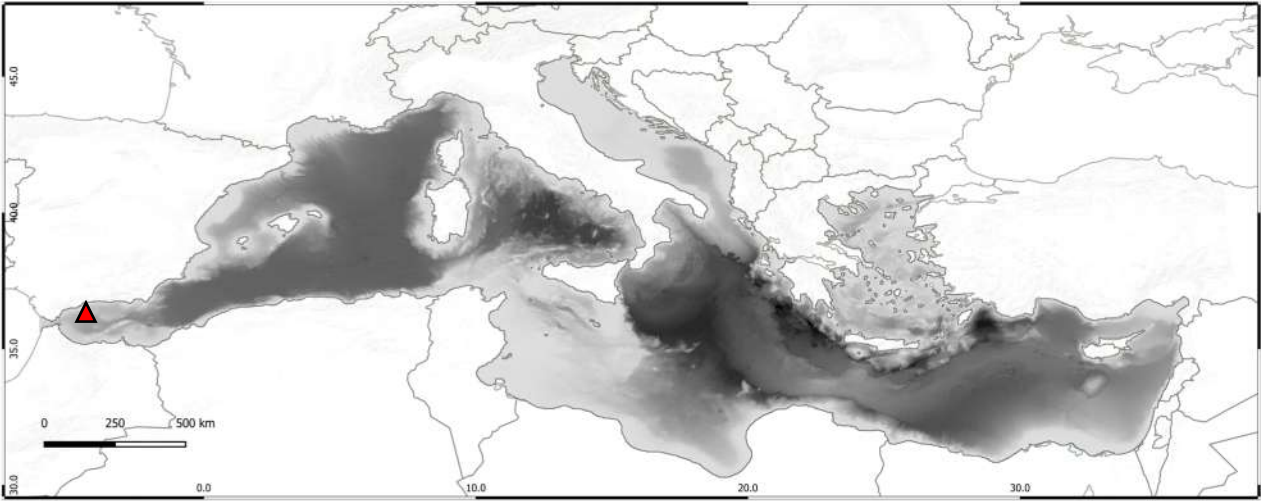
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil or calcareous clay (-60% of the section), nannofossil or calcareous silty clay (-20%), and nannofossil ooze (-20%).	0-305.2	Pleistocene to Pliocene-Miocene
II	yellowish gray micrite and greenish gray, micritic silty clay	305.2-306.97	Pliocene-Miocene
III	Gypsum and gypsiferous chalk	306.97- 317.1	Messinian



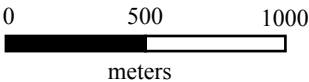
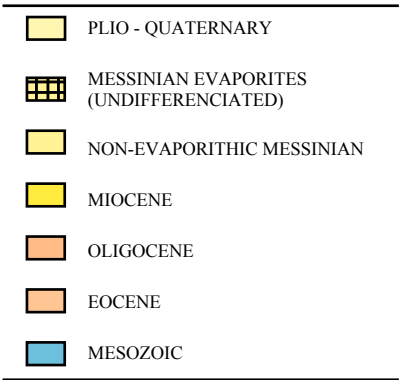


ODP LEG 161
SITE 976

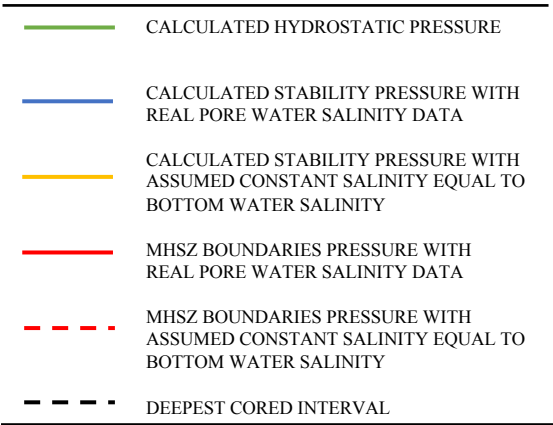
Alboran Sea
Water depth: 1107.93 m
Measured geothermal gradient in borehole : 76.02°C/km

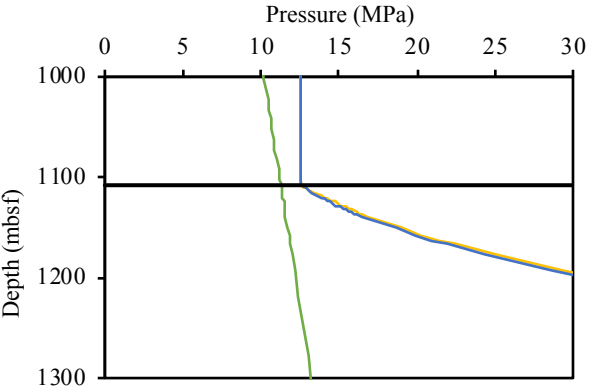
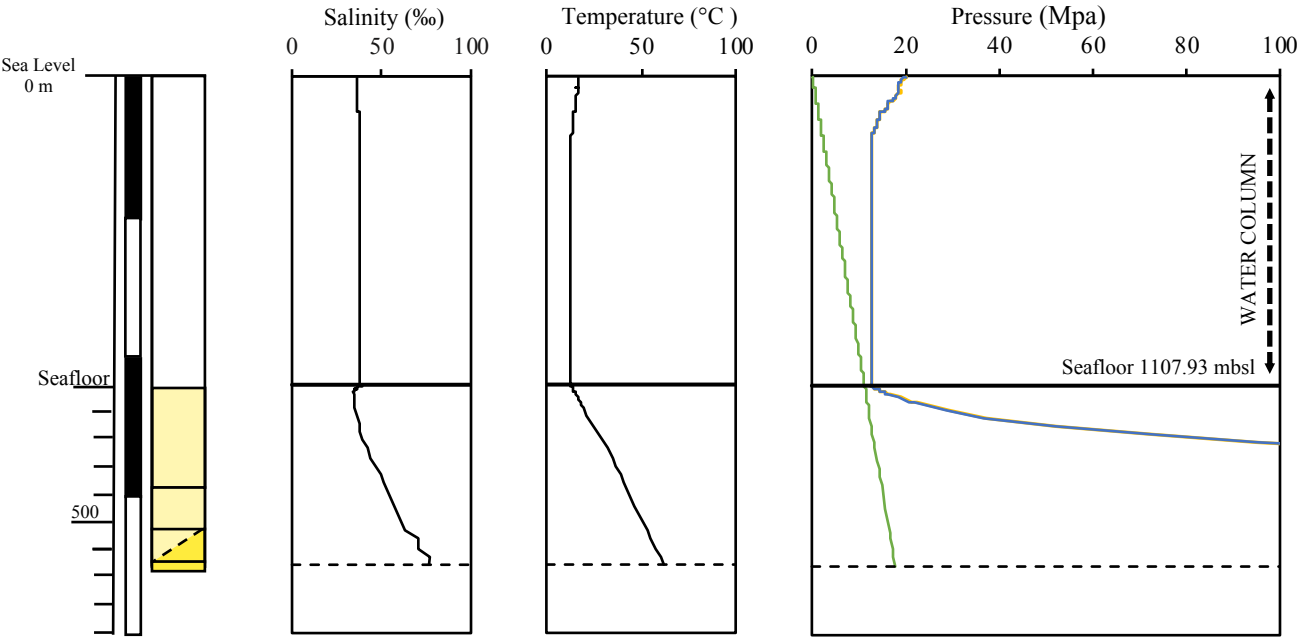


▲ ODP 161 976



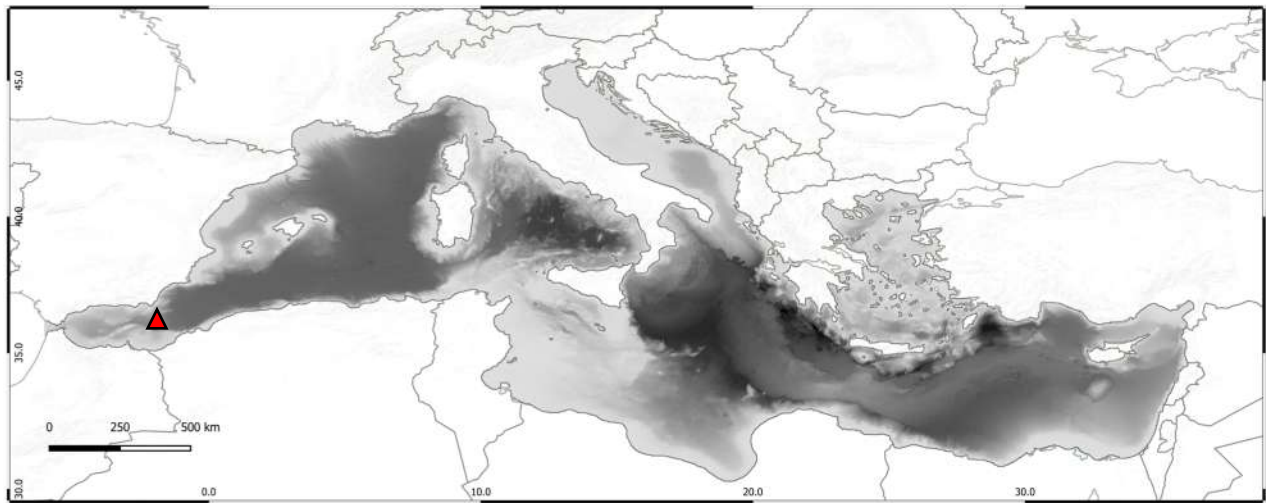
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil-rich clay, nannofossil clay, and Pliocene nannofossil silty clay	0.0-362.1	Pleistocene to late Pliocene
II	Sand and nannofossil clay	362.1-518.3	Late pliocene
III	Nannofossil and nannofossil-rich clay and claystone	518.3-660.2	Early late Pliocene to middle Miocene
IV	Glauconite, calcitic and zeolitic sand, and pebbly sand	660.20-669.73	Middle Miocene



