

Leibniz Institute for Baltic Sea Research Warnemünde

Cruise Report

r/v Elisabeth Mann Borgese

Cruise- No. EMB162

This report is based on preliminary data

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1. **Cruise No:** EMB162
2. **Dates of the cruise:** from 10.08.2017 to 23.08.2017
3. **Particulars of the research vessel:**
 - Name: Elisabeth Mann Borgese
 - Nationality: Germany
 - Operating Authority: Baltic Sea Research Institute (BSRI) Warnemünde
4. **Geographical area in which ship has operated:**
Baltic Sea
5. **Dates and names of ports of call**
11.08.2017-13.08.2017 Rostock
6. **Purpose of the cruise**
BSH Baltic Sea monitoring program, long term observations of IOW, deployment of the profiling mooring GODESS
7. **Crew:**
 - Name of master: Timo Kaufmann
 - Number of crew: 12
8. **Research staff:**
 - Chief scientist: Prof. Dr. Joanna Waniek
 - Scientists: 2
 - Engineers: not applicable
 - Technicians: 9
 - Students: 2
 - Observer: 1
9. **Co-operating institutions:**
University Szczecin, Poland
10. **Scientific equipment**
CTD, mooring GODESS, plankton and zooplankton net, Secchi disk
11. **General remarks and preliminary result**

11.1 Objectives

The cruise EMB-162 was carried out as a joined cruise of the environmental monitoring programme of the Federal Maritime and Hydrographic Agency (BSH) and the Baltic Sea long-term observation programme of the Leibniz Institute for Baltic Sea Research Warnemünde (IOW). It was the fourth cruise in 2017 in the series of five expeditions performed each year. The acquired data are used for

the regular national and international assessments of the state of the Baltic Sea, and provide the scientific basis for measures to be taken for the protection of the Baltic Sea ecosystem. A special focus of the cruise was to monitor the consequences of the series of Major Baltic Inflows that occurred between 2014 and 2016 for the environmental conditions of the central Baltic.

11.2 Narrative of the cruise

Embarkation of the scientific crew was on 10th August at 7:00 AM. The research campaign started at 8:00 AM in Rostock-Marienehe, with the ship heading north for the first stations until the Cadet Furrow and then to the west to cover stations in Mecklenburg Bay and Kiel Bay. Afterwards we turned to Southeast to reach Lübeck Bay as the next working area. Station work usually comprises hydrographic measurements by means of a CTD and oxygen determinations by Winkler titration, dissolved and particulate nutrient as well as organic carbon determinations on selected stations. At noon on the 11th of August under good condition EMB interrupted the scientific work and returned to Rostock-Marienehe to allow the preparations for Hanse Sail next day to take place. At 2pm the ship arrived in Rostock-Marienehe.

On 12th of August guests of Prof. Kleinert, the leader of the Leibniz-Association together with invited visitors was on board while EMB cruised along the river Warnow as a part of the Hanse Sail 2017. From 10am to 4pm the scientific crew provided information about the ship, the Baltic Sea, the purpose of the cruise as well as demonstrated the work of the CTD for interested guest. On 13th of August the departure for the cruise was unfortunately delayed until lunch time, as one of the ship officers had to be replaced because of sickness.

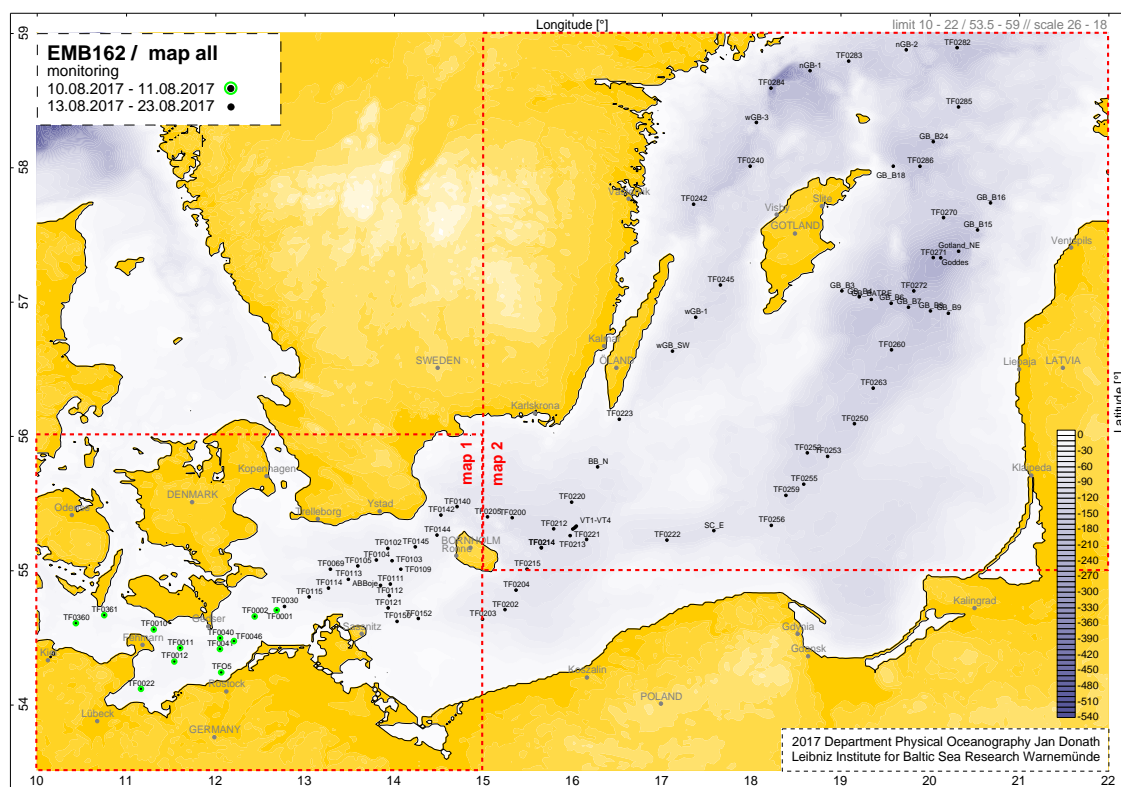


Figure 1: Stations (black crosses) occupied during the cruise EMB162 from 10th – 23rd August 2017.

Finally, on 13th of August at 12:00 the EMB left Marienehe to continue and finish the work scheduled for the cruise. On 16th of August the GODESS mooring was deployed in the eastern Gotland Basin and the hydrographic work continued without any difficulties under calm weather conditions (Fig. 1).

On August 23rd at 8:00am EMB reached Rostock-Marienehe and the cruise EMB-162 terminated. Cruise participants started uploading the instruments and equipment immediately after the custom inspection. All gear was off the ship at 11:00am and participants drove to IOW.

