IODP Proposal Cover Sheet

927 - Add 3

Tyrrhenian Continent-Ocean Transition

Received for:

Title	Tyrrhenian Magmatism & Mantle Exhumation
Proponents	Nevio Zitellini, César R. Ranero, Carlos J. Garrido, Daniele Brunelli, Valenti Sallares, Ingo Grevemeyer, Manel Prada, Isabella Raffi, Marco Ligi, Umberta Tinivella, Mathilde Cannat, Marta Perez-Gussinyé, Udo Barckhausen, Tomoaki Morishita, Christopher MacLeod, Tim Minshull, Muriel Andreani, Alberto Malinverno, Stefano Lugli, Maria Filomena Loreto
Keywords	mantle exhumation, continental lithosphere rifting
Area	Tyrrhenian Sea

Proponent Information

Proponent	Nevio Zitellini
Affiliation	Istituto Scienze Marine, Consiglio Nazionale delle Ricerche, Bologna
Country	Italy

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Abstract

The objective of The “TyrrhenIan Magmatism & Mantle Exhumation” (TIME) project aims at studying the 3D time and space evolution of a continent-ocean transition (COT), from breakup to robust magmatism and subsequent mantle exhumation with closely time-related magmatism. The objectives include the kinematics of the opening, the crust and mantle deformation mechanisms, and the relationship of melting products to the exhumed mantle.
The database available to design the drilling project is possibly one of the best from a basin. The basement of the Tyrrhenian basin has been dredged at highs, and the stratigraphy is reasonably well known from three drilling expeditions, DSDP leg 13, DSPD leg 42 and the ODP leg 107 (Fig.1). In addition, a full-coverage high-resolution multibeam bathymetry of the basin helps the 3D interpretation of a large data set of vintage and modern 2D MCS reflection profiles.
The TIME project focuses in the youngest basin of the Western Mediterranean, formed from Upper Tortonian to recent by continental extension related to rollback of the ESE-SE migrating Apennine subduction system. Recent geophysics with coincident wide-angle seismic (WAS), gravity and multichannel seismic (MCS) reflection data support the presence of magmatic rocks formed during early COT phase, and of presumably subsequently exhumed mantle. The youth of the basin results in a modest sediment cover, facilitating sampling, with unprecedented spatial resolution, the peridotitic and magmatic basement across the conjugated COT of the basin.

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Scientific Objectives

1) to determine the kinematics and geometry in space and time of the extensional deformation in the basin;
2) to establish the timing and origin of the associated magmatism;
3) to establish the rheology, deformation patterns and timing of mantle exhumation;
4) to determine the compositional evolution and heterogeneity of the mantle source;
5) to test current models of continental lithosphere rifting and of COT formation.

Non-standard measurements technology needed to achieve the proposed scientific objectives

not required

Have you contacted the appropriate IODP Science Operator about this proposal to discuss drilling platform capabilities, the feasibility of your proposed drilling plan and strategies, and the required overall timetable for transiting, drilling, coring, logging, and other downhole measurements?

yes

Proposal History

Submission Type: Resubmission from previously submitted proposal

Review Response

see proposal text in Add3

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Proposed Sites (Total proposed sites: 20; pri: 6; alt: 14; N/S: 0)

Site Name	Position (Lat, Lon)	Water Depth (m)	Penetration (m)			Brief Site-specific Objectives
			Sed	Bsm	Total	
TYR-01A (Alternate)	40.00085 10.994272	2675	164	70	234	The basement of the Cornaglia Terrace
TYR-02A (Primary)	40.00036 13.407784	2813	460	70	530	The basement of the Campania Terrace
TYR-03A (Alternate)	40.18388 12.6413	3533	220	140	360	The serpentinized mantle peridotite
TYR-04A (Alternate)	40.18402 12.72801	3546	478	70	548	The serpentinized mantle peridotites
TYR-05A (Alternate)	40.26609 12.69432	3530	88	140	228	The serpentinized mantle peridotite
TYR-07A (Primary)	40.00097 10.98622	2700	195	70	265	the basement of Cornaglia Terrace
TYR-08A (Alternate)	40.00036 13.385832	2837	454	70	524	the Campania Terrace basement rocks
TYR-09A (Primary)	40.18388 12.63243	3533	278	140	418	the serpentinized mantle peridotite.
TYR-10A (Primary)	40.18398 12.70826	3544	365	70	435	serpentinized mantle peridotite.
TYR-11A (Primary)	40.26614 12.70529	3538	202	140	342	serpentinized mantle peridotites
TYR-12A (Primary)	40.4159 12.7076	3590	653	70	723	serpentinized mantle peridotites
TYR-14A (Alternate)	39.71273 13.31500	3381	496	70	566	The basement of the Campania Terrace
TYR-15A (Alternate)	40.18420 12.56710	3600	175	140	315	The serpentinized mantle peridotite
TYR-16A (Alternate)	40.18387 12.67717	3578	271	70	341	The serpentinized mantle peridotites
TYR-17A (Alternate)	40.33121 12.67304	3600	462	140	602	The serpentinized mantle peridotite
TYR-18A (Alternate)	40.41600 12.74424	3600	621	70	691	Same target of TYR-12A, serpentinized mantle peridotites
TYR-19A (Alternate)	40.38562 12.74428	3601	1063	70	1133	Same target of TYR-12A, serpentinized mantle peridotites
TYR-20A (Alternate)	39.999778 13.5958344	2698	400	70	470	Same target of TYR-08A, the Campania Terrace basement rocks
TYR-21A (Alternate)	40.0011633 11.62511	3366	269	70	339	Same target of TYR-09A, the serpentinized mantle peridotite.
TYR-13B (Alternate)	40.001003 10.95549	2713	310	70	380	The basement of the Cornaglia Terrace

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Contact Information

Contact Person:	Nevio Zitellini
Department:	ISMAR-CNR-Bologna
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E-mail/Phone:	nevio.zitellini@bo.ismar.cnr.it; Phone: +39 051 639 8890

Proponent List

First Name	Last Name	Affiliation	Country	Role	Expertise
Nevio	Zitellini	Istituto Scienze Marine, Consiglio Nazionale delle Ricerche, Bologna	Italy	Principal Lead	Marine Geology, MCS, Mediterranean Geodynamics
César	R. Ranero	ICREA at CSIC, Barcelona	Spain	Data Lead	Marine Geopphysics, Tectonics, Geopdynamics
Carlos	J. Garrido	DP. Mineralogia Y Petrologia, Universitad de Granada, Granada	Spain	Other Lead	petrology, geochemistry, mineralogy mantle rocks
Daniele	Brunelli	Dipartimento di Scienze Chimiche e Geologiche Università di Modena e Reggio Emilia	Italy	Other Lead	Mantle and MORB petrology and geochemistry
Valenti	Sallares	Institute of Marine Sciences, CSIC, Barcelona	Spain	Other Lead	Marine Geophysics
Ingo	Grevemeyer	GEOMAR Helmholtz Centre of Ocean Research, Kiel	Germany	Other Lead	marine geophysics, crustal & lithosphere structure
Manel	Prada	Dublin Institute for Advanced Studies, School of Cosmic Physics, Dublin	Ireland	Other Lead	Seismic refraction, mantle exhumation, back-arcs
Isabella	Raffi	Dipartimento di Ingegneria e Geologia, Università "G. d'Annunzio" di Chieti-Pescara	Italy	Other Proponent	micropaleontology
Marco	Ligi	Istituto di Scienze Marine, Consiglio Nazionale delle Ricerche, Bologna	Italy	Other Proponent	Marine Geology, Marine Geophysics
Umberta	Tinivella	Istituto Nazionale di Oceanografia e di Geofisica Sperimentale, Trieste	Italy	Other Proponent	seismic, modeling, gas hydrate, pore fluid
Mathilde	Cannat	Institut de Physique du Globe de Paris, Paris	France	Other Proponent	Geology, petrology & geochemistry
Marta	Perez-Gussinyé	MARUM – Center for Marine Environmental Sciences, University of Bremen, Bremen	Germany	Other Proponent	Geophysics and Geodynamics
Udo	Barckhausen	BGR Federal Institute for Geosciences and Natural Resources, Hannover	Germany	Other Proponent	Marine Geophysics
Tomoaki	Morishita	Kanazawa University, Department of Earth Sciences, Kanazawa	Japan	Other Proponent	Igneous Petrologist
Christopher	MacLeod	School of Earth & Ocean Sciences, Cardiff University	United Kingdom	Other Proponent	Marine Geology, structural geology from cores
Tim	Minshull	National Oceanography Centre Southampton, University of Southampton	United Kingdom	Other Proponent	Marine Geophysics
Muriel	Andreani	Laboratoire de Géologie de Lyon	France	Other Proponent	fluid-rock interaction, rheology of active faults
Alberto	Malinverno	Lamont-Doherty Earth Observatory of Columbia University, New York	United States	Other Proponent	Marine geophysicist, downhole geophysical logging

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Proponent List (Continued)

First Name	Last Name	Affiliation	Country	Role	Expertise
Stefano	Lugli	Dept. of Chemical and Geological Science - University of Modena	Italy	Other Proponent	stratigrphy and sedimentology
Maria Filomena	Loreto	CNR - National Research Council of Italy, ISMAR - Marine Sciences Institute in Bologna	Italy	Other Lead	marine geology, geophysics, tectonics

Tyrrhenian Magmatism & Mantle Exhumation (TIME)

Document 927-Add3

This document takes in account the results of the EPSP meeting held on February 23, 2021 via zoom by Chair Barry Katz. It was presented and discussed twenty-one drill sites, six primaries and fifteen alternates: TYR-1A throughTYR-21A.

Nineteen drill sites were approved, all of them with the discretion of the shipboard party to deepen the holes into the basement if time will be available. Site TYR-06A was not approved and site TYR-13A was moved to a new position corresponding to TYR-13B. The extract of the EPSP minutes is included in this document.

Once received the EPSP meeting minutes we observed some inconsistencies in the list of proposed sites. Then, we got in touch with the EPSP Chair Barry Katz. Considering that EPSP Panel provided discretion to deepen the hole in most sites, he stated that the approved depth should be recorded as the requested depth, suggesting to correct them in the Add3. The table containing the extract of the EPSP minutes enlightens the corrections made.

Actions carried out:

1) We removed TYR-06A

2) We replaced TYR-13A with TYR-13B, note that was not necessary to load in the SSDD new data since the relocated TYR-13B is nearby TYR-13A, along the same seismic line.

3) We updated the Site forms (the Site figures) replacing TYR-13A with TYR-13B and corrected for the inconsistencies found the meeting minutes (see table below):

   TYR 01A: replaced TYR-13A with TYR-13B

   TYR 02A: corrected the Requested/Approved Drilling Depth

   TYR 07A: replaced TYR-13A with TYR-13B

   TYR 08A: corrected the Requested/Approved Drilling Depth, corrected the coordinate

   TYR 13B: corrected the Requested/Approved Drilling Depth

   TYR 15A: corrected the Requested/Approved Drilling Depth.

   TYR 17A: corrected the Requested/Approved Drilling Depth.

   TYR 19A: corrected the Requested/Approved Drilling Depth.

4) We corrected the following coordinates:

   TYR-08A: replaced long 13.400467 with 13.385832

   TYR-21A replaced long 11.6250879 with 11.62511

The following table is extracted from the EPSP meeting minutes, in red the inconsistencies, in **black** the correct numbers

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
TYR-01A (Alternate)	40.00085 10.994272	2675	234	234	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-02A (Primary)	40.00036 13.407784	2813	632 ***530***	632 ***530***	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-03A (Alternate)	40.18388 12.6413	3533	360	360	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-04A (Alternate)	40.18402 12.72801	3546	548	438 ***548***	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-05A (Alternate)	40.26609 12.69432	3530	228	228	Approved	Can be deepende. Less than 100 meters of sediment at crest of feature.
TYR-06A (Alternate)	40.41593 12.72474	3592	628		Declined	
TYR-07A (Primary)	40.00097 10.98622	2700	265	265	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-08A (Alternate)	40.00036 13.385832	2837	752 ***524***	752 ***524***	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-09A (Primary)	40.18388 12.63243	3533	418	418	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-10A (Primary)	40.18398 12.70826	3544	435	435	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-11A (Primary)	40.26614 12.70529	3538	342	342	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-12A (Primary)	40.4159 12.7076	3590	723	723	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-13A (Alternate)	40.00102 10.94422	2696	301	1277	Approved (to revised location)	Move on MEDOC 6 to CDP48400
TYR-14A (Alternate)	39.71273 13.31500	3381	566	566	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-15A (Alternate)	40.18420 12.56710	3600	291 ***315***	291 ***315***	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-16A (Alternate)	40.18387 12.67717	3578	341	341	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-17A (Alternate)	40.33121 12.67304	3600	681 ***602***	602	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-18A (Alternate)	40.41600 12.74424	3600	691	691	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-19A (Alternate)	40.38562 12.74428	3601	1285 ***1133***	1133	Approved	Discretion of the shipboard party to deepen the hole if time is available.

TYR-20A (Alternate)	39.999778 13.5958344	2698	470	470	Approved	Discretion of the shipboard party to deepen the hole if time is available.
TYR-21A (Alternate)	40.0011633 11.6250879	3366	~~520~~ ***339***	339	Approved	Discretion of the shipboard party to deepen the hole if time is available.

New Sites

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
TYR-13B-new (Alternate)		**2696** ***2713***	**301** ***380***	~~**1277**~~ ***380***	Approved (to revised location)	

Updated Sites Syntesis:

Site name		TYR-1A	TYR-2A	TYR-3A	TYR-4A	TYR-5A	TYR-7A	TYR-8A	TYR-9A	TYR-10A	TYR-11A	TYR-12A	TYR-13B	TYR-14A	TYR-15A	TYR-16A	TYR-17A	TYR-18A	TYR-19A	TYR-20A	TYR-21A
Priority			6				2		1	4	5	3									
Seismic Line Name		MEDOC 6	MEDOC 6	MEDOC 9	MEDOC 9	MEDOC 8	MEDOC 6	MEDOC 6	MEDOC 9	MEDOC 9	MEDOC 8	MEDOC 11	MEDOC 6	M30-M2A4	MEDOC 9	MEDOC 9	M28-ST04	MEDOC 11	M28B-ST3A	MEDOC 6	MEDOC 6
Latitude		40,00085	40,00036	40,18388	40,18402	40,26609	40,00097	40,0003604	40,18388	40,18398	40,26614	40,4159	40,001003	39,71273	40,18420	40,18387	40,33121	40,41600	40,38562	39,99978	40,00116
Longitude		10,994272	13,407784	12,6413	12,72801	12,69432	10,98622	13,385832	12,63243	12,70826	12,70529	12,7076	10,95549	13,31500	12,56710	12,67717	12,67304	12,74424	12,74428	13,59583	11,62511
Seafloor (m bsl)		2675	2813	3533	3546	3530	2700	2837	3533	3544	3538	3590	2713	3381	3600	3578	3600	3600	3601	2698	3366
Total depth (m bsl)		2909	3343	3893	4094	3758	2965	3361	3951	3979	3880	4313	3093	3947	3915	3919	4202	4291	4734	3168	3705
Drilled unit thickness (m)	Plio-Quat. (Vint from tables)	134	227	220	478	88	147	244	278	365	202	653	200	496	175	271	462	621	1063	400	269
	Messinian (4900 m/s)	30	233				48	210					110								
	Basaltic Basement (5750 m/s)	70	70				70	70					70	70						70	
	Serpentinized mantle rocks (5000 m/s)			140	70	140			140	70	140	70			140	70	140	70	70		70
Total Recovery		234	530	360	548	228	265	524	418	435	342	723	380	566	315	341	602	691	1133	470	339

Coordinates summary of proposed sites:

