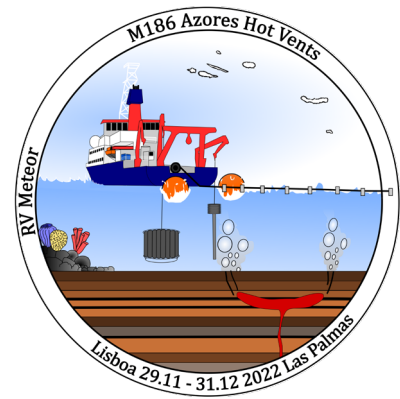


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Short Cruise Report RV METEOR M186

Lisbon (Portugal) - Las Palmas (Spain)
28.11. – 31.12.2022

Chief Scientist: Dr. Christopher Schmidt
Captain: Detlef Korte

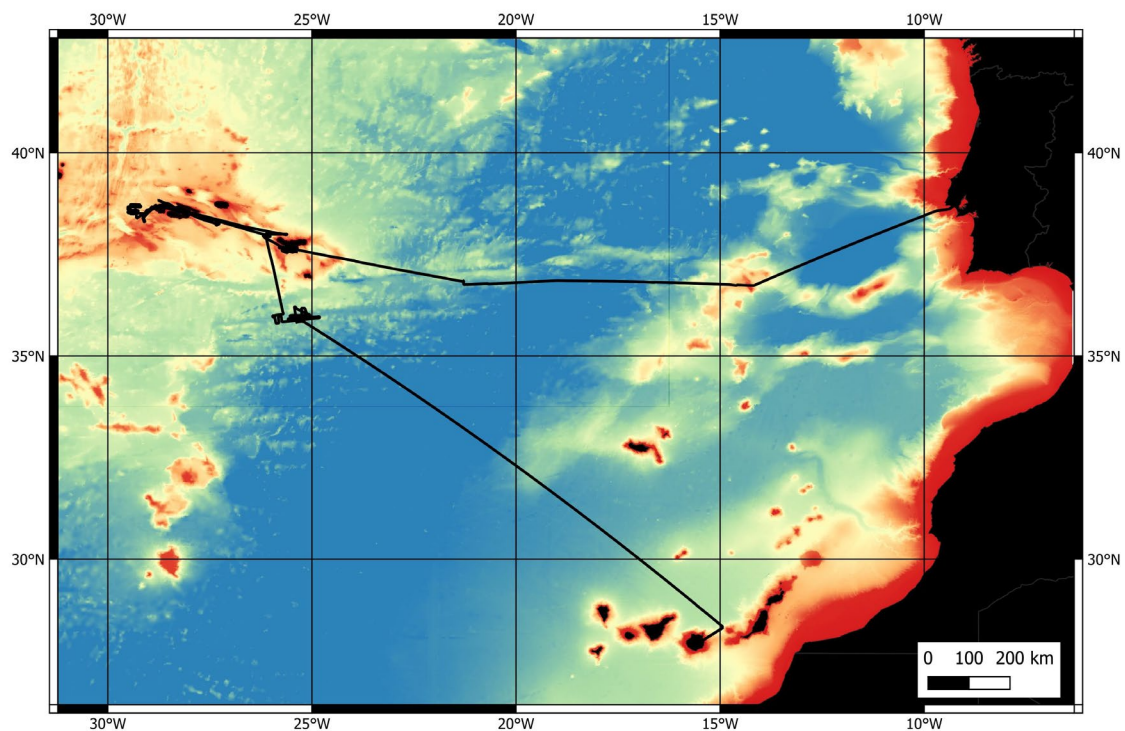


Figure 1: Cruise track of METEOR cruise M186

Objectives

The main objective of cruise M186 was to explore fluid dynamics of sediment hosted hydrothermal fluid seeps on the Azores Plateau. On the cruises M113 geophysical and on M141/1 and M162 first geo-chemical indications for the existence of such fluid systems could be found. The aim of cruise M186 was to study these systems in more detail and to understand (1) how they are driven, (2) the geochemical composition of the fluids, (3) the role of the fluids in global matter cycles, and (4) how the existence of the fluid systems affects microbial and benthic communities. For this purpose, we use the gravity corer, the heat flow probe, an OFOS, a CTD, as well as 2D seismic.

In particular, we expect to gain new insights into the fluid genesis of hydrothermal systems, but also into the potential impact on global element balances and the distribution of benthic communities in association with hydrothermally influenced areas in the deep sea.

Narrative

On 28th of November 2022 RV METEOR left the port of Lisbon at 21:30 UTC for the expedition M186 "Azores Hot Vents". The actual departure was planned for the morning of November 29th, however, the earlier departure was due a strike by the Merchant Navy officers Union for the pilots announced for 48 hours starting on 29.11.

After leaving the cay, RV METEOR started a 60 hours transit to its first working area on the Gloria Fault. The Gloria Fault is major transform fault building the boundary between Eurasian and African plates. The transit route followed the transform fault, so that we started with Multibeam and Sediment Echosounder "Parasound" recording as we entered the Portuguese EEZ of the Azores on the 01st December 2022 at 07:00 UTC. After 30 NM we turned on the first Parasound profile of the cruise to selected a coring station on the Gloria Fault. Station work begun at 12:30 UTC with a successful gravity core (GC), followed by a Multicorer (MUC) in water depths of 4300 m. After the station work was finished, we continued with our transit to our main working area, the Azores Plateau. Before starting our work, we had an unplanned port call in Ponta Delgada on the 02.12 at 19:00 UTC in order to hand over air freight which had to stay on board from expedition M185. After a short visit of 20 minutes RV METEOR left Ponta Delgada and stayed south of São Miguel island to hide from a storm in our working area west of the island.

