RV Heincke DBCK Cruise HE 666

Preliminary Cruise Report

20.01.2025, 05.08.2025-02.09.2025, Jnr. 25/910
RiS ID 12413 A2

Cruise report ***RV HEINCKE* HE 666**; 3.8.-2.9.2025

After loading the aquarium container and other large items on the morning of August 1, we left the port of Bremerhaven in good weather in the early afternoon of August 3 and headed north at full speed to get ahead of a storm approaching from the British Isles in the Skagerrak. However, the storm caught up with us during the course of August 4, forcing us to seek shelter in Listafjorden in southern Norway, where we remained until the evening of August 6. Over the next few days, we sailed steadily northward along the Norwegian coast with wind and waves. In the early morning hours of August 9, we crossed the Arctic Circle and, in the evening, with the sea somewhat calmer off the Lofoten Islands, we set course for Spitsbergen.
We reached Spitsbergen on the evening of August 11 off Hornsund, where we spent the next two days. On August 12, the first scientific station was carried out in the western basin (HE666_001, _002, HSW), followed by the eastern basin the next morning (HE666_003-006, HSE). In addition to several CTDs, van Veen grabs, and MiniCorer deployments, we fished the western (Hornsund) and eastern (Brepollen) basins. In both basins, we found polar cod in the middle and deep-water layers.
Early in the morning on August 14, we recovered a damaged oceanographic mooring off Van Mijenfjorden, which had been deployed by colleagues on HE627. The upper part of the mooring had been torn off, including the buoyancy sphere, so we had to dredge it up. The station was completed with a CTD and a gravity corer (HE666_007). In the afternoon, we called at Longyearbyen to pick up another participant and provisions. From there, we set course for Billefjorden.
In Billefjorden, the findings from the previous year (HE645) were confirmed: the surface water was warm, cloudy, and freshened, and there were few fish in the cold bottom water layers (HE666_010). On the way back through Isfjorden, we took another MiniCorer at the exit of Billefjorden and then met up with *MV ULLA RINMANN* in front of Adventfjorden to pick up a spare part for *MV TEISTEN* in Ny Ålesund – and then thanked them with a scientific tour on board *RV HEINCKE*.
On August 16, we entered Kongsfjorden in the morning and began recovering the last part of a mooring from the YESSS/ACTNOW project, which went very quickly and smoothly thanks to the use of an ROV (HE666_015). Since *MV TEISTEN* was not operational for AWIPEV due to engine damage, we took over an ROV survey for the DECKO project (RiS ID 12771) at Kongsfjordneset (HE666_015) with *RV HEINCKE*.
On August 17, regular station work resumed in Kongsfjorden with CTD, van Veen grab, MiniCorer, gravity corer, and fishing gear (HE666_017, _018), and in the evening we arrived at the pier in Ny Ålesund. The following day was dominated by AWIPEV logistics until early evening, with cargo and samples from the YESSS and ACTNOW projects being taken on board, as well as all the refrigerated samples from the AWIPEV summer campaign. In the evening, a CTD profile was taken off Kongsfjordneset (HE666_019) before we set course for Krossfjorden. There, we carried out a standard station on August 19 (HE666_020). As we continued north, we were surprised by a southward-moving polar low-pressure system with strong winds, which

forced us to wait out the weather in Smeerenburgfjorden at the northwestern tip of Svalbard on August 20. Since the southern part of the fjord was relatively sheltered and allowed us to carry out station work, we decided to include it in the scientific program as a reference to the work done on HE560 (HE666_021). We spent the following two days in Wijdefjorden, where we worked on one station north (HE666_022) and one south (HE666_023) of the sill and one at the southern end (HE666_024). South of the sill, another oceanographic mooring from the HE627 expedition was recovered. In the southern basin of the fjord, unusually large polar cod from polar water masses were brought on board in good condition using the fish lifter.