Site	Line	CDP	Lat	Long	Priority	CROSSLINE	CDP
TYR-1A	Medoc6	47870	40.00085	10.994272	(Alternate)		
TYR-2A	Medoc6	14890	40.00036	13.40778	(Primary)		
TYR-3A	Medoc9	7599	40.18388	12.6413	(Alternate)		
TYR-4A	Meodc9	6417	40.18402	12.72801	(Alternate)		
TYR-5A	Medoc8	39599	40.26609	12.69432	(Alternate)		
TYR-7A	Medoc6	47980	40.00097	10.98622	(Primary)		
TYR-8A	Meodc6	15190	40.00036	13.385832	(Alternate)		
TYR-9A	Medoc9	7720	40.1839	12.6324	(Primary)		
TYR-10A	Medoc9	6686	40.184	12.7083	(Primary)		
TYR-11A	Medoc8	39749	40.26614	12.70529	(Primary)		
TYR-12A	Medoc11	12198	40.4159	12.7076	(Primary)		
TYR-13B	Medoc6	48400	40.001	10.95549	(Alternate)		
TYR-14A	M2A-4	5963	39.71273	13.31500	(Alternate)		M30 cdp 11626
TYR-15A	Medoc9	8610	40.18420	12.56710	(Alternate)		
TYR-16A	Medoc9	7110	40.18387	12.67717	(Alternate)		
TYR-17A	M29B	13010	40.33121	12.67304	(Alternate)		ST-04 995
TYR-18A	Medoc11	12696	40.41600	12.74424	(Alternate)		ST-03a 4640
TYR-19A	M29B	13690	40.38562	12.74428	(Alternate)		ST-03a 4535
TYR-20A	Medoc6	12320	39.99978	13.59583	(Alternate)		
TYR-21A	Medoc6	39250	40.00116	11.62511	(Alternate)		

IODP Site Forms

Form 1 – General Site Information

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Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	The basement of the Cornaglia Terrace
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-01A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#		Jurisdiction:	italian
Latitude:	Deg: 40.00085	Distance to Land: (km)	112
Longitude:	Deg: 10.994272		
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ☑	Water Depth (m):	2675

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Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	164	70
Total Sediment Thickness (m)	164	
Total Penetration (m):	234	

General Lithologies:	Terrigenous sand/silt/clay over, possibly, 30 meters of messinian gypsum	basalt

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:	Drilling/Coring: 2.5	Logging: 1.2	Total On-site: 3.7

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window	
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐		
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐		
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐		
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐		
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐		
CO_2	☐						

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-01A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_6 Position: CDP 47870
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	yes	Stack RMS velocitty
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	yes	P-wave velocity from WAS data
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

IODP Site Forms

Form 4 - Environmental Protection

Proposal #: 927 - Add 3	Site #: TYR-01A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	
4. Indications of gas hydrates at this location	
5. Are there reasons to expect hydrocarbon accumulations at this site?	
6. What "special" precautions will be taken during drilling?	
7. What abandonment procedures need to be followed?	
8. Natural or manmade hazards which may affect ship's operations	
9. Summary: What do you consider the major risks in drilling at this site?	

Proposal #: 927 - Add 3	Site #: TYR-01A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
2670 - 2680	basalts	8	5.750	basalt	oceanic	26	N/A

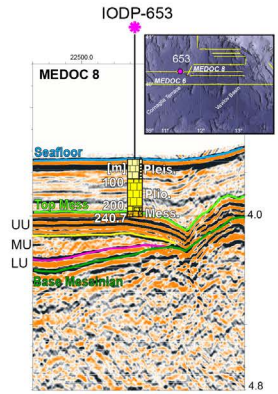
Site Figure IODP proposal P927 Site TYR-01A

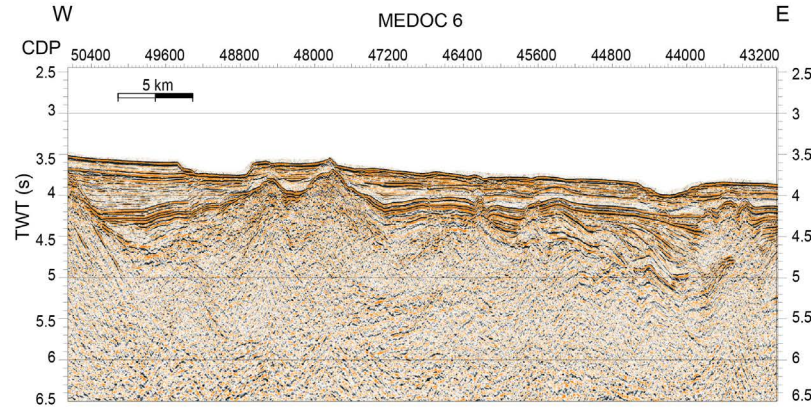
Coordinates: 40.00085 / 10.9943
Water depth: -2675 m
Total Recovery: 234m

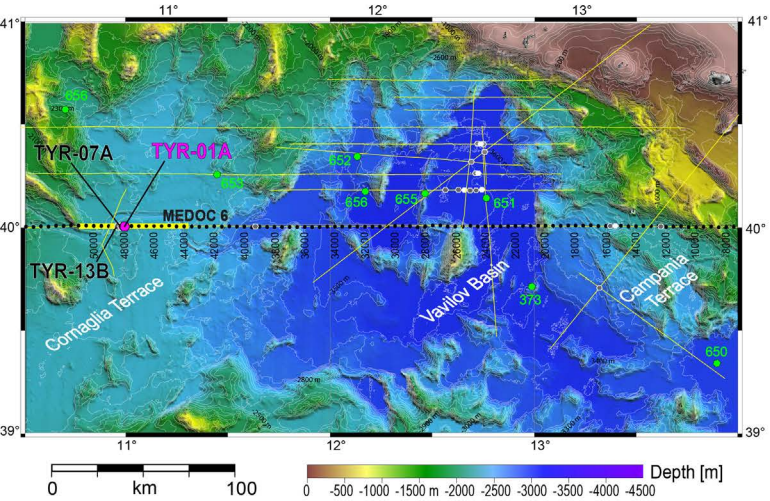
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

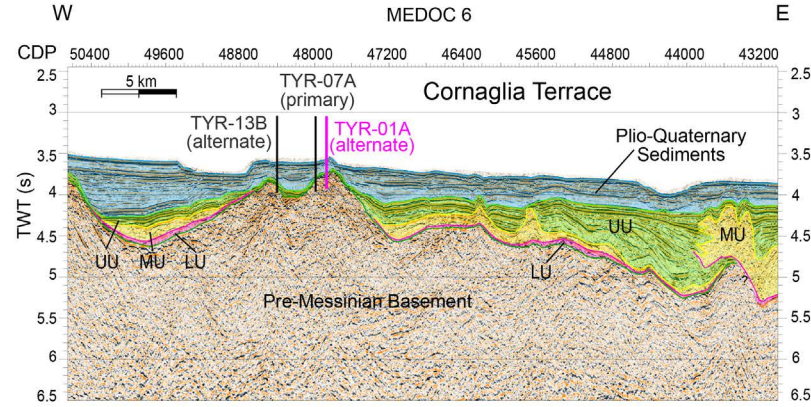
Data files in SSDB:
MEDOC_6.segy

Additional data available:
Multibeam, velocity information









IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	The basement of the Campania Terrace
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-02A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#		Jurisdiction:	Italian
Latitude:	Deg: 40.00036	Distance to Land: (km)	113
Longitude:	Deg: 13.407784		
Coordinate System:	WGS 84		
Priority of Site:	Primary: ✓ Alternate: ☐	Water Depth (m):	2813

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	460	70
Total Sediment Thickness (m)	460	
Total Penetration (m):	530	

General Lithologies:	Terrigenous sand/silt/clay in the first 227 m. and gypsum for 233 m.	basalt

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days: Drilling/Coring: 6.3 | Logging: 1.6 | Total On-site: 7.9

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐	
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐	
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐	
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐	
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐	
CO_2	☐					

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-02A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_6 Position: CDP 14890
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	yes	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	yes	P-wave velocity from WAS data
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

IODP Site Forms

Form 4 - Environmental Protection

Proposal #: 927 - Add 3	Site #: TYR-02A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	
4. Indications of gas hydrates at this location	
5. Are there reasons to expect hydrocarbon accumulations at this site?	
6. What "special" precautions will be taken during drilling?	
7. What abandonment procedures need to be followed?	
8. Natural or manmade hazards which may affect ship's operations	
9. Summary: What do you consider the major risks in drilling at this site?	

Proposal #: 927 - Add 3	Site #: TYR-02A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
2813 - 3343	reflection related to top basalts	8	5.750	basalts	oceanic	26	

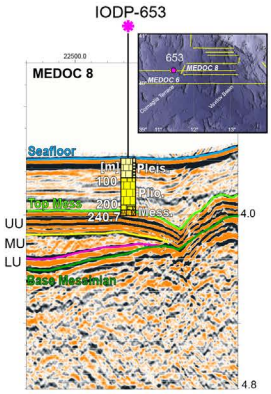
Site Figure IODP proposal P927 Site TYR-02A

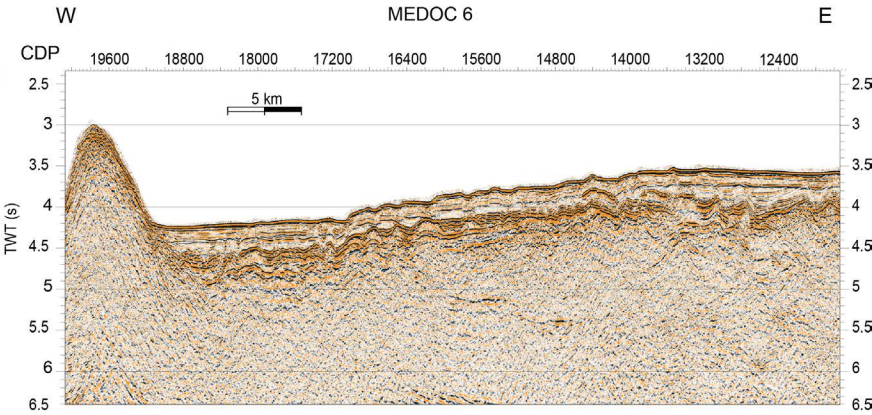
Coordinates: 40.00036 / 13.407784
Water depth: -2813 m
Total Recovery: 530 m

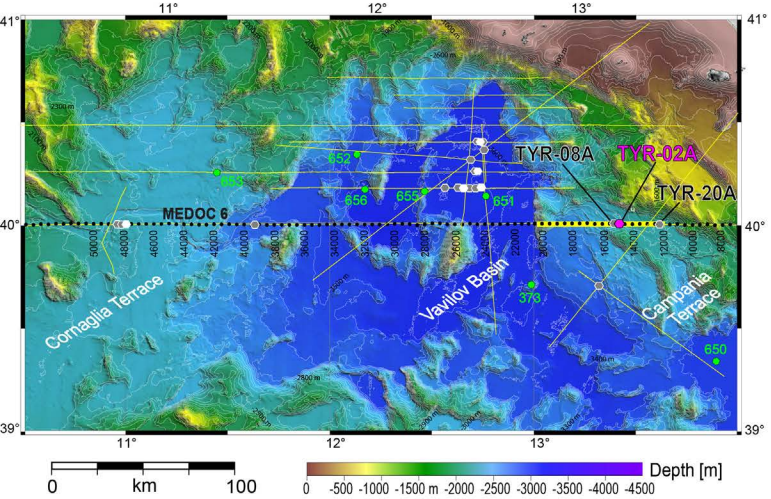
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

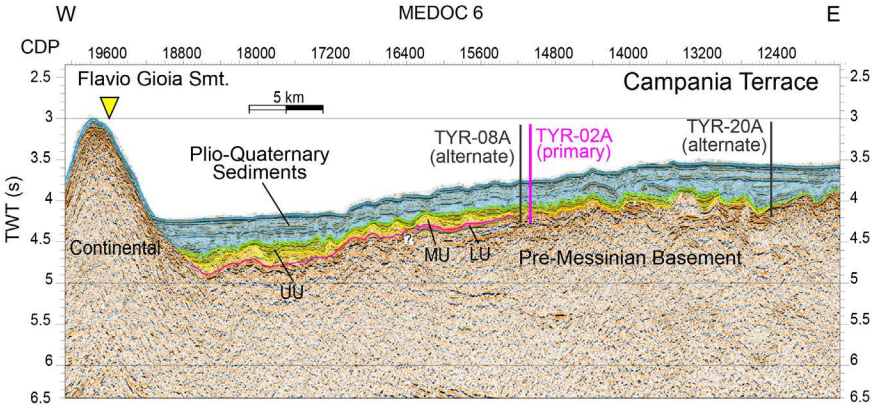
Data files in SSDB:
MEDOC_6.segy

Additional data available:
Multibeam, velocity information









IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	The serpentinized mantle peridotite
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-03A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.18388	Jurisdiction:	Italian
Longitude:	Deg: 12.6413	Distance to Land: (km)	157
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ☑	Water Depth (m):	3533

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	220	140
Total Sediment Thickness (m)	220	
Total Penetration (m):	360	
General Lithologies:	Terrigenous sand/silt/clay	serpentinized peridotite

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:

Drilling/Coring:	Logging:	Total On-site:
6.1	1.4	7.5

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas ☐	Complicated Seabed Condition ☐	Hydrothermal Activity ☐	Preferred weather window
Hydrocarbon ☐	Soft Seabed ☐	Landslide and Turbidity Current ☐	
Shallow Water Flow ☐	Currents ☐	Gas Hydrate ☐	
Abnormal Pressure ☐	Fracture Zone ☐	Diapir and Mud Volcano ☐	
Man-made Objects (e.g., sea-floor cables, dump sites) ☐	Fault ☐	High Temperature ☐	
H_2S ☐	High Dip Angle ☐	Ice Conditions ☐	
CO_2 ☐			

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-03A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_9 Position: CDP 7599
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity		Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-03A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	
4. Indications of gas hydrates at this location	
5. Are there reasons to expect hydrocarbon accumulations at this site?	
6. What "special" precautions will be taken during drilling?	
7. What abandonment procedures need to be followed?	
8. Natural or manmade hazards which may affect ship's operations	
9. Summary: What do you consider the major risks in drilling at this site?	