We used this time to close gaps in the existing multibeam map. On the next day we had two successful MUCs at a volcanic cone south of São Miguel. Due to an increasing storm activity, and no chance to deploy further MUCs, we continued to use the time to map "holes" in the map south of São Miguel. On the next morning the Ocean Floor Observation System (OFOS) was successfully deployed at the volcanic cone in our shelter area. With decreasing storm activity, after the OFOS deployment, we deployed the 2D seismic to run a first 18-hour profile in our main working area west of the São Miguel in the Hirondelle Basin. On Monday 05.12 we started station work for 2 days around noon and ran 6 GC and MUC stations. The sediments turned out to be very challenging, which unfortunately resulted in little core recovery. This also affected the heat flow probe that was deployed during the next night. Based on a gathering storm and the poor core recovery we decided to move to our next working area the São Jorge channel between Pico, Faial and São Jorge island.

The following days in the new working area turned out to be no less challenging. With strong westerly winds, 3 MUCs were successfully run in the morning, but the GC deployments in the afternoon were interrupted to let the storm pass. With decreasing wind

in the night to 08.12 the heat flow probe could be used successfully again. The next morning with better weather conditions the 2D seismic could be deployed. The goal of the deployment was to get cross profiles to an existing seismic line of the M79/2 taken in 2009. The profile lasted until the early morning of 09.12. Subsequently, with the still good weather conditions at the western tip of São Jorge, outside the channel, 3 GCs and a MUCs could be taken. Increasing storm activity forced us in the night from 09. to 10.12, to spent again with a heat flow profile in the São Jorge channel. On 10.12 finally the omitted GC of 07.12 could be finally deployed. For this purpose, the free-fall gravity cores were used for the first time in order to achieve a higher core recovery. On Saturday evening the OFOS could be used for the second time for a dive above the sediment plain in the São Jorge channel.

Sunday 11.12 began with a series of three MUCs. Followed by two OFOS dives in the afternoon at the central volcanic cone in the channel and, after a short data download on deck above the abyssal plain. Due to the difficult weather conditions we had to stay further in the channel on Monday 12.12. This time was used to deploy multiple MUCs and GCs again. The heat flow profile the following night was unfortunately unsuccessful due to difficulties to penetrate the heat flow probe in the sediments. On 13.12 finally the 2D seismics could be deployed again with better weather conditions. The goal was to survey the western São Jorge channel with cross profiles. However, due to unexpected high wind seas this had to be cancelled and as an alternative the eastern end of the channel with less waves was surveyed. On the way back into the central São Jorge Channel on 14.12 a GCs and MUCs were deployed. After another night with heat flow probe, we could finally leave the channel with better wave conditions and continue our work at the western tip of São Jorge. Thursday and Friday, we were able to deploy GCs and MUCs at a suspected sill. After two days and due to the worsening conditions, we retreated to our shelter channel late Friday evening. Here we deployed in the late evening the OFOS for a dive at a volcanic cone. After about 2 hours the operation had to be canceled, caused by a sudden increase in storm activity with wind gusts of 150 km/h. In these conditions, until the next morning we could only weather the storm. On Saturday the 17.12. then the OFOS, with still strong winds, could be deployed again for a 8 hour dive at a volcanic cone close to Pico island. The following night Parasound profiles were run followed by another OFOS dive in the morning. In the protection of Pico the 2D seismic could be deployed again and, around midnight the protection of the island could be left with fair weather conditions, to do a 2D seismic profile until Tuesday morning, 20th of December. Caused by cross sea, and no chance to deploy our devices, the seismic profile was followed by a multibeam profile until Wednesday morning. On Wednesday 21.12 the OFOS was successfully deployed at Condor Seamount which showed a volcanic seismic crisis in 2019. Here, numerous sponges and corals could be observed, but no signs for fluid flow were found. Forced by worsening conditions, Thursday 22.12 we spent again in the São Jorge channel. We used this time to fill up some spots with GCs and MUCs. Overall the São Jorge channel was really sufficiently sampled for a detailed study. To everyone's delight, in the evening we started the 13 hours transit to our working area around São Miguel to finally leave the São Jorge channel.

North of São Miguel two GCs could be deployed on Friday morning. These were used to complete the volcanological work at Sete Cidades volcano. In the afternoon, an OFOS in the Hironnelle basin had to be aborted due to technical difficulties with the instrument. We therefore continued our transit to the last working area, the Tydeman Fracture Zone. Since there is still no ship-based bathymetric map, we used the first hours to map a small area of the fracture zone. The following OFOS mission in the morning had to be aborted due to technical difficulties at the deep-water wire of the vessel. When the OFOS was back on

deck the hydroacoustic mapping was continued over Christmas Eve. On Christmas Day, the 2D seismic survey was deployed for 24 hours. The last two days until 28. December were used for 4 GC and MUC deployments as well as two heat flow profiles in the fracture zone.