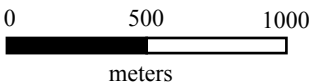
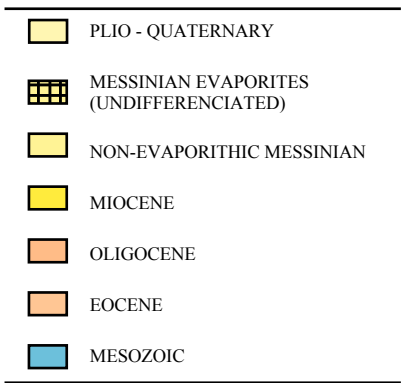


ODP LEG 161
SITE 977

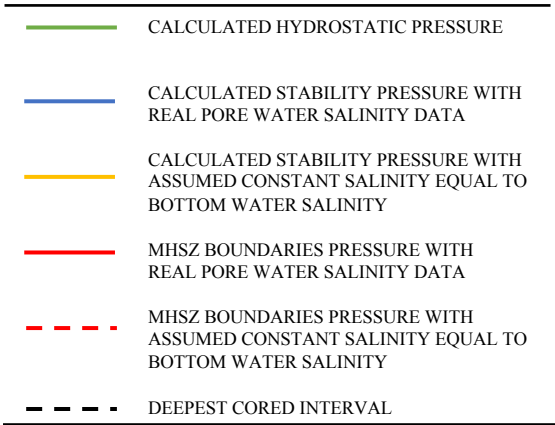
Alboran Sea
Water depth: 1984 m
Measured geothermal gradient in borehole : 83.38°C/km

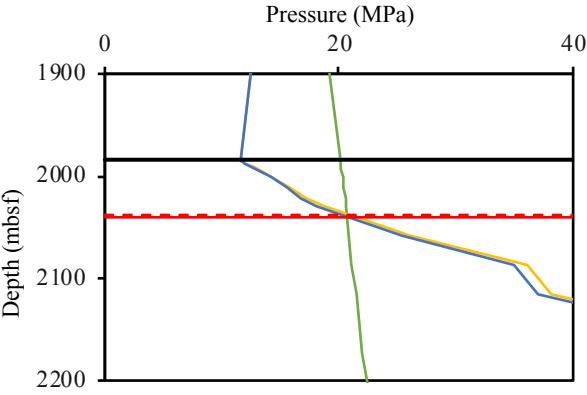
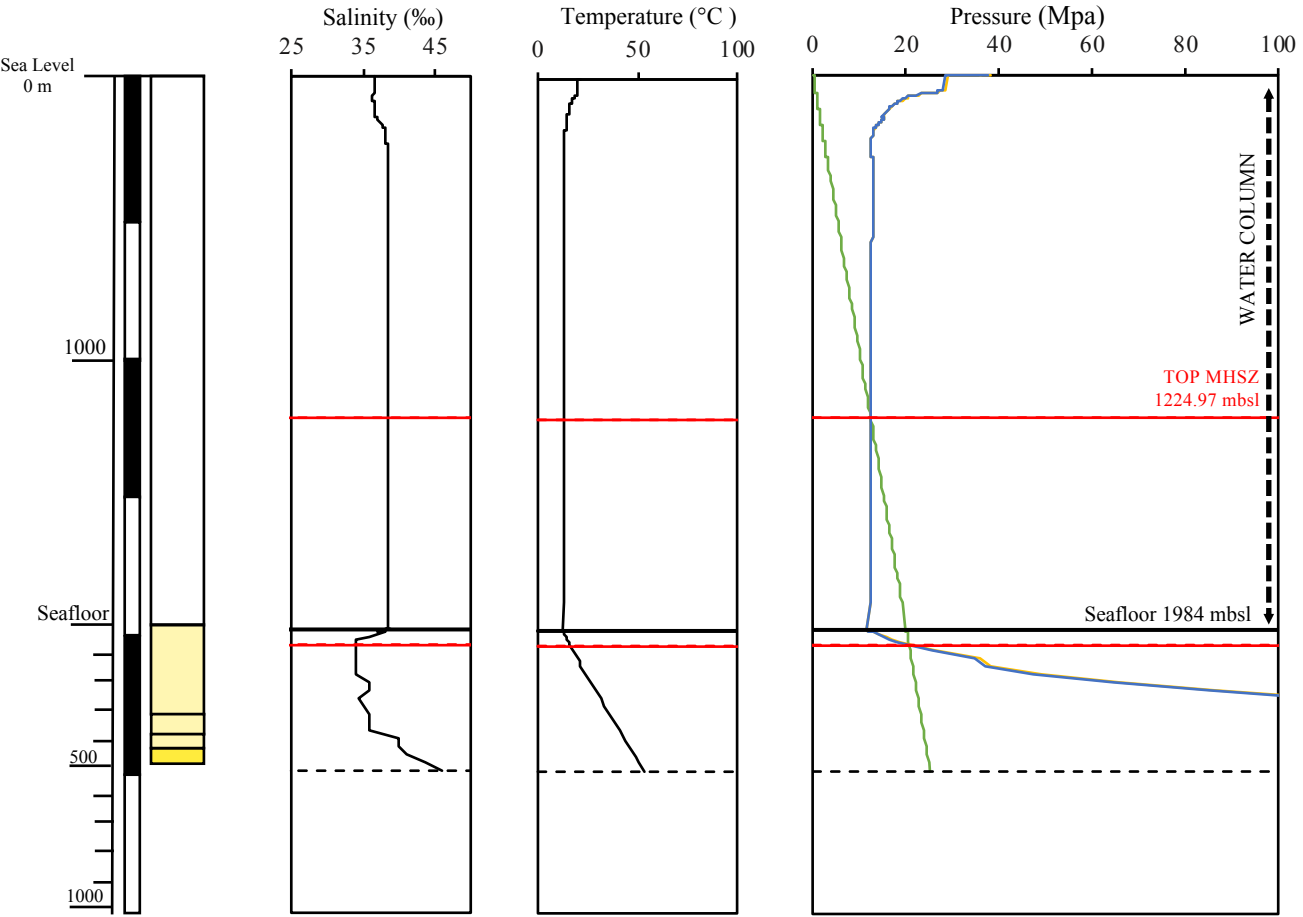


▲ ODP 161 977



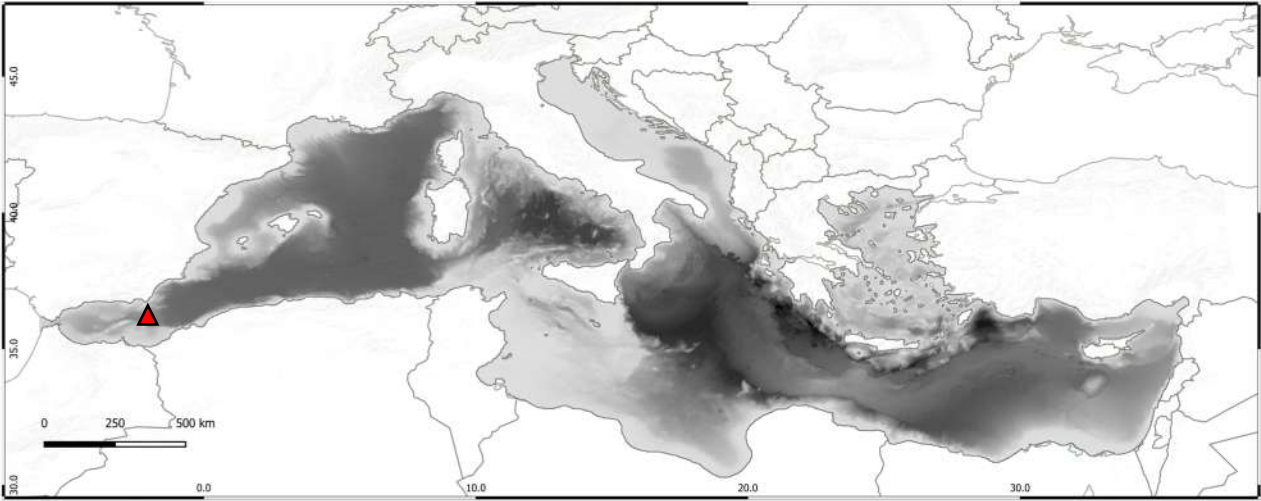
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	nannofossil-rich to nannofossil and calcareous silty clay and clay	0.0-32.9	Pleistocene to early Pliocene
IB	Nannofossil clay Calcareous silty clay to clay	417.4-490.6	early Pliocene to late Pliocene
IC	Nannofossil clay Calcareous silty clay to clay	490.8-532.9	early Pliocene
II	Partly cemented sand to gravel	532.9-598.5	Miocene to early Pliocene



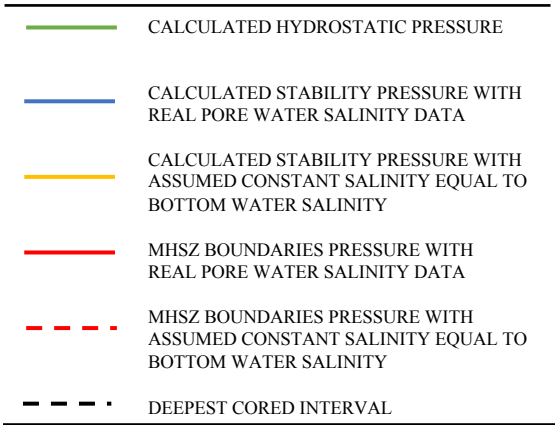
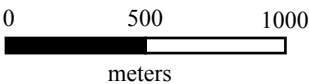
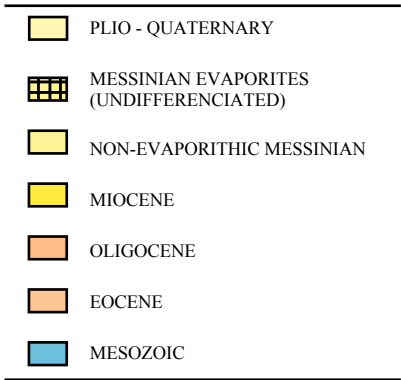