Proposal #: 927 - Add 3	Site #: TYR-03A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
3533 - 3893	reflection related to top peridotites	5	5.000	peridotites	oceanic	26	

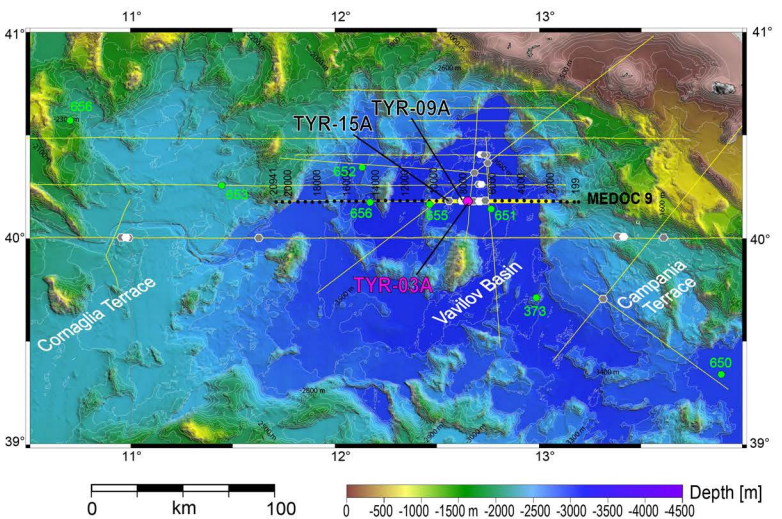
Site Figure **IODP proposal P927** **Site TYR-03A**

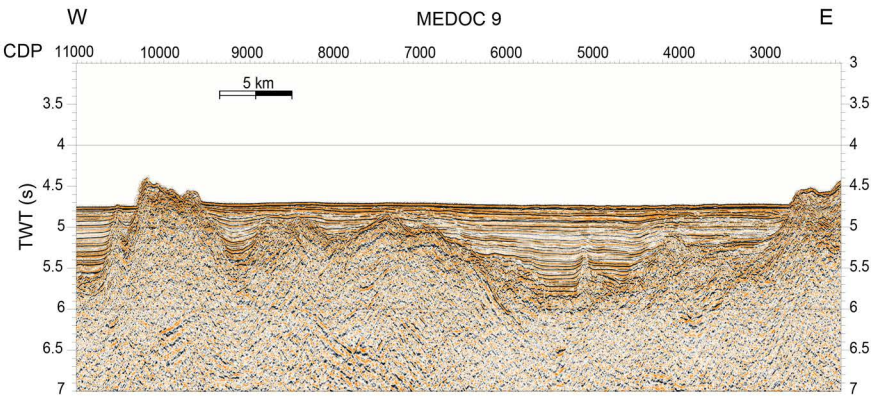
Coordinates: 40.18388 / 12.6413
Water depth: -3533 m
Total Recovery: 360 m

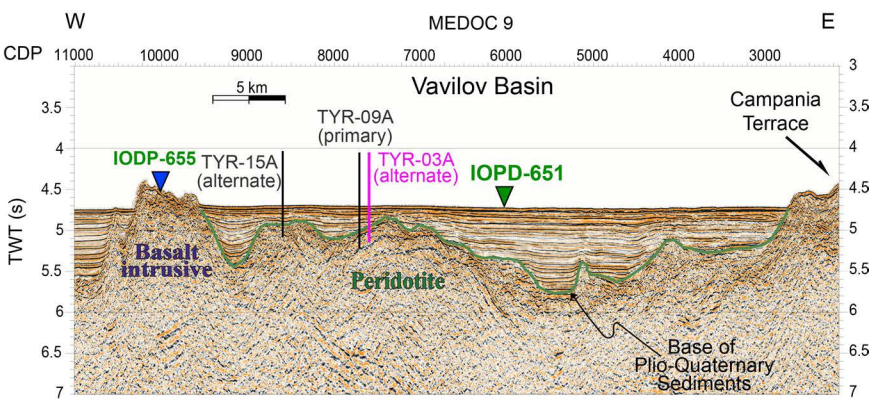
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

Data files in SSDB:
MEDOC_9.segy

Additional data available:
Multibeam, velocity information







IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	The serpentinized mantle peridotites
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-04A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.18402	Jurisdiction:	Italian
Longitude:	Deg: 12.72801	Distance to Land: (km)	151
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ☑	Water Depth (m):	3546

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	478	70
Total Sediment Thickness (m)	478	
Total Penetration (m):	548	

General Lithologies:	Terrigenous sand/silt/clay	Exumed mantle rocks

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:

Drilling/Coring:	Logging:	Total On-site:
6.5	1.8	8.3

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window	
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐		
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐		
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐		
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐		
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐		
CO_2	☐						

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-04A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_9 Position: CDP 6417
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	yes	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-04A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	
4. Indications of gas hydrates at this location	
5. Are there reasons to expect hydrocarbon accumulations at this site?	
6. What "special" precautions will be taken during drilling?	
7. What abandonment procedures need to be followed?	
8. Natural or manmade hazards which may affect ship's operations	
9. Summary: What do you consider the major risks in drilling at this site?	

Proposal #: 927 - Add 3	Site #: TYR-04A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
N/A							

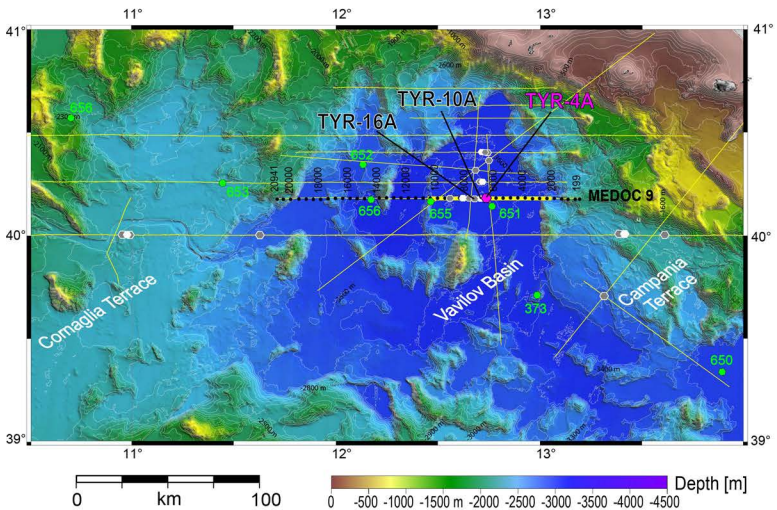
Site Figure **IODP proposal P927** **Site TYR-4A**

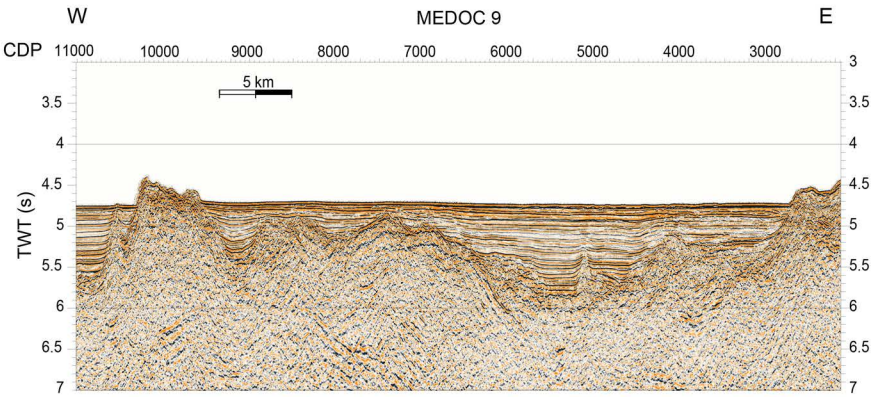
Coordinates: 40.18402 / 12.72801
Water depth: -3546 m
Total Recovery: 548 m

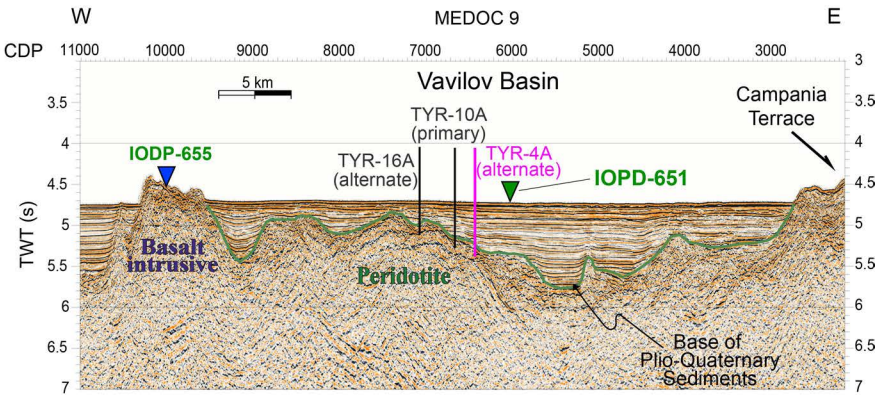
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

Data files in SSDB:
MEDOC_9.segy

Additional data available:
Multibeam, velocity information







IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	The serpentinized mantle peridotite
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-05A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.26609	Jurisdiction:	Italian
Longitude:	Deg: 12.69432	Distance to Land: (km)	148
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ✓	Water Depth (m):	3530

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	88	140
Total Sediment Thickness (m)	88	
Total Penetration (m):	228	

General Lithologies:	Terrigenous sand/silt/clay	Serpentinized mantle rocks

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:

Drilling/Coring:	Logging:	Total On-site:
5.1	1.2	6.3

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window	
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐		
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐		
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐		
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐		
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐		
CO_2	☐						

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-05A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_8 Position: CDP 39599
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	yes	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-05A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	
4. Indications of gas hydrates at this location	
5. Are there reasons to expect hydrocarbon accumulations at this site?	
6. What "special" precautions will be taken during drilling?	
7. What abandonment procedures need to be followed?	
8. Natural or manmade hazards which may affect ship's operations	
9. Summary: What do you consider the major risks in drilling at this site?	

Proposal #: 927 - Add 3	Site #: TYR-05A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
N/A							

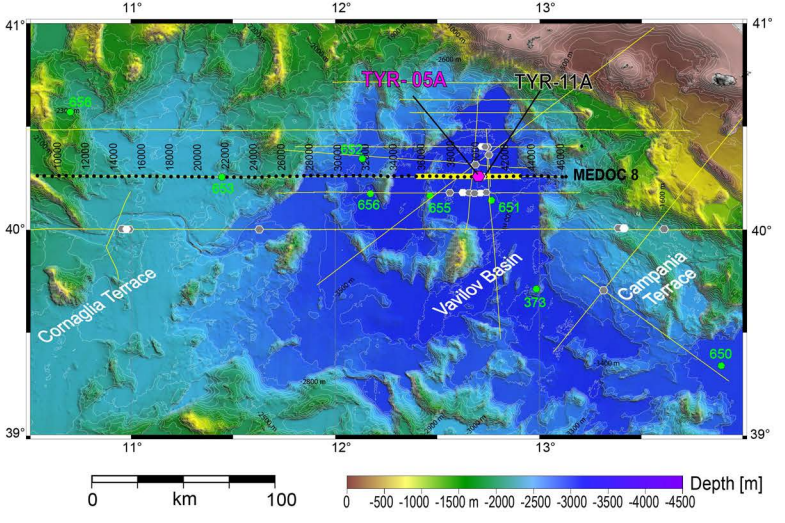
Site Figure **IODP proposal P927** **Site TYR-05A**

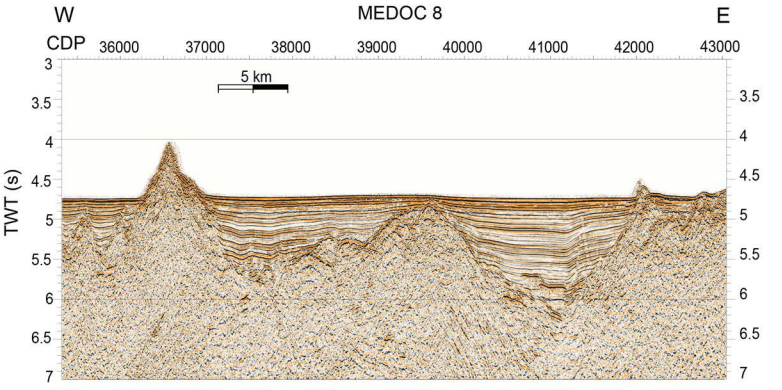
Coordinates: 40.26609 / 12.69432
Water depth: -3530 m
Total Recovery: 228 m

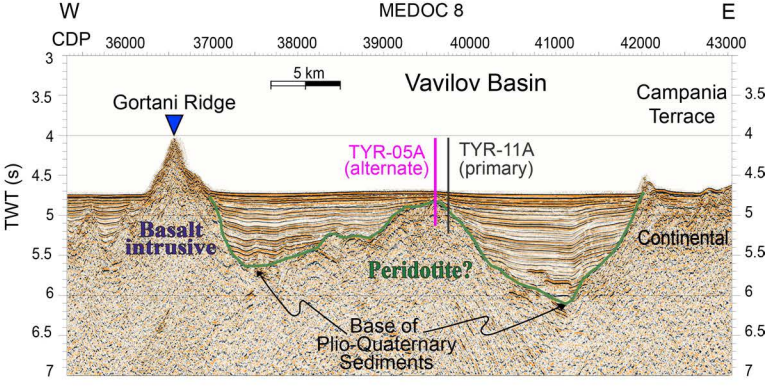
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

Data files in SSDB:
MEDOC_8.segy

Additional data available:
Multibeam, velocity information







IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	the basement of Cornaglia Terrace
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-07A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.00097	Jurisdiction:	Italian
Longitude:	Deg: 10.98622	Distance to Land: (km)	110
Coordinate System:	WGS 84		
Priority of Site:	Primary: ✓ Alternate: ☐	Water Depth (m):	2700

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	195	70
Total Sediment Thickness (m)	195	
Total Penetration (m):	265	

General Lithologies:	Terrigenous sand/silt/clay over, possibly, about 48 meters of messinian gypsum / basement rocks
Coring Plan: (Specify or check)	APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:	Drilling/Coring: 2.8	Logging: 1.2	Total On-site: 4

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐	
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐	
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐	
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐	
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐	
CO_2	☐					

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-07A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_6 Position: CDP 47980
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	yes	stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	yes	P-wave velocity from WAS data
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation		
17 Other	no	

IODP Site Forms

Form 4 - Environmental Protection

Proposal #: 927 - Add 3	Site #: TYR-07A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	
4. Indications of gas hydrates at this location	
5. Are there reasons to expect hydrocarbon accumulations at this site?	
6. What "special" precautions will be taken during drilling?	
7. What abandonment procedures need to be followed?	
8. Natural or manmade hazards which may affect ship's operations	
9. Summary: What do you consider the major risks in drilling at this site?	

Proposal #: 927 - Add 3	Site #: TYR-07A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
N/A							

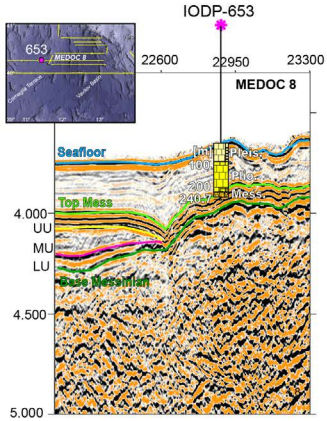
Site Figure IODP proposal P927 Site TYR-07A

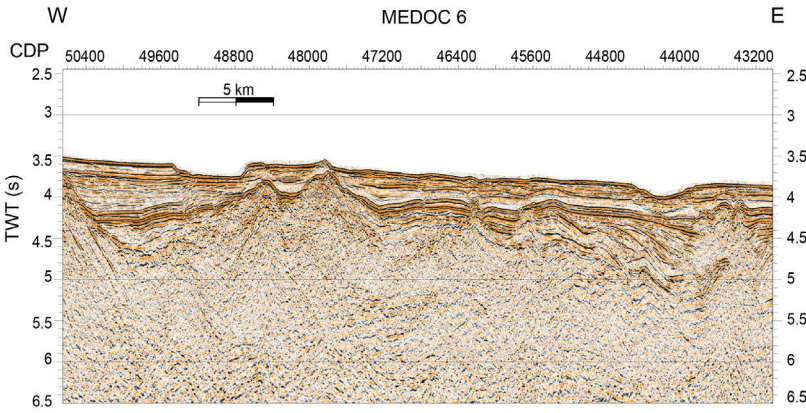
Coordinates: 40.00097 / 10.98622
Water depth: -2700 m
Total Recovery: 265 m