The last station ended at 09:06 UTC on December 28 2022. Afterwards we began our ca. 640 nm transit to Las Palmas, where we arrived in the morning at 08:00 UTC on 31. December 2022.

Acknowledgements

We thank Captain Detlef Korte and his entire crew for the excellent support throughout the cruise. Thanks to the great support we were able to take many samples even under these difficult conditions. We thank Andrea Gerriets and her whole team from the German Research Fleet Coordination Centre for all the organizational support. Funding was provided by the German Research Foundation (DFG).

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Stationsliste

Station Number	Event Time	Device	Action	Latitude	Longitude	Depth (m)
M186_1-1	01.12.2022 11:10	P-70 Parasound	profile end	36°51,209' N	021°17,424' W	4235
M186_1-1	01.12.2022 10:15	P-70 Parasound	profile start	36°45,786' N	021°16,909' W	4550
M186_2-1	01.12.2022 13:44	Gravity Corer	on ground	36°49,302' N	021°17,164' W	4460
M186_2-2	01.12.2022 17:14	Video Multi Corer	on ground	36°49,307' N	021°17,145' W	4460
M186_3-2	03.12.2022 04:28	Multibeam Echosounder	profile end	37°38,535' N	025°21,592' W	682
M186_3-2	02.12.2022 20:56	Multibeam Echosounder	profile start	37°41,283' N	025°30,551' W	1778
M186_4-1	03.12.2022 06:10	P-70 Parasound	profile start	37°40,225' N	025°41,091' W	907
M186_4-2	03.12.2022 09:15	Multibeam Echosounder	profile end	37°38,884' N	025°46,155' W	587
M186_4-2	03.12.2022 06:10	Multibeam Echosounder	profile start	37°40,228' N	025°41,135' W	904
M186_4-3	03.12.2022 09:15	Multibeam Echosounder	profile end	37°38,818' N	025°46,112' W	582
M186_4-3	03.12.2022 06:10	Multibeam Echosounder	profile start	37°40,233' N	025°41,189' W	975
M186_5-1	03.12.2022 10:53	Video Multi Corer	on ground	37°40,003' N	025°46,882' W	615
M186_5-2	03.12.2022 11:37	Video Multi Corer	on ground	37°40,002' N	025°46,884' W	614
M186_6-1	04.12.2022 08:18	P-70 Parasound	profile end	37°40,071' N	025°36,506' W	716
M186_6-1	03.12.2022 17:31	P-70 Parasound	profile start	37°34,978' N	025°36,338' W	872
M186_6-2	04.12.2022 08:18	Multibeam Echosounder	profile end	37°40,094' N	025°36,522' W	707
M186_6-2	03.12.2022 17:31	Multibeam Echosounder	profile start	37°34,950' N	025°36,260' W	879
M186_6-3	04.12.2022 08:18	Multibeam Echosounder	profile end	37°40,022' N	025°36,490' W	718
M186_6-3	03.12.2022 17:32	Multibeam Echosounder	profile start	37°34,929' N	025°36,171' W	896
M186_7-1	04.12.2022 13:13	OFOS	profile end	37°40,504' N	025°43,019' W	453
M186_7-1	04.12.2022 11:08	OFOS	profile start	37°40,733' N	025°43,928' W	605
M186_8-1	04.12.2022 15:35	Seismic Towed Receiver	MAG in water	37°45,890' N	025°52,740' W	856
M186_8-1	05.12.2022 10:32	Seismic Towed Receiver	profile end	37°56,143' N	026°03,062' W	3202
M186_8-1	04.12.2022 18:15	Seismic Towed Receiver	profile start	37°54,007' N	026°06,630' W	3176
M186_8-2	05.12.2022 11:26	P-70 Parasound	profile end	37°56,905' N	026°00,097' W	2817
M186_8-2	04.12.2022 17:17	P-70 Parasound	profile start	37°50,634' N	026°01,763' W	0