Since all moorings could be recovered much more quickly than originally planned thanks to the skilled work of the ROV pilot and ship's crew, and since the ice conditions allowed navigation in the northeastern part of Svalbard, the stations in Hinlopen Strait and Rijpfjorden were included in the program as part of the long-term series, and the return route was adjusted accordingly.

In Hinlopen Strait, a northern station (HE_026) and a southern station (HE666_027) were carried out on August 23, and in Rijpfjorden the following day, four stations (HE666_028-031) were carried out with pelagic fishing and several CTD profiles and deployments of grabs, minicorers, and gravity cores.

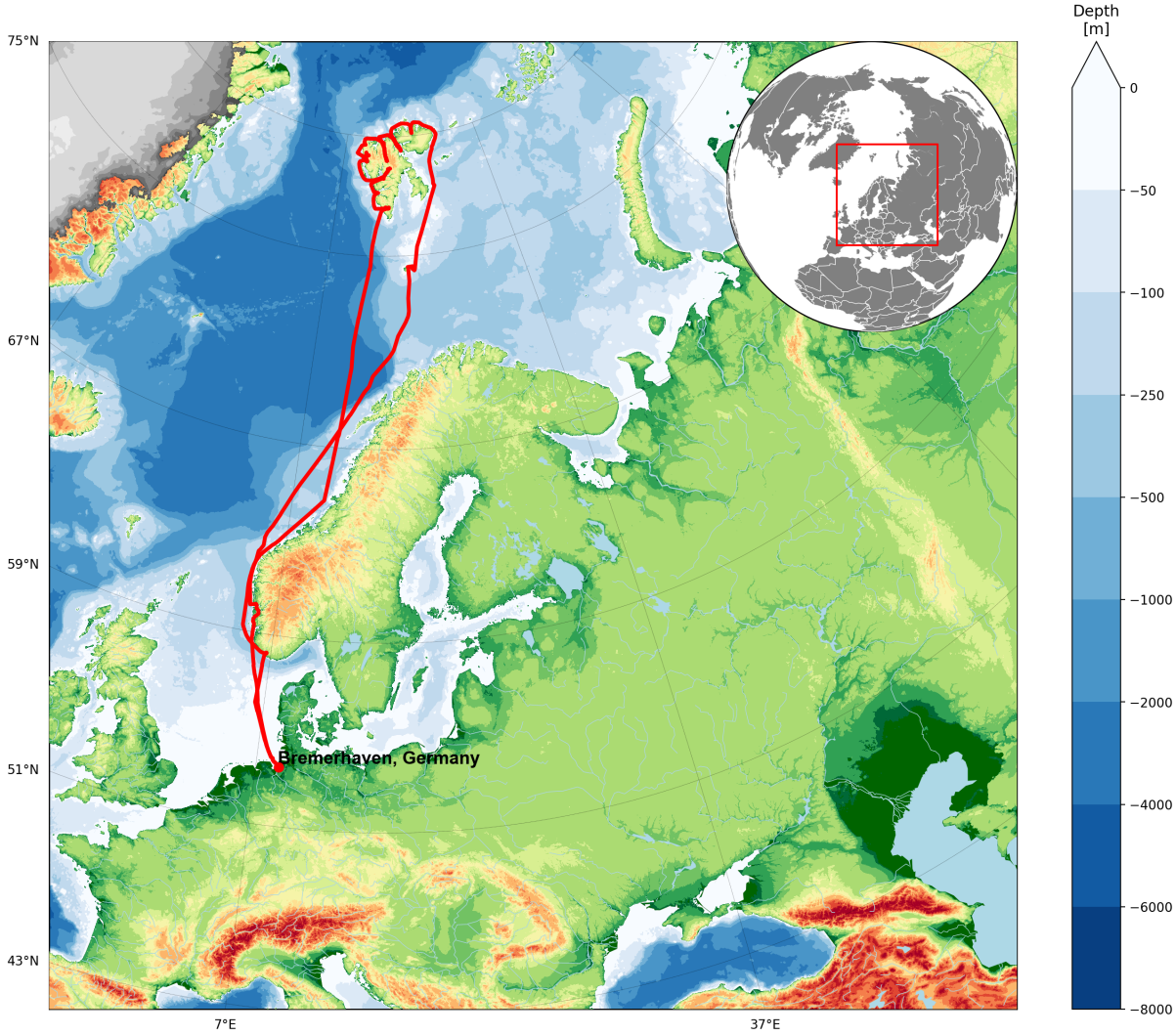
On August 25, for the first time in its history, *RV HEINCKE* took the completely ice-free and shorter route from Rijpfjorden along the east coast of Svalbard to Bear Island, which we reached in calm seas around noon on August 26. Here, the last station of this trip was sampled on the east side of the island, which this year was influenced by cold Arctic water masses and therefore yielded only a few typical representatives of Atlantic ecosystems.