11.3 Rationale

The cruise EMB162 was carried out in the frame of the Baltic monitoring programme (BMP), and is related to the Baltic long term observation programme of the (IOW). Data collection covered the western and central Baltic from the Kiel Bight to the northern Gotland Basin. The majority of stations are located in the German territorial waters and along the thalweg transect of the Baltic Sea. The thalweg stretches from the Darss sill via the Arkona Sea, the Bornholm Sea, and the eastern Gotland Sea basin to the northern Gotland Sea and the Landsort Deep. Along the southern rim of the eastern Gotland Basin a west to east transect of CTD stations was carried out, in order to gather information about the spatial distribution of the saline water masses of recent MBIs. Additionally, a number of CTD casts were carried out at selected stations in the northern Gotland Sea to figure out the fate of the inflowing water (Fig.1-3, and the list of stations in the Appendix).

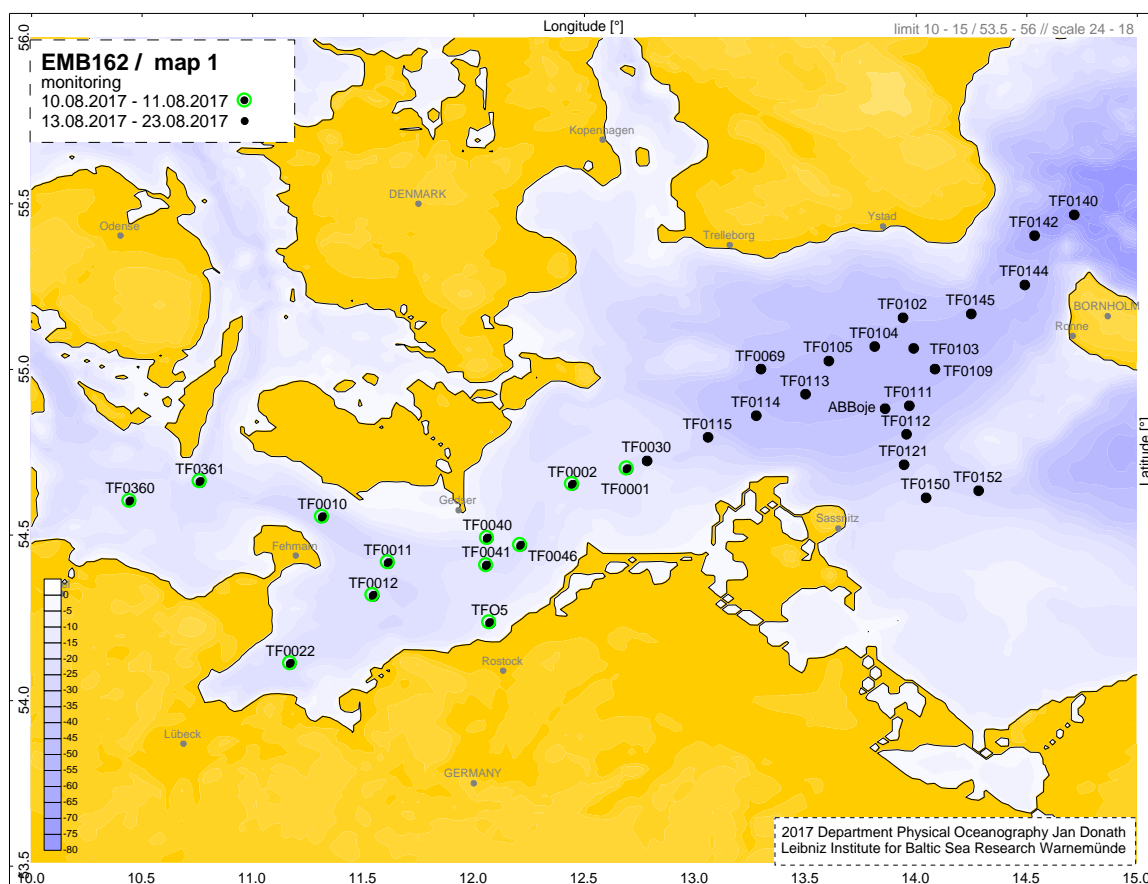


Figure 2: Stations (black dots) in the western Baltic Sea and the Arkona Sea during the cruise EMB 162.

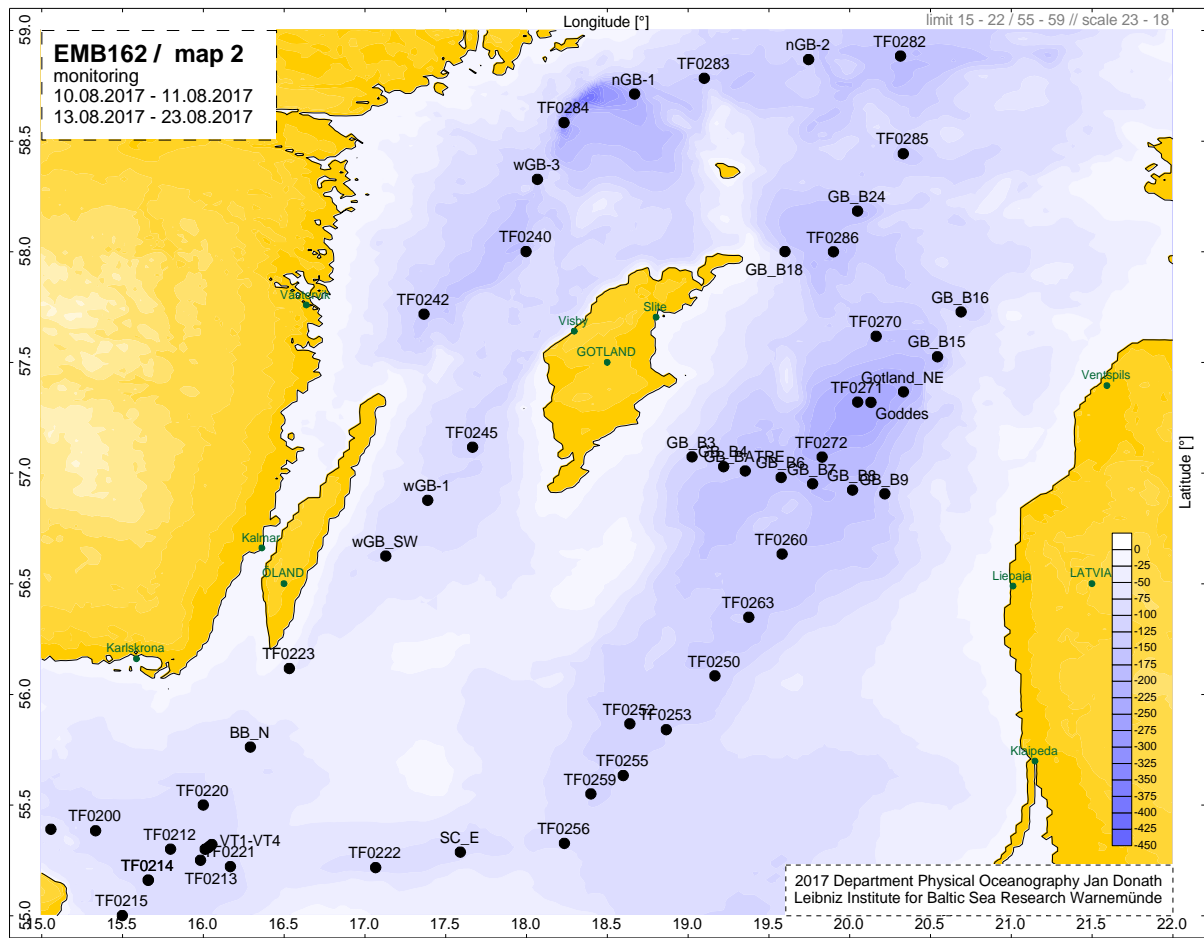


Figure 3: Stations (black dots) in the Bornholm Sea and the Gotland Sea during the cruise EMB162.