M186_8-3	05.12.2022 11:26	Multibeam Echosounder	profile end	37°56,905' N	026°00,097' W	2817
M186_8-3	04.12.2022 17:18	Multibeam Echosounder	profile start	37°50,690' N	026°01,868' W	2569
M186_11-1	05.12.2022 18:38	Gravity Corer	on ground	37°58,910' N	026°05,937' W	3197
M186_12-1	05.12.2022 21:51	Heat Flow Probe	on ground	37°59,674' N	026°07,538' W	3203
M186_12-1	05.12.2022 22:32	Heat Flow Probe	on ground	37°59,713' N	026°07,479' W	3203
M186_12-1	05.12.2022 23:51	Heat Flow Probe	on ground	37°59,822' N	026°07,252' W	3203
M186_12-1	05.12.2022 23:57	Heat Flow Probe	on ground	37°59,823' N	026°07,253' W	3203
M186_12-1	06.12.2022 01:01	Heat Flow Probe	on ground	37°59,897' N	026°07,111' W	3200
M186_12-1	06.12.2022 01:54	Heat Flow Probe	on ground	37°59,958' N	026°06,998' W	3201
M186_12-1	06.12.2022 02:46	Heat Flow Probe	on ground	38°00,035' N	026°06,840' W	3198
M186_12-1	06.12.2022 03:39	Heat Flow Probe	on ground	38°00,117' N	026°06,683' W	3198
M186_12-1	06.12.2022 04:21	Heat Flow Probe	on ground	38°00,186' N	026°06,550' W	3197
M186_12-1	06.12.2022 05:08	Heat Flow Probe	on ground	38°00,256' N	026°06,415' W	3195
M186_12-1	06.12.2022 05:44	Heat Flow Probe	on ground	38°00,311' N	026°06,321' W	3196
M186_13-1	06.12.2022 08:58	Gravity Corer	on ground	37°59,826' N	026°07,244' W	3203
M186_14-1	06.12.2022 12:54	Gravity Corer	on ground	37°58,080' N	026°04,765' W	3205
M186_14-2	06.12.2022 15:32	Video Multi Corer	on ground	37°58,078' N	026°04,765' W	3202
M186_15-1	06.12.2022 17:53	Video Multi Corer	on ground	37°58,035' N	026°05,495' W	3198
M186_16-1	07.12.2022 08:21	Video CTD	on ground	38°34,558' N	028°12,218' W	1269
M186_17-1	07.12.2022 09:14	Video Multi Corer	on ground	38°34,673' N	028°12,528' W	1266
M186_17-2	07.12.2022 19:36	Gravity Corer	on ground	38°34,673' N	028°12,542' W	1266
M186_18-1	07.12.2022 10:58	Video Multi Corer	on ground	38°34,993' N	028°13,469' W	1260
M186_19-1	07.12.2022 12:51	Video Multi Corer	on ground	38°35,554' N	028°14,908' W	1264
M186_19-2	07.12.2022 14:22	Gravity Corer	on ground	38°35,560' N	028°14,900' W	1265
M186_20-1	07.12.2022 21:57	Heat Flow Probe	on ground	38°33,895' N	028°10,359' W	1277
M186_20-1	07.12.2022 23:09	Heat Flow Probe	on ground	38°34,046' N	028°10,788' W	1274
M186_20-1	08.12.2022 00:18	Heat Flow Probe	on ground	38°34,197' N	028°11,219' W	1274
M186_20-1	08.12.2022 01:13	Heat Flow Probe	on ground	38°34,354' N	028°11,648' W	1270
M186_20-1	08.12.2022 03:31	Heat Flow Probe	on ground	38°34,676' N	028°12,529' W	1266

M186_20-1	08.12.2022 04:33	Heat Flow Probe	on ground	38°34,828' N	028°12,965' W	1265
M186_20-1	08.12.2022 05:33	Heat Flow Probe	on ground	38°34,980' N	028°13,400' W	1261
M186_20-1	08.12.2022 06:38	Heat Flow Probe	on ground	38°35,130' N	028°13,819' W	1261
M186_21-1	09.12.2022 08:29	Seismic Towed Receiver	profile end	38°43,449' N	028°34,597' W	1213
M186_21-1	08.12.2022 10:47	Seismic Towed Receiver	profile start	38°30,420' N	028°03,318' W	1229
M186_21-2	09.12.2022 08:29	P-70 Parasound	profile end	38°43,434' N	028°34,593' W	1212
M186_21-2	08.12.2022 09:50	P-70 Parasound	profile start	38°27,146' N	028°01,205' W	767
M186_21-3	09.12.2022 08:29	Multibeam Echosounder	profile end	38°43,413' N	028°34,585' W	1212
M186_21-3	08.12.2022 09:50	Multibeam Echosounder	profile start	38°27,156' N	028°01,211' W	761
M186_22-1	09.12.2022 10:29	Gravity Corer	on ground	38°43,336' N	028°37,799' W	1159
M186_23-1	09.12.2022 12:24	Gravity Corer	on ground	38°43,959' N	028°34,440' W	1223
M186_24-1	09.12.2022 14:14	Gravity Corer	on ground	38°44,726' N	028°34,961' W	1234
M186_25-1	09.12.2022 15:59	Gravity Corer	on ground	38°44,952' N	028°35,009' W	1236
M186_25-2	09.12.2022 17:38	Video Multi Corer	on ground	38°44,944' N	028°35,013' W	1236
M186_26-1	09.12.2022 21:24	Heat Flow Probe	on ground	38°33,889' N	028°12,870' W	1242
M186_26-1	09.12.2022 22:14	Heat Flow Probe	on ground	38°34,141' N	028°12,756' W	1251
M186_26-1	09.12.2022 23:05	Heat Flow Probe	on ground	38°34,364' N	028°12,681' W	1264
M186_26-1	09.12.2022 23:51	Heat Flow Probe	on ground	38°34,567' N	028°12,572' W	1265
M186_26-1	10.12.2022 00:31	Heat Flow Probe	on ground	38°34,820' N	028°12,476' W	1269
M186_26-1	10.12.2022 01:32	Heat Flow Probe	on ground	38°35,062' N	028°12,374' W	1272
M186_26-1	10.12.2022 02:30	Heat Flow Probe	on ground	38°35,307' N	028°12,264' W	1273
M186_26-1	10.12.2022 03:26	Heat Flow Probe	on ground	38°35,560' N	028°12,151' W	1274
M186_26-1	10.12.2022 04:13	Heat Flow Probe	on ground	38°35,815' N	028°12,051' W	1272
M186_26-1	10.12.2022 05:12	Heat Flow Probe	on ground	38°36,061' N	028°11,938' W	1273
M186_26-1	10.12.2022 06:04	Heat Flow Probe	on ground	38°36,298' N	028°11,838' W	1270
M186_27-1	10.12.2022 09:17	Gravity Corer	on ground	38°35,829' N	028°12,045' W	1271
M186_28-1	10.12.2022 12:44	Freefall Gravity Corer	on ground	38°34,115' N	028°10,676' W	1277
M186_29-1	10.12.2022 15:13	Freefall Gravity Corer	on ground	38°34,989' N	028°13,464' W	1264
M186_3-1	03.12.2022 04:28	P-70 Parasound	profile end	37°38,535' N	025°21,612' W	688