ODP LEG 161
SITE 978

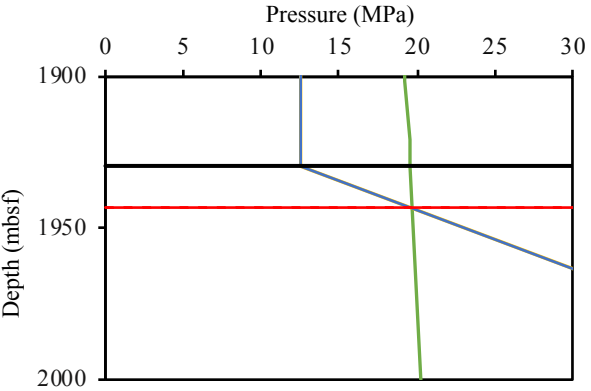
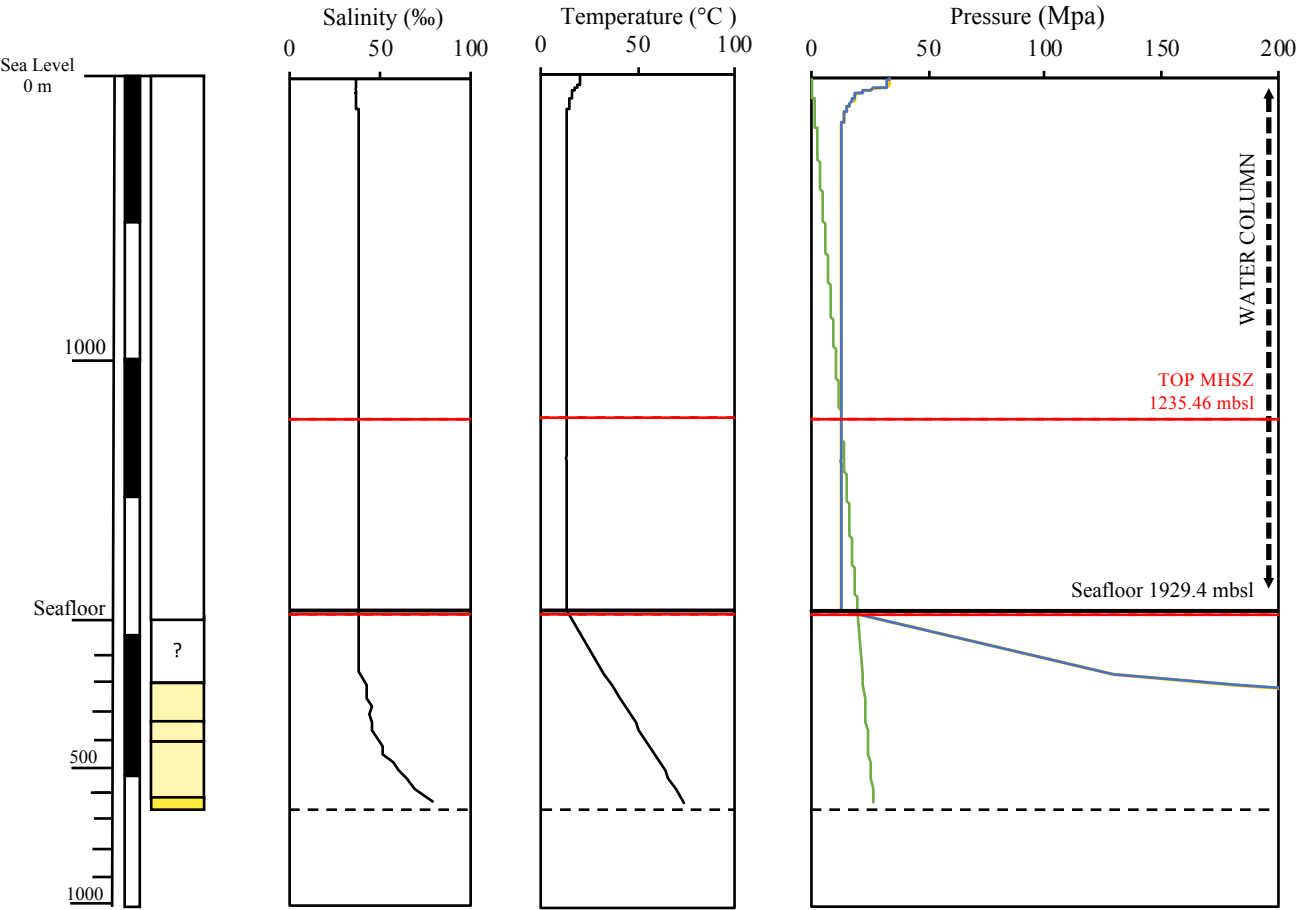
Alboran Sea
Water depth: 1929.4 m
Measured geothermal gradient in borehole : 87.79°C/km



▲ ODP 161 978

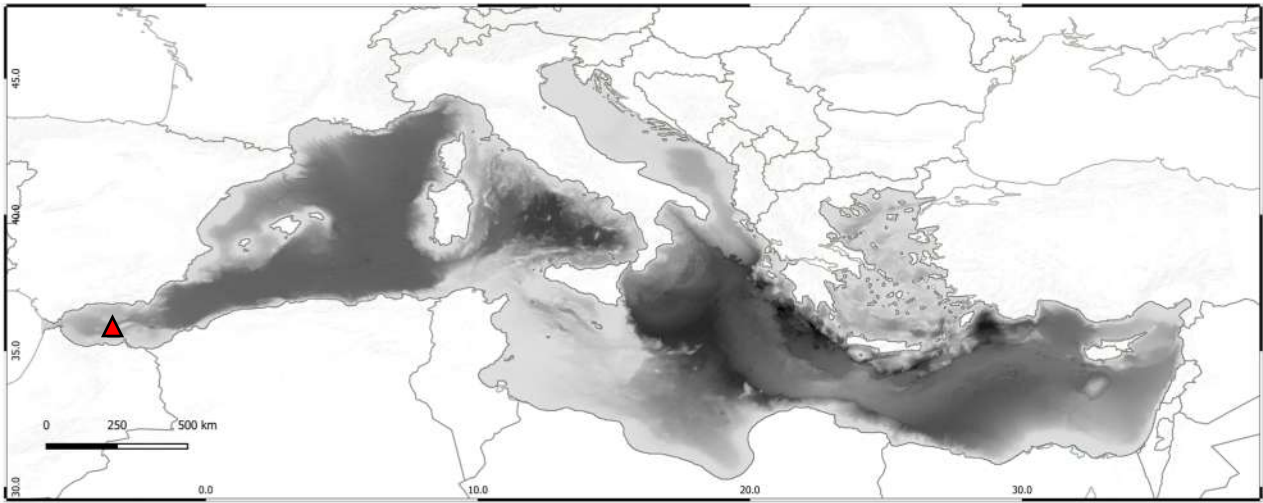


UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil clay	213.0-620.9	Pleistocene to Pliocene
IA	Nannofossil clay	213.0-342.2	Pleistocene to Pliocene
IB	Nannofossil clay Calcareous silty clay to clay	342.2-409.3	early Pliocene
IC	Nannofossil claystone, calcareous claystone, calcareous silty claystone	409.3-620.9	Early Pliocene to late Pliocene
II	Pebbles of volcanic and sedimentary rocks	620.9-630.67	Early Pliocene to?
III	Calcareous siltstone, calcareous silty claystone, calcareous silty sandstone, silty claystone, claystone, clayey silty sandstone, clayey sandstone, nannofossil-rich claystone	630.67-694.3	Miocene

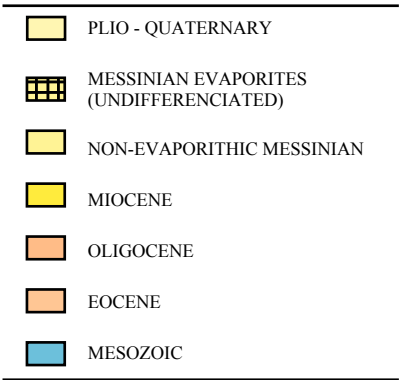


ODP LEG 161
SITE 979

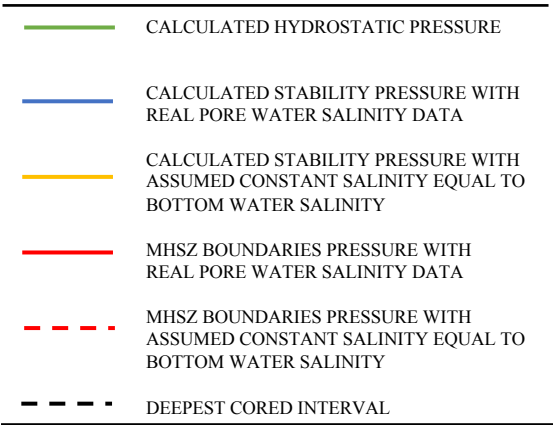
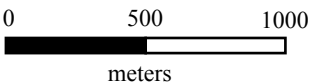
Alboran Sea
Water depth: 1062.1 m
Measured geothermal gradient in borehole : 99.92°C/km

