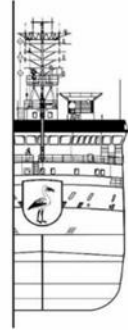


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MSM108  
RV MARIA S. MERIAN  
ALTER HAUSGARTEN  
Tromsø - Tromsø  
06.06. - 02.07.2022



## Short Cruise Report RV MARIA S. MERIAN Cruise MSM108

Tromsø - Tromsø  
07.06.2022 - 02.07.2022

Chief Scientist: Dr. Thomas Soltwedel  
Captain: Björn Maass

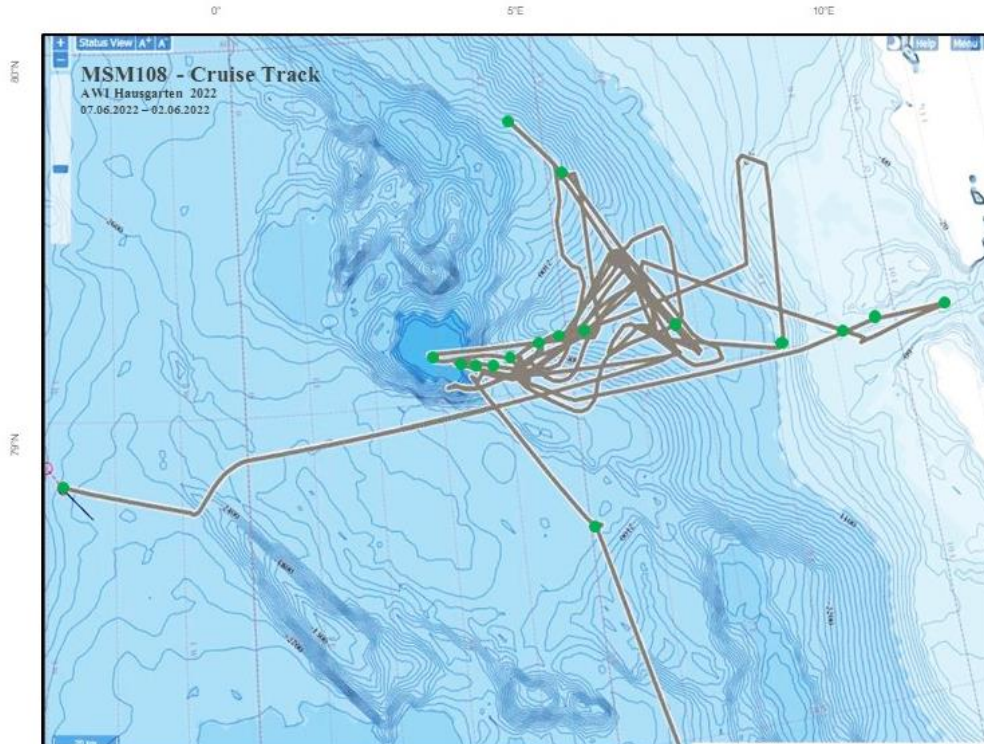


Figure 1: Cruise track of RV MARIA S. MERIAN cruise MSM108

## Objectives

The expedition MSM108 will contribute to the new research programme „Changing Earth - Sustaining our Future“ („Erde im Wandel - Unsere Zukunft nachhaltig gestalten“) of the Alfred-Wegener-Institute Helmholtz-Center for Polar and Marine Research (AWI). In Topic 6 “Marine and Polar Life: Sustaining Biodiversity, Biotic Interactions and Biogeochemical Functions” (Subtopics 6.1 “Future ecosystem functionality” and 6.3 “The future biological carbon pump”) of the new research programme, ecosystem shifts in the pelagic and deep ocean associated with water temperature increase and sea ice retreat are identified and quantified, and feedback processes on oceanographic processes are investigated. These studies include the identification of spatial and temporal developments in the function of selected pelagic and benthic communities and the establishment of a comprehensive repository of observational data. In Subtopic 6.4 “Use and misuse of the ocean: Consequences for marine ecosystems”, the input of plastic waste into the ocean, the vertical fluxes of plastic from the sea surface to the seafloor and the interaction between plastic and marine biota are investigated.