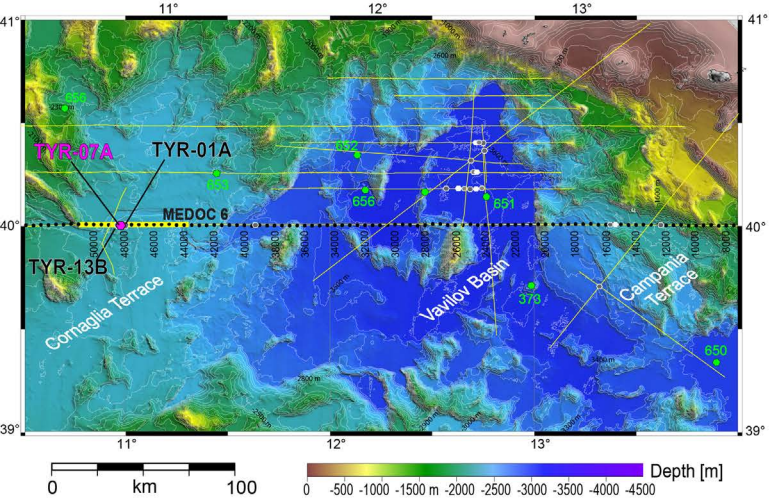
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

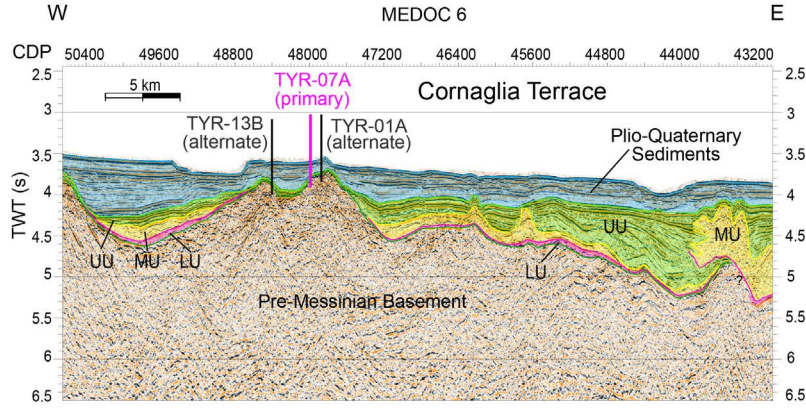
Data files in SSDB:
MEDOC_6.segy

Additional data available:
Multibeam, velocity information









IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	the Campania Terrace basement rocks
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-08A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#		Jurisdiction:	Italian
Latitude:	Deg: 40.00036	Distance to Land: (km)	113
Longitude:	Deg: 13.385832		
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ✓	Water Depth (m):	2837

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	454	70
Total Sediment Thickness (m)	454	
Total Penetration (m):	524	

General Lithologies: Terrigenous sand/silt/clay over 1210 meters of messinian gypsum | Continental basement rocks

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days: Drilling/Coring: 8 | Logging: 1.6 | Total On-site: 9.6

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

expexted 210 meters of upper evaporites

Potential Hazards/ Weather:

Shallow Gas ☐	Complicated Seabed Condition ☐	Hydrothermal Activity ☐	Preferred weather window
Hydrocarbon ☐	Soft Seabed ☐	Landslide and Turbidity Current ☐	
Shallow Water Flow ☐	Currents ☐	Gas Hydrate ☐	
Abnormal Pressure ☐	Fracture Zone ☐	Diapir and Mud Volcano ☐	
Man-made Objects (e.g., sea-floor cables, dump sites) ☐	Fault ☐	High Temperature ☐	
H_2S ☐	High Dip Angle ☐	Ice Conditions ☐	
CO_2 ☐			

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-08A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_6 Position: CDP 14990
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	yes	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	yes	P-wave velocity from WAS data
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

IODP Site Forms

Form 4 - Environmental Protection

Proposal #: 927 - Add 3	Site #: TYR-08A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	
4. Indications of gas hydrates at this location	
5. Are there reasons to expect hydrocarbon accumulations at this site?	
6. What "special" precautions will be taken during drilling?	
7. What abandonment procedures need to be followed?	
8. Natural or manmade hazards which may affect ship's operations	
9. Summary: What do you consider the major risks in drilling at this site?	

Proposal #: 927 - Add 3	Site #: TYR-08A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
N/A							

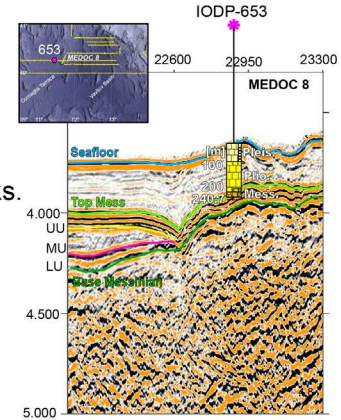
Site Figure IODP proposal P927 Site TYR-08A

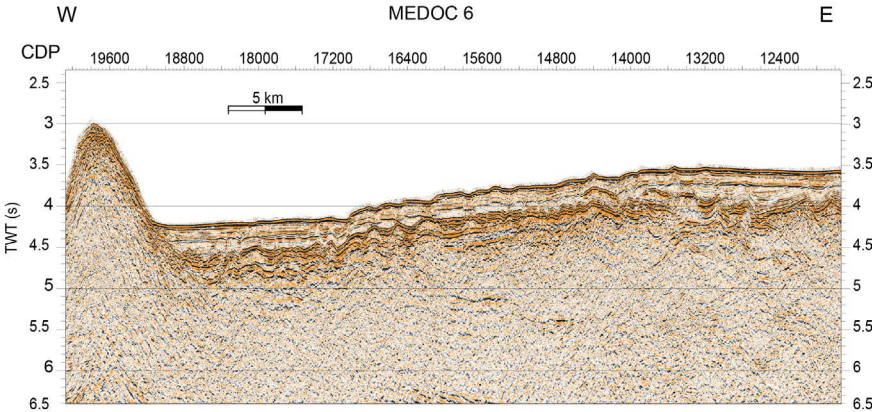
Coordinates: 40.0003604 / 13.385832
Water depth: -2837 m
Total Recovery: 524 m

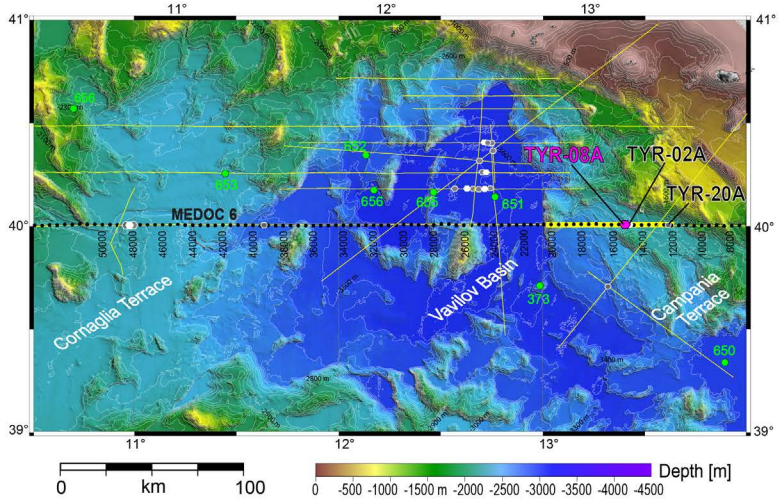
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

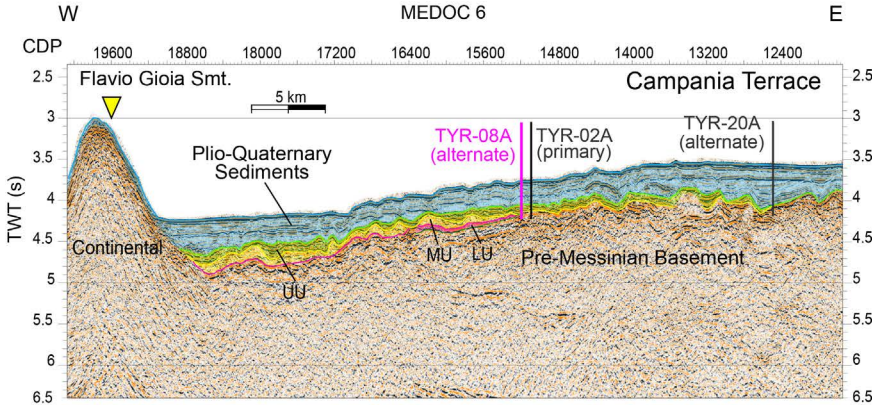
Data files in SSDB:
MEDOC_6.segy

Additional data available:
Multibeam, velocity information









IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	the serpentinized mantle peridotite.
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-09A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.18388	Jurisdiction:	Italian
Longitude:	Deg: 12.63243	Distance to Land: (km)	157
Coordinate System:	WGS 84		
Priority of Site:	Primary: ✓ Alternate: ☐	Water Depth (m):	3533

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	278	140
Total Sediment Thickness (m)	278	
Total Penetration (m):	418	
General Lithologies:	Terrigenous sand/silt/clay	serpentinized mantle peridotite

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:	Drilling/Coring: 4.6	Logging: 1.4	Total On-site: 6

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas ☐	Complicated Seabed Condition ☐	Hydrothermal Activity ☐	Preferred weather window
Hydrocarbon ☐	Soft Seabed ☐	Landslide and Turbidity Current ☐	
Shallow Water Flow ☐	Currents ☐	Gas Hydrate ☐	
Abnormal Pressure ☐	Fracture Zone ☐	Diapir and Mud Volcano ☐	
Man-made Objects (e.g., sea-floor cables, dump sites) ☐	Fault ☐	High Temperature ☐	
H_2S ☐	High Dip Angle ☐	Ice Conditions ☐	
CO_2 ☐			

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-09A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_9 Position: CDP 7720
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	yes	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-09A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	
4. Indications of gas hydrates at this location	
5. Are there reasons to expect hydrocarbon accumulations at this site?	
6. What "special" precautions will be taken during drilling?	
7. What abandonment procedures need to be followed?	
8. Natural or manmade hazards which may affect ship's operations	
9. Summary: What do you consider the major risks in drilling at this site?	

Proposal #: 927 - Add 3	Site #: TYR-09A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
N/A							

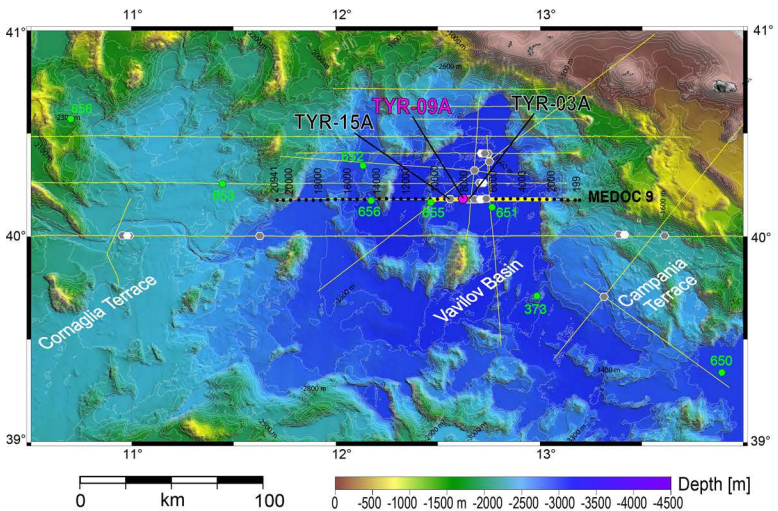
Site Figure **IODP proposal P927** **Site TYR-09A**

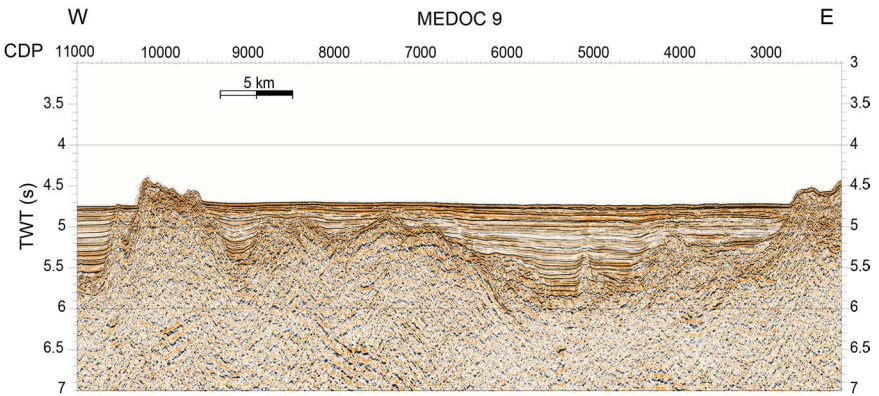
Coordinates: 40.18388 / 12.63243
Water depth: -3533 m
Total Recovery: 418 m

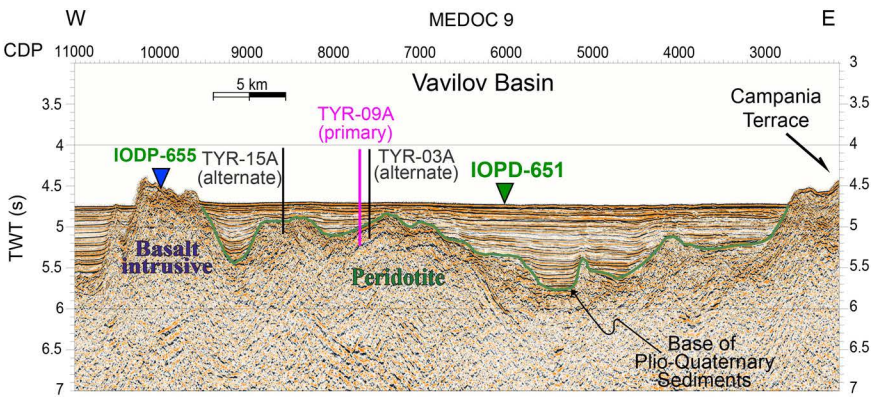
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

Data files in SSDB:
MEDOC_9.segy

Additional data available:
Multibeam, velocity information







IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	serpentinized mantle peridotite.
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-10A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.18398	Jurisdiction:	Italian
Longitude:	Deg: 12.70826	Distance to Land: (km)	151
Coordinate System:	WGS 84		
Priority of Site:	Primary: ✓ Alternate: ☐	Water Depth (m):	3544

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	365	70
Total Sediment Thickness (m)	365	
Total Penetration (m):	435	

General Lithologies:	Terrigenous sand/silt/clay	Serpentinized mantle rocks

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:

Drilling/Coring:	Logging:	Total On-site:
6.7	1.8	8.5

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window	
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐		
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐		
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐		
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐		
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐		
CO_2	☐						

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-10A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_9 Position: CDP 6686
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	yes	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

IODP Site Forms

Form 4 - Environmental Protection

Proposal #: 927 - Add 3	Site #: TYR-10A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	
4. Indications of gas hydrates at this location	
5. Are there reasons to expect hydrocarbon accumulations at this site?	
6. What "special" precautions will be taken during drilling?	
7. What abandonment procedures need to be followed?	
8. Natural or manmade hazards which may affect ship's operations	
9. Summary: What do you consider the major risks in drilling at this site?	

