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Short Cruise Report M209



Mindelo (Cabo Verde) - Ponta Delgada (Azores)

21.03.2025 – 23.04.2025

Chief Scientist: Dr. Henk-Jan Hoving

Deputy Chief Scientist: Mareike Keller

Captain: Detlef Korte



Figure 1 | Cruise track of RV Meteor during M209 including the transit tot he Azores. Map created with esri World Imagery „Low Resolution 15m imagery“ and esri World Hillshade.



Figure 2 | Multibeam bathymetry collected during M209 in the Cabo Verde exclusive economic zone. Bathymetry data was collected with the two ship-based MBES systems the Kongsberg EM710 and EM122. Map created with esri World Imagery „Low Resolution 15m imagery“, esri World Hillshade and Natural Earth package.

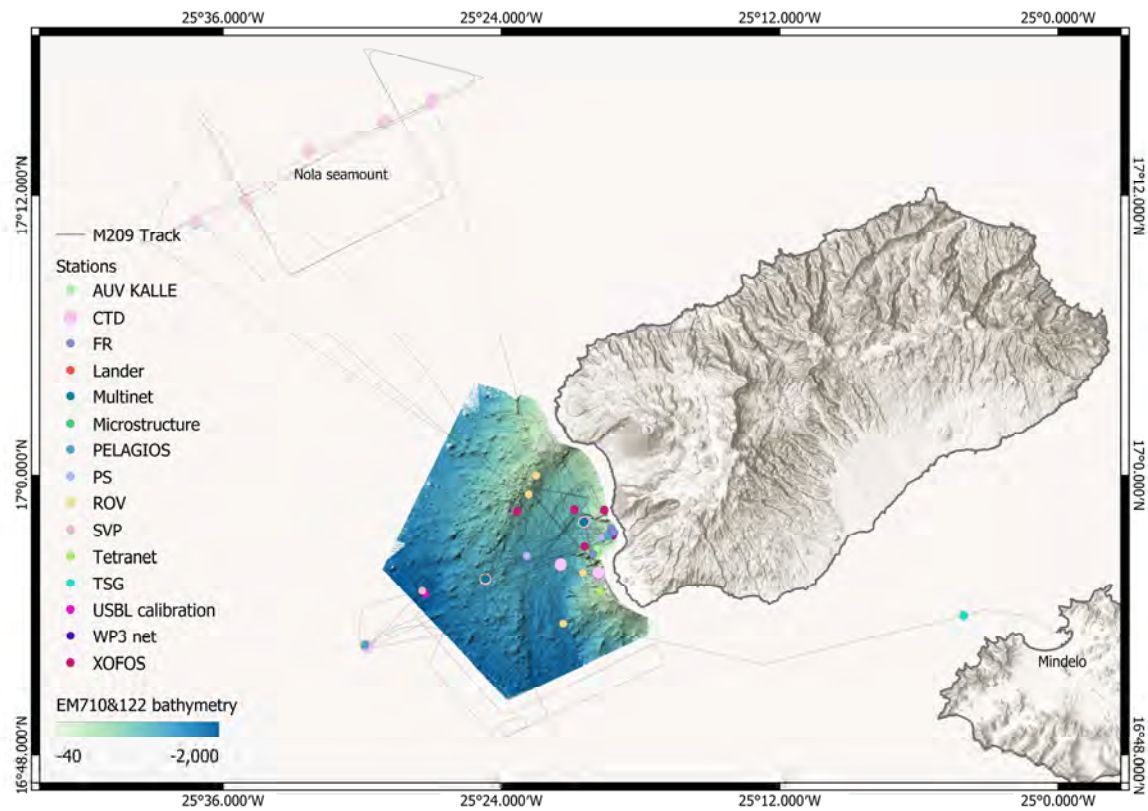


Figure 3A | Station map of the working area in the Southwest of Santo Antão including the bay of Tarrafal and Monte Trigo as well as Nola seamount to the Northeast of the island. Single stations are indicated as points, cruise track as well as multibeam bathymetry are also depicted. Map created with esri World Hillshade and IDECV (Infra-estrutura de Dados Espaciais de Cabo Verde).

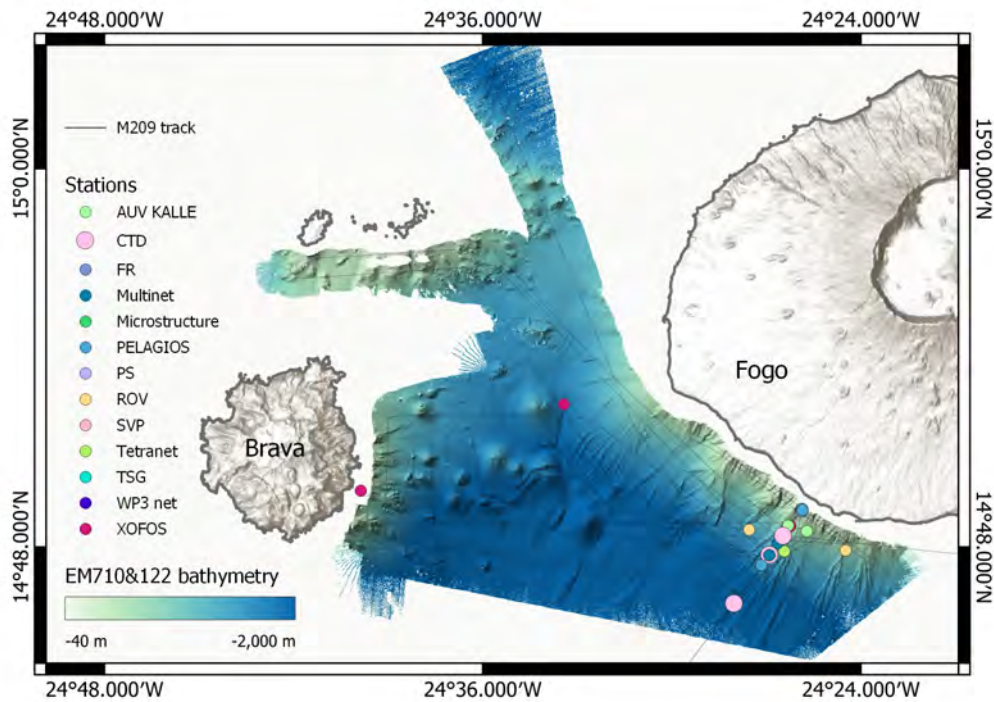


Figure 3B | Station map of the working area between the islands Fogo and Brava. Single stations are indicated as points, cruise track as well as multibeam bathymetry are also depicted. Map created with esri World Hillshade and IDECV (Infra-estrutura de Dados Espacia de Cabo Verde).