M186_3-1	02.12.2022 20:56	P-70 Parasound	profile start	37°41,296' N	025°30,605' W	1649
M186_30-1	10.12.2022 17:20	P-70 Parasound	profile end	38°34,816' N	028°10,825' W	1278
M186_30-1	10.12.2022 16:46	P-70 Parasound	profile start	38°36,259' N	028°14,636' W	1267
M186_31-1	10.12.2022 19:40	OFOS	on ground	38°35,309' N	028°14,294' W	1260
M186_31-1	11.12.2022 04:55	OFOS	profile end	38°33,601' N	028°09,538' W	1149
M186_31-1	10.12.2022 19:42	OFOS	profile start	38°35,309' N	028°14,294' W	1261
M186_32-1	11.12.2022 08:58	P-70 Parasound	profile end	38°34,372' N	028°11,618' W	1272
M186_32-1	11.12.2022 06:46	P-70 Parasound	profile start	38°34,972' N	028°11,250' W	1277
M186_33-1	11.12.2022 09:56	Video Multi Corer	on ground	38°34,359' N	028°11,650' W	1271
M186_34-1	11.12.2022 11:19	Video Multi Corer	on ground	38°33,797' N	028°10,041' W	1271
M186_35-1	11.12.2022 12:49	Video Multi Corer	on ground	38°33,435' N	028°09,029' W	1279
M186_36-1	11.12.2022 16:27	OFOS	profile end	38°33,593' N	028°09,781' W	1206
M186_36-1	11.12.2022 17:21	OFOS	profile end	38°33,604' N	028°09,708' W	1181
M186_36-1	11.12.2022 18:40	OFOS	profile end	38°33,464' N	028°09,779' W	1157
M186_36-1	11.12.2022 14:42	OFOS	profile start	38°33,759' N	028°08,696' W	1277
M186_36-1	11.12.2022 16:56	OFOS	profile start	38°33,438' N	028°09,596' W	1220
M186_36-1	11.12.2022 17:55	OFOS	profile start	38°33,781' N	028°09,598' W	1244
M186_37-1	12.12.2022 04:04	OFOS	profile end	38°35,131' N	028°12,110' W	1276
M186_37-1	11.12.2022 20:42	OFOS	profile start	38°34,036' N	028°08,760' W	1278
M186_38-1	12.12.2022 13:45	P-70 Parasound	profile end	38°34,124' N	028°09,000' W	1277
M186_38-1	12.12.2022 09:40	P-70 Parasound	profile start	38°33,034' N	028°11,709' W	1229
M186_39-1	12.12.2022 11:04	Video Multi Corer	on ground	38°34,867' N	028°10,941' W	1276
M186_4-1	03.12.2022 09:15	P-70 Parasound	profile end	37°38,895' N	025°46,163' W	587
M186_40-1	12.12.2022 12:35	Video Multi Corer	on ground	38°34,119' N	028°09,001' W	1277
M186_40-2	12.12.2022 14:09	Gravity Corer	on ground	38°34,120' N	028°09,001' W	1276
M186_41-1	12.12.2022 15:46	Gravity Corer	on ground	38°35,248' N	028°11,958' W	1275
M186_42-1	12.12.2022 17:25	Gravity Corer	on ground	38°35,684' N	028°14,268' W	1267
M186_43-1	12.12.2022 18:44	Gravity Corer	on ground	38°35,814' N	028°14,650' W	1269
M186_44-1	12.12.2022 20:51	Heat Flow Probe	on ground	38°37,044' N	028°18,200' W	1267