Station work

The station name is complemented for the respective cruise EMB162 by a station number. The station number is based on a consecutive numbering of all stations during the cruise. The station work usually started with a CTD cast and already programmed sampling on standard depth levels. Then other CTD casts followed to meet the water sample requirements on the respective station. Net sampling, depth of visibility determinations by means of a Secchi disk, and phyto/zooplankton net were taken on selected stations (Fig. 1-3).

CTD and Sampling

The CTD-system "SBE 911plus" (SEABIRD-ELECTRONICS, USA) was used to measure the variables: Pressure, Temperature (2x SBE 3), Conductivity (2x SBE 4), Oxygen concentration (2x SBE 43), Chlorophyll-a fluorescence (683nm), Turbidity, Photosynthetic Active Radiation in water (PAR), and above the sea (SPAR). The Rosette water sampler was equipped with 13 Free Flow bottles of 5 L volume each. The CTD sensors were checked during the cruise by comparison measurements. In detail, for temperature a high precision thermometer SBE RT35 was used. Salinity samples were taken for measurement after the cruise by means of a salinometer. Slope and offset of the oxygen sensors SBE 43 are determined by comparison with Winkler titration.

Underway measurements

The FS Elisabeth Mann Borgese is equipped with sensors to measure weather

parameters, surface water properties by means of a surface water pumping system with attached sensors (e.g., thermosalinograph, fluorometer), navigation information, rope length, winch speed etc.

Inorganic nutrients

Nitrate, nitrite, phosphate, and silicate were analysed using standard colorimetric methods by means of an autoanalyser (FlowSys, Alliance-Instruments, Ainring, Germany) and Ammonium was determined manually as indophenole blue (Grasshoff et al., 1999) from water filtered through glass-fiber filters GF/F immediately after sampling.

Oxygen and Hydrogensulfide

Oxygen was analysed by Winkler titration and hydrogensulfide was determined spectrophotometrically by Methylene Blue reaction (Grasshoff et al., 1999). For comparison, H₂S concentration was transformed to negative oxygen values according to its reduction capacity: $\text{H}_2\text{S} + 2 \text{O}_2 \rightarrow \text{H}_2\text{SO}_4$. During CTD casts the SBE 43 oxygen sensor (duplicate installation) recorded oxygen values that are validated by Winkler titration results.

Plankton sampling

Plankton sampling was performed by means of a rosette sampler (combined with CTD) as well as with a small phytoplankton net and the zooplankton nets WP2 and Apstein. Samples were taken in a tight follow up of depths levels in order to get representative data from the euphotic zone. Additionally, samples for microbiological analyses were taken at some stations in the central Baltic, the Gotland Deep and Landsort Deep.

Long term investigations of CH₄, N₂O and CO₂ distribution

Sampling for simultaneous CH₄ and N₂O observation was carried out in frame of an accompanying project for long term data collection. All samples were fixed with 500 µL saturated HgCl₂-solution to prevent microbiological activity and stored dark. Responsibility for this data lies by Prof. Gregor Rehder (IOW, Marine Chemistry).

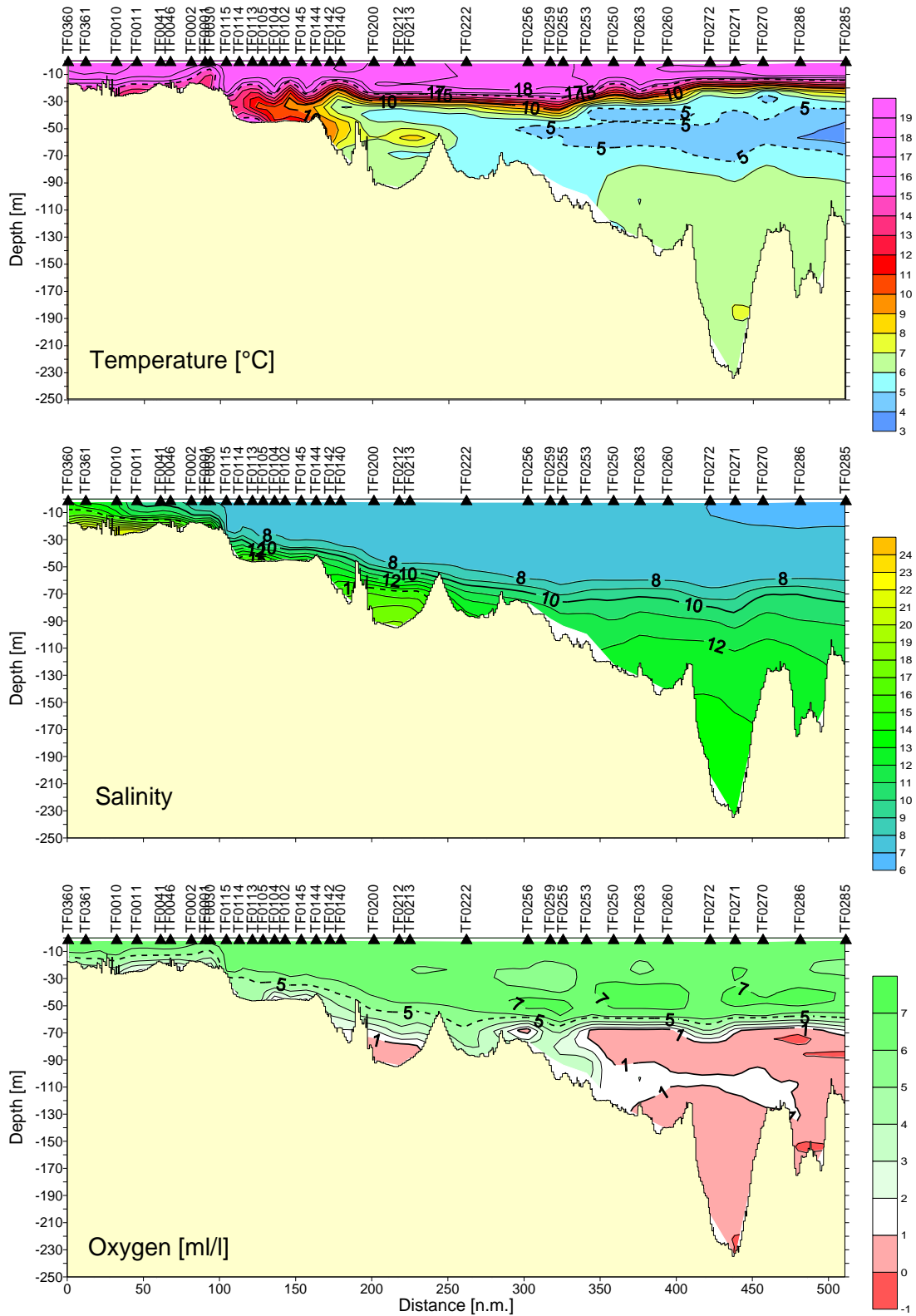
One complete depth profile was sampled at station TF0271 for the long term data collection of CT, AT, and pH. Also these samples were fixed with 500 µL saturated HgCl₂-solution to prevent microbiological activity and stored dark (Responsible Scientist: Dr. B. Schneider, IOW, Marine Chemistry).