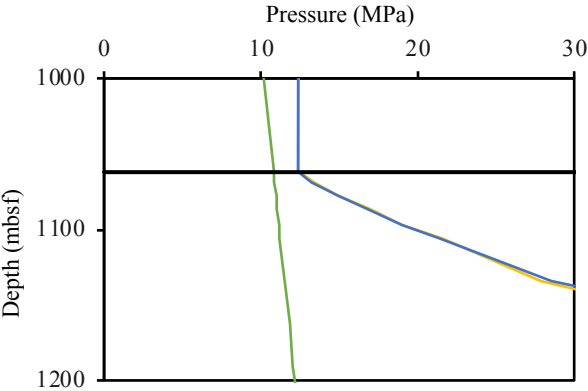
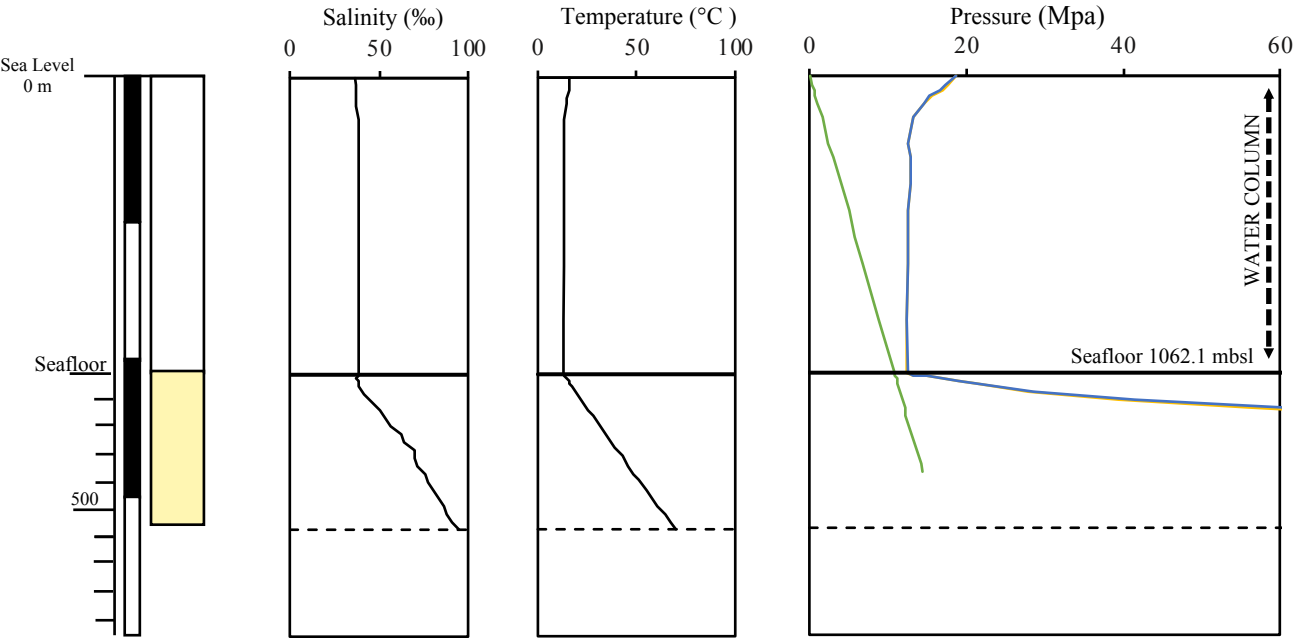


▲ ODP 161 979



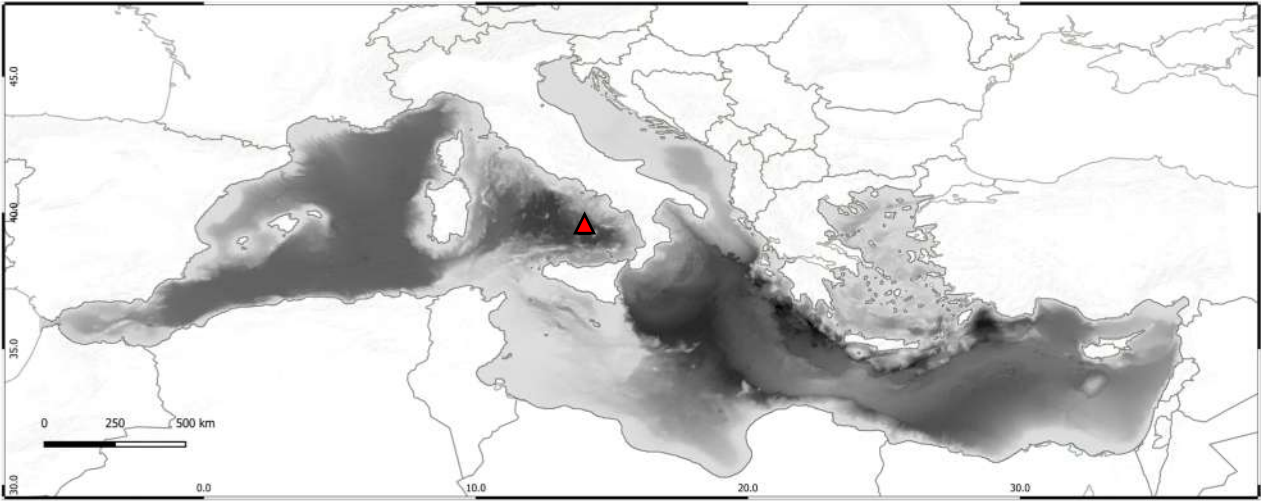
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil clay	0.0-580.9	Pleistocene to Pliocene



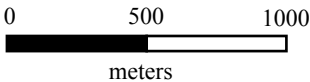
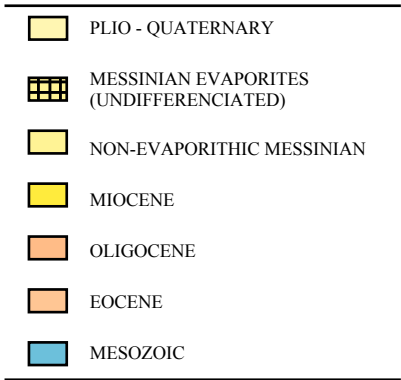


ODP LEG 107
SITE 650

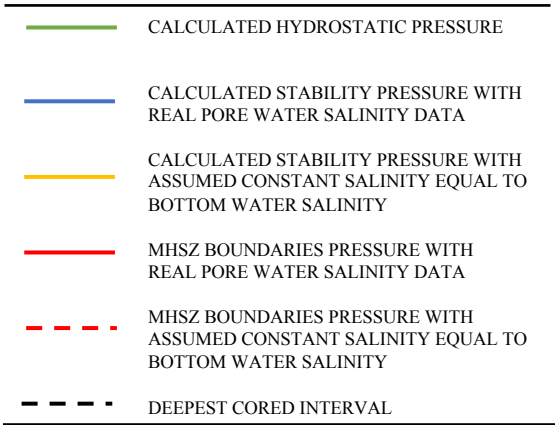
Marsili Basin
Water depth: 3529.0 m
Measured geothermal gradient in borehole : 143.078°C/km

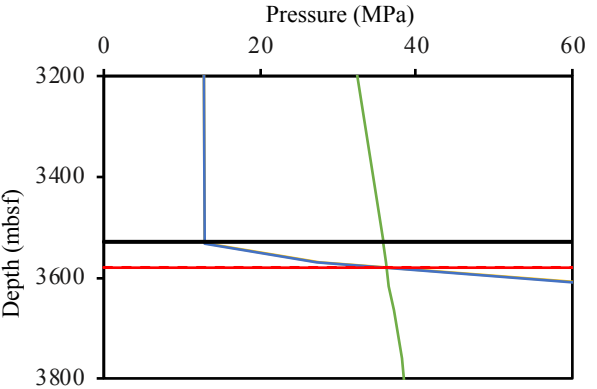
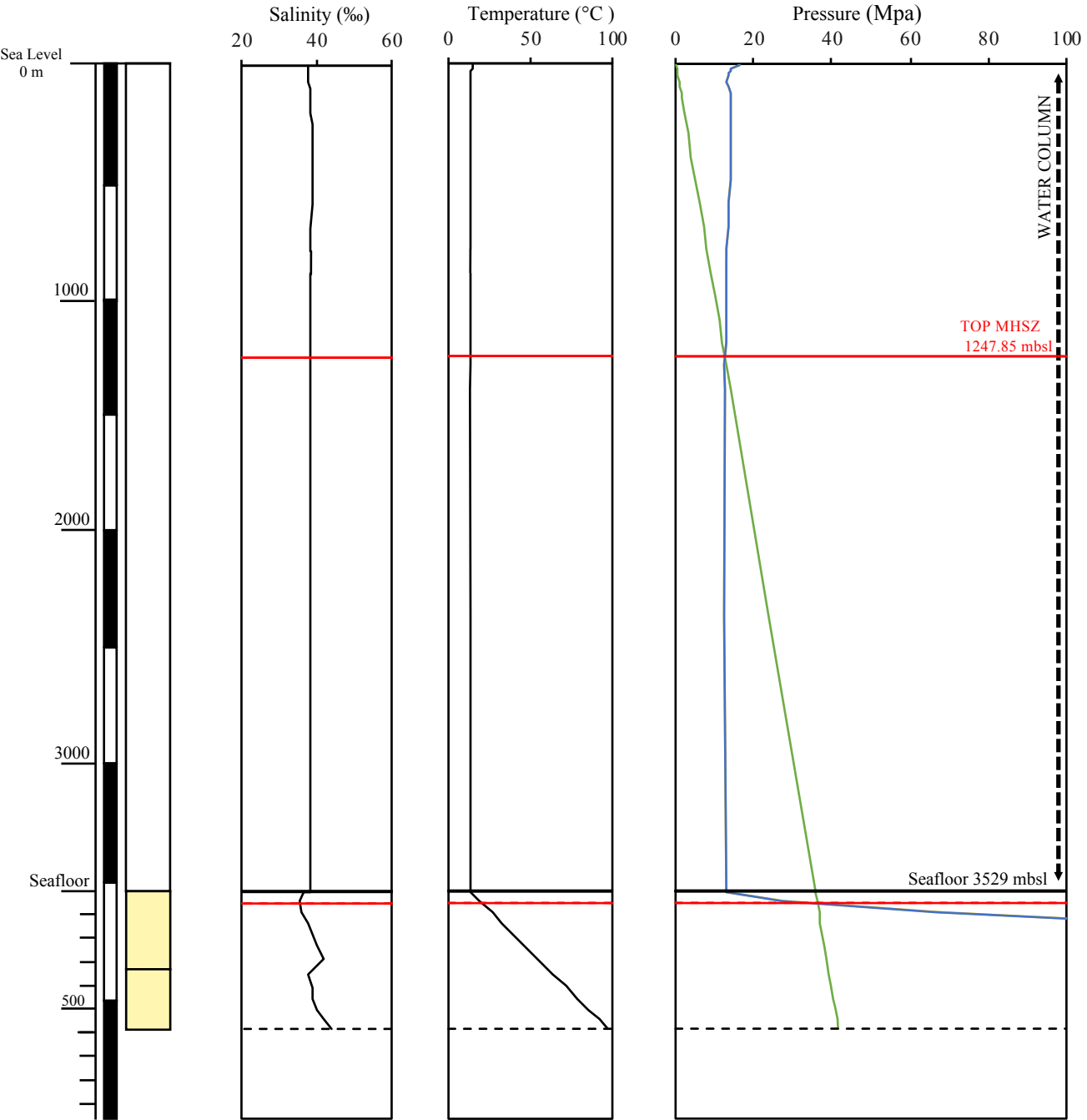