The work projected will support the time-series studies at the LTER (Long-Term Ecological Research) observatory HAUSGARTEN, where we document Global Change induced environmental variations on a polar deep-water ecosystem. This work is carried out in close co-operation between the HGF-MPG Joint Research Group on Deep-Sea Ecology and Technology and the PEBCAO Group (“Phytoplankton Ecology and Biogeochemistry in the Changing Arctic Ocean”) at AWI and the working group Microbial Biogeochemistry at GEOMAR as well as national and international partners.

The expedition is further used to accomplish installations for the HGF infrastructure project FRAM (Frontiers in Arctic marine Monitoring). The FRAM Ocean Observing System aims at permanent presence at sea, from surface to depth, for the provision of near real-time data on Earth system dynamics, climate variability and ecosystem change. It serves national and international tasks towards a better understanding of the effects of change in ocean circulation, water mass properties and sea-ice retreat on Arctic marine ecosystems and their main functions and services. FRAM implements existing and next-generation sensors and observatory platforms, allowing synchronous observation of relevant ocean variables as well as the study of physical, chemical and biological processes in the ocean. Experimental and event-triggered platforms complement the observational platforms. Products of the infrastructure are continuous long-term data with appropriate resolution in space and time, as well as ground-truthing information for ocean models and remote sensing.

## Narrative

The RV MARIA S. MERIAN expedition MSM108 started on June 7, 2022 in Tromsø, Norway and lead to the Fram Strait between Greenland and the Svalbard archipelago. Shortly after leaving the Tromsø Fjord, we were hit by a storm with wind speeds of 9 Bft, which caused considerable discomfort for most of the cruise participants. As fast as it came the storm disappeared again and we were able to continue our journey swiftly. In fact, the good weather conditions lasted until the end of the cruise.

On June 10 we finally reached the study area of this expedition, the LTER observatory HAUSGARTEN in the Fram Strait, the only deep-water connection between the northern North Atlantic and the central Arctic Ocean. Regular sampling as well as the deployment of moorings and different free-falling systems (Bottom-Lander, Benthic Crawler), which act as local observation platforms, has taken place since the observatory was established back in 1999. Since 2014, this observatory is successively extended within the frame of the HGF infrastructure project FRAM (Frontiers in Arctic marine Monitoring) and covers currently 21 permanent sampling sites on the West-Spitsbergen and East-Greenland slope at water depths between 250 and 5500 m (Fig. 2).