M186_44-1	12.12.2022 22:09	Heat Flow Probe	on ground	38°37,228' N	028°18,605' W	1270
M186_44-1	12.12.2022 23:03	Heat Flow Probe	on ground	38°37,417' N	028°19,022' W	1269
M186_44-1	13.12.2022 00:10	Heat Flow Probe	on ground	38°37,598' N	028°19,436' W	1268
M186_44-1	13.12.2022 01:10	Heat Flow Probe	on ground	38°37,790' N	028°19,865' W	1268
M186_44-1	13.12.2022 02:20	Heat Flow Probe	on ground	38°37,991' N	028°20,286' W	1266
M186_44-1	13.12.2022 03:19	Heat Flow Probe	on ground	38°38,171' N	028°20,701' W	1267
M186_44-1	13.12.2022 04:32	Heat Flow Probe	on ground	38°38,364' N	028°21,123' W	1267
M186_44-1	13.12.2022 05:48	Heat Flow Probe	on ground	38°38,550' N	028°21,543' W	1269
M186_44-1	13.12.2022 06:56	Heat Flow Probe	on ground	38°38,735' N	028°21,945' W	1268
M186_45-1	13.12.2022 17:27	Seismic Towed Receiver	MAG in water	38°44,518' N	028°32,058' W	1251
M186_45-1	13.12.2022 22:16	Seismic Towed Receiver	profile end	38°32,805' N	028°04,743' W	1253
M186_45-1	14.12.2022 09:57	Seismic Towed Receiver	profile end	38°17,749' N	027°20,239' W	1671
M186_46-1	14.12.2022 17:49	Video Multi Corer	on ground	38°32,880' N	028°07,520' W	1267
M186_46-2	14.12.2022 19:07	Gravity Corer	on ground	38°32,880' N	028°07,519' W	1269
M186_47-1	14.12.2022 20:31	Heat Flow Probe	on ground	38°32,646' N	028°06,836' W	1265
M186_47-1	14.12.2022 21:25	Heat Flow Probe	on ground	38°32,716' N	028°07,022' W	1267
M186_47-1	14.12.2022 22:04	Heat Flow Probe	on ground	38°32,796' N	028°07,241' W	1267
M186_47-1	14.12.2022 22:48	Heat Flow Probe	on ground	38°32,873' N	028°07,475' W	1268
M186_47-1	14.12.2022 23:41	Heat Flow Probe	on ground	38°32,939' N	028°07,666' W	1269
M186_47-1	15.12.2022 00:20	Heat Flow Probe	on ground	38°33,019' N	028°07,889' W	1270
M186_47-1	15.12.2022 01:10	Heat Flow Probe	on ground	38°33,099' N	028°08,122' W	1272
M186_47-1	15.12.2022 02:00	Heat Flow Probe	on ground	38°33,175' N	028°08,319' W	1274
M186_47-1	15.12.2022 02:46	Heat Flow Probe	on ground	38°33,253' N	028°08,533' W	1275
M186_47-1	15.12.2022 03:33	Heat Flow Probe	on ground	38°33,329' N	028°08,751' W	1279
M186_47-1	15.12.2022 04:21	Heat Flow Probe	on ground	38°33,404' N	028°08,966' W	1279
M186_47-1	15.12.2022 05:12	Heat Flow Probe	on ground	38°33,479' N	028°09,174' W	1281
M186_48-1	15.12.2022 08:54	Gravity Corer	on ground	38°33,298' N	028°08,660' W	1278
M186_49-1	15.12.2022 11:31	Freefall Gravity Corer	on ground	38°34,984' N	028°13,476' W	1259
M186_50-1	15.12.2022 15:14	Gravity Corer	on ground	38°44,428' N	028°34,865' W	1227

M186_50-2	16.12.2022 18:25	Video Multi Corer	on ground	38°44,417' N	028°34,845' W	1229
M186_51-1	15.12.2022 16:50	Gravity Corer	on ground	38°44,384' N	028°33,403' W	1231
M186_51-2	15.12.2022 18:17	Video Multi Corer	on ground	38°44,385' N	028°33,403' W	1231
M186_52-1	15.12.2022 19:40	Video Multi Corer	on ground	38°43,955' N	028°34,431' W	1222
M186_53-1	15.12.2022 21:10	Heat Flow Probe	on ground	38°44,723' N	028°33,963' W	1234
M186_53-1	15.12.2022 22:12	Heat Flow Probe	on ground	38°44,739' N	028°34,267' W	1232
M186_53-1	15.12.2022 22:54	Heat Flow Probe	on ground	38°44,756' N	028°34,580' W	1233
M186_53-1	15.12.2022 23:52	Heat Flow Probe	on ground	38°44,777' N	028°34,895' W	1234
M186_53-1	16.12.2022 01:11	Heat Flow Probe	on ground	38°44,799' N	028°35,183' W	1233
M186_53-1	16.12.2022 03:15	Heat Flow Probe	on ground	38°44,484' N	028°34,990' W	1229
M186_53-1	16.12.2022 04:10	Heat Flow Probe	on ground	38°44,599' N	028°34,711' W	1231
M186_53-1	16.12.2022 04:58	Heat Flow Probe	on ground	38°44,718' N	028°34,446' W	1232
M186_53-1	16.12.2022 05:56	Heat Flow Probe	on ground	38°44,827' N	028°34,161' W	1233
M186_54-1	16.12.2022 07:56	Gravity Corer	on ground	38°44,732' N	028°33,952' W	1234
M186_54-2	16.12.2022 16:21	Video Multi Corer	on ground	38°44,734' N	028°33,942' W	0
M186_55-1	16.12.2022 09:28	Gravity Corer	on ground	38°44,484' N	028°34,342' W	1232
M186_55-2	16.12.2022 17:25	Video Multi Corer	on ground	38°44,487' N	028°34,338' W	1230
M186_56-1	16.12.2022 12:14	Gravity Corer	on ground	38°50,133' N	028°45,336' W	1429
M186_56-2	16.12.2022 14:03	Video Multi Corer	on ground	38°50,186' N	028°45,482' W	1430
M186_57-1	17.12.2022 00:00	OFOS	profile end	38°33,272' N	028°08,579' W	1275
M186_57-1	16.12.2022 23:55	OFOS	profile start	38°33,297' N	028°08,642' W	1277
M186_58-1	17.12.2022 14:53	OFOS	profile end	38°36,278' N	028°19,896' W	1013
M186_58-1	17.12.2022 12:00	OFOS	profile start	38°35,613' N	028°18,832' W	1210
M186_58-2	17.12.2022 18:00	OFOS	profile end	38°36,144' N	028°19,901' W	1136
M186_58-2	17.12.2022 19:00	OFOS	profile end	38°36,298' N	028°19,810' W	1074
M186_58-2	17.12.2022 16:58	OFOS	profile start	38°36,711' N	028°19,655' W	1263
M186_58-2	17.12.2022 18:23	OFOS	profile start	38°36,072' N	028°20,156' W	1186
M186_59-1	18.12.2022 09:35	P-70 Parasound	profile end	38°28,732' N	028°04,091' W	1043
M186_59-1	17.12.2022 19:57	P-70 Parasound	profile start	38°36,698' N	028°20,010' W	1252