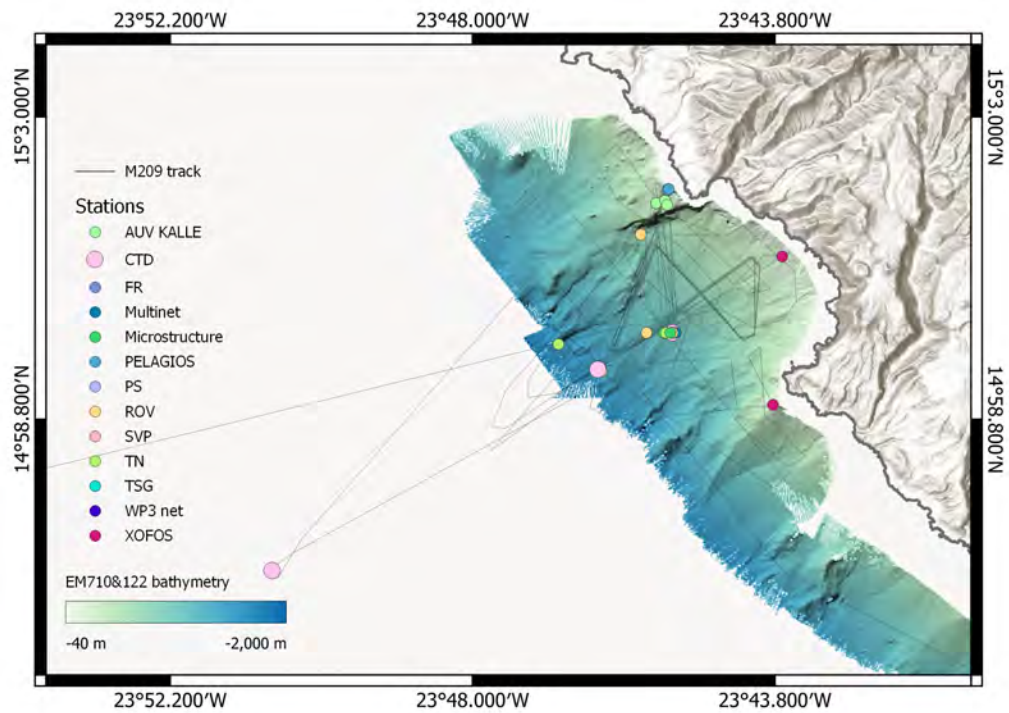


Figure 3C | Station map of the working area in the Southwest of Santiago in Baía do Inferno. Single stations are indicated as points, cruise track as well as multibeam bathymetry are also depicted. Map created with esri World Hillshade and IDECV (Infra-estrutura de Dados Espacia de Cabo Verde).

Objectives

The Exclusive Economic Zone of Cape Verde consists for more than 90% of deep sea (waters deeper than 200 m) most of which remains unexplored and unmapped. The cruise M209 aimed to better understand the deep-sea ecosystems in the vicinity of the Cape Verde islands. During the expedition, we applied established and novel mapping, in situ observational and sampling tools, and processed the collected samples to prepare them for genomic and other analytic approaches for our biodiversity and foodweb studies. By performing a standardized research program at the islands Santo Antão, Fogo and Santiago we will be able to compare the biological, bathymetric and physical characteristics of deep-sea habitats within the Cape Verde archipelago, with the ultimate goal to generate data to serve conservation efforts. Our efforts concentrated on the following objectives:

- 1) Bathymetric and habitat mapping of the Cabo Verde Exclusive Economic Zone, to allow analysis of seafloor morphology and for documentation of the zonation of benthic biodiversity.
- 2) Characterizing and sampling of benthic and benthopelagic macro and megafauna for biodiversity and foodweb analysis
- 3) Documenting, characterizing, measuring and sampling of pelagic fauna for biodiversity, foodweb and behavioural analysis
- 4) Investigating the interaction between vertical migration behaviour, physical oceanography and topography

Narrative

On 17.3.2025 the M209 advance party arrived in Mindelo. Part of the team went to the RV METEOR immediately after checking in the hotel, to meet members of the M208 expedition, and to exchange experiences, and information on logistics and equipment. On the morning of 18.3.2025 the complete advance party started mobilizing on RV METEOR and mobilization continued on 19.3.2025. At 11.00 on 19.3.2025 M209 several team members gave presentations on cruise objectives at a meeting for local scientists and students which was organized at the Ocean Science Centre Mindelo. On the morning of 20.3.2025 the complete team embarked on RV METEOR, and all continued cruise preparations. In the afternoon of 20.3.2025 a group of Cabo Verde students from the Cabo Verde university UTA as well as additional interested people and research vessel crew of the NGO Biosfera1 visited the METEOR. Together with the officers of METEOR the visitors were shown around the labs and machine room of METEOR.