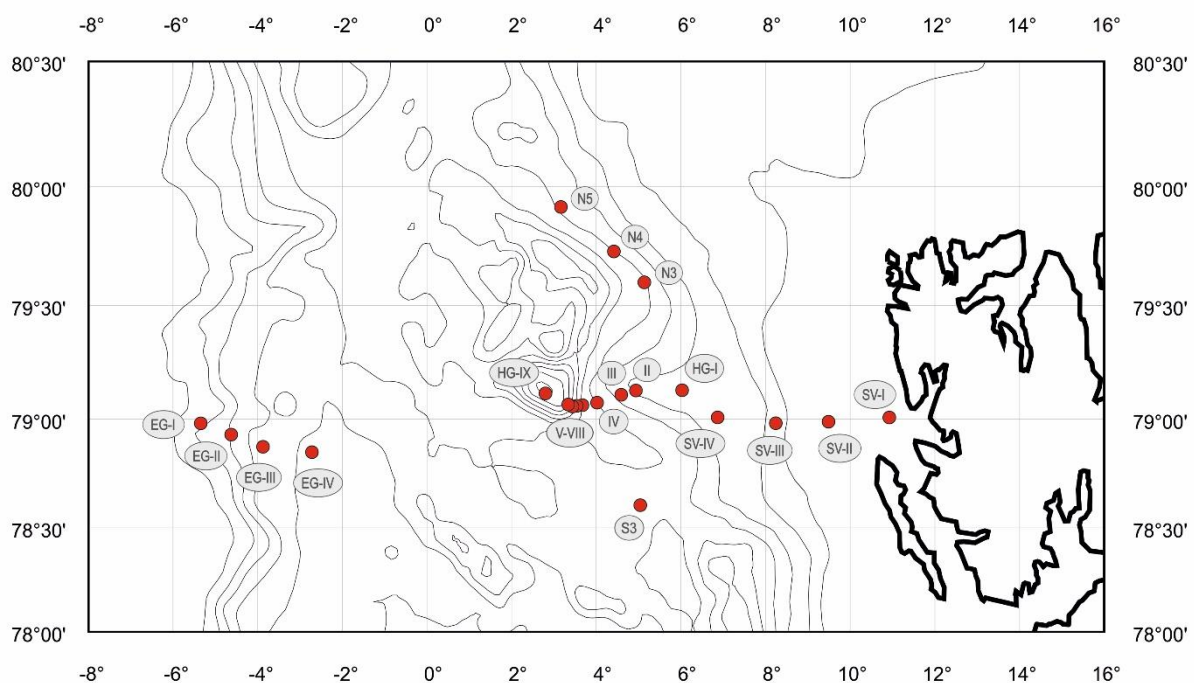


Figure 2: Permanent sampling sites of the LTER observatory HAUSGARTEN in Fram Strait.

Time-series studies at HAUSGARTEN involve ecosystem compartments from the sea surface down to the deep seafloor and the permanent sampling sites of the observatory are regularly sampled during our annual cruises in the summer months both in the water column and on the seabed. During MSM108, water samples were obtained with a CTD / Rosette Water Sampler. The device carries sensors that provide information about water temperature, salinity. Additional instruments used on the device include sensors, which measure dissolved oxygen concentrations, the photosynthetically active radiation, and chlorophyll concentrations in the water, a measure of the phytoplankton content in the water column.

Water samples were processed for a range of biogeochemical parameters that allow to determine the distribution, composition and cycling of organic carbon in the water column. Additional samples were taken to study the phytoplankton composition and to determine the heterotrophic microbial activity in the water samples, applying radioisotope methods. To investigate the distribution and abundance of larger zooplankton we used a Multi-net that, akin to the CTD / Rosette Water Sampler, can take samples at discrete water depths.

Sampling on the seabed was done with cable-connected bottom grabs, i.e. a multiple corer and a box grab, which cut out certain sediment volumes on the seafloor and bring them on board. Some of the sediment samples were processed on board, however, most of them (e.g. a variety of biogeochemical parameters and the sediment-dwelling fauna) will be analyzed in the home lab.

A towed photo/video system provided information about the large-scale distribution of larger animals on the bottom of the HAUSGARTEN area. An Autonomous Underwater Vehicle (AUV) has repeatedly been deployed to map the deep-sea floor and to complement our efforts to record the distribution patterns of larger organisms. A comparison with data from previous decades provides us with information about temporal changes in environmental parameters and in the density and composition of the bottom-dwelling community.

Free-falling systems, so-called Bottom Landers, were used to carry out various measurements and experiments on the seafloor. The landers were equipped with a variety of measuring and recording devices, depending on the scientific question. During MSM108, we deployed an experimental system in short-term missions to study the impact of ongoing ocean acidification on small bottom-dwelling deep-sea organisms.

A newly developed autonomously operating moving seafloor platform (Benthic Crawler) was tested and finally deployed for one year at the central HAUSGARTEN station HG-IV at 2500 m water depth. The Benthic Crawler is equipped with oxygen microsensors and incubation chambers to quantify the decomposition of organic material on the deep seafloor. The system was programmed to measure oxygen penetration depths and oxygen consumption rates at the sediment-water interface, then travel a short distance before taking another measurement. Autonomous devices like this crawler allow to obtain seasonal data from the Arctic deep sea, which is generally very difficult to access especially in the winter months.

Finally, we deployed a special mooring carrying a large concrete housing to test whether this low-cost material could in part replace comparably expensive metal pressure housings in future deep-sea applications.

The highly variable ice conditions in the study area required a fairly high degree of adaptability in station planning. However, thanks to the overall good weather conditions in the study area, the work could be carried out largely as planned. The cruise ended on July 2, 2022 in Tromsø.