From Bear Island, we began our return journey to the Norwegian mainland in continued good weather, sailing along the Norwegian coast until we encountered the last remnants of Hurricane Erin off the west coast near Bergen on the evening of August 30, forcing us to wait out the storm in Krossfjorden.

We spent August 31st cruising the Norwegian fjord route until we reached the open sea again in the evening near Stavanger as the swell subsided. On the morning of September 2nd, we reached AWI, marking the end of an extremely successful research cruise. We were able to carry out all planned and even some additional station work and collected a large amount of biological samples. In 14 days of station work between Bremerhaven and Svalbard, we carried out 21 CTD profiles, 27 pelagic fish trawls with fish lift, 13 MiniCorers, 11 van Veen grabs, and 8 gravity cores. We successfully brought 3 moorings on board, carried out 3 ROV deployments, and caught more than 800 live polar cod, 300 of which were brought back alive to the Alfred Wegener Institute Helmholtz Center for Polar and Marine Research in Bremerhaven.

Cruise track

R.V. Heincke: HE666
Bremerhaven, Germany (05.08.2025) - Bremerhaven, Germany (02.09.2025)



Station list

Event label	Method/Device	Abbreviation	O2A Registry URI	Date/Time	Latitude	Longitude	Elevation	Date/Time end	Latitude end	Longitude end	Elevation end
HE666-track	Underway cruise track measurements	CT		2025-08-03T12:00:00	53.53326	8.58101		2025-09-02T07:48:29	53.53326	8.58100	
HE666_0_Underway-4	Ship Weather Station	SWEAS	https://registry.o2a-data.de/items/583	2025-08-03T13:06:21	53.53241	8.57811	-2	2025-09-02T07:01:21	53.53218	8.57801	-4
HE666_0_Underway-3	Thermosalinograph	TSG	https://registry.o2a-data.de/items/8561	2025-08-03T16:39:08	53.93680	7.97590	-13	2025-09-02T03:40:49	53.90281	8.01924	-18
HE666_1-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-12T06:37:09	76.97991	15.75019	-231	2025-08-12T06:38:16	76.97994	15.75001	-231
HE666_1-2	Grab	GRAB		2025-08-12T07:00:34	76.98039	15.75266	-230				
HE666_1-3	MultiCorer	MUC		2025-08-12T07:39:26	76.98048	15.75030	-230				
HE666_1-4	Young fish trawl	YFT		2025-08-12T08:19:01	76.97924	15.76337	-222	2025-08-12T08:35:01	76.98023	15.82719	-197
HE666_1-5	Young fish trawl	YFT		2025-08-12T11:24:55	76.98193	15.82106	-199	2025-08-12T11:41:03	76.98248	15.75540	-228
HE666_1-6	Young fish trawl	YFT		2025-08-12T14:28:01	76.98650	15.77355	-206	2025-08-12T14:44:52	76.98940	15.83835	-191
HE666_2-1	Remote operated vehicle	ROV		2025-08-12T17:49:11	76.99761	15.25723	-25	2025-08-12T18:07:50	76.99782	15.25751	-24
HE666_2-2	Trap	TRAP		2025-08-12T18:11:12	76.99770	15.25706	-26	2025-08-12T20:27:27	76.97876	15.31957	-106
HE666_3-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-13T06:43:24	76.98862	16.41814	-111				
HE666_3-2	Grab	GRAB		2025-08-13T06:57:46	76.98854	16.41812	-111				
HE666_4-1	Young fish trawl	YFT		2025-08-13T07:45:18	77.02198	16.52411	-81	2025-08-13T08:00:56	77.00999	16.50345	-119
HE666_5-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-13T08:40:05	76.99349	16.55511	-60				
HE666_5-2	MultiCorer	MUC		2025-08-13T08:49:07	76.99353	16.55480	-60				
HE666_6-1	Young fish trawl	YFT		2025-08-13T11:11:16	77.02046	16.52301	-83	2025-08-13T11:28:36	77.00735	16.49796	-123
HE666_7-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-14T04:08:50	77.64211	14.45640	-155				
HE666_7-2	Mooring	MOOR		2025-08-14T04:31:04	77.64233	14.45618	-155				
HE666_7-3	Gravity corer	GC		2025-08-14T08:35:47	77.64185	14.47044	-154				
HE666_8-1	Trap	TRAP		2025-08-14T09:56:39	77.68318	13.69078	-98	2025-08-14T10:30:05	77.68259	13.68803	-100