Mooring work

In the eastern Gotland Basin at 57°19.219N, 20°07.994E the profiling mooring GODESS was deployed for a three month period and will collect data by lifting the instruments every 9h between 180 m and 30 m depth.

EMB162 - Monitoring

Kiel Bight - Gotland Sea
10.08.2017 15:19 - 17.08.2017 22:26 UTC



KB-GS.srf

2017 Leibniz Institute for Baltic Sea Research Warnemünde, Department Physical Oceanography Jan Donath

Figure 4: Distribution of temperature, salinity and dissolved oxygen along the thalweg of the Baltic Sea from the Kiel Bight to the eastern Gotland Basin. The figure is based on the preliminary CTD data measured during the EMB162 cruise.

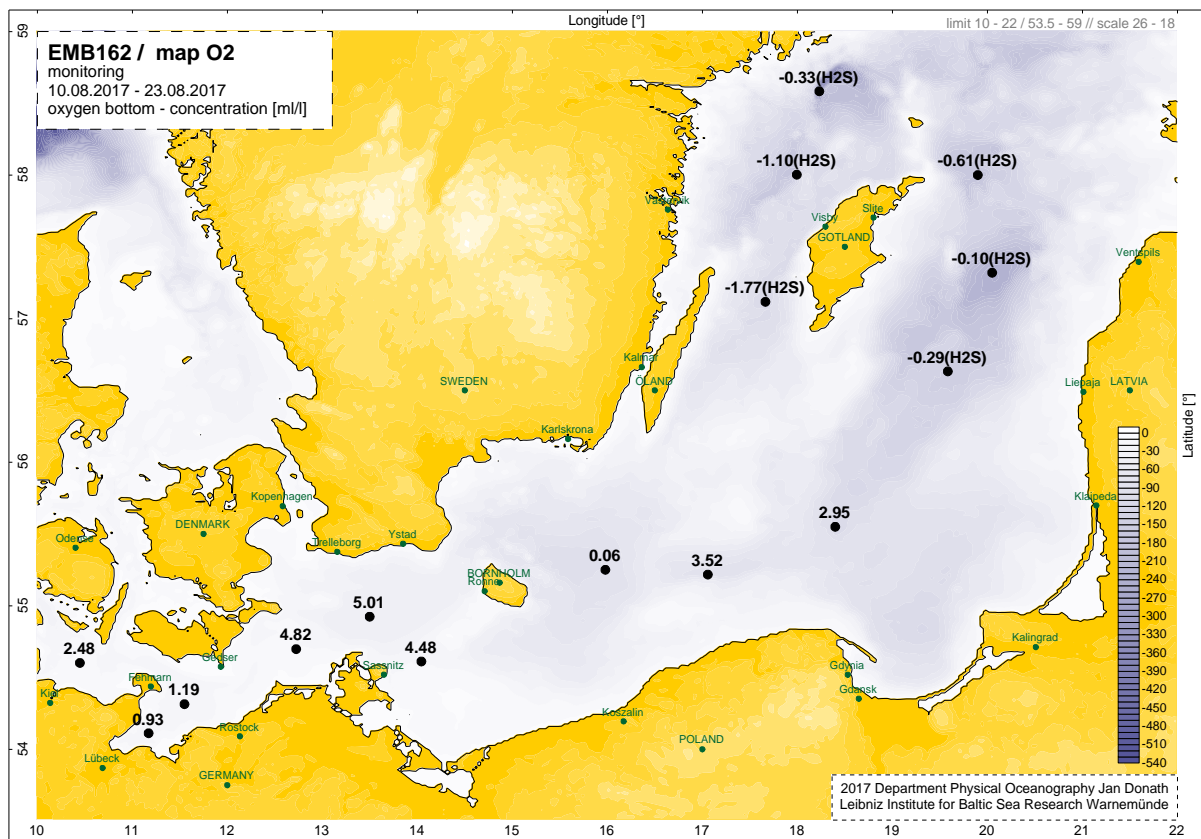


Figure 5: Oxygen concentration (ml/l) in bottom waters of selected Baltic Sea stations (H₂S is included as negative oxygen concentration) based on Winkler titration.

Hydrographic conditions, temperature, salinity and dissolved oxygen registered during the cruise are displayed in Fig. 4 and 5. Temperature distribution along the cruise track show the typical late summer conditions, with relatively warm surface near waters, declining temperatures below, showing signature of the old winter water of the previous year and slightly warmer waters close to the bottom, in the region stretching from Bornholm Basin to the eastern Gotland Basin (Fig. 4). Salinity in the upper surface layer declines towards the eastern Gotland Basin, whereas the salinity changes less in the bottom near layers, and mirrors the conditions after an major inflow event ($S \sim 12$). Close to the bottom in the Bornholm Basin low dissolved oxygen concentrations ($< 1 \text{ mm/l}$) were registered (Fig. 4). Those conditions were more frequent within the eastern Gotland Basin. In the Gotland Basin even anoxic conditions occurred and dominated the pattern in the water column between 70 m depth and the bottom. Hydrogen sulphide was also measured within Gotland Basin (Fig. 5)