On 21.3.2025 RV METEOR left the harbor of Mindelo to transit to the first station off Tarrafal, Santo Antão. The transit was only 3 hours. For the next two weeks this was our working area. We deployed CTDs for hydrographic measurements, eDNA sampling and sound velocity profiles to support the multibeam mapping. The mapping efforts aim to create a map of the area which will support ROV operations as well as future research in the region. We deployed the towed seafloor camera system XOFOS multiple times in different areas in the Bay of Tarrafal to obtain an integrative insight in the different benthic habitats and to determine how biology relates to seafloor morphology. For a high-resolution picture of the benthic habitats, we deployed the hovering GIRONA1000 AUV KALLE. We performed deep pelagic ROV dives at three stations which ranged from seafloor depth from 1000 m (station 1), 1500 m (station 2) and 2500 m (station 3). We

encountered a large variety of pelagic fauna and noticed that below 600 m, diversity is particularly high. ROV KIEL 6000 was also used in benthic mode, and we were able to survey the steep slopes and walls, that the XOFOS could not document. We performed a day and night tetranet deployment on a location where we also deployed a small lander. Additional pelagic biological work included night video transects with PELAGIOS between eDNA station 1 (1000 m) and 3 (2500 m), to document gelatinous zooplankton and squids with the forward-looking camera, and measure the biomass in the layers below the PELAGIOS with the WBAT echosounder. Multinets for biodiversity and foodweb sampling were done during the night. On the night of 1.4.2025 we performed an ADCP transect and five CTD stations on Nola Seamount. At the CTD stations we collected water from 30-1000 m and filtered it over Sterivex filters to collect eDNA and seston. At the end of the second week of M209, we deployed the ROV four times in benthic mode and XOFOS six times in the bay of Tarrafal, and were able to get an overview of the sessile and mobile fauna in the rariphotic zone and the deep slopes. On 4.4.2025 we recovered the small lander that was equipped with physical oceanographic sensors. The day multinet at station 1 that followed the recovery was the 100th station activity. We finished the work with a last multinet in the Bay of Tarrafal and had a day and night multinet for all three stations where we took eDNA samples and performed ROV and PELAGIOS deployments. After the last station work we started the transit to Fogo and collected multibeam data on the way.

On 5.5.2025 we arrived in Fogo. The first mission in this region was to map the coastal zone as shallow as possible, to create bathymetric maps of the steep slopes for the ROV and XOFOS deployments. Following the multibeam efforts, we performed two benthic and two pelagic ROV dives during which we observed a variety of pelagic fauna (Figure 4). With XOFOS we performed three transects, one following the slope of the CTD stations where we collect eDNA and two in areas where we wanted to collect baseline data for the protection of marine ecosystems. These two XOFOS dives were successful and showed pristine coral habitats off Brava and litter in the deep seas off Sao Filipe.

In the night of 10.4.2025 we transited from Fogo to Santiago and after arrival we performed multibeam surveys to create detailed seafloor maps for the ROV benthic dives. We deployed the ROV in benthic mode on the morning of 11.4.2025. The following day was a special day for the RV METEOR and team M209. The president of Cabo Verde, His Excellency José Maria Neves and Minister of the Sea Mr. Santos visited the RV METEOR, together with a delegation of journalists. The visit was covered in different Cabo Verde news outlets including the evening news. In the last week of the cruise we performed three pelagic ROV dives on 14.4.2025, 15.4.2025 and 16.4.2025. We worked at two stations, one with a seafloor depth of 1000 m, and one with a seafloor depth of 1450 m. The deeper station was particularly rich in fauna, and the regions around 600-900 m resulted in most encounters with larger mesopelagic animals. In the nights after the ROV dives the night program typically started at 20.00. Night activities included XOFOS surveys, PELAGIOS surveys with WBAT, and physical oceanography observations. Overall, we have a comparable sample and observational approach for both pelagic and benthic environments for the three islands. On the night of 16.4.2025 we performed our last station work including a PELAGIOS survey of 5 hours, a CTD for sound velocity profile to precede the multibeam work that ended the scientific work in Cabo Verde waters. Unfortunately, we had to go to Praia harbor for a medical checkup of a crew member and hence we stopped the scientific program sooner than expected. On 17.4.2025 15.30 we started the transit in the direction of the Azores. The challenging weather on the return did not allow anymore station work, and the open ocean time series station CVOO could not be sampled. The collaboration of the M209 team with the RV METEOR captain, officers, deck and kitchen crew, as well as the weather service was excellent and we can be very happy with the fruitful scientific mission we had in Cabo Verde waters.

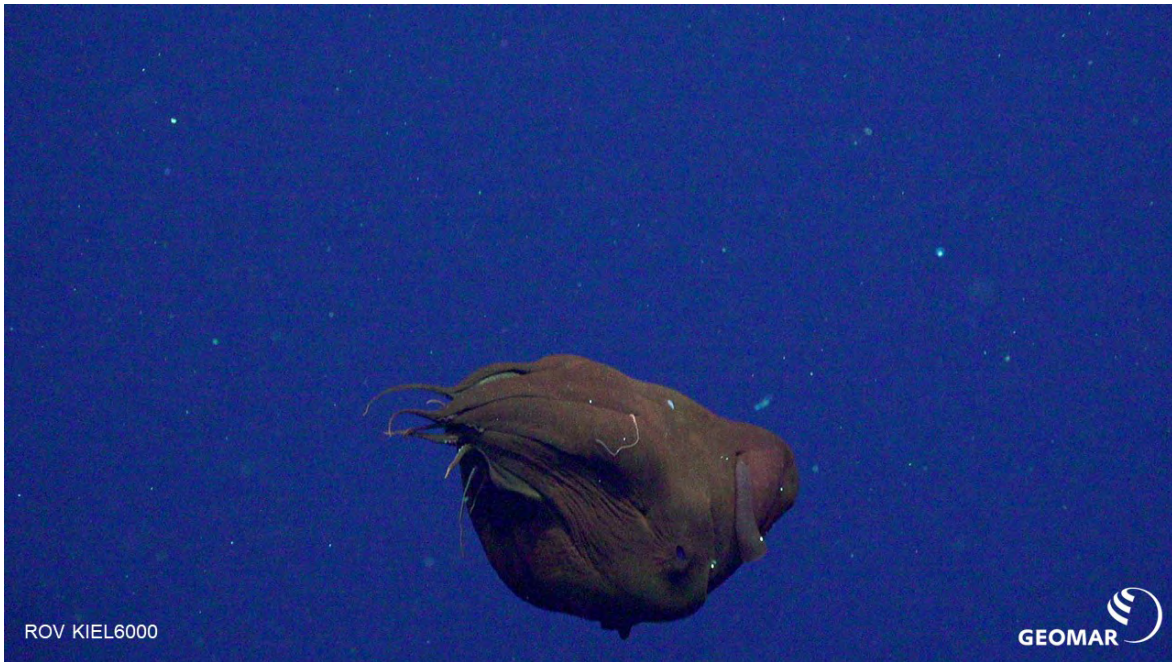


Figure 4A A vampire squid or *Vampyroteuthis infernalis* that was observed off Fogo with ROV KIEL 6000.