HE666_9-1	Trap	TRAP		2025-08-14T19:28:46	78.45360	15.98739	-104	2025-08-14T21:19:39	78.50987	16.23253	-98
HE666_10-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-15T06:03:51	78.66089	16.69916	-193				
HE666_10-2	Grab	GRAB		2025-08-15T06:19:09	78.66085	16.69885	-193				
HE666_10-3	MultiCorer	MUC		2025-08-15T06:45:39	78.66108	16.70050	-193				
HE666_10-4	Young fish trawl	YFT		2025-08-15T07:49:01	78.66498	16.74641	-184	2025-08-15T08:05:32	78.65840	16.68253	-190
HE666_10-5	Young fish trawl	YFT		2025-08-15T11:44:44	78.57315	16.45135	-155	2025-08-15T12:00:21	78.58452	16.48036	-159
HE666_10-6	Young fish trawl	YFT		2025-08-15T13:14:49	78.61568	16.55662	-149	2025-08-15T13:29:54	78.60383	16.53370	-153
HE666_11-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-15T15:40:21	78.40753	15.87699	-191				
HE666_11-2	MultiCorer	MUC		2025-08-15T15:56:26	78.40751	15.87756	-191				
HE666_12-1	Remote operated vehicle	ROV		2025-08-16T07:10:02	78.99827	11.95010	-54	2025-08-16T08:08:04	78.99828	11.95065	-54
HE666_13-1	Mooring	MOOR		2025-08-16T08:08:32	78.99828	11.95069	-54				
HE666_14-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-16T08:54:16	78.99812	11.94706	-50				
HE666_15-1	Remote operated vehicle	ROV		2025-08-16T12:06:54	78.97739	11.50188	-44	2025-08-16T17:42:52	78.97756	11.49299	-64
HE666_16-1	Trap	TRAP		2025-08-16T18:07:55	78.98128	11.44401	-114	2025-08-16T21:25:45	78.98529	11.35510	-208
HE666_17-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-17T06:12:25	78.95722	11.89944	-356				
HE666_17-2	Grab	GRAB		2025-08-17T06:41:00	78.95714	11.90113	-356				
HE666_17-3	Young fish trawl	YFT		2025-08-17T07:48:01	78.96331	11.86652	-313	2025-08-17T08:03:39	78.97182	11.81102	-276
HE666_18-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-17T11:26:34	78.95383	12.00849	-159				
HE666_18-2	MultiCorer	MUC		2025-08-17T11:42:56	78.95449	12.00573	-163				
HE666_18-3	Gravity corer	GC		2025-08-17T11:59:33	78.95455	12.00647	-160				
HE666_18-4	Young fish trawl	YFT		2025-08-17T12:54:35	78.96537	11.85778	-303	2025-08-17T13:10:49	78.97368	11.80213	-246
HE666_18-5	Young fish trawl	YFT		2025-08-17T14:32:20	79.00014	11.63196	-244	2025-08-17T14:47:09	78.99234	11.68820	-300
HE666_19-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-18T17:01:37	78.98886	11.39940	-321				
HE666_20-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-19T06:20:15	79.18862	11.75545	-372				