Appendix: map and list of stations

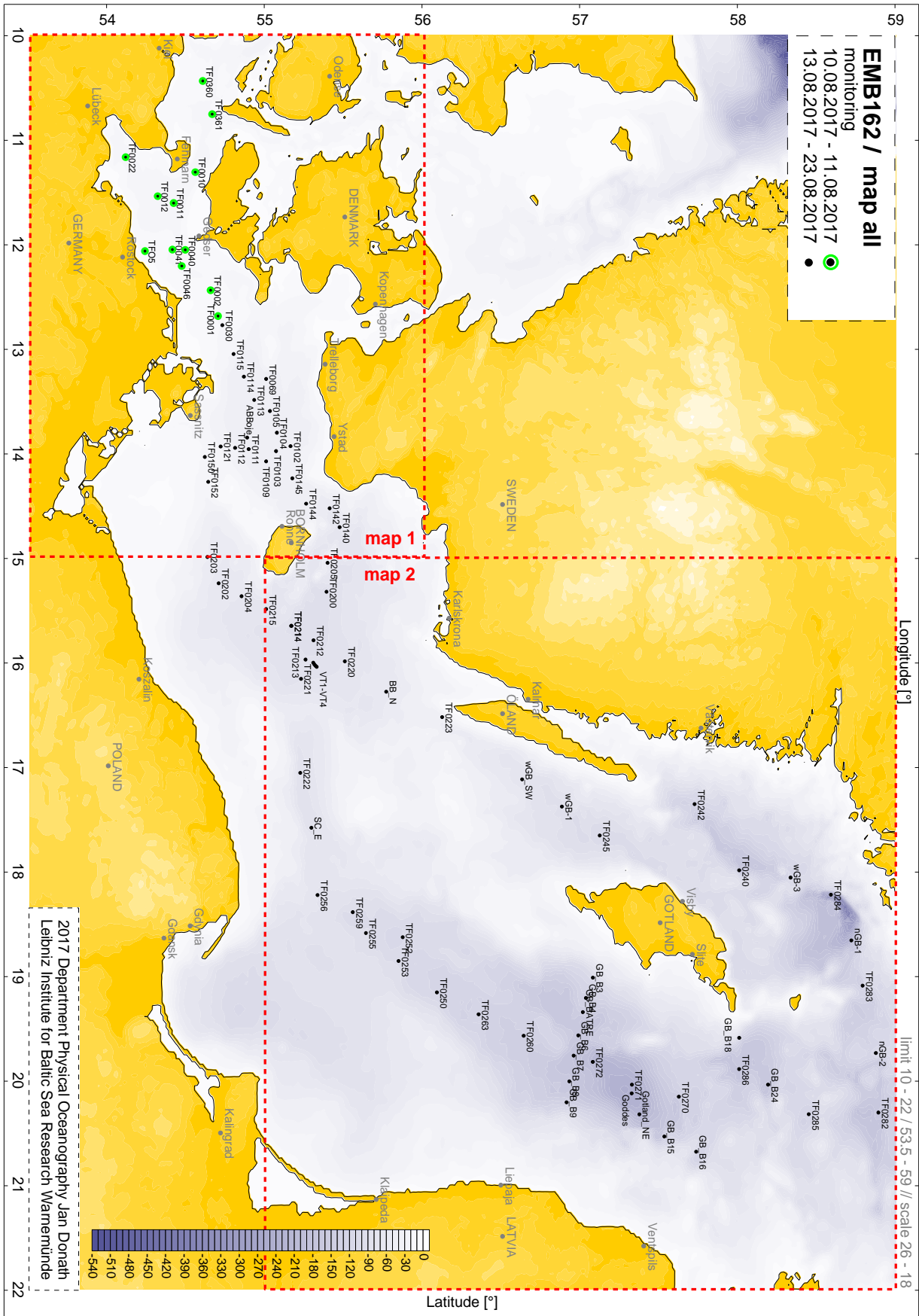


Table 1: Surface layer (0 - 10m)

Area	Station	Temperature	Salinity	PO ₄ ³⁻	NO _{2/3} ^{-*}
Date	Name/ No. **	°C		µmol/dm ³	µmol/dm ³
Kiel Bight 10.08.2017	TF0360/006	18.36	14.33	0.09	0.11
Meckl. Bight 10.08.2017	TF0012/002	17.93	12.06	0.12	0.25
Lübeck Bight 10.08.2017	TF0022/003	19.07	12.45	0.09	0.06
Arkona Basin 22.08.2017	TF0113/017	17.77	7.01	0.14	0.05
Pom. Bight	--	--	--	--	--
Bornholm Deep 21.08	TF0213/037	17.95	7.36	0.08	0.04
Stolpe Channel 15.08.2017	TF0222/042	18.21	7.32	0.12	0.15
SE Gotland Basin 15.08.2017	TF0259/045	18.45	7.36	0.06	0.08
Gotland Deep 16.08.2017	TF0271/053	17.54	6.84	0.01	0.32
Fårö Deep 17.08.2017	TF0286/059	18.25	6.38	0.00	0.10
Landsort Deep 18.08.2017	TF0284/067	16.81	6.12	0.00	0.13
Karlsö Deep 19.08.2017	TF0245/071	16.97	6.78	0.05	0.03

* $\Sigma \text{NO}_2^- + \text{NO}_3^-$; NO₂ was present only in traces in most areas under investigation