M186_59-2	18.12.2022 10:20	Multibeam Echosounder	profile end	38°32,511' N	028°07,900' W	1260
M186_59-2	17.12.2022 20:51	Multibeam Echosounder	profile start	38°38,758' N	028°17,706' W	1252
M186_60-1	18.12.2022 13:56	OFOS	profile end	38°33,023' N	028°07,457' W	1270
M186_60-1	18.12.2022 12:01	OFOS	profile start	38°33,087' N	028°08,076' W	1271
M186_61-1	19.12.2022 21:28	Seismic Towed Receiver	profile end	38°41,068' N	029°11,336' W	5680
M186_61-1	20.12.2022 08:37	Seismic Towed Receiver	profile end	38°26,601' N	029°17,938' W	1829
M186_61-1	18.12.2022 16:10	Seismic Towed Receiver	profile start	38°34,221' N	028°06,632' W	1275
M186_61-1	19.12.2022 21:51	Seismic Towed Receiver	profile start	38°41,638' N	029°12,463' W	1900
M186_61-2	20.12.2022 08:37	P-70 Parasound	profile end	38°26,567' N	029°17,937' W	1811
M186_61-2	18.12.2022 15:40	P-70 Parasound	profile start	38°33,808' N	028°04,159' W	1263
M186_61-3	20.12.2022 08:37	Multibeam Echosounder	profile end	38°26,585' N	029°17,937' W	1823
M186_61-3	18.12.2022 16:11	Multibeam Echosounder	profile start	38°34,215' N	028°06,656' W	1274
M186_63-1	20.12.2022 18:49	P-70 Parasound	profile end	38°23,513' N	029°07,391' W	1576
M186_63-1	20.12.2022 16:00	P-70 Parasound	profile start	38°31,004' N	029°05,312' W	1178
M186_63-2	20.12.2022 18:50	Multibeam Echosounder	profile end	38°23,550' N	029°07,405' W	1563
M186_63-2	20.12.2022 16:00	Multibeam Echosounder	profile start	38°30,981' N	029°05,318' W	1184
M186_64-1	21.12.2022 08:46	P-70 Parasound	profile end	38°40,657' N	028°54,353' W	1250
M186_64-1	21.12.2022 01:00	P-70 Parasound	profile start	38°39,873' N	028°45,279' W	429
M186_65-1	21.12.2022 16:05	OFOS	profile end	38°33,170' N	029°04,104' W	371
M186_65-1	21.12.2022 12:18	OFOS	profile start	38°31,165' N	029°05,282' W	1140
M186_66-1	21.12.2022 22:14	Heat Flow Probe	on ground	38°32,122' N	028°05,480' W	1232
M186_66-1	21.12.2022 23:04	Heat Flow Probe	on ground	38°32,199' N	028°05,680' W	1232
M186_66-1	21.12.2022 23:50	Heat Flow Probe	on ground	38°32,276' N	028°05,881' W	1237
M186_66-1	22.12.2022 00:31	Heat Flow Probe	on ground	38°32,348' N	028°06,086' W	1243
M186_66-1	22.12.2022 01:19	Heat Flow Probe	on ground	38°32,442' N	028°06,260' W	1258
M186_66-1	22.12.2022 02:14	Heat Flow Probe	on ground	38°32,660' N	028°06,256' W	1257
M186_66-1	22.12.2022 02:54	Heat Flow Probe	on ground	38°32,876' N	028°06,257' W	1266
M186_66-1	22.12.2022 03:47	Heat Flow Probe	on ground	38°33,089' N	028°06,257' W	1276
M186_66-1	22.12.2022 04:39	Heat Flow Probe	on ground	38°33,352' N	028°06,258' W	1274