HE666_20-2	Grab	GRAB		2025-08-19T06:46:12	79.18845	11.75712	-372				
HE666_20-3	MultiCorer	MUC		2025-08-19T07:12:17	79.18877	11.75646	-372				
HE666_20-4	Gravity corer	GC		2025-08-19T07:38:28	79.18896	11.75129	-372				
HE666_20-5	Young fish trawl	YFT		2025-08-19T08:15:55	79.19875	11.82276	-288	2025-08-19T08:31:04	79.20904	11.86947	-285
HE666_20-6	Young fish trawl	YFT		2025-08-19T11:34:43	79.15231	11.77113	-354	2025-08-19T11:49:36	79.16437	11.79006	-350
HE666_20-7	Young fish trawl	YFT		2025-08-19T13:44:49	79.20664	11.85780	-282	2025-08-19T14:04:28	79.19494	11.79919	-355
HE666_21-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-20T06:07:42	79.72087	11.08873	-217				
HE666_21-2	Grab	GRAB		2025-08-20T06:24:04	79.72168	11.09172	-218				
HE666_21-3	Young fish trawl	YFT		2025-08-20T07:10:32	79.73628	11.09183	-210	2025-08-20T07:27:15	79.72192	11.08358	-216
HE666_21-4	Young fish trawl	YFT		2025-08-20T11:28:19	79.73246	11.09892	-214	2025-08-20T11:49:12	79.71499	11.09003	-209
HE666_21-5	Trap	TRAP		2025-08-20T13:34:08	79.66093	11.21805	-116	2025-08-20T18:30:30	79.67028	11.23566	-164
HE666_22-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-21T05:59:43	79.74988	15.53613	-159				
HE666_22-2	Grab	GRAB		2025-08-21T06:12:25	79.75008	15.53581	-160				
HE666_22-3	MultiCorer	MUC		2025-08-21T06:25:58	79.75007	15.53544	-159				
HE666_22-4	Gravity corer	GC		2025-08-21T06:43:21	79.74992	15.53506	-160				
HE666_23-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-21T08:42:02	79.50382	15.70792	-123				
HE666_23-2	Mooring	MOOR		2025-08-21T08:43:11	79.50383	15.70781	-123				
HE666_24-1	Young fish trawl	YFT		2025-08-22T06:25:23	79.10544	16.05154	-218	2025-08-22T06:41:42	79.11933	16.03852	-230
HE666_24-2	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-22T08:39:32	79.12569	16.02193	-231				
HE666_24-3	Grab	GRAB		2025-08-22T08:54:27	79.12615	16.02235	-231				
HE666_24-4	MultiCorer	MUC		2025-08-22T10:56:43	79.12641	16.02140	-231				
HE666_24-5	Gravity corer	GC		2025-08-22T11:12:54	79.12648	16.02230	-231				
HE666_24-6	Young fish trawl	YFT		2025-08-22T12:26:13	79.10214	16.06211	-212	2025-08-22T12:46:20	79.11834	16.03938	-230
HE666_25-1	MultiCorer	MUC		2025-08-22T16:24:03	79.50047	15.71503	-124				
HE666_26-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-23T06:12:42	79.89122	17.93421	-451				