Proposal #: 927 - Add 3	Site #: TYR-10A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
N/A							

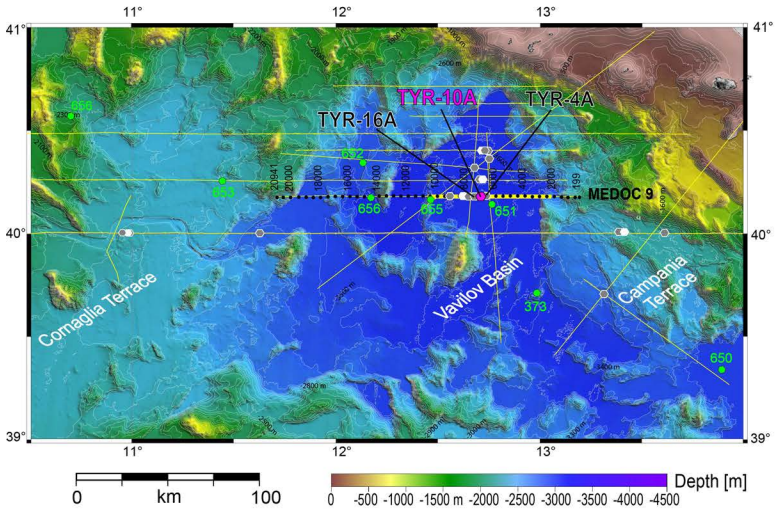
Site Figure **IODP proposal P927** **Site TYR-10A**

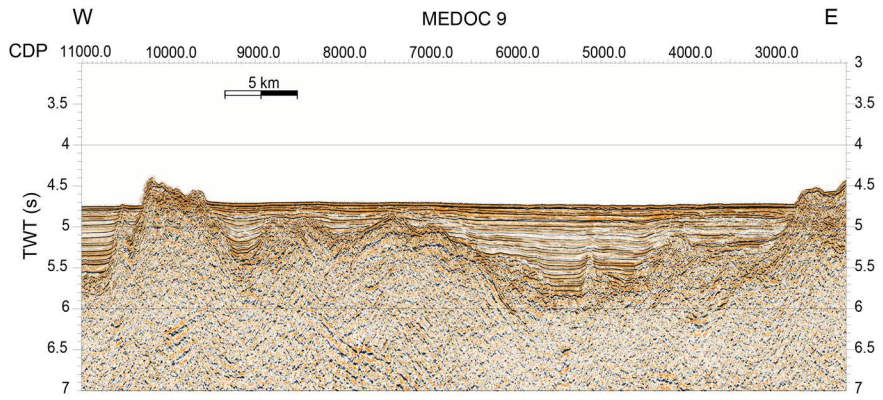
Coordinates: 40.18398 / 12.70826
Water depth: -3544 m
Total Recovery: 435 m

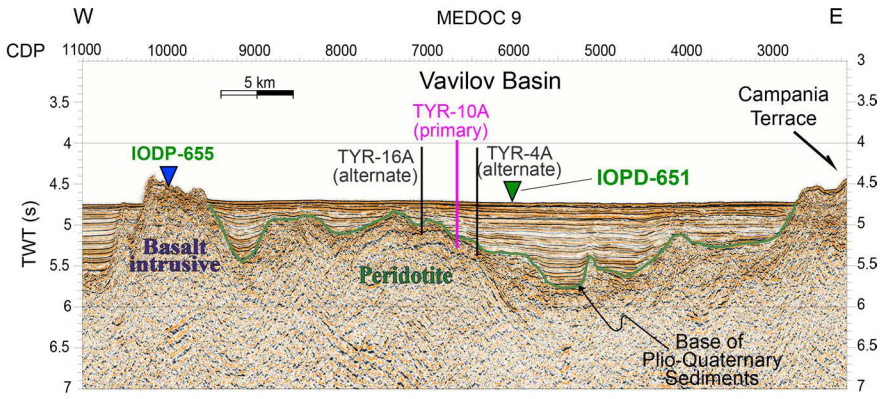
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

Data files in SSDB:
MEDOC_9.segy

Additional data available:
Multibeam, velocity information







IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	serpentinized mantle peridotites
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-11A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.26614	Jurisdiction:	Italian
Longitude:	Deg: 12.70529	Distance to Land: (km)	148
Coordinate System:	WGS 84		
Priority of Site:	Primary: ✓ Alternate: ☐	Water Depth (m):	3538

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	202	140
Total Sediment Thickness (m)	202	
Total Penetration (m):	342	

General Lithologies:	Terrigenous sand/silt/clay	serpentinized mantle peridotite

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☐			

Other Measurements:

Estimated Days:

Drilling/Coring:	Logging:	Total On-site:
4.9	1.2	6.1

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window	
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐		
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐		
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐		
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐		
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐		
CO_2	☐						

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-11A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_8 Position: CDP 39749
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	yes	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-11A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	
4. Indications of gas hydrates at this location	
5. Are there reasons to expect hydrocarbon accumulations at this site?	
6. What "special" precautions will be taken during drilling?	
7. What abandonment procedures need to be followed?	
8. Natural or manmade hazards which may affect ship's operations	
9. Summary: What do you consider the major risks in drilling at this site?	

Proposal #: 927 - Add 3	Site #: TYR-11A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
N/A							

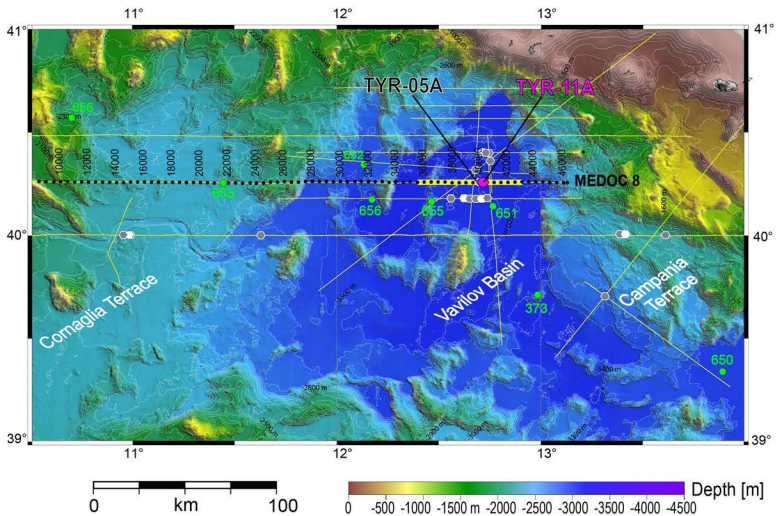
Site Figure **IODP proposal P927** **Site TYR-11A**

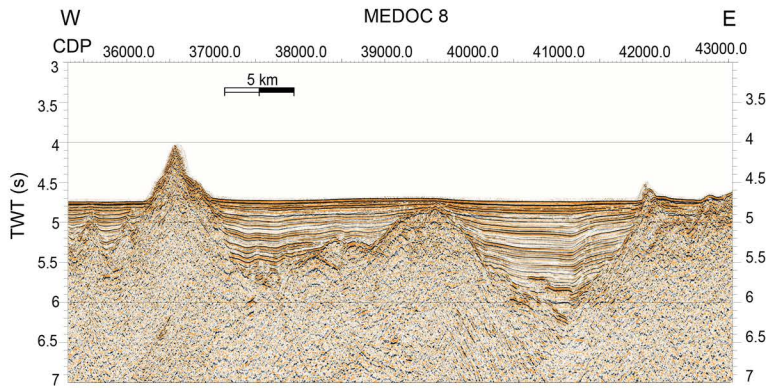
Coordinates: 40.26614 / 12.70529
Water depth: -3538 m
Total Recovery: 342 m

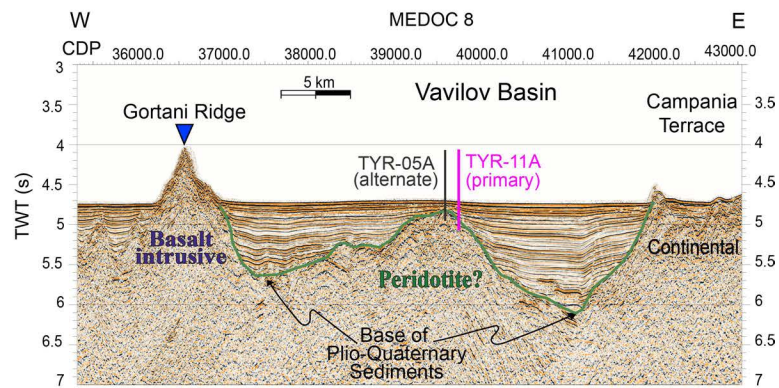
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

Data files in SSDB:
MEDOC_8.segy

Additional data available:
Multibeam, velocity information







IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	serpentinized mantle peridotites
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-12A	Area or Location:	Tyrrhenian
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.4159	Jurisdiction:	Italian
Longitude:	Deg: 12.7076	Distance to Land: (km)	138
Coordinate System:	WGS 84		
Priority of Site:	Primary: ✓ Alternate: ☐	Water Depth (m):	3590

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	653	70
Total Sediment Thickness (m)	653	
Total Penetration (m):	723	

General Lithologies:	Terrigenous sand/silt/clay	serpentinized mantle rocks
Coring Plan: (Specify or check)	APC tool in the sedimentary column, RCB in the basement	

APC ☑ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:	Drilling/Coring: 6.2	Logging: 1.9	Total On-site: 8.1

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window	
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐		
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐		
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐		
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐		
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐		
CO_2	☐						

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-12A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_11 Position: CDP 12198
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	yes	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-12A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	
4. Indications of gas hydrates at this location	
5. Are there reasons to expect hydrocarbon accumulations at this site?	
6. What "special" precautions will be taken during drilling?	
7. What abandonment procedures need to be followed?	
8. Natural or manmade hazards which may affect ship's operations	
9. Summary: What do you consider the major risks in drilling at this site?	

Proposal #: 927 - Add 3	Site #: TYR-12A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
2670 - 2680	serpentinized mantle peridotites	3.6 m.y. for the basalt/ sediment contact.	5000 m/ s	serpentinized peridotites	oceanic	33 m/My	n.a.

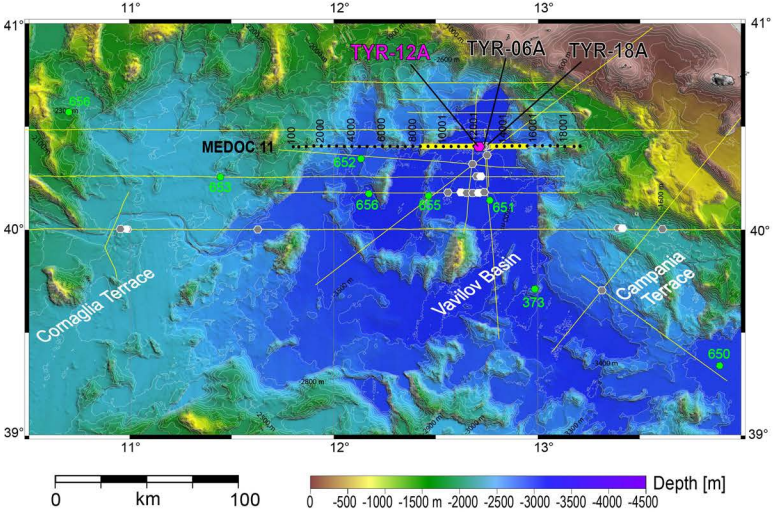
Site Figure **IODP proposal P927** **Site TYR-12A**

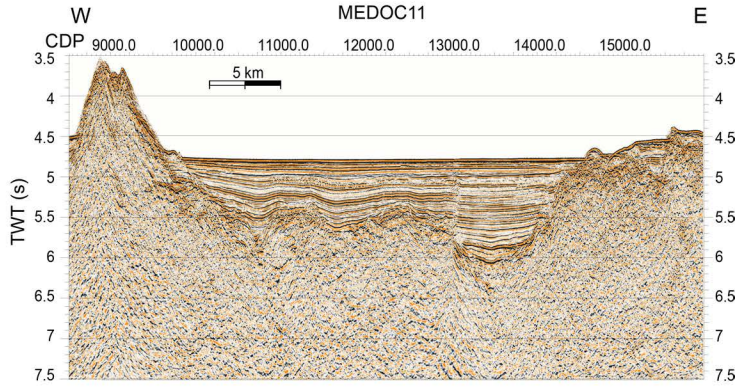
Coordinates: 40.4159 / 12.7076
Water depth: -3590 m
Total Recovery: 723 m

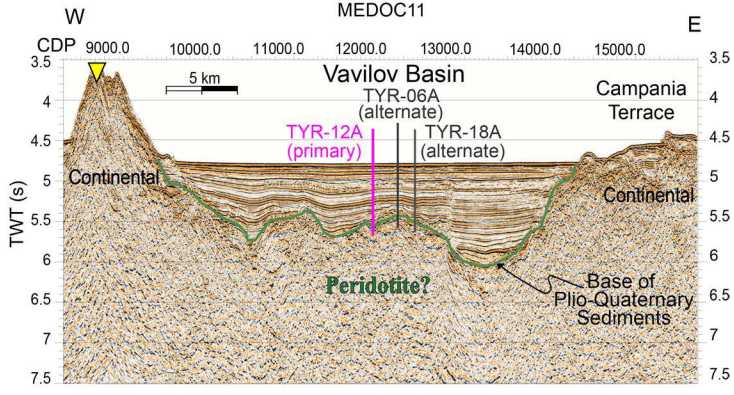
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

Data files in SSDB:
MEDOC_11.segy

Additional data available:
Multibeam, velocity information







IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	The basement of the Campania Terrace
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-14A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#		Jurisdiction:	Italian
Latitude:	Deg: 39.71273	Distance to Land: (km)	113
Longitude:	Deg: 13.31500		
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ☑	Water Depth (m):	3381

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	496	70
Total Sediment Thickness (m)	496	
Total Penetration (m):	566	

General Lithologies:	Terrigenous sand/silt/clay in the first 496 m.	continental basement rocks

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:	Drilling/Coring: 7	Logging: 1.6	Total On-site: 8.6

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window	
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐		
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐		
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐		
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐		
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐		
CO_2	☐						

Sensitive marine habitat (e.g., reefs, vents)

Other:

IODP Site Forms

Form 2 - Site Survey Detail

Proposal #: 927 - Add 3	Site #: TYR-14A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: CROP_M30 Position: CDP 11635
2b Deep penetration seismic reflection (crossing)	yes	Line: M2A-4 Position: CDP 5963
3 Seismic Velocity	yes	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	yes	P-wave velocity from WAS data
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-14A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	n.a.
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	none
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	none
4. Indications of gas hydrates at this location	none
5. Are there reasons to expect hydrocarbon accumulations at this site?	none
6. What "special" precautions will be taken during drilling?	none
7. What abandonment procedures need to be followed?	none
8. Natural or manmade hazards which may affect ship's operations	none
9. Summary: What do you consider the major risks in drilling at this site?	none

Proposal #: 927 - Add 3	Site #: TYR-14A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
3376 - 3386	basement	8 My	5.75 Km/s	basalts	oceanic	n.a.	n.a

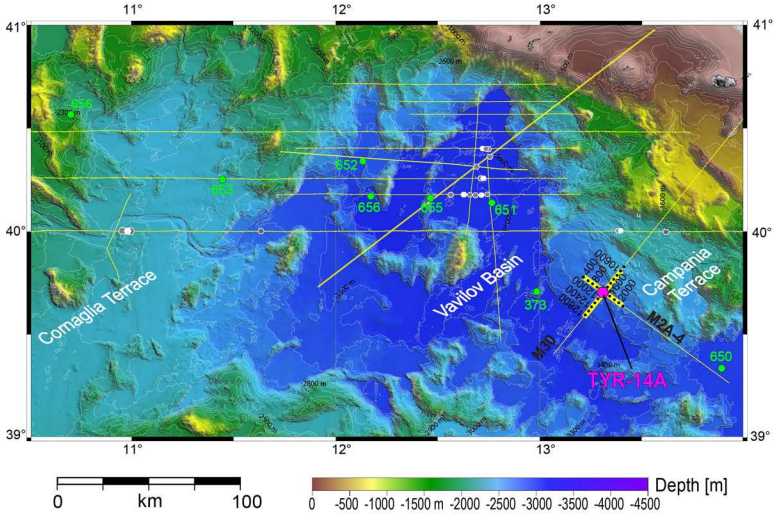
Site Figure IODP proposal P927 Site TYR-14A

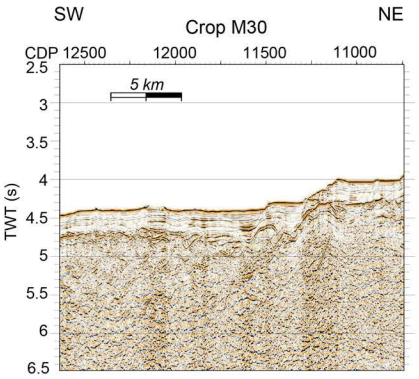
Coordinates: 39.71273 / 13.3150
Water depth: -3381 m
Total Recovery: 566 m