Figure 4B A jellyfish *Atolla*, that was observed and sampled by ROV KIEL 6000 off Santa Antao.

Acknowledgements

We thank Captain Detlef Korte, the officers and the ship's crew for their excellent support in making this expedition a success. The hard work and invaluable commitment of the technical staff, the scientists and the students is also acknowledged. We also thank the German National Meteorological Service (DWD) for the daily weather briefings. We thank the Leitstelle METEOR/MERIAN and Briesse Research for their support, the Begutachtungspanel Forschungsschiffe (GPF) for their evaluation, as well as the GPF Geschäftsstelle for their assistance. We would like to thank the government of Cabo Verde for permitting our research. This cruise was funded by the German Research Foundation (DFG) and GEOMAR Helmholtz Centre for Ocean Research Kiel.

Participant list

Name	Discipline	Institution
Dr. Henk-Jan Hoving	Chief Scientist/Fahrtleitung	GEOMAR
Mareiike Keller	Co-Cief Scientist	GEOMAR
Charlotte Mertz	Student, Physical oceanography	GEOMAR
Ina Vornsand	Student, eDNA	GEOMAR
Sophie Schindler	Data Management	GEOMAR
Hendrik Hampe	Technician	GEOMAR
Femke Thoben	Student, eDNA, fishes	GEOMAR
Julian Stauffer	PhD Student, mapping	GEOMAR
Jochen Mohrmann	Scientist, Mapping	GEOMAR
Dr. Ina Stoltenberg	Scientist, foodwebs	GEOMAR
Dr. James Taylor	ROV team	GEOMAR
Martin Pieper	ROV team	GEOMAR
Hannes Huusmann	ROV team	GEOMAR
Patrick Cuno	ROV team	GEOMAR
Dr. Inken Suck	ROV team	GEOMAR
Torge Matthiessen	ROV team	GEOMAR
Peter Striewski	ROV team	GEOMAR
Hanna Olbricht	ROV team	GEOMAR
Gabriel Nolte	Technician	GEOMAR
Nikolaj Diller	AUV team	GEOMAR
Luca Lelie	AUV team	GEOMAR
Dr. Sonia Gueroun	Scientist, zooplankton	ARDITI
Vanessa Lopes	PhD student, conservation	UE/Projecto Vito
Keider Neves	Scientist, crustaceans	Biosfera1
Rui Freitas	Scientist, fishes	UTA
Elisa Wendt	PhD student, 3D reconstruction	CAU
Dr. Teresa Amaro	Scientist, corals	UA
Emma Bronswijk	Student, acoustics	NIOZ

Institutes

GEOMAR	Helmholtz-Zentrum für Ozeanforschung Kiel, Germany
CAU	Christian-Albrechts-Universität zu Kiel, Germany
NIOZ	Royal Netherlands Institute for Sea Research, the Netherlands
UA	University of Aveiro
UE	University of Edinburgh
ARDITI	Agência Regional para o Desenvolvimento da Investigação, Tecnologia e Inovação, Madeira
UTA	Universidade Técnica do Atlântico, Mindelo, Cabo Verde

Station list

Stationnumber	Gear	Time (UTC)	Latitude °N	Longitude °W	Depth (m)	Remark
M209_000_Underway-1_MBES_EM710_00	MBES_EM710	3/21/25 9:40	16° 54.001' N	025° 04.064' W	0	
M209_000_Underway-2_MBES_EM122_00	MBES_EM122	3/21/25 9:40	16° 54.001' N	025° 04.064' W	0	
M209_000_Underway-3_VMADCP_38kHz_00	ADCP_38kHz	3/21/25 9:40	16° 54.001' N	025° 04.064' W	0	
M209_000_Underway-4_VMADCP_75kHz_00	ADCP_75kHz	3/21/25 9:40	16° 54.001' N	025° 04.064' W	0	
M209_000_Underway-5_TSG_00	TSG	3/21/25 9:40	16° 54.001' N	025° 04.064' W	0	
M209_000_Underway-5_TSG_00	TSG	3/21/25 9:40	16° 54.001' N	025° 04.064' W	0	
M209_001_CTD_01	CTD	3/21/25 12:47	16° 58.007' N	025° 20.468' W	1012	SLmax = 964m
M209_002_WP3_01	WP3	3/21/25 14:13	16° 58.047' N	025° 20.452' W	1015	SLmax = 204m
M209_003_WP3_02	WP3	3/21/25 15:06	16° 58.036' N	025° 20.477' W	1038	SLmax = 609m
M209_004_USBL_CALIB_01	USBL_CALIB	3/21/25 23:35	16° 54.934' N	025° 27.277' W	0	Beg. Profil
M209_005_SVP_01	SVP	3/21/25 18:17	16° 55.061' N	025° 27.410' W	0	SLmax = 1850m
M209_006_MBES_EM122_01	MBES_EM122	3/22/25 5:30	16° 55.809' N	025° 27.015' W	1789	
M209_007_MBES_EM710_01	MBES_EM710	3/22/25 5:30	16° 55.817' N	025° 27.009' W	1789	
M209_008_AUV_KALLE_01	AUV_KALLE	3/22/25 11:24	16° 56.571' N	025° 19.919' W	136	
M209_009_AUV_KALLE_02	AUV_KALLE	3/22/25 13:27	16° 56.831' N	025° 19.875' W	0	W12
M209_010_PELAGIOS_01	PELAGIOS	3/22/25 15:49	16° 57.982' N	025° 20.428' W	982	
M209_011_MN_B9_01	MN_B9	3/22/25 18:35	16° 58.011' N	025° 20.425' W	1000	
M209_012_WP3_03	WP3	3/22/25 20:09	16° 58.008' N	025° 20.428' W	1000	
M209_013_XOFOS_01	XOFOS	3/22/25 21:26	16° 56.617' N	025° 20.047' W	196	
M209_014_FR_01	FR	3/22/25 21:27	16° 56.616' N	025° 20.047' W	196	
M209_015_VMADCP_38kHz_01	ADCP_38kHz	3/22/25 23:51	16° 57.244' N	025° 21.345' W	1216	
M209_016_VMADCP_75kHz_01	ADCP_75kHz	3/22/25 23:51	16° 57.259' N	025° 21.371' W	1220	
M209_017_ROV_01	ROV	3/23/25 10:00	16° 58.005' N	025° 20.443' W	1015	
M209_018_FR_02	FR	3/23/25 12:10	16° 57.975' N	025° 20.421' W	999	
M209_019_LANDER_01	LANDER	3/23/25 20:51	16° 55.866' N	025° 19.777' W	118	
M209_020_XOFOS_02	XOFOS	3/23/25 21:30	16° 55.857' N	025° 19.814' W	153	
M209_021_PELAGIOS_02	PELAGIOS	3/24/25 1:51	16° 57.872' N	025° 20.674' W	0	