** See maps

Date	Time	Station	Gear Abb. & Action		Lat	Lon	Depth	Speed	Course	Wind [°]	Wind [m/s]
2017/08/10	07:14:00	XX162/0001-1	CTD/RO CTD/rosette water sampler	surface	54° 13,94' N	12 4,54' E	5,1	0,2	325	280	6
2017/08/10	07:15:00	XX162/0001-2	SD Secchi disc	surface	54 13,95' N	12 4,54' E	5,1	0,2	36	278	6
2017/08/10	07:20:59	XX162/0001-1	CTD/RO CTD/rosette water sampler	at 11 m	54° 13,97' N	12° 4,55' E	5,1	0,2	338	275	7
2017/08/10	07:20:59	XX162/0001-2	SD Secchi disc	on deck	54° 13,97' N	12° 4,55' E	5,1	0,2	338	275	7
2017/08/10	07:26:59	XX162/0001-1	CTD/RO CTD/rosette water sampler	on deck	54° 13,97' N	12° 4,53' E	5,1	0,1	177	275	5
2017/08/10	09:27:00	XX162/0002-1	CTD/RO CTD/rosette water sampler	surface	54° 18,90' N	11° 32,98' E	5,1	0,4	308	274	6
2017/08/10	09:28:00	XX162/0002-2	SD Secchi disc	surface	54° 18,90' N	11° 32,97' E	5,1	0,2	275	276	7
2017/08/10	09:30:00	XX162/0002-3	HN Hand net	surface	54° 18,90' N	11° 32,97' E	5,1	0,1	266	280	6
2017/08/10	09:30:59	XX162/0002-2	SD Secchi disc	on deck	54° 18,90' N	11° 32,97' E	5,1	0,1	266	280	6
2017/08/10	09:33:00	XX162/0002-1	CTD/RO CTD/rosette water sampler	at 23 m	54° 18,90' N	11° 32,96' E	5,1	0,1	302	278	7
2017/08/10	09:33:59	XX162/0002-3	HN Hand net	on deck	54° 18,90' N	11° 32,96' E	5,1	0,1	302	278	7
2017/08/10	09:36:59	XX162/0002-1	CTD/RO CTD/rosette water sampler	on deck	54° 18,91' N	11° 32,96' E	5,1	0,1	359	279	7
2017/08/10	09:51:00	XX162/0002-4	CTD/RO CTD/rosette water sampler	surface	54° 18,92' N	11° 32,95' E	5,1	0,2	243	297	7
2017/08/10	09:59:00	XX162/0002-4	CTD/RO CTD/rosette water sampler	at 23 m	54° 18,91' N	11° 32,91' E	5,1	0,2	252	292	6
2017/08/10	10:03:59	XX162/0002-4	CTD/RO CTD/rosette water sampler	on deck	54° 18,90' N	11° 32,89' E	5,1	0,1	227	288	7
2017/08/10	10:10:00	XX162/0002-5	PLA Plankton net	surface	54° 18,90' N	11° 32,90' E	5,1	0,2	29	284	9
2017/08/10	10:11:00	XX162/0002-5	PLA Plankton net	on deck	Tiefe 21 m 54° 18,90' N	11° 32,90' E	5,1	0,3	357	282	9
2017/08/10	10:15:59	XX162/0002-5	PLA Plankton net		54° 18,92' N	11° 32,90' E	5,1	0,3	340	285	8
2017/08/10	11:59:00	XX162/0003-1	CTD/RO CTD/rosette water sampler	surface	54° 6,56' N	11° 10,41' E	5,1	0,8	41	36	3
2017/08/10	12:07:00	XX162/0003-1	CTD/RO CTD/rosette water sampler	at 21 m	54° 6,59' N	11° 10,51' E	5,1	0,1	97	36	3
2017/08/10	12:15:59	XX162/0003-1	CTD/RO CTD/rosette water sampler	on deck	54° 6,61' N	11° 10,55' E	5,1	0,8	31	43	4
2017/08/10	15:12:00	XX162/0004-1	CTD/RO CTD/rosette water sampler	surface	54° 33,10' N	11° 19,28' E	5,1	0,4	320	285	4
2017/08/10	15:21:00	XX162/0004-1	CTD/RO CTD/rosette water sampler	at 26 m	54° 33,14' N	11° 19,16' E	5,1	0,5	263	285	5
2017/08/10	15:25:59	XX162/0004-1	CTD/RO CTD/rosette water sampler	on deck	54° 33,14' N	11° 19,11' E	5,1	0,7	257	293	5
2017/08/10	17:14:00	XX162/0005-1	CTD/RO CTD/rosette water sampler	surface	54° 39,50' N	10° 46,04' E	14,3	0,9	273	314	3
2017/08/10	17:16:00	XX162/0005-2	SD Secchi disc	surface	54° 39,50' N	10° 46,00' E	5,1	0,5	288	311	3
2017/08/10	17:17:59	XX162/0005-2	SD Secchi disc	on deck	54° 39,50' N	10° 45,99' E	5,1	0,4	295	312	3
2017/08/10	17:22:00	XX162/0005-1	CTD/RO CTD/rosette water sampler	at 21 m	54° 39,52' N	10° 45,97' E	5,1	0,3	340	306	3
2017/08/10	17:25:59	XX162/0005-1	CTD/RO CTD/rosette water sampler	on deck	54° 39,54' N	10° 45,96' E	5,1	0,2	354	310	4
2017/08/10	18:42:00	XX162/0006-1	CTD/RO CTD/rosette water sampler	surface	54° 35,97' N	10° 27,05' E	5,1	0,9	261	328	3
2017/08/10	18:42:00	XX162/0006-2	SD Secchi disc	surface	54° 35,97' N	10° 27,05' E	5,1	0,9	261	328	3
2017/08/10	18:43:59	XX162/0006-2	SD Secchi disc	on deck	54° 35,97' N	10° 27,03' E	17,8	0,8	274	329	3
2017/08/10	18:44:00	XX162/0006-3	HN Hand net	Stat. TF 360	54° 35,98' N	10° 27,00' E	23,6	0,7	286	314	3
2017/08/10	18:48:59	XX162/0006-3	HN Hand net	on deck	54° 35,99' N	10° 26,95' E	15,2	0,4	320	318	3
2017/08/10	18:50:00	XX162/0006-1	CTD/RO CTD/rosette water sampler	at 17 m	54° 36,00' N	10° 26,94' E	5,1	0,4	341	310	2
2017/08/10	18:54:59	XX162/0006-1	CTD/RO CTD/rosette water sampler	on deck	54° 36,03' N	10° 26,94' E	8,0	0,3	21	287	2
2017/08/10	19:00:00	XX162/0006-4	ZNET Zooplankton net		54° 36,05' N	10° 26,98' E	6,7	0,3	53	284	2
2017/08/10	19:01:00	XX162/0006-4	ZNET Zooplankton net	max. depth 14 m	54° 36,05' N	10° 26,99' E	8,1	0,3	49	284	2
2017/08/10	19:03:59	XX162/0006-4	ZNET Zooplankton net		54° 36,06' N	10° 27,01' E	5,1	0,3	42	263	2
2017/08/10	23:07:00	XX162/0007-1	CTD/RO CTD/rosette water sampler	surface	54° 24,82' N	11° 37,06' E	5,1	0,9	313	339	3
2017/08/10	23:16:00	XX162/0007-1	CTD/RO CTD/rosette water sampler	at 23 m	54° 24,80' N	11° 36,99' E	5,1	0,3	211	338	4
2017/08/10	23:20:59	XX162/0007-1	CTD/RO CTD/rosette water sampler	on deck	54° 24,78' N	11° 36,97' E	5,1	0,3	213	332	4
2017/08/10	23:33:00	XX162/0007-1	CTD/RO CTD/rosette water sampler	surface	54° 24,76' N	11° 36,98' E	5,1	0,3	52	333	4
2017/08/10	23:43:00	XX162/0007-1	CTD/RO CTD/rosette water sampler	at 6 m	54° 24,75' N	11° 36,99' E	5,1	0,3	202	334	4