## Acknowledgements

We like to thank Captain Björn Maass and his crew for their hospitality, trustful collaboration and great atmosphere on board. We gratefully acknowledge their support and we are looking forward for our next expedition with RV MARIA S. MERIAN. Financial support for the cruise was provided through the AWI – Research-Program “Changing Earth – Sustaining our Future” as well as through funding by the research institutes involved. We gratefully acknowledge this support.

## Participants

1	Soltwedel	Thomas	Chief Scientist	AWI
2	Asendorf	Volker	Technician (Crawler-Team)	MPIMM
3	Barthelmeß	Theresa	PhD Student (Biogeochemistry)	GEOMAR
4	Barz	Jakob	Technician (Biogeochemistry)	AWI
5	Becker	Kevin	Scientist (Biogeochemistry)	GEOMAR
6	Becker	Noah	Technician (Crawler-Team)	AWI
7	Boehringer	Lilian	Scientist (Benthology)	AWI
8	Brinkmann	Talea	Student (Planktology)	AWI
9	Dannheim	Jennifer	Scientist (Benthology)	AWI
10	Hagemann	Jonas	Technician (AUV-Team)	AWI
11	Hasemann	Christiane	Scientist (Benthology)	AWI
12	Hoge	Ulrich	Technician (Deep-Sea Research)	AWI
13	Holt	Jonas	Student (Benthology)	AWI
14	Janssen	Felix	Scientist (Crawler-Team)	AWI
15	Kluever	Tania	Technician (Biogeochemistry)	GEOMAR
16	Kraberg	Alexandra	Scientist (Planktology)	AWI
17	Lehmenhecker	Sascha	Technician (Deep-Sea Research)	AWI
18	Purser	Autun	Scientist (AUV-Team)	AWI
19	Schnier	Jannik	PhD Student (Benthology)	AWI