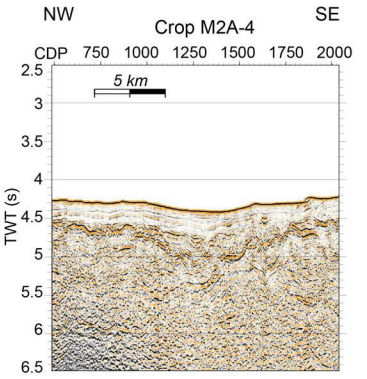
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

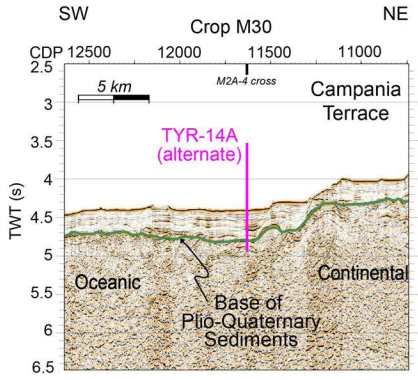
Data files in SSDB:
Crop-M30_CDP10750-12750.segy
Crop-M2A-4_CDP500-2000.segy

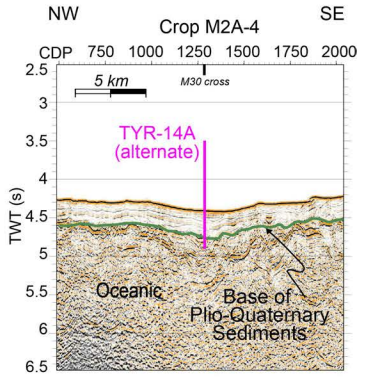
Additional data available:
Multibeam, velocity information











IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	The serpentinized mantle peridotite
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-15A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.18420	Jurisdiction:	Italian
Longitude:	Deg: 12.56710	Distance to Land: (km)	157
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ☑	Water Depth (m):	3600

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	175	140
Total Sediment Thickness (m)	175	
Total Penetration (m):	315	
General Lithologies:	Terrigenous sand/silt/clay	serpentinized peridotite

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days: Drilling/Coring: 6.6 | Logging: 1.4 | Total On-site: 8

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐	
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐	
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐	
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐	
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐	
CO_2	☐					

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-15A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_9 Position: CDP 8610
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	no	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-15A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	n.a.
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	none
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	none
4. Indications of gas hydrates at this location	none
5. Are there reasons to expect hydrocarbon accumulations at this site?	none
6. What "special" precautions will be taken during drilling?	none
7. What abandonment procedures need to be followed?	none
8. Natural or manmade hazards which may affect ship's operations	none
9. Summary: What do you consider the major risks in drilling at this site?	none

Proposal #: 927 - Add 3	Site #: TYR-15A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
3595 - 3605	serpentinized mantle peridotite	4 My	5 km/s	serpentinized peridotite	oceanic	33 m/My	

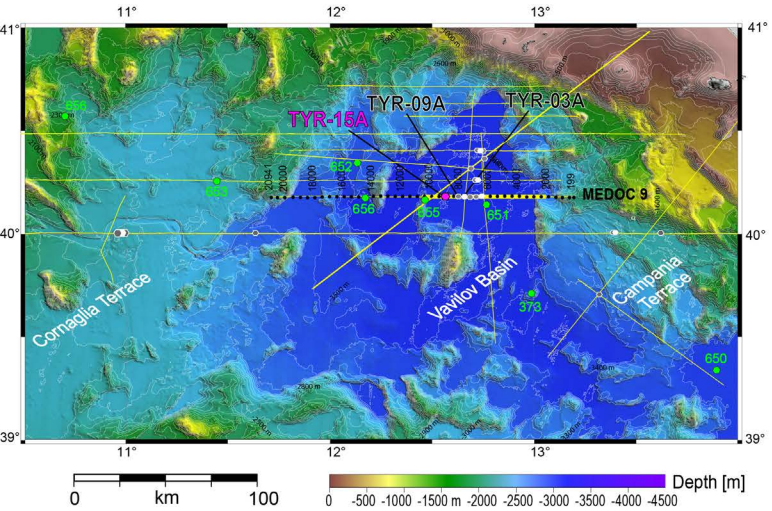
Site Figure **IODP proposal P927** **Site TYR-15A**

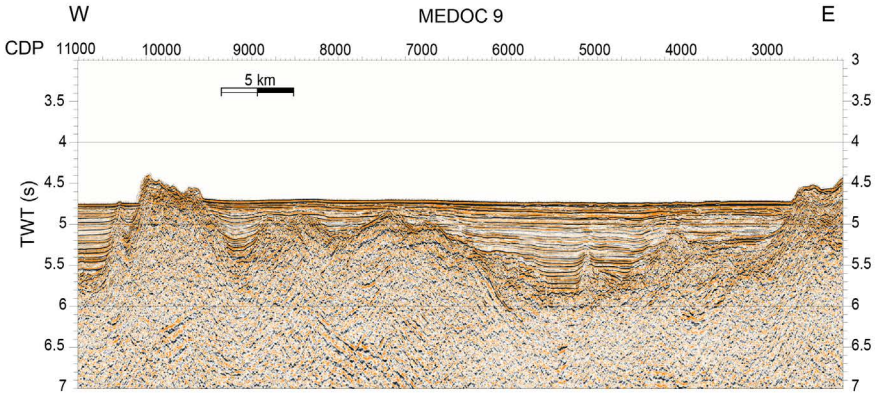
Coordinates: 40.184196 / 12.567097
Water depth: -3600 m
Total Recovery: 315 m

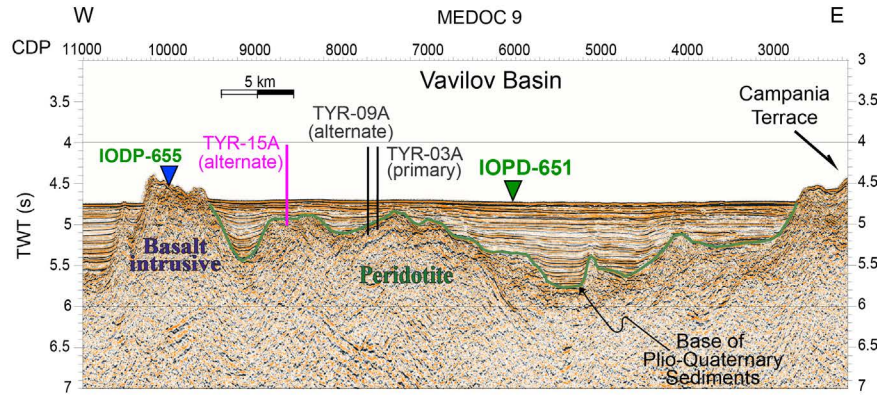
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

Data files in SSDB:
MEDOC_9.segy

Additional data available:
Multibeam, velocity information







IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	The serpentinized mantle peridotites
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-16A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#		Jurisdiction:	Italian
Latitude:	Deg: 40.18387	Distance to Land: (km)	151
Longitude:	Deg: 12.67717		
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ✓	Water Depth (m):	3578

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	271	70
Total Sediment Thickness (m)	271	
Total Penetration (m):	341	

General Lithologies:	Terrigenous sand/silt/clay; Exumed mantle rocks
Coring Plan: (Specify or check)	APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:	Drilling/Coring: 4.1	Logging: 1.8	Total On-site: 5.9

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas ☐	Complicated Seabed Condition ☐	Hydrothermal Activity ☐	Preferred weather window
Hydrocarbon ☐	Soft Seabed ☐	Landslide and Turbidity Current ☐	
Shallow Water Flow ☐	Currents ☐	Gas Hydrate ☐	
Abnormal Pressure ☐	Fracture Zone ☐	Diapir and Mud Volcano ☐	
Man-made Objects (e.g., sea-floor cables, dump sites) ☐	Fault ☐	High Temperature ☐	
H_2S ☐	High Dip Angle ☐	Ice Conditions ☐	
CO_2 ☐			

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-16A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_9 Position: CDP 7110
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	no	
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-16A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	n.a.
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	none
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	none
4. Indications of gas hydrates at this location	none
5. Are there reasons to expect hydrocarbon accumulations at this site?	none
6. What "special" precautions will be taken during drilling?	none
7. What abandonment procedures need to be followed?	none
8. Natural or manmade hazards which may affect ship's operations	none
9. Summary: What do you consider the major risks in drilling at this site?	none

Proposal #: 927 - Add 3	Site #: TYR-16A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
3573 - 3583	serpentinized mantle peridotite	4 My	5 km/s	serpentinized peridotite	oceanic	33 m/My	

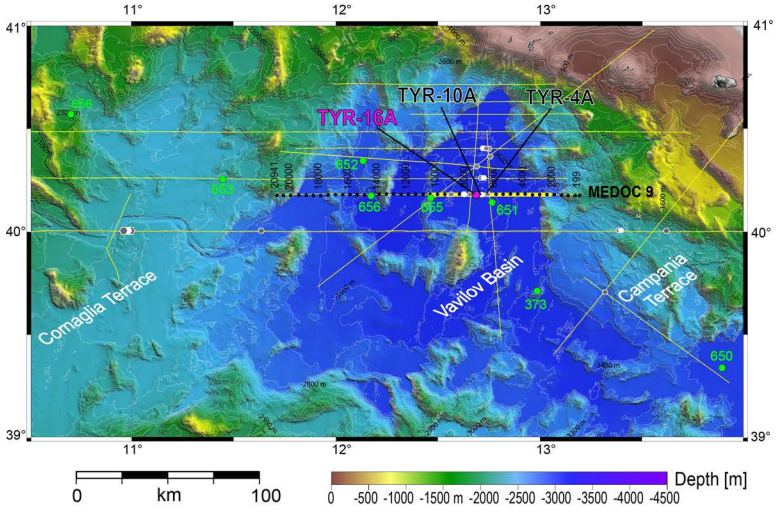
Site Figure **IODP proposal P927** **Site TYR-16A**

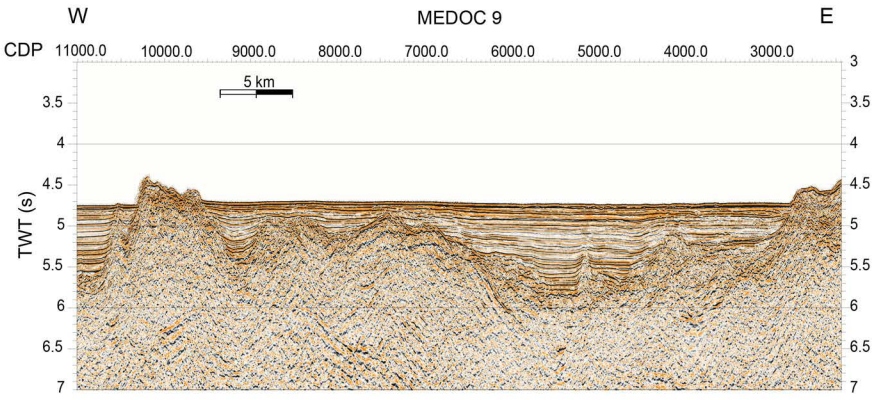
Coordinates: 40.183866 / 12.677168
Water depth: -3578 m
Total Recovery: 341 m

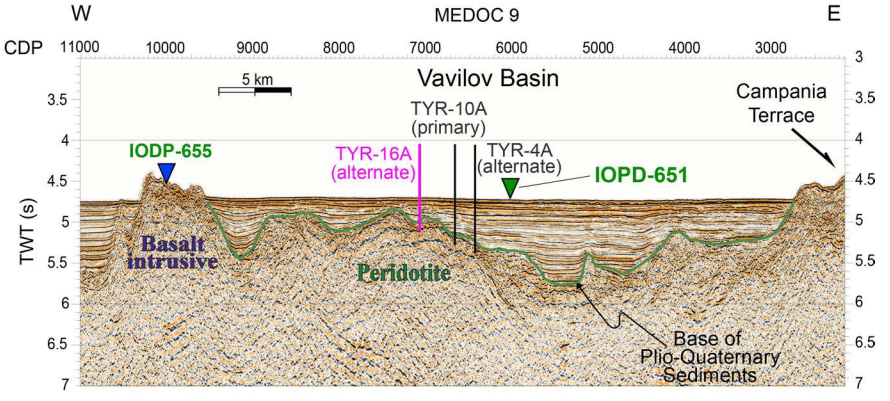
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

Data files in SSDB:
MEDOC_9.segy

Additional data available:
Multibeam, velocity information







IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	The serpentinized mantle peridotite
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-17A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.33121	Jurisdiction:	Italian
Longitude:	Deg: 12.67304	Distance to Land: (km)	148
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ✓	Water Depth (m):	3600

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	462	140
Total Sediment Thickness (m)	462	
Total Penetration (m):	602	

General Lithologies:	Terrigenous sand/silt/clay	Serpentinized mantle rocks

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:

Drilling/Coring:	Logging:	Total On-site:
11	1.2	12.2

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window	
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐		
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐		
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐		
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐		
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐		
CO_2	☐						

Sensitive marine habitat (e.g., reefs, vents)

Other:

IODP Site Forms

Form 2 - Site Survey Detail

Proposal #: 927 - Add 3	Site #: TYR-17A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: M29B Position: CDP 13010
2b Deep penetration seismic reflection (crossing)	no	Line: ST-04 Position: CDP 995
3 Seismic Velocity	yes	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-17A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	n.a.
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	none
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	none
4. Indications of gas hydrates at this location	none
5. Are there reasons to expect hydrocarbon accumulations at this site?	none
6. What "special" precautions will be taken during drilling?	none
7. What abandonment procedures need to be followed?	none
8. Natural or manmade hazards which may affect ship's operations	none
9. Summary: What do you consider the major risks in drilling at this site?	none

Proposal #: 927 - Add 3	Site #: TYR-17A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
3595 - 3605	serpentinized mantle peridotite	4 My	5 km/s	serpentinized peridotite	oceanic	33 m/My	

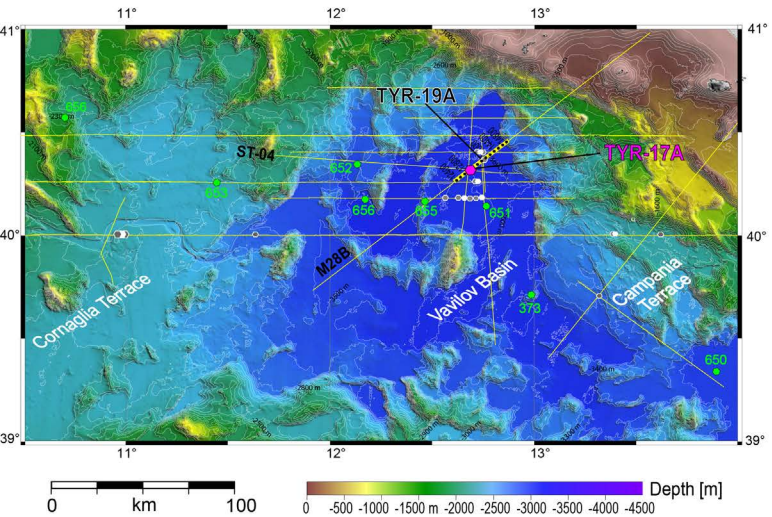
Site Figure **IODP proposal P927** **Site TYR-17A**