M209_022_MN_B9_02	MN_B9	3/24/25 6:12	16° 55.587' N	025° 24.681' W	1414	SLmax = 1401m
M209_023_WP3_04	WP3	3/24/25 7:57	16° 55.600' N	025° 24.681' W	1246	
M209_024_CTD_02	CTD	3/24/25 9:06	16° 55.584' N	025° 24.685' W	2361	
M209_025_ROV_02	ROV	3/24/25 10:15	16° 55.609' N	025° 24.651' W	2656	
M209_026_MBES_EM122_02	MBES_EM122	3/24/25 20:50	16° 55.881' N	025° 24.329' W	1173	
M209_027_MBES_EM710_02	MBES_EM710	3/24/25 20:50	16° 55.893' N	025° 24.326' W	1253	
M209_028_ROV_03	ROV	3/25/25 10:27	16° 55.655' N	025° 24.751' W	1360	SLmax = 1017m
M209_029_PELAGIOS_03	PELAGIOS	3/25/25 20:55	16° 55.601' N	025° 24.684' W	0	
M209_030_MN_B9_03	MN_B9	3/26/25 1:51	16° 55.596' N	025° 24.673' W	1385	
M209_031_XOFOS_03	XOFOS	3/26/25 4:18	16° 57.431' N	025° 19.183' W	214	
M209_031-2_XOFOS_03	XOFOS	3/26/25 4:35	16° 57.438' N	025° 19.190' W	226	
M209_032_VMADCP_38kHz_02	ADCP_38kHz	3/26/25 9:21	16° 55.845' N	025° 19.814' W	0	
M209_033_VMADCP_75kHz_02	ADCP_75kHz	3/26/25 9:21	16° 55.843' N	025° 19.811' W	0	W12
M209_034_AUV_KALLE_03	AUV_KALLE	3/26/25 9:39	16° 55.844' N	025° 19.787' W	0	
M209_035_BOAT_01	BOAT	3/26/25 12:11	16° 55.843' N	025° 19.788' W	0	
M209_036_PELAGIOS_04	PELAGIOS	3/26/25 13:17	16° 55.831' N	025° 19.793' W	0	
M209_037_AUV_KALLE_04	AUV_KALLE	3/26/25 17:23	16° 57.330' N	025° 19.713' W	0	
M209_038_VMADCP_38kHz_03	ADCP_38kHz	3/26/25 19:45	16° 57.330' N	025° 19.711' W	0	
M209_039_VMADCP_75kHz_03	ADCP_75kHz	3/26/25 19:45	16° 57.330' N	025° 19.711' W	0	SLmax = 984m
M209_040_MSS_01	MSS	3/26/25 20:31	16° 57.930' N	025° 20.593' W	0	
M209_041_MBES_EM122_03	MBES_EM122	3/26/25 23:34	16° 56.672' N	025° 25.711' W	1316	
M209_042_MBES_EM710_03	MBES_EM710	3/26/25 23:34	16° 56.651' N	025° 25.701' W	1322	
M209_043_PS_01	PS	3/27/25 6:30	16° 57.353' N	025° 19.673' W	567	
M209_044_ROV_04	ROV	3/27/25 9:57	16° 55.630' N	025° 24.707' W	1381	
M209_045_CTD_03	CTD	3/27/25 20:56	16° 58.006' N	025° 20.438' W	1009	SLmax = 831m
M209_046_PELAGIOS_05	PELAGIOS	3/27/25 21:59	16° 55.843' N	025° 19.824' W	157	
M209_047_FR_03	FR	3/27/25 22:30	16° 55.832' N	025° 19.892' W	242	
M209_048_MN_B9_04	MN_B9	3/28/25 2:21	16° 58.009' N	025° 20.417' W	1000	
M209_049_MSS_02	MSS	3/28/25 5:41	16° 57.937' N	025° 20.481' W	1018	
M209_050_ROV_05	ROV	3/28/25 9:53	16° 58.037' N	025° 20.454' W	1024	
M209_051_FR_04	FR	3/28/25 19:02	16° 57.734' N	025° 19.256' W	283	
M209_052_XOFOS_04	XOFOS	3/28/25 19:37	16° 58.501' N	025° 19.558' W	177	