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## Station List

Operation	Date / Time	Latitude	Longitude	Depth (m)	Device
Underway-1	03.06.2022 19:30	69° 40,599' N	018° 59,126' E	1334	WST
Underway-2	07.06.2022 19:48	70° 34,276' N	019° 24,450' E	488	EM122
Underway-3	07.06.2022 19:48	70° 34,276' N	019° 24,450' E	488	VMADCP
Underway-4	07.06.2022 19:48	70° 34,276' N	019° 24,450' E	488	TSG
MSM108_1-1	10.06.2022 06:10	78° 37,000' N	005° 04,062' E	2331	CTD
MSM108_1-2	10.06.2022 07:55	78° 36,631' N	005° 03,918' E	2309	AUV
MSM108_1-3	10.06.2022 09:07	78° 36,519' N	005° 04,739' E	2310	NET
MSM108_1-4	10.06.2022 11:57	78° 36,999' N	005° 04,069' E	2311	CTD
MSM108_1-5	10.06.2022 13:40	78° 36,998' N	005° 04,068' E	2312	MUC
MSM108_1-6	10.06.2022 15:28	78° 36,999' N	005° 04,071' E	2295	MSN
MSM108_1-7	10.06.2022 17:26	78° 36,999' N	005° 04,070' E	2296	GKG
MSM108_1-8	10.06.2022 20:13	78° 37,001' N	005° 09,945' E	2303	OFOS
MSM108_1-9	10.06.2022 22:49	78° 36,999' N	005° 09,264' E	2308	OFOS
MSM108_2-1	11.06.2022 06:28	79° 03,611' N	003° 28,566' E	4019	CTD
MSM108_2-2	11.06.2022 06:42	79° 03,611' N	003° 28,568' E	3977	NET
MSM108_2-3	11.06.2022 07:56	79° 03,604' N	003° 29,408' E	3938	MUC
MSM108_2-4	11.06.2022 10:48	79° 03,347' N	003° 30,143' E	3914	GKG
MSM108_3-1	11.06.2022 13:17	79° 03,814' N	003° 36,810' E	3297	CTD
MSM108_3-2	11.06.2022 13:28	79° 03,814' N	003° 36,813' E	3289	NET
MSM108_3-3	11.06.2022 14:40	79° 03,874' N	003° 36,457' E	3321	MUC
MSM108_3-4	11.06.2022 16:50	79° 03,899' N	003° 36,313' E	3339	GKG
MSM108_4-1	11.06.2022 19:29	79° 03,804' N	003° 41,540' E	2958	MUC
MSM108_4-2	11.06.2022 20:48	79° 03,979' N	003° 42,736' E	2869	CTD
MSM108_4-3	11.06.2022 21:05	79° 03,979' N	003° 42,737' E	2871	NET
MSM108_4-4	11.06.2022 22:21	79° 03,807' N	003° 41,499' E	2960	GKG
MSM108_5-1	12.06.2022 01:56	79° 02,150' N	004° 10,262' E	2573	OFOS
MSM108_5-2	12.06.2022 08:51	79° 04,096' N	004° 11,693' E	2402	AUV
MSM108_5-3	12.06.2022 14:24	79° 02,348' N	004° 11,286' E	2554	LANDER
MSM108_5-4	12.06.2022 14:36	79° 02,347' N	004° 11,276' E	2557	CRAWLER
MSM108_5-5	12.06.2022 16:17	79° 04,082' N	004° 10,339' E	2419	CTD
MSM108_5-6	12.06.2022 16:33	79° 04,011' N	004° 10,530' E	2420	NET
MSM108_5-7	12.06.2022 17:38	79° 03,915' N	004° 10,790' E	2419	MSN
MSM108_5-8	12.06.2022 19:26	79° 03,916' N	004° 10,791' E	2420	GKG
MSM108_5-9	12.06.2022 21:01	79° 03,926' N	004° 10,750' E	2420	MUC
MSM108_5-10	12.06.2022 23:14	79° 04,122' N	004° 11,710' E	2402	CTD
MSM108_6-1	13.06.2022 01:21	79° 06,485' N	004° 35,996' E	1880	GKG
MSM108_6-2	13.06.2022 02:41	79° 06,486' N	004° 35,999' E	1878	MUC
MSM108_6-3	13.06.2022 04:00	79° 06,706' N	004° 36,814' E	1847	NET
MSM108_6-4	13.06.2022 04:15	79° 06,706' N	004° 36,814' E	1852	CTD
MSM108_7-1	13.06.2022 07:21	79° 07,669' N	005° 12,864' E	1351	AUV
MSM108_7-2	13.06.2022 11:22	79° 07,669' N	005° 12,865' E	1357	OFOS
MSM108_7-3	13.06.2022 15:20	79° 07,790' N	005° 29,935' E	1301	EM122
MSM108_7-4	13.06.2022 15:20	79° 07,820' N	005° 29,942' E	1304	EM712