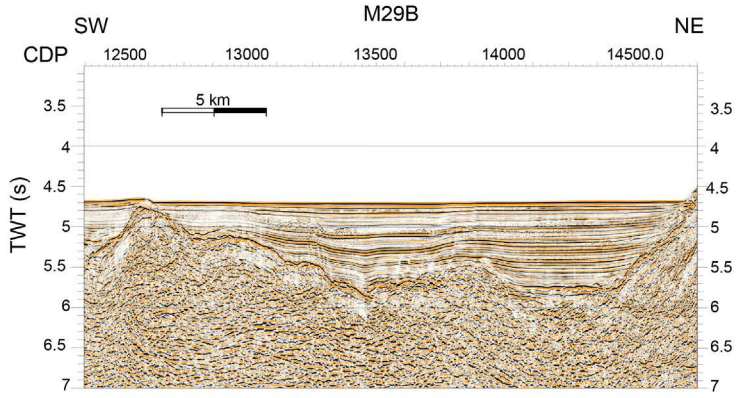
Coordinates: 40.331206 / 12.673042
Water depth: -3600 m
Total Recovery: 602 m

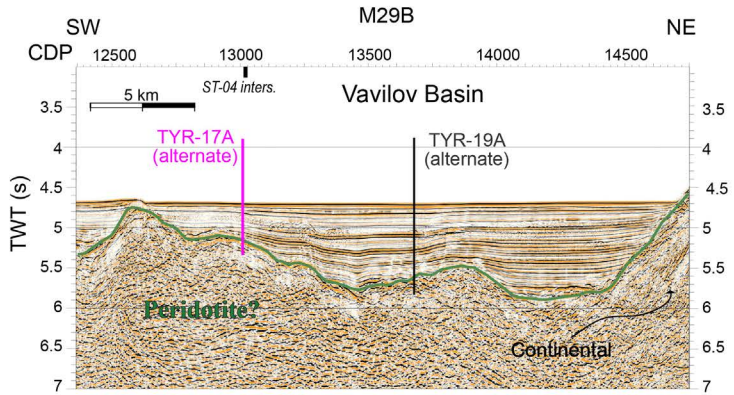
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

Data files in SSDB:
M29B.segy and ST-04.segy

Additional data available:
Multibeam, velocity information







IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	Same target of TYR-12A, serpentinized mantle peridotites
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-18A	Area or Location:	Tyrrhenian
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.41600	Jurisdiction:	Italian
Longitude:	Deg: 12.74424	Distance to Land: (km)	138
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ☑	Water Depth (m):	3600

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	621	70
Total Sediment Thickness (m)	621	
Total Penetration (m):	691	

General Lithologies:	Terrigenous sand/silt/clay	serpentinized mantle rocks

Coring Plan: (Specify or check)

APC tool in the sedimentary column, RCB in the basement

APC ☑ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:	Drilling/Coring: 10	Logging: 1	Total On-site: 11

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window	
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐		
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐		
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐		
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐		
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐		
CO_2	☐						

Sensitive marine habitat (e.g., reefs, vents)

Other:

IODP Site Forms

Form 2 - Site Survey Detail

Proposal #: 927 - Add 3	Site #: TYR-18A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_11 Position: CDP 12696
2b Deep penetration seismic reflection (crossing)	no	Line: ST-03a Position: CDP 4640
3 Seismic Velocity	no	
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-18A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	n.a.
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	none
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	none
4. Indications of gas hydrates at this location	none
5. Are there reasons to expect hydrocarbon accumulations at this site?	none
6. What "special" precautions will be taken during drilling?	none
7. What abandonment procedures need to be followed?	none
8. Natural or manmade hazards which may affect ship's operations	none
9. Summary: What do you consider the major risks in drilling at this site?	none

Proposal #: 927 - Add 3	Site #: TYR-18A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
3595 - 3605	serpentinized mantle peridotite	4 My	5 km/s	serpentinized peridotite	oceanic	33 m/My	

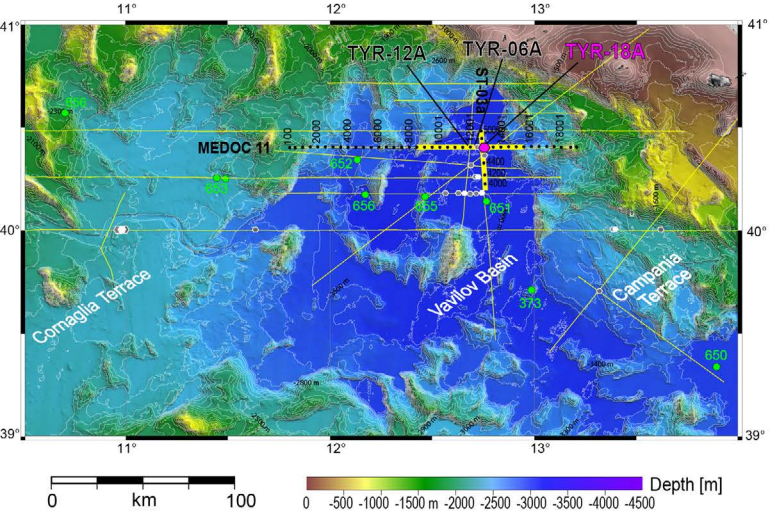
Site Figure **IODP proposal P927** **Site TYR-18A**

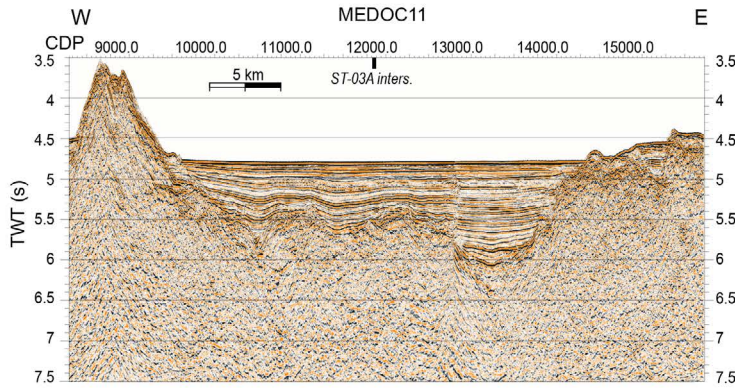
Coordinates: 40.415997 / 12.74424
Water depth: -3600 m
Total Recovery: 691 m

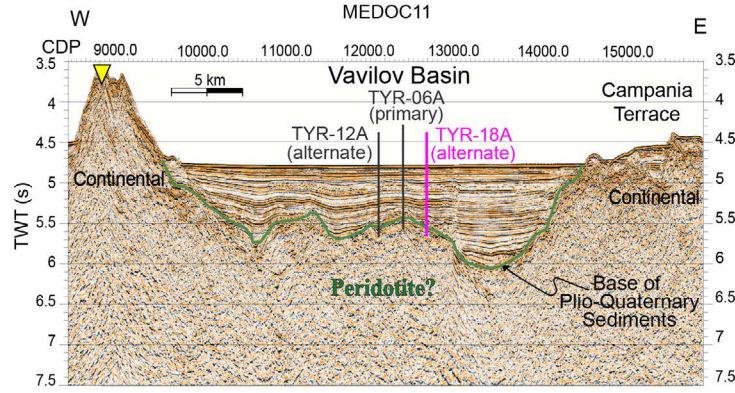
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

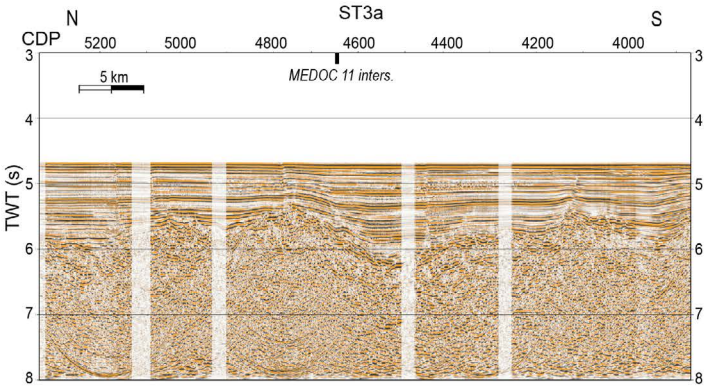
Data files in SSDB:
MEDOC_11.segy

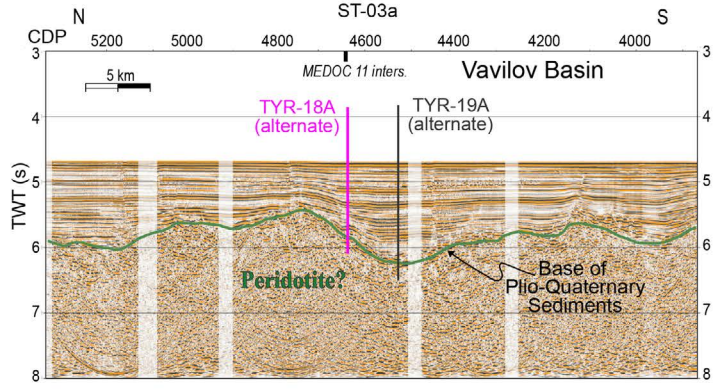
Additional data available:
Multibeam, velocity information











IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	Same target of TYR-12A, serpentinized mantle peridotites
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-19A	Area or Location:	Tyrrhenian
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.38562	Jurisdiction:	Italian
Longitude:	Deg: 12.74428	Distance to Land: (km)	138
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ☑	Water Depth (m):	3601

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	1063	70
Total Sediment Thickness (m)	1063	
Total Penetration (m):	1133	

General Lithologies:	Terrigenous sand/silt/clay	serpentinized mantle rocks

Coring Plan: (Specify or check)

APC tool in the sedimentary column, RCB in the basement

APC ☑ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:

Drilling/Coring:	Logging:	Total On-site:
11	1.9	12.9

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window	
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐		
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐		
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐		
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐		
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐		
CO_2	☐						

Sensitive marine habitat (e.g., reefs, vents)

Other:

IODP Site Forms

Form 2 - Site Survey Detail

Proposal #: 927 - Add 3	Site #: TYR-19A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: M29B Position: CDP 13690
2b Deep penetration seismic reflection (crossing)	no	Line: ST-03a Position: CDP 4535
3 Seismic Velocity	yes	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-19A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	n.a
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	none
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	none
4. Indications of gas hydrates at this location	none
5. Are there reasons to expect hydrocarbon accumulations at this site?	none
6. What "special" precautions will be taken during drilling?	none
7. What abandonment procedures need to be followed?	none
8. Natural or manmade hazards which may affect ship's operations	none
9. Summary: What do you consider the major risks in drilling at this site?	none

Proposal #: 927 - Add 3	Site #: TYR-19A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
3606 - 3596	serpentinized mantle peridotite	4 My	5 km/s	serpentinized peridotite	oceanic	33 n/My	

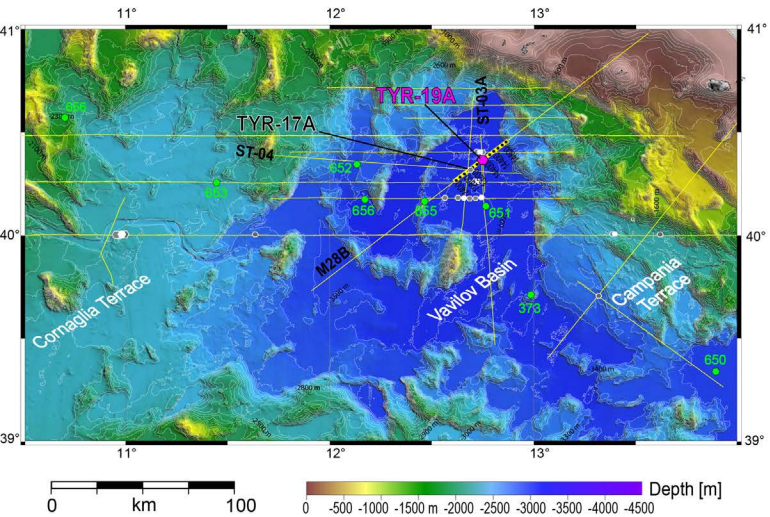
Site Figure **IODP proposal P927** **Site TYR-19A**

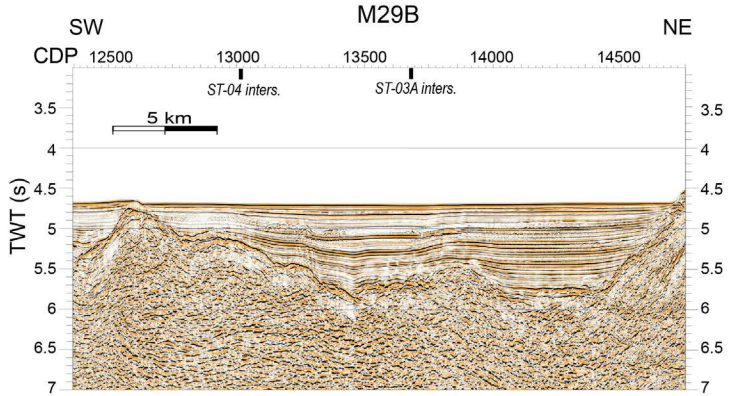
Coordinates: 40.385619 /12.744281
Water depth: -3601 m
Total Recovery: 1133 m

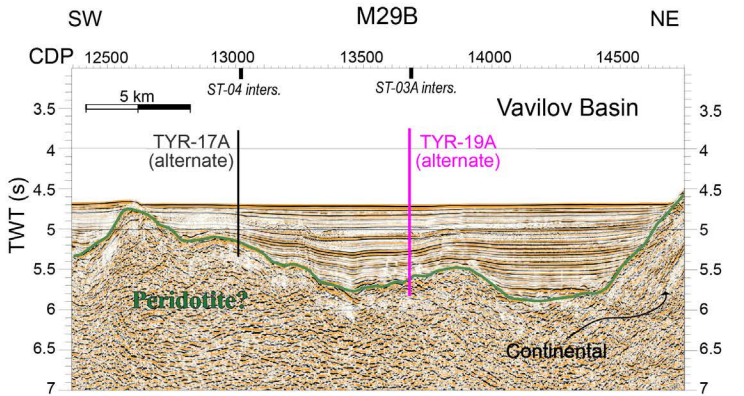
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

Data files in SSDB:
M29B.segy and ST-03A.segy

Additional data available:
Multibeam, velocity information







IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	Same target of TYR-08A, the Campania Terrace basement rocks
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-20A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#		Jurisdiction:	Italian
Latitude:	Deg: 39.999778	Distance to Land: (km)	110
Longitude:	Deg: 13.5958344		
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ✓	Water Depth (m):	2698

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	400	70
Total Sediment Thickness (m)	400	
Total Penetration (m):	470	

General Lithologies:	Terrigenous sand/silt/clay / basalts
Coring Plan: (Specify or check)	APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:	Drilling/Coring: 6.2	Logging: 1.6	Total On-site: 7.8

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window	
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐		
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐		
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐		
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐		
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐		
CO_2	☐						

Sensitive marine habitat (e.g., reefs, vents)

Other:

IODP Site Forms

Form 2 - Site Survey Detail

Proposal #: 927 - Add 3	Site #: TYR-20A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_6 Position: CDP 12320
2b Deep penetration seismic reflection (crossing)	yes	Line: M30 the line M30 is crossing line MEDOC_6 nearby, not at the site TYR-20A liocation
3 Seismic Velocity	yes	Stack RMS velocity
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	yes	P-wave velocity from WAS data
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-20A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	n.a.
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	none
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	none
4. Indications of gas hydrates at this location	none
5. Are there reasons to expect hydrocarbon accumulations at this site?	none
6. What "special" precautions will be taken during drilling?	none
7. What abandonment procedures need to be followed?	none
8. Natural or manmade hazards which may affect ship's operations	none
9. Summary: What do you consider the major risks in drilling at this site?	none

Proposal #: 927 - Add 3	Site #: TYR-20A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
2693 - 2703	basement	8 My	5.75 km/s	basalt	oceanic	n.a.	