2017/08/10	23:45:59	XX162/0007-1	CTD/RO CTD/rosette water sampler	on deck	54° 24,74' N	11° 36,98' E	5,1	0,4	207	339	4
2017/08/11	01:20:00	XX162/0008-1	CTD/RO CTD/rosette water sampler	surface	54° 24,33' N	12° 3,66' E	13,8	2,1	26	33	4
2017/08/11	01:31:00	XX162/0008-1	CTD/RO CTD/rosette water sampler	at 17 m	54° 24,36' N	12° 3,66' E	7,9	0,2	193	26	4
2017/08/11	01:35:59	XX162/0008-1	CTD/RO CTD/rosette water sampler	on deck	54° 24,36' N	12° 3,67' E	5,1	0,0	306	26	4
2017/08/11	02:26:00	XX162/0009-1	CTD/RO CTD/rosette water sampler	surface	54° 29,26' N	12° 3,85' E	5,1	0,4	107	2	7
2017/08/11	02:31:00	XX162/0009-1	CTD/RO CTD/rosette water sampler	at 11 m	54° 29,28' N	12° 3,90' E	5,1	0,3	269	16	8
2017/08/11	02:34:59	XX162/0009-1	CTD/RO CTD/rosette water sampler	on deck	54° 29,30' N	12° 3,88' E	5,1	0,3	354	17	7
2017/08/11	03:25:00	XX162/0010-1	CTD/RO CTD/rosette water sampler	surface	54° 27,96' N	12° 12,98' E	16,4	0,2	13	10	8
2017/08/11	03:30:00	XX162/0010-1	CTD/RO CTD/rosette water sampler	at 23 m	54° 27,97' N	12° 12,98' E	30,9	0,1	28	13	8
2017/08/11	03:34:59	XX162/0010-1	CTD/RO CTD/rosette water sampler	on deck	54° 27,97' N	12° 12,99' E	19,9	0,1	16	12	8
2017/08/11	03:39:00	XX162/0010-1	PLA Plankton net	surface	54° 27,97' N	12° 12,98' E	5,1	0,1	245	20	9
2017/08/11	03:41:00	XX162/0010-1	PLA Plankton net	on 21 m	54° 27,97' N	12° 12,98' E	5,1	0,1	290	20	8
2017/08/11	03:43:59	XX162/0010-1	PLA Plankton net		54° 27,98' N	12° 12,97' E	5,1	0,1	334	17	9
2017/08/11	03:49:00	XX162/0010-3	CTD/RO CTD/rosette water sampler	surface	54° 27,98' N	12° 12,97' E	5,1	0,1	228	19	8
2017/08/11	03:52:00	XX162/0010-4	SD Secchi disc	surface	54° 27,98' N	12° 12,97' E	5,1	0,2	352	12	8
2017/08/11	03:55:59	XX162/0010-4	SD Secchi disc	on deck	54° 27,98' N	12 12,96' E	5,1	0,2	249	14	8
2017/08/11	03:58:00	XX162/0010-3	CTD/RO CTD/rosette water sampler	at 22 m	54° 27,97' N	12° 12,96' E	24,9	0,1	143	20	9
2017/08/11	04:02:59	XX162/0010-3	CTD/RO CTD/rosette water sampler	on deck	54° 27,98' N	12° 12,96' E	5,1	0,2	348	19	9
2017/08/11	05:46:00	XX162/0011-1	CTD/RO CTD/rosette water sampler	surface	54° 38,99' N	12° 26,99' E	5,1	0,4	47	56	6
2017/08/11	05:52:00	XX162/0011-1	CTD/RO CTD/rosette water sampler	at 16 m	54° 39,00' N	12° 27,00' E	21,1	0,1	43	47	7
2017/08/11	05:55:59	XX162/0011-1	CTD/RO CTD/rosette water sampler	on deck	54° 39,00' N	12° 27,01' E	22,3	0,1	40	45	7
2017/08/11	07:00:00	XX162/0012-1	CTD/RO CTD/rosette water sampler	surface	54° 41,80' N	12° 41,85' E	5,1	0,6	11	34	7
2017/08/11	07:09:00	XX162/0012-1	CTD/RO CTD/rosette water sampler	at 19 m	54° 41,83' N	12° 41,83' E	5,1	0,1	55	39	8
2017/08/11	07:20:59	XX162/0012-1	CTD/RO CTD/rosette water sampler	on deck	54° 41,83' N	12° 41,88' E	5,1	1,2	112	35	8
2017/08/13	15:58:00	XX162/0013-1	CTD/RO CTD/rosette water sampler	surface	54° 43,37' N	12° 47,10' E	11,9	1,1	287	266	8
2017/08/13	16:07:00	XX162/0013-1	CTD/RO CTD/rosette water sampler	at 21 m	54° 43,40' N	12° 47,02' E	5,1	0,2	290	263	8
2017/08/13	16:10:59	XX162/0013-1	CTD/RO CTD/rosette water sampler	on deck	54° 43,40' N	12° 47,01' E	5,1	0,2	9	257	7
2017/08/13	16:18:00	XX162/0013-2	PLA Plankton net	surface	54° 43,39' N	12° 46,97' E	5,1	0,4	222	259	6
2017/08/13	16:20:00	XX162/0013-2	PLA Plankton net	19 m	54° 43,38' N	12° 46,96' E	5,1	0,2	214	264	6
2017/08/13	16:23:59	XX162/0013-2	PLA Plankton net		54° 43,38' N	12° 46,97' E	13,9	0,3	54	246	7
2017/08/13	17:31:00	XX162/0014-1	CTD/RO CTD/rosette water sampler	surface	54° 47,68' N	13° 3,61' E	5,1	0,4	294	283	9
2017/08/13	17:40:00	XX162/0014-1	CTD/RO CTD/rosette water sampler	at 28 m	54° 47,69' N	13° 3,56' E	5,1	0,2	331	286	9
2017/08/13	17:44:59	XX162/0014-1	CTD/RO CTD/rosette water sampler	on deck	54° 47,70' N	13 3,53' E	5,1	0,2	323	293	8
2017/08/13	18:38:00	XX162/0015-1	CTD/RO CTD/rosette water sampler	surface	54° 51,59' N	13° 16,71' E	5,1	0,8	272	285	8
2017/08/13	18:47:00	XX162/0015-1	CTD/RO CTD/rosette water sampler	at 42 m	54° 51,59' N	13° 16,66' E	5,1	0,2	266	288	8
2017/08/13	18:51:59	XX162/0015-1	CTD/RO CTD/rosette water sampler	on deck	54° 51,60' N	13° 16,66' E	5,1	0,2	282	290	7
2017/08/13	19:50:00	XX162/0016-1	CTD/RO CTD/rosette water sampler	surface	55° 0,00' N	13° 17,98' E	5,1	0,5	265	307	7
2017/08/13	19:59:00	XX162/0016-1	CTD/RO CTD/rosette water sampler	at 44 m	55° 0,04' N	13° 17,94' E	5,1	0,2	27	307	6
2017/08/13	20:05:59	XX162/0016-1	CTD/RO CTD/rosette water sampler	on deck	55° 0,06' N	13° 17,96' E	5,1	0,4	359	308	6
2017/08/13	21:07:00	XX162/0017-1	CTD/RO CTD/rosette water sampler	surface	54° 55,46' N	13° 30,07' E	5,1	1,2	320	316	6
2017/08/13	21:16:00	XX162/0017-1	CTD/RO CTD/rosette water sampler	at 45 m	54° 55,51' N	13° 30,00' E	5,1	0,2	322	316	6
2017/08/13	21:20:59	XX162/0017-1	CTD/RO CTD/rosette water sampler	on deck	54° 55,52' N	13° 29,98' E	5,1	0,2	324	312	7
2017/08/13	21:22:00	XX162/0017-2	HN Hand net	surface	54° 55,52' N	13° 29,99' E	5,1	0,1	52	312	6
2017/08/13	21:26:59	XX162/0017-2	HN Hand net	on deck	54° 55,53' N	13° 30,00' E	5,1	0,1	58	317	6
2017/08/13	21:37:00	XX162/0017-3	CTD/RO CTD/rosette water sampler	surface	54° 55,54' N	13° 29,99' E	5,1	0,1	8	314	5
2017/08/13	21:46:00	XX162/0017-3	CTD/RO CTD/rosette water sampler	at 45 m	54° 55,55' N	13° 29,98' E	5,1	0,1	9	313	6