MSM108_8-1	13.06.2022 19:45	79° 34,175' N	005° 15,086' E	2609	OFOS
MSM108_9-1	13.06.2022 23:54	79° 44,357' N	004° 30,312' E	2668	CTD
MSM108_9-2	14.06.2022 00:08	79° 44,357' N	004° 30,310' E	2663	NET
MSM108_9-3	14.06.2022 01:01	79° 44,357' N	004° 30,309' E	2665	GKG
MSM108_9-4	14.06.2022 02:47	79° 44,358' N	004° 30,310' E	2665	MUC
MSM108_9-5	14.06.2022 05:01	79° 44,089' N	004° 30,311' E	2709	CTD
MSM108_10-1	14.06.2022 07:51	79° 36,231' N	005° 10,282' E	2729	MUC
MSM108_10-2	14.06.2022 09:37	79° 36,228' N	005° 10,339' E	2728	GKG
MSM108_10-3	14.06.2022 10:56	79° 36,149' N	005° 09,195' E	2748	OFOS
MSM108_11-2	14.06.2022 12:55	79° 32,375' N	005° 09,352' E	2700	EM712
MSM108_11-1	14.06.2022 12:55	79° 32,375' N	005° 09,352' E	2700	EM122
MSM108_12-1	14.06.2022 16:48	79° 07,176' N	005° 00,610' E	1511	LANDER
MSM108_12-2	14.06.2022 17:03	79° 07,369' N	004° 57,726' E	1518	CRAWLER
MSM108_12-3	14.06.2022 17:28	79° 07,495' N	004° 54,033' E	1563	NET
MSM108_12-4	14.06.2022 17:42	79° 07,494' N	004° 54,031' E	1566	CTD
MSM108_12-5	14.06.2022 18:28	79° 07,495' N	004° 54,031' E	1566	MUC
MSM108_12-6	14.06.2022 19:35	79° 07,495' N	004° 54,029' E	1551	GKG
MSM108_13-1	14.06.2022 21:46	79° 20,984' N	006° 00,317' E	1702	EM122
MSM108_13-2	14.06.2022 21:46	79° 20,971' N	006° 00,470' E	1702	EM712
MSM108_14-2	15.06.2022 10:12	79° 08,002' N	006° 05,561' E	1261	OFOS
MSM108_14-1	15.06.2022 11:53	79° 08,592' N	006° 04,803' E	1272	AUV
MSM108_14-3	15.06.2022 14:40	79° 07,991' N	006° 05,588' E	1256	NET
MSM108_14-4	15.06.2022 15:00	79° 07,991' N	006° 05,588' E	1258	CTD
MSM108_14-5	15.06.2022 15:38	79° 07,991' N	006° 05,589' E	1259	MUC
MSM108_14-6	15.06.2022 16:35	79° 07,986' N	006° 05,621' E	1258	GKG
MSM108_14-7	15.06.2022 18:18	79° 08,044' N	006° 06,760' E	1259	OFOS
MSM108_14-8	16.06.2022 04:57	79° 08,008' N	006° 05,617' E	1255	CTD
MSM108_15-1	16.06.2022 07:02	79° 01,786' N	006° 59,959' E	1280	MUC
MSM108_15-2	16.06.2022 08:02	79° 01,782' N	007° 00,006' E	1275	GKG
MSM108_15-3	16.06.2022 08:36	79° 01,782' N	007° 00,006' E	1279	NET
MSM108_15-4	16.06.2022 09:27	79° 01,558' N	006° 59,567' E	1275	CTD
MSM108_16-1	16.06.2022 13:43	79° 19,991' N	005° 47,945' E	1795	OFOS
MSM108_17-1	17.06.2022 00:51	79° 19,979' N	005° 49,459' E	1856	GKG
MSM108_17-2	17.06.2022 02:18	79° 19,979' N	005° 49,474' E	1853	MUC
MSM108_17-3	17.06.2022 03:43	79° 19,973' N	005° 49,491' E	1844	GKG
MSM108_18-1	17.06.2022 15:12	79° 01,416' N	004° 11,919' E	2592	MSN
MSM108_18-2	17.06.2022 16:53	79° 01,896' N	004° 11,877' E	2584	LANDER
MSM108_19-1	18.06.2022 06:11	79° 01,322' N	010° 50,352' E	330	CTD
MSM108_19-2	18.06.2022 06:29	79° 01,321' N	010° 50,352' E	330	NET
MSM108_19-3	18.06.2022 06:46	79° 01,322' N	010° 50,351' E	330	MUC
MSM108_20-1	18.06.2022 09:23	78° 58,409' N	009° 26,610' E	221	AUV
MSM108_21-1	18.06.2022 14:57	78° 58,809' N	009° 30,971' E	228	CTD
MSM108_21-2	18.06.2022 15:13	78° 58,809' N	009° 30,972' E	228	NET
MSM108_21-3	18.06.2022 15:27	78° 58,809' N	009° 30,971' E	228	MUC
Underway-5	18.06.2022 15:40	78° 58,809' N	009° 30,802' E	228	VMADCP
MSM108_21-4	18.06.2022 16:00	78° 58,809' N	009° 30,803' E	228	MUC