▲ ODP 107 650



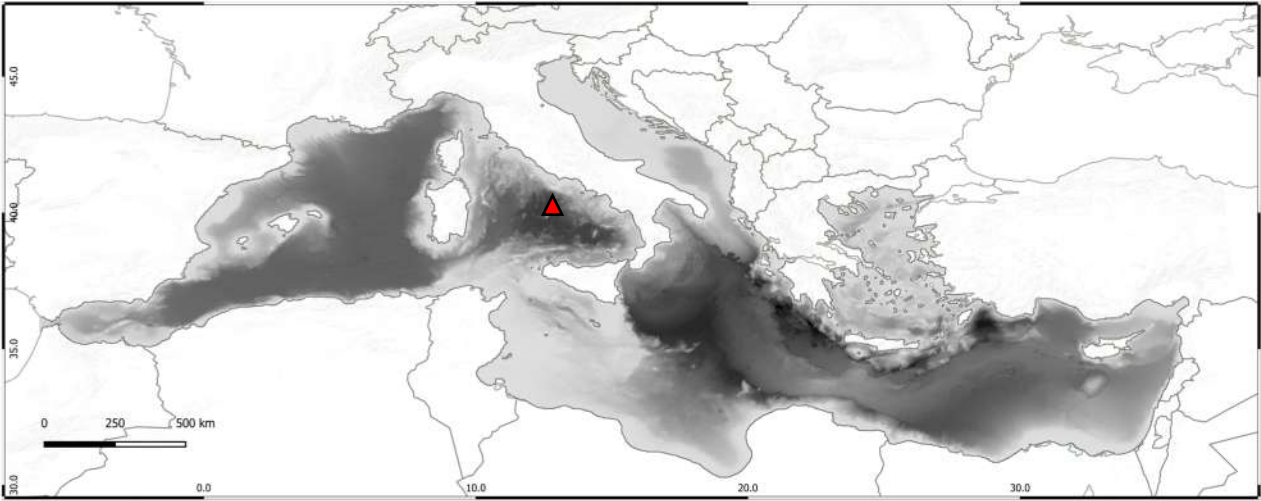
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Volcanic glass, pumice and clay-sized terrigenous material	0-354	Pleistocene-Holocene
II	Calcareous mud and nannofossil ooze	354-602	Pleistocene to upper Pliocene



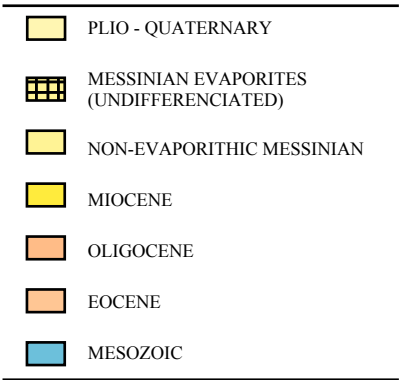


ODP LEG 107
SITE 651

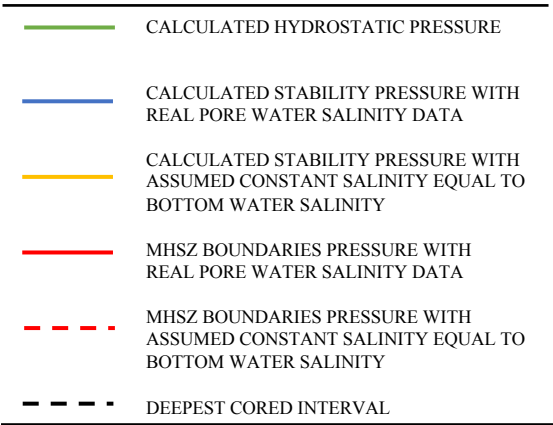
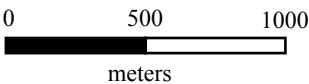
Tyrrhenian sea
Water depth: 3590.90 m
Measured geothermal gradient in borehole : 104.40°C/km

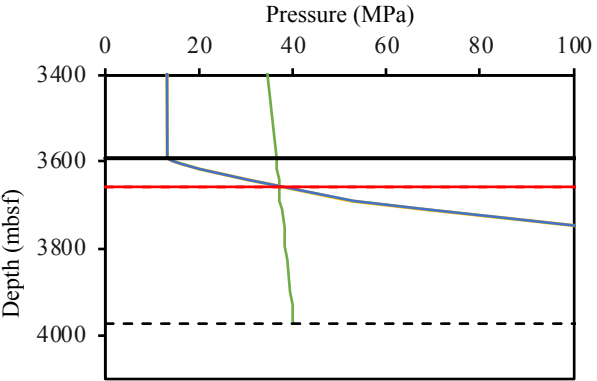
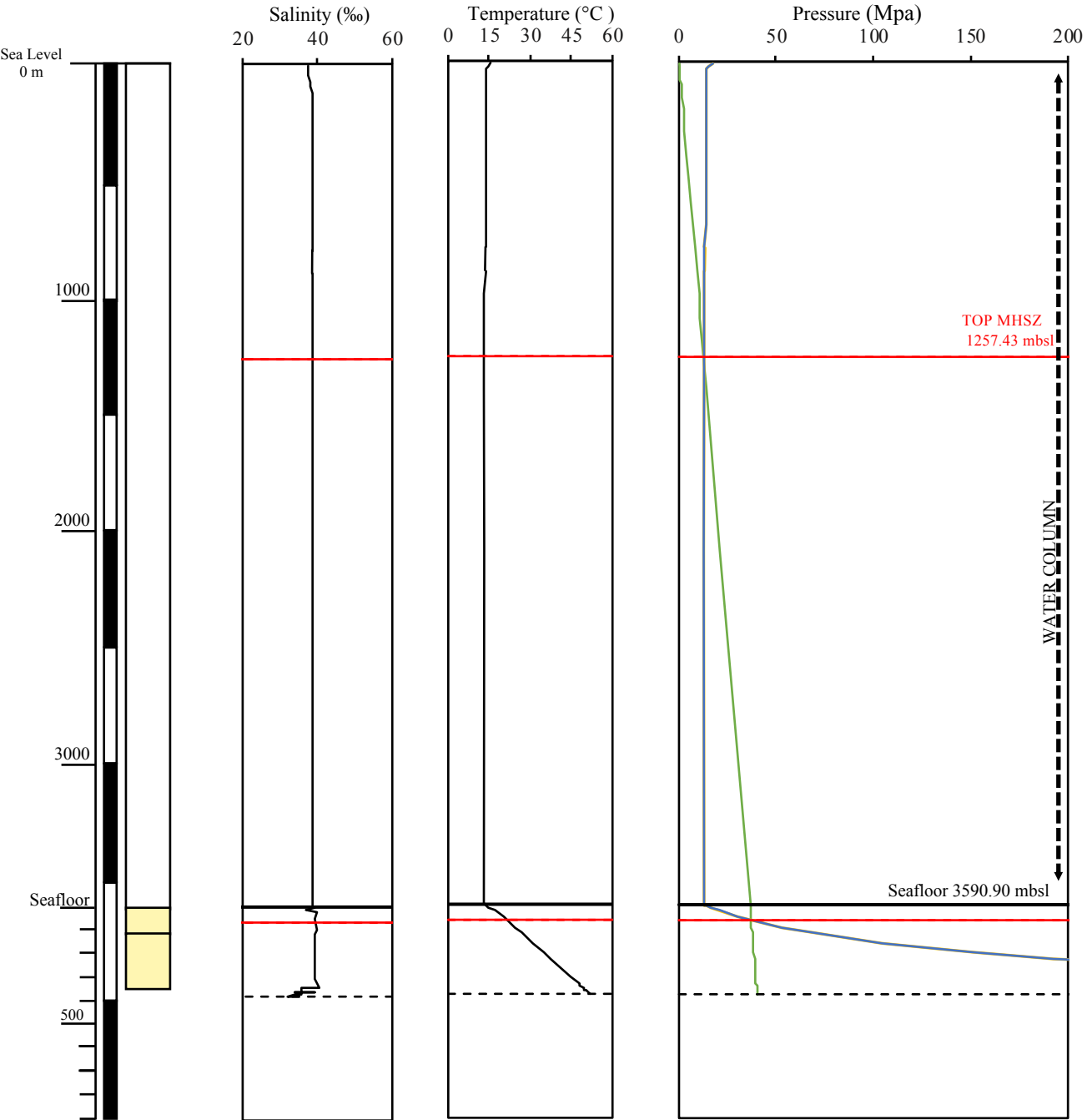