M186_66-1	22.12.2022 04:46	Heat Flow Probe	on ground	38°33,349' N	028°06,257' W	1275
M186_66-1	22.12.2022 05:30	Heat Flow Probe	on ground	38°33,520' N	028°06,249' W	1274
M186_67-1	22.12.2022 07:48	Gravity Corer	on ground	38°33,924' N	028°12,989' W	1244
M186_67-2	22.12.2022 15:53	Video Multi Corer	on ground	38°33,918' N	028°12,986' W	1243
M186_68-1	22.12.2022 09:18	Gravity Corer	on ground	38°34,110' N	028°10,676' W	1275
M186_68-2	22.12.2022 17:10	Video Multi Corer	on ground	38°34,108' N	028°10,692' W	1276
M186_69-1	22.12.2022 11:08	Gravity Corer	on ground	38°34,984' N	028°13,474' W	1261
M186_70-1	22.12.2022 12:50	Gravity Corer	on ground	38°35,554' N	028°14,902' W	1265
M186_71-1	22.12.2022 14:26	Gravity Corer	on ground	38°34,524' N	028°12,151' W	1272
M186_72-1	22.12.2022 18:27	Video Multi Corer	on ground	38°35,243' N	028°11,960' W	1273
M186_73-1	23.12.2022 08:41	Gravity Corer	on ground	37°58,683' N	025°37,444' W	1126
M186_74-1	23.12.2022 10:29	Gravity Corer	on ground	37°59,889' N	025°36,876' W	1202
M186_75-1	23.12.2022 15:09	OFOS	on ground	37°59,754' N	026°07,598' W	3203
M186_76-1	24.12.2022 07:49	P-70 Parasound	profile end	35°59,222' N	025°54,148' W	4152
M186_76-1	24.12.2022 05:15	P-70 Parasound	profile start	36°01,793' N	025°42,063' W	3727
M186_77-1	24.12.2022 09:50	OFOS	on ground	35°59,238' N	025°54,273' W	4146
M186_78-1	25.12.2022 08:27	Multibeam Echosounder	profile end	36°00,523' N	025°02,851' W	4304
M186_78-1	24.12.2022 14:28	Multibeam Echosounder	profile start	35°58,247' N	025°55,404' W	4166
M186_79-1	26.12.2022 10:35	Seismic Towed Receiver	profile end	35°58,440' N	025°31,972' W	4142
M186_79-1	25.12.2022 13:04	Seismic Towed Receiver	profile start	36°08,913' N	025°25,262' W	3019
M186_79-2	26.12.2022 10:37	Multibeam Echosounder	profile end	35°58,466' N	025°32,134' W	4139
M186_79-2	25.12.2022 12:26	Multibeam Echosounder	profile start	36°11,258' N	025°25,639' W	3139
M186_80-1	26.12.2022 13:25	Gravity Corer	on ground	36°00,323' N	025°23,914' W	4160
M186_80-2	27.12.2022 18:08	Video Multi Corer	on ground	36°00,322' N	025°23,913' W	4157
M186_81-1	26.12.2022 16:47	Gravity Corer	on ground	35°55,779' N	025°23,206' W	4139
M186_81-2	28.12.2022 07:52	Video Multi Corer	on ground	35°55,772' N	025°23,201' W	4138
M186_82-1	26.12.2022 20:30	Gravity Corer	on ground	35°59,855' N	025°14,831' W	4247
M186_82-2	27.12.2022 14:29	Video Multi Corer	on ground	35°59,862' N	025°14,839' W	4248
M186_83-1	27.12.2022 00:20	Heat Flow Probe	on ground	36°01,071' N	025°14,909' W	4222

M186_83-1	27.12.2022 01:43	Heat Flow Probe	on ground	36°00,706' N	025°14,886' W	4239
M186_83-1	27.12.2022 01:49	Heat Flow Probe	on ground	36°00,708' N	025°14,888' W	4238
M186_83-1	27.12.2022 03:01	Heat Flow Probe	on ground	36°00,337' N	025°14,852' W	4247
M186_83-1	27.12.2022 04:35	Heat Flow Probe	on ground	35°59,823' N	025°14,832' W	4250
M186_83-1	27.12.2022 05:50	Heat Flow Probe	on ground	35°59,375' N	025°14,793' W	0
M186_83-1	27.12.2022 07:10	Heat Flow Probe	on ground	35°59,013' N	025°14,770' W	0
M186_84-1	27.12.2022 11:04	Gravity Corer	on ground	36°00,525' N	025°09,742' W	4274
M186_85-1	27.12.2022 21:41	Heat Flow Probe	on ground	35°54,152' N	025°22,937' W	4132
M186_85-1	27.12.2022 22:54	Heat Flow Probe	on ground	35°54,482' N	025°23,008' W	4135
M186_85-1	28.12.2022 00:05	Heat Flow Probe	on ground	35°54,855' N	025°23,087' W	4136
M186_85-1	28.12.2022 01:08	Heat Flow Probe	on ground	35°55,057' N	025°23,089' W	4135
M186_85-1	28.12.2022 02:08	Heat Flow Probe	on ground	35°55,367' N	025°23,158' W	4135
M186_85-1	28.12.2022 03:04	Heat Flow Probe	on ground	35°55,574' N	025°23,182' W	4135
M186_85-1	28.12.2022 03:49	Heat Flow Probe	on ground	35°55,775' N	025°23,216' W	4136
M186_85-1	28.12.2022 04:38	Heat Flow Probe	on ground	35°55,992' N	025°23,246' W	4134