M209_052-2_XOFOS_04	XOFOS	3/29/25 0:10	16° 56.946' N	025° 20.408' W	0	
M209_053_VMADCP_38kHz_04	ADCP_38kHz	3/28/25 23:48	16° 57.565' N	025° 20.497' W	0	
M209_054_VMADCP_75kHz_04	ADCP_75kHz	3/28/25 23:48	16° 57.565' N	025° 20.497' W	0	
M209_055_CTD_04	CTD	3/29/25 5:14	16° 52.658' N	025° 29.782' W	2454	
M209_056_ROV_06	ROV	3/29/25 9:51	16° 52.714' N	025° 29.921' W	2459	
M209_057_FR_05	FR	3/29/25 19:17	16° 57.548' N	025° 19.251' W	275	
M209_058_VMADCP_38kHz_05	ADCP_38kHz	3/29/25 19:55	16° 58.006' N	025° 20.456' W	0	
M209_059_VMADCP_75kHz_05	ADCP_75kHz	3/29/25 19:55	16° 58.002' N	025° 20.463' W	0	
M209_060_MSS_03	MSS	3/29/25 20:02	16° 57.935' N	025° 20.611' W	0	
M209_061_PELAGIOS_06	PELAGIOS	3/29/25 22:11	16° 57.397' N	025° 19.385' W	384	
M209_062_MBES_EM122_04	MBES_EM122	3/30/25 2:33	16° 57.822' N	025° 21.181' W	1141	
M209_064_TN_01	TN	3/30/25 12:14	16° 55.874' N	025° 19.840' W	169	SLmax = 254m
M209_065_MBES_EM710_05	MBES_EM710	3/30/25 13:00	16° 56.592' N	025° 20.180' W	286	
M209_066_MBES_EM122_06	MBES_EM122	3/30/25 13:00	16° 56.592' N	025° 20.180' W	287	
M209_067_CTD_07	CTD	3/30/25 15:01	16° 58.006' N	025° 20.435' W	1000	SLmax = 964m
M209_068_XOFOS_05	XOFOS	3/30/25 17:15	16° 58.519' N	025° 20.846' W	987	
M209_068-2_XOFOS_05	XOFOS	3/30/25 17:46	16° 58.520' N	025° 20.847' W	0	
						mit PELAGIOS-
M209_068-3_XOFOS_05	XOFOS	3/30/25 19:26	16° 58.520' N	025° 20.846' W	0	Kamera
M209_069_WP3_05	WP3	3/31/25 2:03	16° 58.005' N	025° 20.443' W	0	SLmax = 206m
M209_069_WP3_06	WP3	3/31/25 2:33	16° 57.990' N	025° 20.448' W	0	SLmax = 203m
M209_069_WP3_07	WP3	3/31/25 3:08	16° 58.025' N	025° 20.423' W	0	SLmax = 206m
M209_070_VMADCP_38kHz_06	ADCP_38kHz	3/31/25 3:21	16° 58.027' N	025° 20.425' W	0	
M209_071_VMADCP_75kHz_06	ADCP_75kHz	3/31/25 3:21	16° 58.027' N	025° 20.425' W	0	
M209_072_MSS_04	MSS	3/31/25 3:38	16° 57.978' N	025° 20.444' W	0	
M209_073_ROV_07	ROV	3/31/25 9:31	16° 53.663' N	025° 21.330' W	0	
M209_074_PELAGIOS_07	PELAGIOS	3/31/25 22:17	16° 52.710' N	025° 29.867' W	0	
M209_075_TN_02	TN	4/1/25 3:29	16° 55.053' N	025° 19.743' W	1895	SLmax = 180m
M209_076_CTD_06	CTD	4/1/25 4:13	16° 55.829' N	025° 19.829' W	158	SLmax = 153m
M209_077_VMADCP_38kHz_07	ADCP_38kHz	4/1/25 4:33	16° 55.793' N	025° 19.854' W	0	
M209_078_VMADCP_75kHz_07	ADCP_75kHz	4/1/25 4:33	16° 55.793' N	025° 19.854' W	0	
M209_079_MSS_05	MSS	4/1/25 4:41	16° 55.782' N	025° 19.867' W	0	