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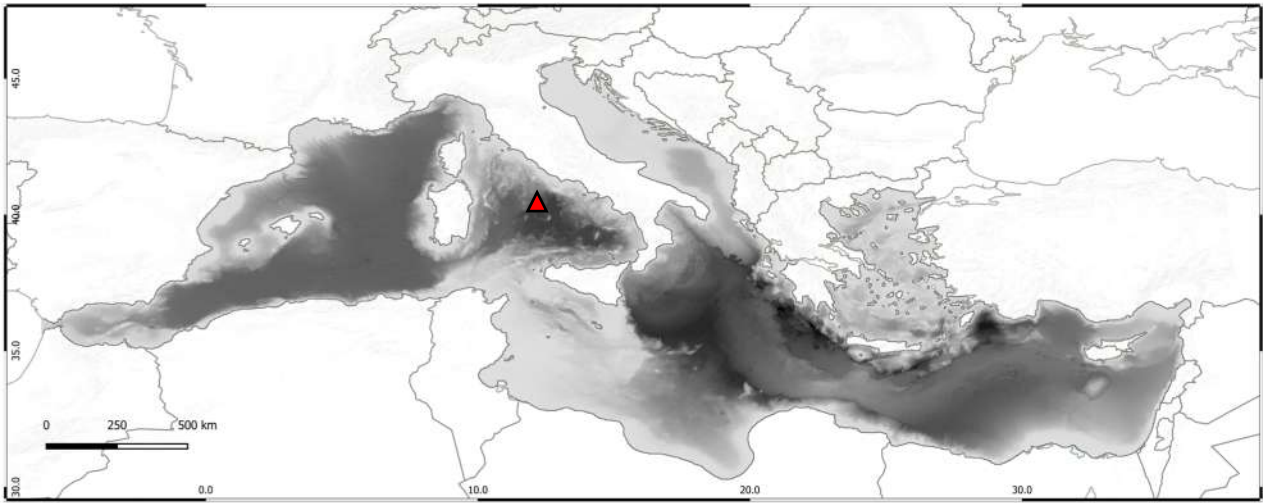
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Volcanogenic sediments interbedded with volumetrically subordinate (< 15%) marly, nannofossilrich mud	0-136.0	late Pleistocene
II	Nannofossil chalk with very subordinate volcanogenic turbiditic claystones and siltstone	136.0-387.6	Pliocene to late Pleistocene



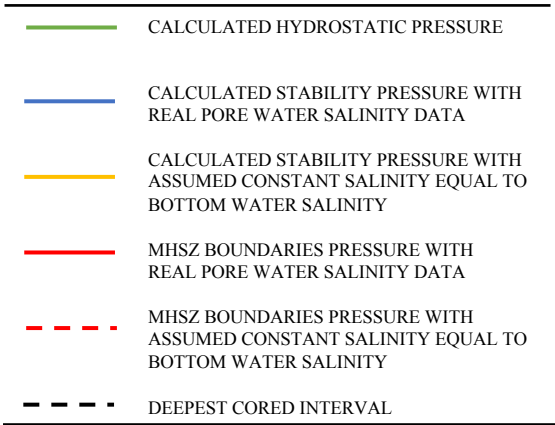
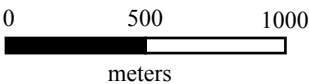
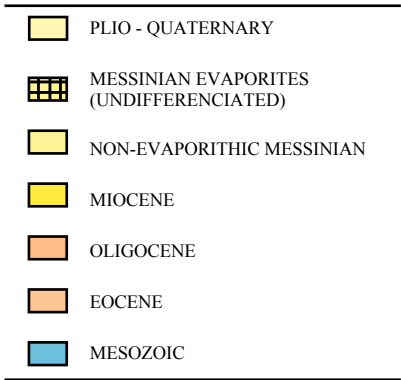


ODP LEG 107
SITE 652

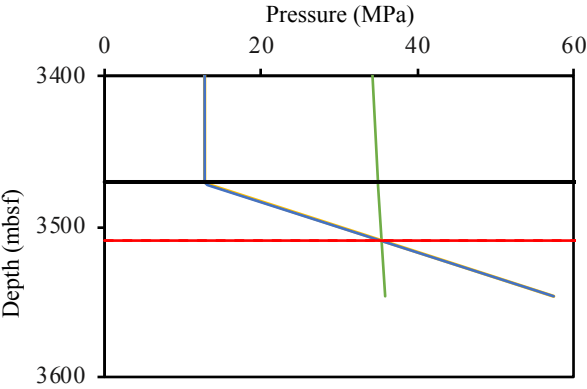
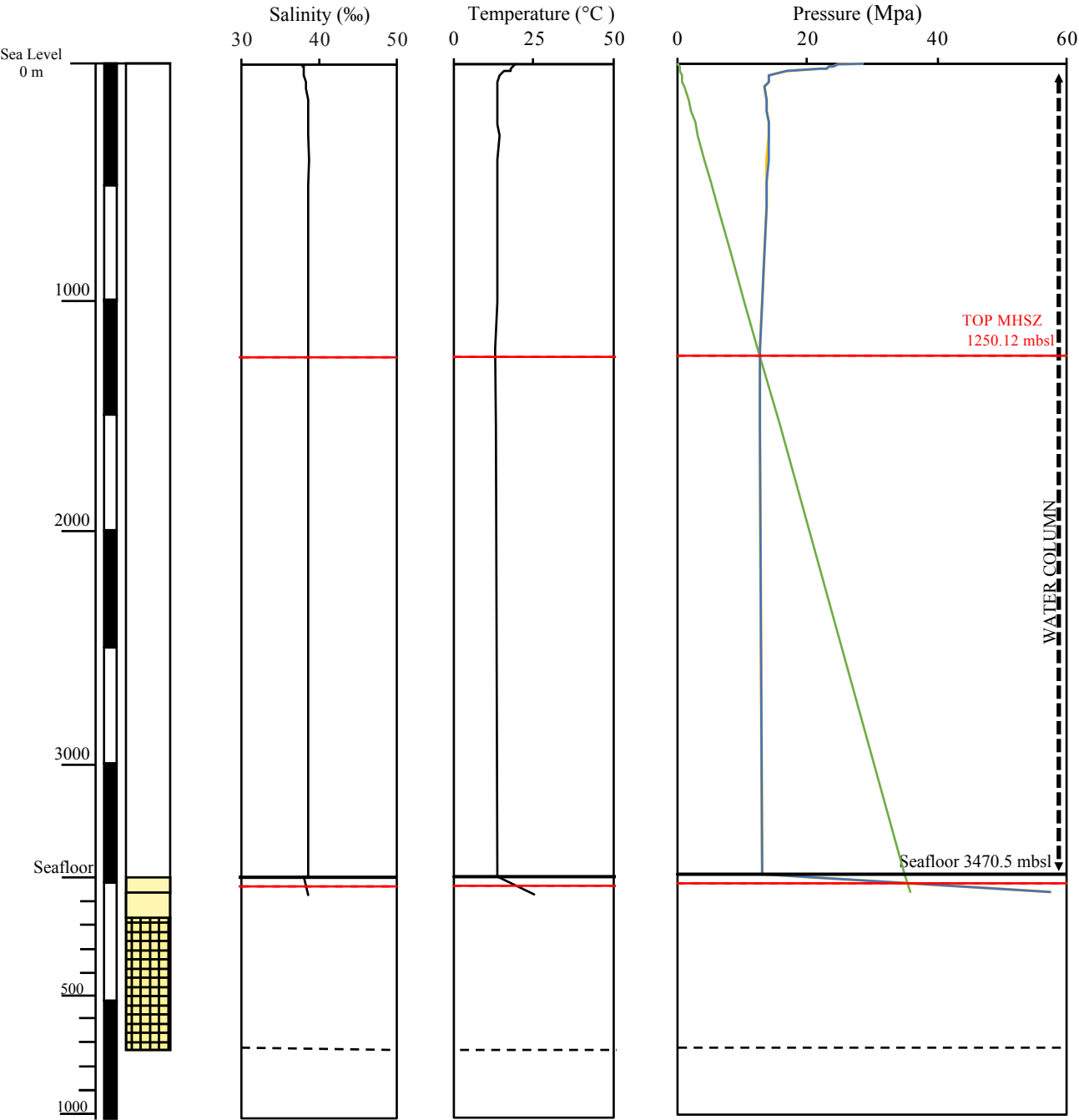
Lower Sardinia Margin
Water depth: 3470.5 m
Measured geothermal gradient in borehole : 133.726°C/km



▲ ODP 107 652

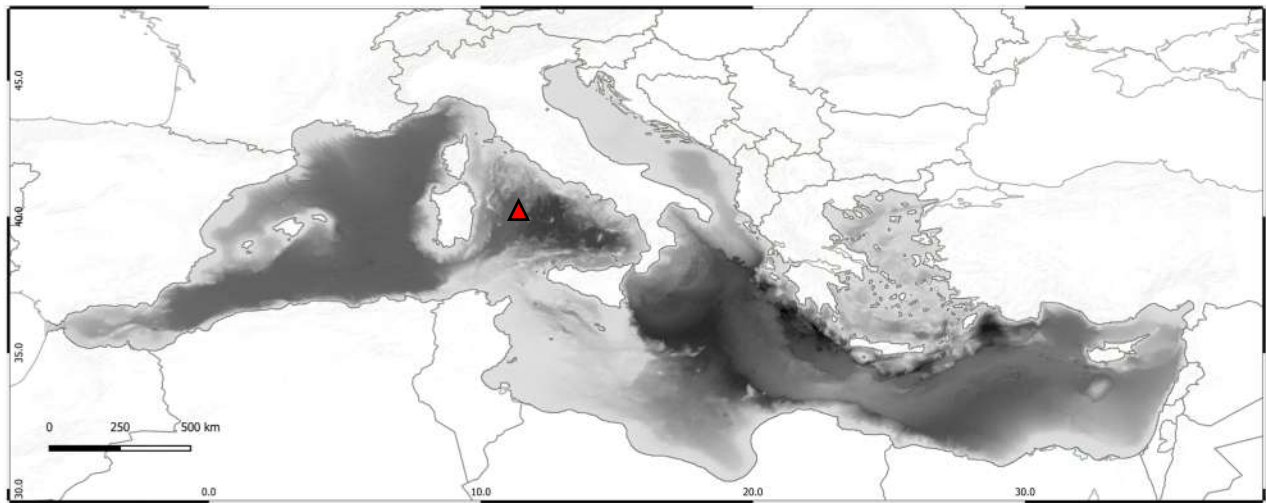


UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Gray calcareous muds and muds	0-55.4	Pleistocene
II	marly nannofossil oozes with higher carbonate content (average 48%) than in Unit I	55.4-188.2	early Pleistocene-Pliocene
III	transitional interval between the normal marine Pliocene and the barren Messinian sediments	188.2 – 188.6	latest Messinian
IV	dominated by gray, thinly-bedded, normally-graded, gypsum- and carbonate-bearing, sandy mud, interpreted as turbidites	188.6 – 344.3	probable late Messinian
V	succession of dark gray, graded and cross-bedded, gypsum- and carbonate-bearing sandy muds	344.8 – 721.1	undetermined (probable Messinian).