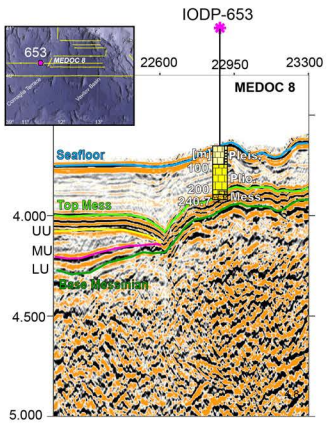
Site Figure **IODP proposal P927** **Site TYR-20A**

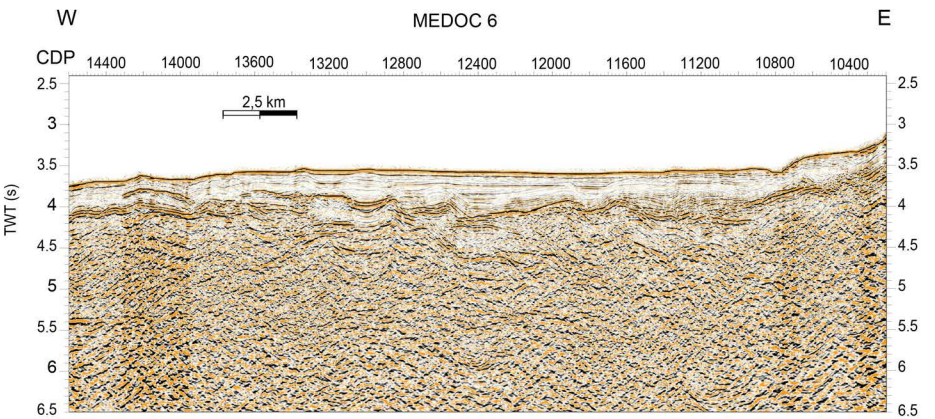
Coordinates: 39.999778 / 13.5958344
Water depth: -2698 m
Total Recovery: 470 m

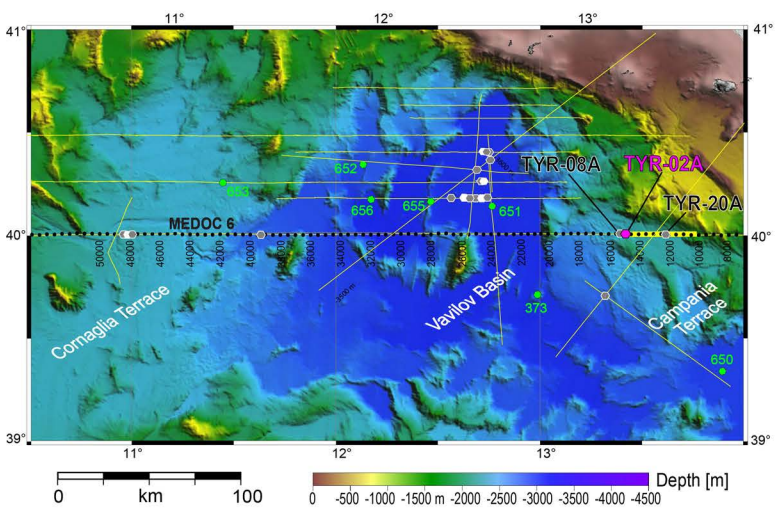
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

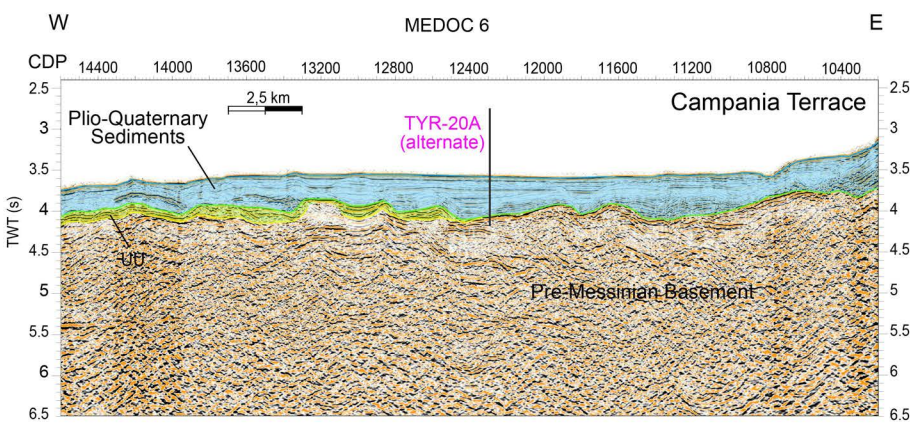
Data files in SSDB:
MEDOC_6.segy

Additional data available:
Multibeam, velocity information









IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	Same target of TYR-09A, the serpentinized mantle peridotite.
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-21A	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#		Jurisdiction:	Italian
Latitude:	Deg: 40.0011633	Distance to Land: (km)	157
Longitude:	Deg: 11.62511		
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ✓	Water Depth (m):	3366

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	269	70
Total Sediment Thickness (m)	269	
Total Penetration (m):	339	
General Lithologies:	Terrigenous sand/silt/clay	serpentinized mantle peridotite

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☐			

Other Measurements:

Estimated Days:	Drilling/Coring: 5.6	Logging: 1.4	Total On-site: 7

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐	
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐	
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐	
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐	
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐	
CO_2	☐					

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-21A	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_6 Position: CDP 39250
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	no	
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	no	
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-21A	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	n.a.
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	none
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	none
4. Indications of gas hydrates at this location	none
5. Are there reasons to expect hydrocarbon accumulations at this site?	none
6. What "special" precautions will be taken during drilling?	none
7. What abandonment procedures need to be followed?	none
8. Natural or manmade hazards which may affect ship's operations	none
9. Summary: What do you consider the major risks in drilling at this site?	none

Proposal #: 927 - Add 3	Site #: TYR-21A	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
3361 - 3371	serpentinized mantle peridotite	8 My	5 km/s	serpentinized peridotite	oceanic	33 m/My	

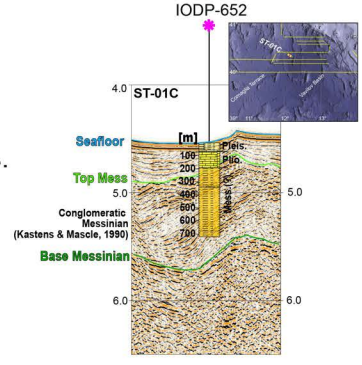
Site Figure **IODP proposal P927** **Site TYR-21A**

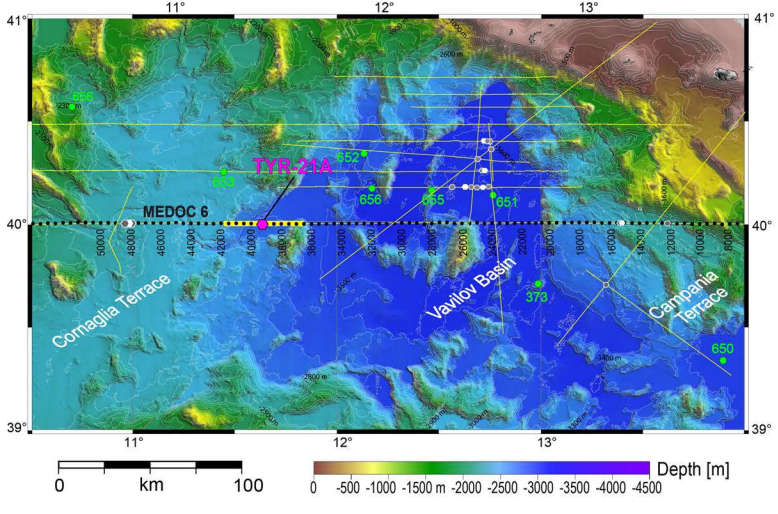
Coordinates: 40.00116 /11.62511
Water depth: -3366 m
Total Recovery: 339 m

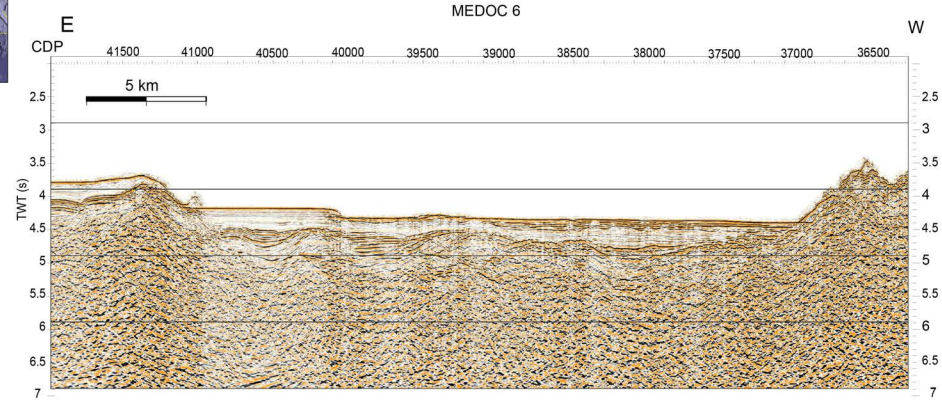
Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

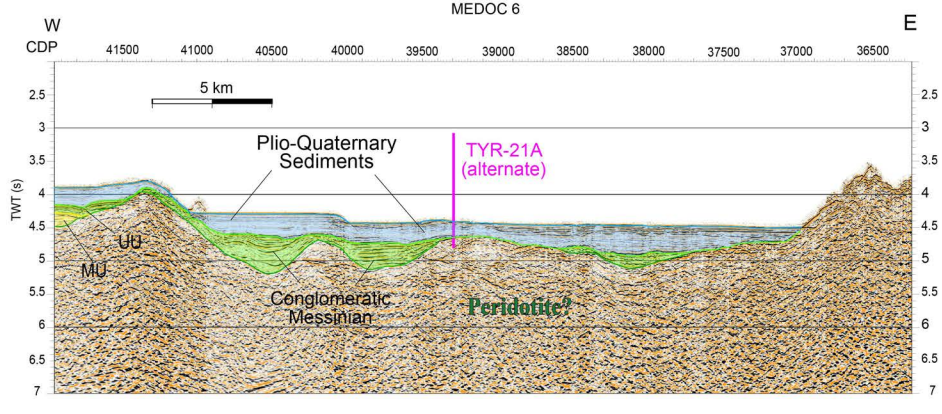
Data files in SSDB:
MEDOC_6.segy

Additional data available:
Multibeam, velocity information









IODP Site Forms

Form 1 – General Site Information

927 - Add 3

Section A: Proposal Information

Proposal Title	Tyrrhenian Magmatism & Mantle Exhumation
Date Form Submitted	2021-06-04 17:59:43
Site-Specific Objectives with Priority (Must include general objectives in proposal)	The basement of the Cornaglia Terrace
List Previous Drilling in Area	DSDP 132, DSDP 373, ODP 650-656

Section B: General Site Information

Site Name:	TYR-13B	Area or Location:	Tyrrhenian Sea
If site is a reoccupation of an old DSDP/ODP Site, Please include former Site#			
Latitude:	Deg: 40.001003	Jurisdiction:	italian
Longitude:	Deg: 10.95549	Distance to Land: (km)	112
Coordinate System:	WGS 84		
Priority of Site:	Primary: ☐ Alternate: ☑	Water Depth (m):	2713

Section C: Operational Information

	Sediments	Basement
Proposed Penetration (m):	310	70
Total Sediment Thickness (m)	310	
Total Penetration (m):	380	

General Lithologies:	Terrigenous sand/silt/clay over, possibly, about 110 meters of messinian gypsum	continental basement rocks

Coring Plan: (Specify or check)

APC ☐ XCB ☐ RCB ☑ Re-entry ☐ PCS ☐

Wireline Logging Plan:

Standard Measurements		Special Tools		
WL	☑	Magnetic Susceptibility	☐	Other tools:
Porosity	☑	Borehole Temperature	☐	
Density	☑	Formation Image (Acoustic)	☐	
Gamma Ray	☑	VSP (walkaway)	☐	
Resistivity	☑	LWD	☐	
Sonic (Δt)	☑			
Formation Image (Res)	☑			
VSP (zero offset)	☑			
Formation Temperature & Pressure	☑			

Other Measurements:

Estimated Days:	Drilling/Coring: 3.7	Logging: 1.2	Total On-site: 4.9

Observatory Plan: *Longterm Borehole Observation Plan/Re-entry Plan*

Potential Hazards/ Weather:

Shallow Gas	☐	Complicated Seabed Condition	☐	Hydrothermal Activity	☐	Preferred weather window
Hydrocarbon	☐	Soft Seabed	☐	Landslide and Turbidity Current	☐	
Shallow Water Flow	☐	Currents	☐	Gas Hydrate	☐	
Abnormal Pressure	☐	Fracture Zone	☐	Diapir and Mud Volcano	☐	
Man-made Objects (e.g., sea-floor cables, dump sites)	☐	Fault	☐	High Temperature	☐	
H_2S	☐	High Dip Angle	☐	Ice Conditions	☐	
CO_2	☐					

Sensitive marine habitat (e.g., reefs, vents)

Other:

Proposal #: 927 - Add 3	Site #: TYR-13B	Date Form Submitted: 2021-06-04 17:59:43

Data Type	In SSDB	Details of available data and data that are still to be collected
1a High resolution seismic reflection (primary)	no	
1b High resolution seismic seismic reflection (crossing)	no	
2a Deep penetration seismic reflection (primary)	yes	Line: MEDOC_6 Position: CDP CDP 48400
2b Deep penetration seismic reflection (crossing)	no	
3 Seismic Velocity	yes	Stack RMS velocitty
4 Seismic Grid	no	
5a Refraction (surface)	no	
5b Refraction (bottom)	yes	P-wave velocity from WAS data
6 3.5 kHz	no	
7 Swath bathymetry	yes	100 x 100 m grid cell size
8a Side looking sonar (surface)	no	
8b Side looking sonar (bottom)	no	
9 Photography or video	no	
10 Heat Flow	yes	
11a Magnetics	yes	
11b Gravity	yes	
12 Sediment cores	no	
13 Rock sampling	no	
14a Water current data	no	
14b Ice Conditions	no	
15 OBS microseismicity	no	
16 Navigation	no	
17 Other	no	

Proposal #: 927 - Add 3	Site #: TYR-13B	Date Form Submitted: 2021-06-04 17:59:43

Pollution & Safety Hazard	Comment
1. Summary of operations at site	RCB
2. All hydrocarbon occurrences based on previous DSDP/ODP/IODP drilling	none
3. All commercial drilling in this area that produced or yielded significant hydrocarbon shows	none
4. Indications of gas hydrates at this location	none
5. Are there reasons to expect hydrocarbon accumulations at this site?	none
6. What "special" precautions will be taken during drilling?	none
7. What abandonment procedures need to be followed?	none
8. Natural or manmade hazards which may affect ship's operations	none
9. Summary: What do you consider the major risks in drilling at this site?	none

Proposal #: 927 - Add 3	Site #: TYR-13B	Date Form Submitted: 2021-06-04 17:59:43

Subbottom depth (m)	Key reflectors, unconformities, faults, etc	Age (My)	Assumed velocity (km/s)	Lithology	Paleo-environment	Avg. accum. rate (m/My)	Comments
2713 - 3093	basalts	8	5.750	basalt	oceanic	26	N/A

Site Figure IODP proposal P927 Site TYR-13B

Coordinates: 40.001003 / 10.95549
Water depth: -2713 m
Total Recovery: 380 m

Remarks:
- Seismic images are time migrated stacks.
- Seismic data in CDP order.

Data files in SSDB:
MEDOC_6.segy

Additional data available:
Multibeam, velocity information