M209_080_CTD_07	CTD	4/1/25 7:31	16° 56.191' N	025° 21.436' W	1410	
M209_081_ROV_08	ROV	4/1/25 9:35	16° 55.855' N	025° 20.474' W	1000	
M209_082_VMADCP_38kHz_08	ADCP_38kHz	4/1/25 21:58	17° 15.215' N	025° 26.681' W	0	
M209_083_VMADCP_75kHz_08	ADCP_75kHz	4/1/25 21:58	17° 15.241' N	025° 26.692' W	0	
M209_084_CTD_08	CTD	4/1/25 22:35	17° 16.077' N	025° 26.969' W	469	SLmax = 460m
M209_085_CTD_09	CTD	4/2/25 0:23	17° 13.944' N	025° 32.273' W	1007	SLmax = 1005m
M209_086_CTD_10	CTD	4/2/25 6:17	17° 15.189' N	025° 29.045' W	202	
M209_087_CTD_11	CTD	4/2/25 7:53	17° 11.764' N	025° 34.997' W	147	
M209_088_CTD_12	CTD	4/2/25 9:11	17° 10.851' N	025° 37.195' W	518	SLmax = 503m
M209_089_ROV_09	ROV	4/2/25 12:11	16° 59.162' N	025° 22.820' W	787	
M209_090_PELAGIOS_08	PELAGIOS	4/2/25 21:25	16° 55.588' N	025° 24.694' W	0	
M209_091_MBES_EM122_06	MBES_EM122	4/3/25 2:38	16° 54.195' N	025° 27.457' W	684	
M209_092_MBES_EM710_06	MBES_EM710	4/3/25 2:38	16° 54.195' N	025° 27.461' W	575	
M209_092_MBES_EM710_07	MBES_EM710	4/3/25 4:44	16° 52.041' N	025° 18.961' W	1250	
M209_093_ROV_10	ROV	4/3/25 9:36	17° 00.611' N	025° 22.494' W	435	
						mit PELAGIOS-
M209_094_XOFOS_06	XOFOS	4/3/25 21:25	16° 58.449' N	025° 23.314' W	945	Kamera
M209_095_PS_02	PS	4/4/25 3:58	16° 56.549' N	025° 22.896' W	1349	
M209_096_CTD_13	CTD	4/4/25 7:52	16° 55.869' N	025° 19.809' W	287	
M209_098_FR_06	FR	4/4/25 10:40	16° 57.564' N	025° 19.130' W	154	
M209_099_MN_B9_06	MN_B9	4/4/25 12:29	16° 58.009' N	025° 20.458' W	1012	SLmax = 826m
M209_100_MN_B9_07	MN_B9	4/4/25 14:53	16° 55.603' N	025° 24.703' W	1418	SLmax = 1024m
M209_101_VMADCP_38kHz_09	ADCP_38kHz	4/5/25 8:50	14° 49.721' N	024° 29.764' W	1696	
M209_102_VMADCP_75kHz_09	ADCP_75kHz	4/5/25 8:50	14° 49.710' N	024° 29.756' W	1701	
M209_103_CTD_14	CTD	4/5/25 11:50	14° 46.217' N	024° 28.023' W	2441	SLmax = 2442m
M209_104_CTD_15	CTD	4/5/25 13:59	14° 46.210' N	024° 28.031' W	2437	SLmax = 760m
M209_105_MBES_EM122_07	MBES_EM122	4/5/25 14:16	14° 46.214' N	024° 28.015' W	2420	
M209_106_MBES_EM710_08	MBES_EM710	4/5/25 14:57	14° 47.007' N	024° 24.668' W	1348	
M209_107_PELAGIOS_09	PELAGIOS	4/5/25 20:46	14° 48.340' N	024° 26.432' W	0	
M209_108_MN_B9_08	MN_B9	4/6/25 2:03	14° 48.376' N	024° 26.458' W	986	SLmax = 817m
M209_109_MBES_EM122_08	MBES_EM122	4/6/25 3:13	14° 48.388' N	024° 26.431' W	954	
M209_110_MBES_EM710_09	MBES_EM710	4/6/25 3:13	14° 48.387' N	024° 26.431' W	943	

M209_111_CTD_16	CTD	4/6/25 8:43	14° 47.752' N	024° 26.906' W	1452	SLmax = 1462m
M209_112_ROV_11	ROV	4/6/25 9:45	14° 47.740' N	024° 26.908' W	1453	
M209_113_XOFOS_07	XOFOS	4/6/25 20:37	14° 52.526' N	024° 33.429' W	1818	
M209_114_MN_B9_09	MN_B9	4/7/25 2:44	14° 47.735' N	024° 26.906' W	1465	SLmax = 1025m
M209_115_MBES_EM122_09	MBES_EM122	4/7/25 4:13	14° 47.743' N	024° 26.921' W	1470	
M209_116_MBES_EM710_10	MBES_EM710	4/7/25 5:27	14° 56.823' N	024° 35.456' W	1171	
M209_117_ROV_12	ROV	4/7/25 9:34	14° 48.373' N	024° 26.461' W	979	
M209_118_XOFOS_08	XOFOS	4/7/25 20:11	14° 49.193' N	024° 25.873' W	126	
M209_118-2_XOFOS_08	XOFOS	4/7/25 22:10	14° 48.664' N	024° 26.242' W	737	
M209_119_MBES_EM122_10	MBES_EM122	4/8/25 1:07	14° 47.529' N	024° 27.122' W	1639	
M209_120_MBES_EM710_11	MBES_EM710	4/8/25 1:08	14° 47.535' N	024° 27.145' W	1648	
M209_121-2_AUV_KALLE_05	AUV_KALLE	4/8/25 7:49	14° 48.678' N	024° 26.307' W	0	
M209_122_MN_B9_10	MN_B9	4/8/25 12:26	14° 48.354' N	024° 26.439' W	980	SLmax = 820m
M209_123_MN_B9_11	MN_B9	4/8/25 14:38	14° 47.739' N	024° 26.905' W	1474	SLmax = 1021m
M209_124_PELAGIOS_10	PELAGIOS	4/8/25 16:32	14° 49.210' N	024° 25.865' W	0	
M209_125_FR_07	FR	4/8/25 17:06	14° 49.126' N	024° 25.881' W	0	
M209_126_AUV_KALLE_06	AUV_KALLE	4/8/25 21:01	14° 48.503' N	024° 25.716' W	0	
M209_127_TN_03	TN	4/9/25 0:16	14° 47.862' N	024° 26.431' W	1210	SLmax = 250m
M209_128_MN_B9_12	MN_B9	4/9/25 1:35	14° 48.120' N	024° 26.646' W	1188	SLmax = 1036m
M209_129_MBES_EM122_11	MBES_EM122	4/9/25 3:01	14° 48.125' N	024° 26.659' W	1180	
M209_130_MBES_EM710_12	MBES_EM710	4/9/25 3:02	14° 48.122' N	024° 26.657' W	1184	
M209_131_ROV_13	ROV	4/9/25 10:57	14° 48.548' N	024° 27.546' W	1432	
M209_132_FR_08	FR	4/9/25 21:13	14° 49.172' N	024° 25.852' W	0	
M209_133_PELAGIOS_11	PELAGIOS	4/9/25 21:14	14° 49.174' N	024° 25.857' W	0	
M209_134_MBES_EM122_12	MBES_EM122	4/10/25 3:09	14° 47.919' N	024° 38.231' W	1958	
M209_135_MBES_EM710_13	MBES_EM710	4/10/25 3:20	14° 48.053' N	024° 39.869' W	1030	
M209_136_XOFOS_09	XOFOS	4/10/25 4:15	14° 49.784' N	024° 39.869' W	207	
M209_137_ROV_14	ROV	4/10/25 9:35	14° 47.893' N	024° 24.484' W	752	
M209_138_PELAGIOS_12	PELAGIOS	4/10/25 21:07	14° 47.424' N	024° 27.153' W	0	
M209_139_CTD_17	CTD	4/11/25 1:38	14° 48.355' N	024° 26.474' W	985	
M209_140_MBES_EM122_13	MBES_EM122	4/11/25 7:12	15° 00.399' N	023° 44.610' W	746	SLmax = 991m
M209_141_MBES_EM710_14	MBES_EM710	4/11/25 7:12	15° 00.410' N	023° 44.590' W	743	