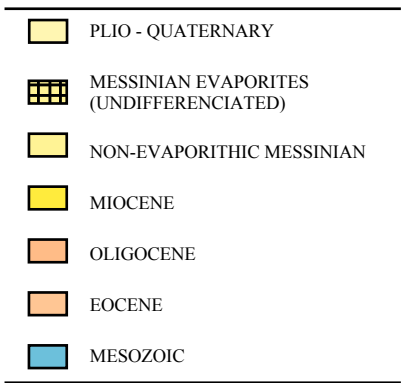


ODP LEG 107
SITE 653

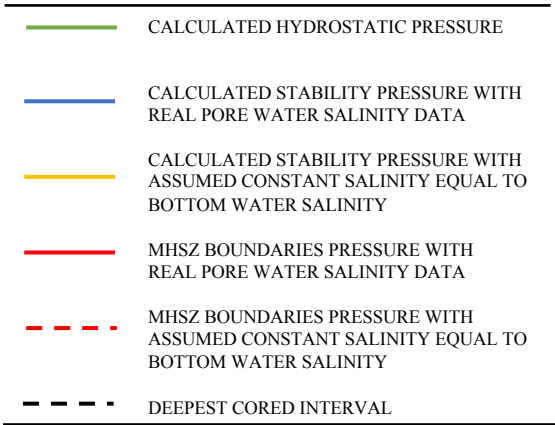
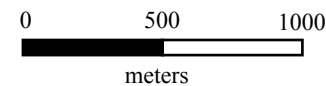
Corniglia Terrace
Water depth: 2831.60 m
Measured geothermal gradient in borehole : 93.42°C/km

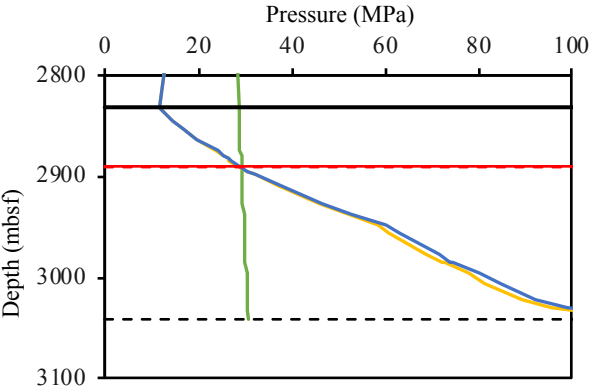
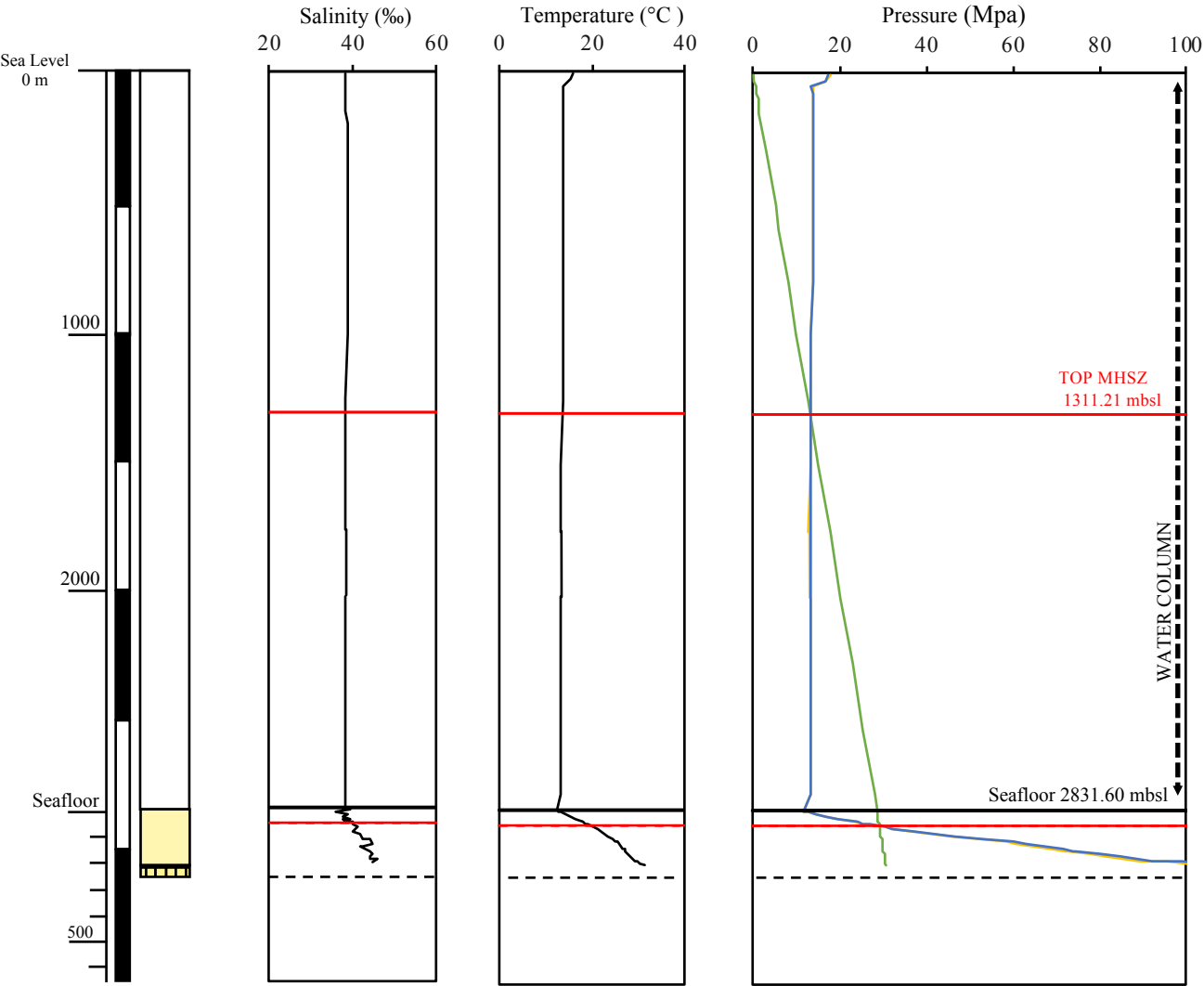


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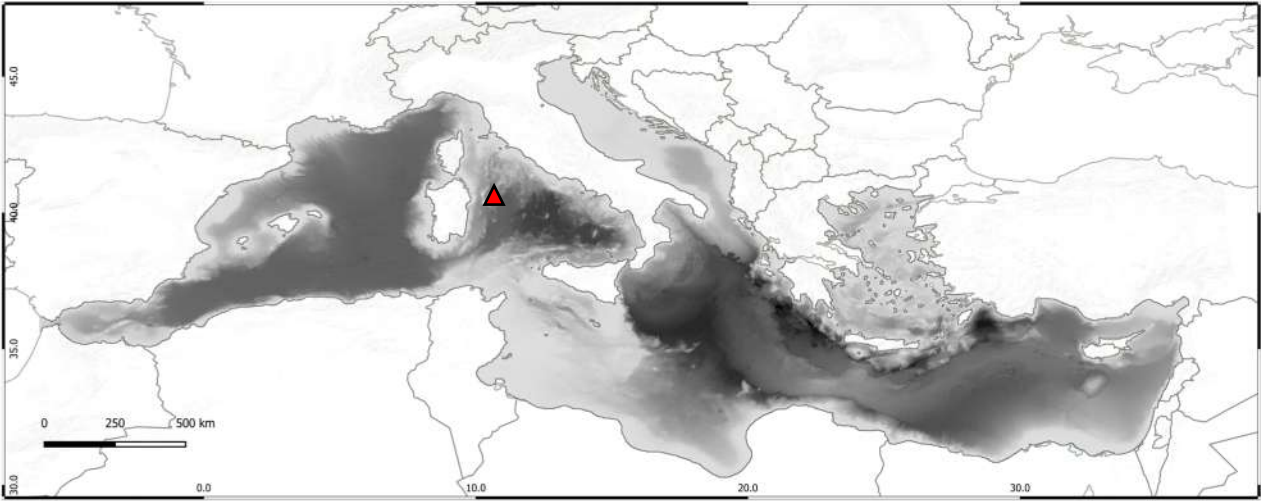
UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Hemipelagic to pelagic sedimentation	0-216.6	Quaternary, Pliocene, plus several tens of centimetres of probable Messinian.
II	Sediments deposited in restricted marine to evaporitic and continental(?) environments	216.6-264.3	Messinian