HE666_26-2	Grab	GRAB		2025-08-23T06:38:28	79.89171	17.93526	-451				
HE666_26-3	Young fish trawl	YFT		2025-08-23T07:06:31	79.88019	17.96004	-358	2025-08-23T07:21:52	79.86785	17.98938	-419
HE666_26-4	Young fish trawl	YFT		2025-08-23T08:04:36	79.83466	18.05741	-442	2025-08-23T08:26:25	79.81766	18.08287	-444
HE666_27-1	Young fish trawl	YFT		2025-08-23T11:11:20	79.53227	18.90136	-192	2025-08-23T11:28:13	79.52234	18.95705	-190
HE666_27-2	Young fish trawl	YFT		2025-08-23T12:36:48	79.48422	19.17600	-186	2025-08-23T12:58:24	79.46754	19.21008	-189
HE666_27-3	Young fish trawl	YFT		2025-08-23T14:32:42	79.41484	19.35200	-205	2025-08-23T14:47:10	79.42647	19.36356	-213
HE666_27-4	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-23T15:58:14	79.48538	19.24192	-195				
HE666_28-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-24T06:00:58	80.42969	22.04006	-192				
HE666_28-2	MultiCorer	MUC		2025-08-24T06:14:53	80.42953	22.03927	-191				
HE666_28-3	Gravity corer	GC		2025-08-24T06:32:41	80.42956	22.03848	-192				
HE666_29-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-24T08:05:57	80.25066	22.08477	-102				
HE666_29-2	Grab	GRAB		2025-08-24T08:14:11	80.25051	22.08487	-102				
HE666_29-3	MultiCorer	MUC		2025-08-24T08:23:55	80.25026	22.08498	-101				
HE666_29-4	MultiCorer	MUC		2025-08-24T08:32:57	80.25002	22.08489	-100				
HE666_29-5	Gravity corer	GC		2025-08-24T08:44:07	80.24994	22.08505	-100				
HE666_30-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-24T11:12:20	80.11905	22.16188	-182				
HE666_30-2	MultiCorer	MUC		2025-08-24T11:24:19	80.11919	22.16368	-181				
HE666_30-3	Young fish trawl	YFT		2025-08-24T12:27:21	80.17292	22.12927	-210	2025-08-24T12:43:57	80.18655	22.13252	-187
HE666_30-4	Young fish trawl	YFT		2025-08-24T13:58:18	80.22652	22.12696	-114	2025-08-24T14:13:01	80.21486	22.13876	-114
HE666_30-5	Gravity corer	GC		2025-08-24T15:14:06	80.12031	22.15766	-192				
HE666_31-1	Trap	TRAP		2025-08-24T18:28:40	80.55784	22.90257	-130	2025-08-24T19:35:33	80.56234	22.95841	-119
HE666_32-1	CTD/Rosette	CTD-RO	https://registry.o2a-data.de/items/2361	2025-08-26T11:45:27	74.40641	20.46255	-147				
HE666_32-2	Grab	GRAB		2025-08-26T11:57:45	74.40622	20.46361	-147				
HE666_32-3	Young fish trawl	YFT		2025-08-26T12:28:33	74.39012	20.42172	-138	2025-08-26T12:43:33	74.38000	20.39774	-150
HE666_32-4	Young fish trawl	YFT		2025-08-26T14:17:22	74.52578	20.10130	-83	2025-08-26T14:32:35	74.53747	20.12612	-87

HE666_32-5	Trap	TRAP		2025-08-26T16:25:44	74.53359	19.40170	-48	2025-08-26T18:34:59	74.52852	19.42597	-50

Further information can be found under **https://doi.org/10.1594/PANGAEA.984835**, the detailed cruise report including results and conclusions will be made available by March 30th, 2026, the latest.