Underway-6	18.06.2022 16:19	78° 59,674' N	009° 21,414' E	216	EM122
MSM108_22-1	19.06.2022 03:00	79° 02,576' N	003° 12,765' E	4985	CTD
MSM108_22-2	19.06.2022 03:16	79° 02,581' N	003° 12,858' E	4977	NET
MSM108_22-3	19.06.2022 04:55	79° 02,586' N	003° 12,933' E	4992	MUC
MSM108_22-4	19.06.2022 08:04	79° 02,586' N	003° 12,985' E	4965	GKG
MSM108_12-1	19.06.2022 14:47	79° 07,394' N	004° 59,854' E	1512	LANDER
MSM108_23-1	19.06.2022 18:11	79° 19,121' N	006° 00,259' E	1740	GKG
MSM108_23-2	19.06.2022 20:56	79° 19,120' N	006° 00,197' E	1721	MUC
MSM108_23-3	19.06.2022 23:12	79° 18,197' N	005° 57,481' E	1656	OFOS
MSM108_24-1	20.06.2022 06:10	79° 20,064' N	006° 03,125' E	1669	GKG
MSM108_24-2	20.06.2022 07:26	79° 20,063' N	006° 03,124' E	1668	MUC
MSM108_24-3	20.06.2022 08:40	79° 20,065' N	006° 03,123' E	1672	GKG
MSM108_25-1	20.06.2022 13:13	79° 00,021' N	008° 15,036' E	881	NET
MSM108_25-2	20.06.2022 13:38	79° 00,020' N	008° 15,039' E	884	CTD
MSM108_26-1	20.06.2022 17:47	79° 30,003' N	008° 29,961' E	290	OFOS
MSM108_27-1	21.06.2022 13:16	79° 07,112' N	002° 51,948' E	5517	CTD
MSM108_27-2	21.06.2022 13:30	79° 07,113' N	002° 51,948' E	5516	NET
MSM108_27-3	21.06.2022 14:35	79° 07,116' N	002° 51,947' E	5514	MSN
MSM108_27-4	21.06.2022 17:20	79° 07,543' N	002° 51,258' E	5536	GKG
MSM108_27-5	21.06.2022 20:42	79° 07,903' N	002° 50,673' E	5549	MUC
MSM108_27-6	22.06.2022 00:36	79° 07,999' N	002° 50,537' E	5549	CTD
MSM108_12-2	22.06.2022 06:46	79° 07,629' N	004° 56,439' E	1507	CRAWLER
MSM108_28-1	22.06.2022 09:13	79° 20,903' N	005° 52,697' E	1771	GKG
MSM108_28-2	22.06.2022 10:32	79° 20,903' N	005° 52,698' E	1769	MUC
MSM108_28-3	22.06.2022 11:49	79° 20,902' N	005° 52,700' E	1770	GKG
MSM108_28-4	22.06.2022 13:36	79° 19,100' N	005° 46,304' E	1767	OFOS
MSM108_29-1	22.06.2022 20:13	79° 19,529' N	005° 54,934' E	1781	GKG
MSM108_29-2	22.06.2022 21:32	79° 19,516' N	005° 54,986' E	1771	MUC
MSM108_29-3	22.06.2022 22:50	79° 19,516' N	005° 54,990' E	1778	MUC
MSM108_30-1	23.06.2022 01:13	79° 34,158' N	005° 15,170' E	2627	CTD
MSM108_30-2	23.06.2022 01:43	79° 33,744' N	005° 13,270' E	2692	NET
MSM108_30-3	23.06.2022 02:38	79° 33,743' N	005° 13,267' E	2695	OFOS
MSM108_31-1	23.06.2022 08:57	79° 15,013' N	006° 19,978' E	1560	LANDER
MSM108_32-1	23.06.2022 10:44	79° 05,659' N	006° 21,017' E	1230	AUV
MSM108_33-1	23.06.2022 18:47	79° 20,492' N	005° 57,990' E	1715	GKG
MSM108_33-2	23.06.2022 19:58	79° 20,491' N	005° 57,990' E	1715	MUC
MSM108_33-3	23.06.2022 21:35	79° 20,491' N	005° 57,988' E	1715	OFOS
MSM108_34-1	24.06.2022 04:09	79° 18,636' N	005° 51,909' E	1713	GKG
MSM108_34-2	24.06.2022 05:20	79° 18,636' N	005° 51,909' E	1715	GKG
MSM108_34-3	24.06.2022 06:35	79° 18,636' N	005° 51,908' E	1709	MUC
MSM108_35-1	24.06.2022 10:13	79° 19,336' N	005° 49,031' E	1757	AUV
MSM108_36-1	24.06.2022 17:44	79° 19,550' N	005° 54,790' E	1794	MUC
MSM108_37-1	24.06.2022 19:25	79° 19,986' N	005° 49,512' E	1853	OFOS
MSM108_38-1	25.06.2022 02:38	79° 01,791' N	006° 59,927' E	1279	BOAT
MSM108_38-2	25.06.2022 04:10	79° 01,792' N	006° 59,928' E	1279	CTD
MSM108_38-3	25.06.2022 05:22	79° 01,791' N	006° 59,923' E	1279	MSN