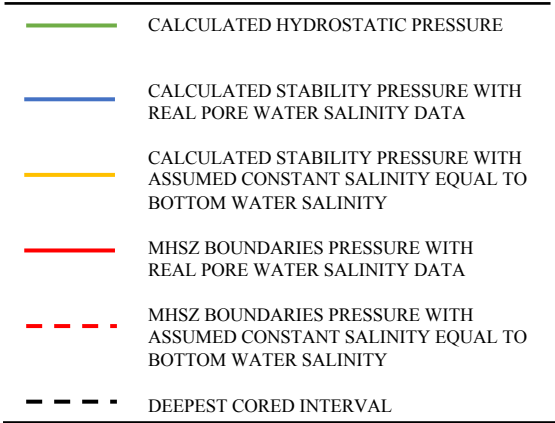
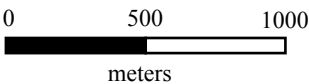
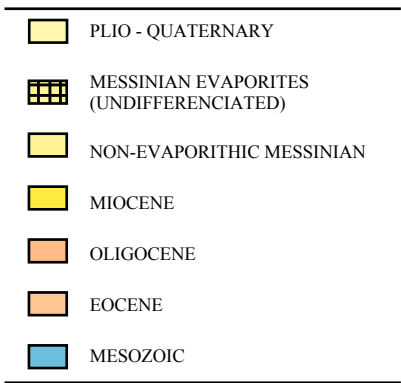


ODP LEG 107
SITE 654

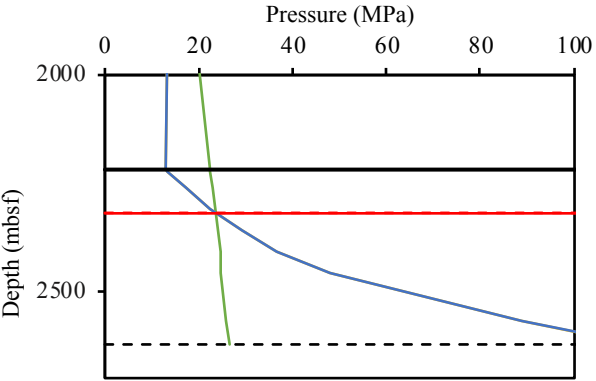
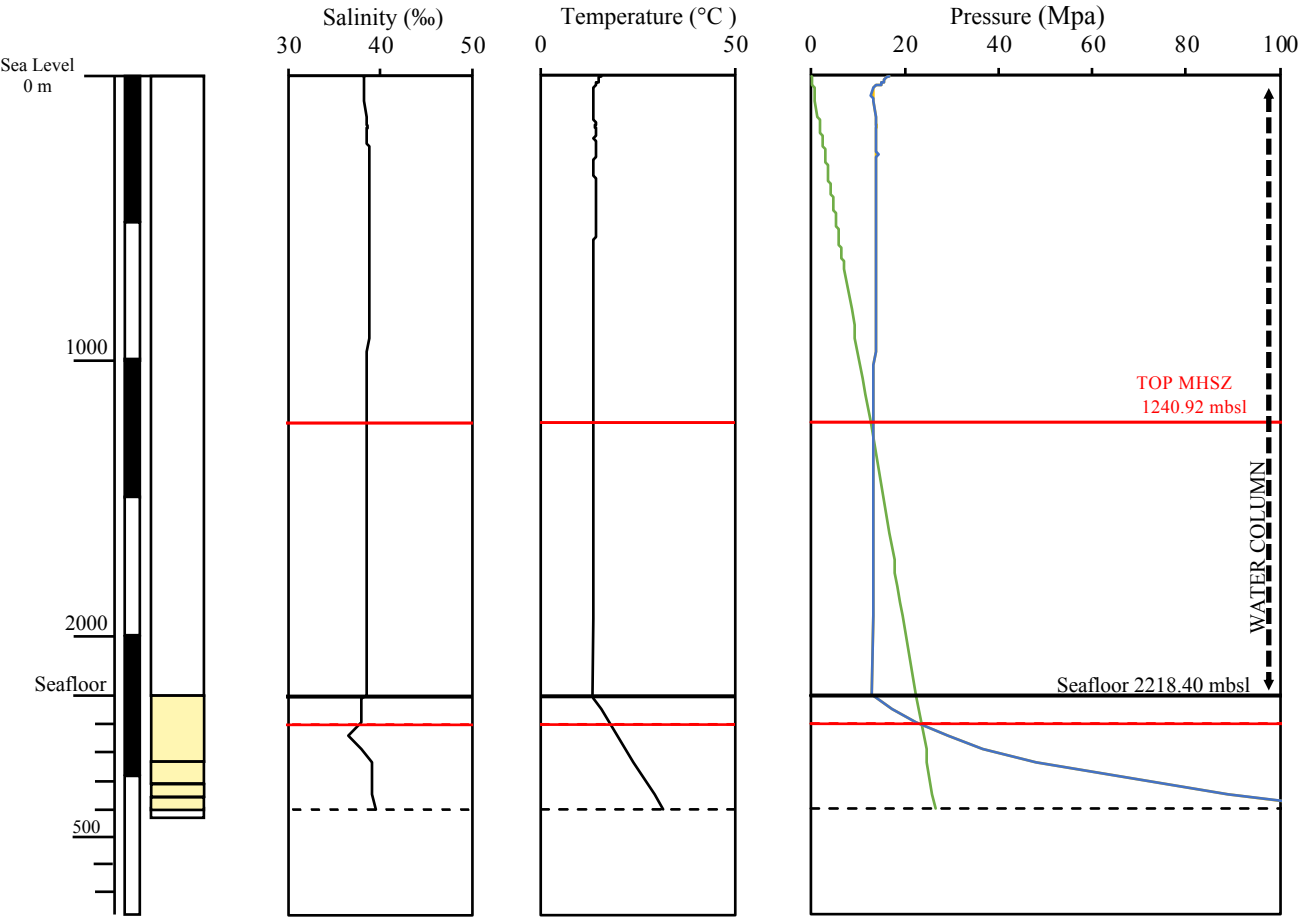
Upper Sardinia Margin
Water depth: 2218.40 m
Measured geothermal gradient in borehole : 44.176°C/km



▲ ODP 107 654

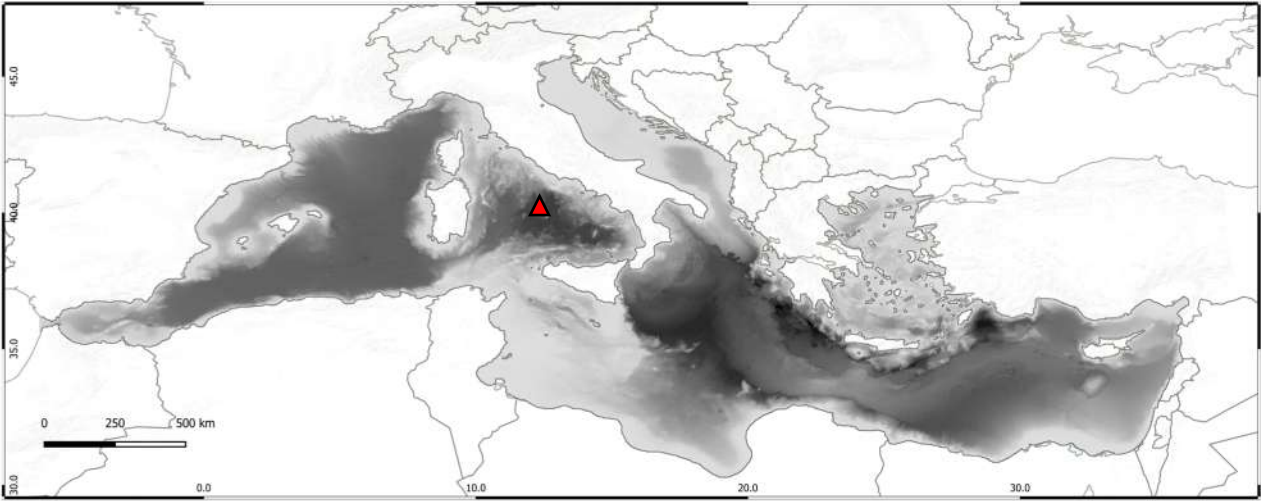


UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Nannofossil oozes with subordinate calcareous muds, with minor terrigenous elastics, volcanic ashes, and sapropels	0-242.7	Pleistocene and Pliocene
II	Sediments deposited in restricted marine to evaporitic and continental(?) environments	242.7-312.6	Messinian
III	very dark colored, finely laminated, organic-carbon-rich claystone and siltstone, with minor volcanic ash	312.6 – 348.9	early to middle Messinian
IV	highly burrowed nannofossil oozes which contain a microfauna suggestive of shoaling downward into a more restricted marine setting	348.9 – 403.9	late Tortonian and earliest Messinian
V	polymictic glauconitic sandstone and marly calcareous chalk	403.9 - 415.7	indeterminate
VI	reddish gravel-bearing calcareous mudstones	415.7 – 473.8	indeterminate

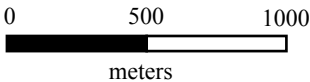
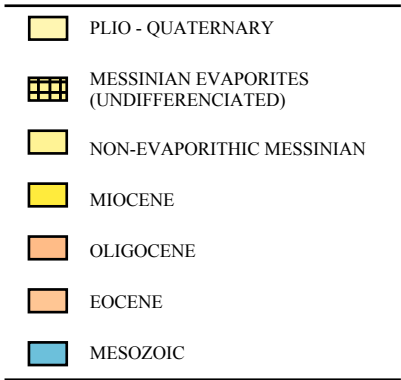


ODP LEG 107
SITE 655

Gortani Ridge, Western Vavilov Basin
Water depth: 3330.80 m
Measured geothermal gradient in borehole : 67.29 °C/km



▲ ODP 107 655



UNIT	LITHOLOGY	SUBBOTTOM DEPTH	AGE
I	Marly nannofossil ooze, with occasional volcaniclastic layers and detrital sand layers	0-79.9	late Pliocene (MP14) to Quaternary
II	Basalt	79.9-196.1	