M209_142_ROV_15	ROV	4/11/25 9:35	15° 00.893' N	023° 45.584' W	896	
M209_143_PELAGIOS_13	PELAGIOS	4/11/25 21:08	15° 00.172' N	023° 45.209' W	0	
M209_144_WP3_08	WP3	4/12/25 1:31	14° 59.498' N	023° 46.246' W	1474	SLmax = 204m
M209_145_MN_B9_13	MN_B9	4/12/25 2:24	14° 59.484' N	023° 46.251' W	1465	SLmax = 1035m
M209_146_CTD_18	CTD	4/12/25 4:41	14° 59.495' N	023° 46.256' W	1457	SLmax = 1462m
M209_147_MSS_06	MSS	4/12/25 6:29	15° 00.110' N	023° 45.345' W	1056	
M209_148_MBES_EM122_14	MBES_EM122	4/12/25 8:30	14° 58.368' N	023° 47.697' W	2084	
M209_149_MBES_EM710_15	MBES_EM710	4/12/25 8:30	14° 58.366' N	023° 47.699' W	2083	
M209_150_ROV_16	ROV	4/12/25 12:19	15° 01.366' N	023° 45.666' W	796	
M209_151_CTD_19	CTD	4/13/25 0:06	15° 00.159' N	023° 45.223' W	998	SLmax = 1009m
M209_152_TN_04	TN	4/13/25 1:39	15° 00.664' N	023° 45.315' W	905	SLmax = 281m
M209_153_MN_B9_14	MN_B9	4/13/25 2:40	15° 00.173' N	023° 45.223' W	995	SL max = 830m
M209_154_AUV_KALLE_07	AUV_KALLE	4/13/25 5:01	15° 01.802' N	023° 45.450' W	365	W12
M209_155_PELAGIOS_14	PELAGIOS	4/13/25 9:20	15° 01.998' N	023° 45.284' W	255	
M209_156_FR_09	FR	4/13/25 9:37	15° 01.994' N	023° 45.283' W	0	
M209_157_MN_B9_15	MN_B9	4/13/25 12:32	15° 00.146' N	023° 45.180' W	999	SLmax = 829m
M209_158_MN_B9_16	MN_B9	4/13/25 14:27	14° 59.494' N	023° 46.242' W	1462	SLmax = 1037m
M209_159_AUV_KALLE_08	AUV_KALLE	4/13/25 16:50	15° 01.837' N	023° 45.327' W	316	W12
M209_160_MSS_07	MSS	4/13/25 20:16	15° 00.166' N	023° 45.238' W	0	
M209_161_VMADCP_38kHz_10	ADCP_38kHz	4/13/25 22:29	14° 59.086' N	023° 47.195' W	0	
M209_162_VMADCP_75kHz_10	ADCP_75kHz	4/13/25 22:29	14° 59.090' N	023° 47.207' W	0	
M209_163_XOFOS_10	XOFOS	4/14/25 4:05	15° 01.060' N	023° 43.700' W	206	
M209_164_ROV_17	ROV	4/14/25 9:41	15° 00.169' N	023° 45.223' W	1005	
M209_165_FR_10	FR	4/14/25 19:26	15° 01.979' N	023° 45.292' W	141	
M209_166_PELAGIOS_15	PELAGIOS	4/14/25 20:38	15° 01.998' N	023° 45.276' W	103	
M209_167_MN_B9_17	MN_B9	4/15/25 2:14	14° 59.490' N	023° 46.240' W	2874	SLmax = 1024m
M209_168_TN_05	TN	4/15/25 4:14	14° 59.842' N	023° 46.808' W	1543	SLmax = 313m
M209_169_CTD_20	CTD	4/15/25 6:15	14° 56.699' N	023° 50.789' W	2424	
M209_170_ROV_18	ROV	4/15/25 9:24	14° 59.490' N	023° 46.249' W	1476	
M209_171_MBES_EM122_15	MBES_EM122	4/15/25 20:45	15° 00.103' N	023° 46.911' W	1525	
M209_172_MBES_EM710_16	MBES_EM710	4/15/25 20:45	15° 00.095' N	023° 46.906' W	1511	
M209_173_XOFOS_11	XOFOS	4/15/25 22:10	14° 59.000' N	023° 43.827' W	0	

M209_174_VMADCP_38kHz_11	ADCP_38kHz	4/16/25 2:48	15° 00.341' N	023° 45.105' W	0	
M209_175_VMADCP_75kHz_11	ADCP_75kHz	4/16/25 2:48	15° 00.339' N	023° 45.111' W	0	
M209_176_MSS_08	MSS	4/16/25 2:55	15° 00.236' N	023° 45.253' W	0	
M209_177_AUV_KALLE_09	AUV_KALLE	4/16/25 6:17	15° 01.778' N	023° 45.298' W	0	W12
M209_178_ROV_19	ROV	4/16/25 9:45	14° 59.467' N	023° 46.208' W	1447	
M209_179_PELAGIOS_16	PELAGIOS	4/16/25 20:35	14° 59.499' N	023° 46.240' W	1448	
M209_180_CTD_21	CTD	4/17/25 1:42	14° 59.492' N	023° 46.262' W	3160	SLmax = 1493m
M209_181_MBES_EM710_17	MBES_EM710	4/17/25 2:13	14° 59.489' N	023° 46.259' W	3182	
M209_182_MBES_EM122_16	MBES_EM122	4/17/25 2:13	14° 59.487' N	023° 46.258' W	3089	