MSM108_38-4	25.06.2022 06:01	79° 01,791' N	006° 59,923' E	1278	NET
MSM108_38-5	25.06.2022 08:40	79° 01,791' N	006° 59,930' E	1279	BOAT
MSM108_38-6	25.06.2022 10:27	79° 01,792' N	006° 59,927' E	1280	CTD
MSM108_38-7	25.06.2022 11:11	79° 01,791' N	006° 59,926' E	1282	MSN
MSM108_38-8	25.06.2022 14:42	79° 01,791' N	006° 59,926' E	1280	BOAT
MSM108_38-9	25.06.2022 16:21	79° 01,791' N	006° 59,923' E	1278	CTD
MSM108_38-10	25.06.2022 17:07	79° 01,791' N	006° 59,924' E	1278	MSN
MSM108_38-11	25.06.2022 20:25	79° 01,791' N	006° 59,919' E	1280	BOAT
MSM108_38-12	25.06.2022 22:12	79° 01,791' N	006° 59,921' E	1276	CTD
MSM108_38-13	25.06.2022 22:57	79° 01,791' N	006° 59,921' E	1275	MSN
MSM108_39-1	26.06.2022 02:09	79° 18,188' N	005° 57,443' E	1666	GKG
MSM108_39-2	26.06.2022 03:18	79° 18,188' N	005° 57,444' E	1666	MUC
MSM108_39-3	26.06.2022 04:56	79° 18,276' N	005° 57,455' E	1670	OFOS
MSM108_40-1	26.06.2022 12:34	79° 19,103' N	005° 46,253' E	1774	GKG
MSM108_40-2	26.06.2022 13:47	79° 19,103' N	005° 46,252' E	1772	MUC
MSM108_41-1	26.06.2022 15:38	79° 20,898' N	005° 52,678' E	1783	OFOS
MSM108_42-1	27.06.2022 03:37	79° 01,900' N	004° 11,902' E	2579	MUC
MSM108_42-2	27.06.2022 06:16	79° 01,971' N	004° 19,371' E	2509	MOOR
MSM108_42-3	27.06.2022 09:29	79° 02,354' N	004° 17,551' E	2497	CRAWLER
MSM108_43-1	27.06.2022 18:10	79° 06,408' N	003° 13,694' E	5369	OFOS
MSM108_44-1	28.06.2022 08:29	79° 02,507' N	006° 39,888' E	1213	AUV
MSM108_45-1	29.06.2022 06:26	78° 49,180' N	002° 47,140' W	2538	CTD
MSM108_45-2	29.06.2022 07:02	78° 49,180' N	002° 47,141' W	2538	NET
MSM108_45-3	29.06.2022 08:10	78° 49,181' N	002° 47,140' W	2537	MSN
MSM108_45-4	29.06.2022 10:07	78° 49,181' N	002° 47,141' W	2541	MUC
MSM108_45-5	29.06.2022 11:51	78° 49,181' N	002° 47,139' W	2542	GKG

## Abbreviations

AUV	Autonomous Underwater Vehicle
CTD	CTD / Rosette Water Sampler
CRAWLER	Benthic Crawler
BOAT	Zodiac
EM122	Multibeam Echosounder EM122
EM712	Multibeam Echosounder EM712
GKG	Großkastengreifer (Box Corer)
LANDER	Bottom-Lander
MOOR	Mooring
MSN	Multischließnetz (Multi-net)
MUC	Multiple Corer
NET	Hand net / Plankton net
OFOS	Ocean Floor Observation System
TSG	Thermosalinograph
VMADCP	Acoustic Doppler Current Profiler (38kHz)
WST	Weatherstation