2017/08/13	21:50:59	XX162/0017-3	CTD/RO	CTD/rosette water sampler	on deck	54° 55,55' N	13° 29,98' E	5,1	0,1	23	309	5
2017/08/13	21:55:00	XX162/0017-4	ZNET	Zooplankton net		54° 55,55' N	13° 30,00' E	5,1	0,2	70	307	5
2017/08/13	21:59:00	XX162/0017-4	ZNET	Zooplankton net	max. 19 m	54° 55,56' N	13° 29,99' E	5,1	0,6	283	307	5
2017/08/13	22:01:59	XX162/0017-4	ZNET	Zooplankton net		54° 55,56' N	13° 29,97' E	5,1	0,3	305	304	5
2017/08/13	22:05:00	XX162/0017-5	ZNET	Zooplankton net		54° 55,57' N	13° 29,95' E	5,1	0,2	24	307	5
2017/08/13	22:06:00	XX162/0017-5	ZNET	Zooplankton net	max. 44 m	54° 55,57' N	13° 29,96' E	5,1	0,1	52	302	6
2017/08/13	22:10:59	XX162/0017-5	ZNET	Zooplankton net		54° 55,57' N	13° 29,97' E	5,1	0,2	117	303	5
2017/08/13	23:23:00	XX162/0018-1	CTD	CTD	surface	55° 1,50' N	13° 36,39' E	5,1	0,2	283	321	9
2017/08/13	23:30:00	XX162/0018-1	CTD	CTD	at depth 44 m	55° 1,50' N	13° 36,30' E	5,1	0,1	261	326	8
2017/08/13	23:34:59	XX162/0018-1	CTD	CTD	on deck	55° 1,50' N	13° 36,28' E	5,1	0,3	252	320	8
2017/08/14	00:31:00	XX162/0019-1	CTD	CTD	surface	55° 4,12' N	13° 48,78' E	5,1	0,6	345	320	8
2017/08/14	00:35:00	XX162/0019-1	CTD	CTD	at depth 44 m	55° 4,14' N	13° 48,78' E	5,1	0,2	50	319	7
2017/08/14	00:39:59	XX162/0019-1	CTD	CTD	on deck	55° 4,13' N	13° 48,82' E	5,1	0,4	157	325	8
2017/08/14	01:32:00	XX162/0020-1	CTD	CTD	surface	55° 9,34' N	13° 56,50' E	5,1	0,2	290	336	8
2017/08/14	01:37:00	XX162/0020-1	CTD	CTD	at depth 43 m	55° 9,34' N	13° 56,46' E	5,1	0,2	265	331	7
2017/08/14	01:40:59	XX162/0020-1	CTD	CTD	on deck	55° 9,34' N	13° 56,44' E	5,1	0,5	321	333	7
2017/08/14	02:26:00	XX162/0022-1	CTD	CTD	surface	55° 3,76' N	13° 59,35' E	5,1	1,0	352	330	6
2017/08/14	02:34:00	XX162/0022-1	CTD	CTD	at depth Tiefe 45 m	55° 3,81' N	13° 59,34' E	5,1	1,0	325	313	6
2017/08/14	02:39:59	XX162/0022-1	CTD	CTD	on deck	55° 3,84' N	13° 59,27' E	5,1	1,0	329	336	6
2017/08/14	03:30:00	XX162/0023-1	CTD/RO	CTD/rosette water sampler	surface	55° 0,01' N	14° 5,16' E	5,1	1,0	356	339	5
2017/08/14	03:38:00	XX162/0023-1	CTD/RO	CTD/rosette water sampler	at 46 m	55° 0,05' N	14° 5,09' E	5,1	0,4	303	358	4
2017/08/14	03:40:59	XX162/0023-1	CTD/RO	CTD/rosette water sampler	on deck	55° 0,06' N	14° 5,07' E	5,1	0,4	303	348	5
2017/08/14	03:47:00	XX162/0023-2	PLA	Plankton net	surface	55° 0,08' N	14° 5,00' E	5,1	0,4	298	333	4
2017/08/14	03:49:00	XX162/0023-2	PLA	Plankton net	max 21 m	55° 0,08' N	14° 4,98' E	5,1	0,3	284	333	5
2017/08/14	03:52:59	XX162/0023-2	PLA	Plankton net		55° 0,08' N	14° 4,96' E	5,1	0,3	282	331	5
2017/08/14	03:54:00	XX162/0023-3	PLA	Plankton net	surface	55° 0,08' N	14° 4,94' E	5,1	0,3	275	338	6
2017/08/14	03:55:00	XX162/0023-3	PLA	Plankton net	max 46 m	55° 0,08' N	14° 4,93' E	5,1	0,3	275	339	5
2017/08/14	04:00:59	XX162/0023-3	PLA	Plankton net		55° 0,09' N	14° 4,88' E	5,1	0,3	270	334	5
2017/08/14	04:55:00	XX162/0024-1	CTD/RO	CTD/rosette water sampler	surface	54° 53,43' N	13° 58,32' E	5,1	2,3	237	325	4
2017/08/14	05:05:00	XX162/0024-1	CTD/RO	CTD/rosette water sampler	at 42 m	54° 53,40' N	13° 58,15' E	5,1	0,3	274	345	4
2017/08/14	05:09:59	XX162/0024-1	CTD/RO	CTD/rosette water sampler	on deck	54° 53,41' N	13° 58,11' E	5,1	0,4	291	326	4
2017/08/14	05:39:00	XX162/0025-1	CTD/RO	CTD/rosette water sampler	surface	54° 52,86' N	13° 51,65' E	5,1	0,3	167	328	4
2017/08/14	05:47:00	XX162/0025-1	CTD/RO	CTD/rosette water sampler	at 44 m	54° 52,86' N	13° 51,58' E	5,1	0,4	278	318	4
2017/08/14	05:50:59	XX162/0025-1	CTD/RO	CTD/rosette water sampler	on deck	54° 52,86' N	13° 51,55' E	5,1	0,4	277	321	4
2017/08/14	06:05:00	XX162/0025-2	ZODIAK	Rubber boat, Zodiak	surface	54° 52,84' N	13° 51,46' E	5,1	0,2	237	344	3
2017/08/14	06:10:59	XX162/0025-2	ZODIAK	Rubber boat, Zodiak	on deck	54° 52,83' N	13° 51,45' E	5,1	0,3	163	348	4
2017/08/14	07:03:00	XX162/0025-3	ZODIAK	Rubber boat, Zodiak	surface	54° 52,93' N	13° 51,75' E	5,1	0,4	128	338	3
2017/08/14	07:08:59	XX162/0025-3	ZODIAK	Rubber boat, Zodiak	on deck	54° 52,91' N	13° 51,77' E	5,1	0,4	145	322	3
2017/08/14	07:19:00	XX162/0025-4	CTD/RO	CTD/rosette water sampler	surface	54° 52,84' N	13° 51,60' E	5,1	0,6	275	320	3
2017/08/14	07:27:00	XX162/0025-4	CTD/RO	CTD/rosette water sampler	at 44 m	54° 52,83' N	13° 51,54' E	5,1	0,2	269	337	3
2017/08/14	07:34:59	XX162/0025-4	CTD/RO	CTD/rosette water sampler	on deck	54° 52,82' N	13° 51,53' E	5,1	0,1	175	346	3
2017/08/14	08:17:00	XX162/0026-1	CTD/RO	CTD/rosette water sampler	surface	54° 48,18' N	13° 57,50' E	5,1	1,2	327	350	2
2017/08/14	08:25:00	XX162/0026-1	CTD/RO	CTD/rosette water sampler	at 38 m	54° 48,23' N	13° 57,39' E	5,1	0,4	261	324	3
2017/08/14	08:30:59	XX162/0026-1	CTD/RO	CTD/rosette water sampler	on deck	54° 48,22' N	13° 57,34' E	5,1	0,4	222	351	3
2017/08/14	09:12:00	XX162/0027-1	CTD/RO	CTD/rosette water sampler	surface	54° 42,68' N	13° 56,85' E	5,1	1,1	277	14	1
2017/08/14	09:20:00	XX162/0027-1	CTD/RO	CTD/rosette water sampler	at 29 m	54° 42,72' N	13° 56,74' E	5,1	0,2	309	359	3

2017/08/14	09:25:59	XX162/0027-1	CTD/RO CTD/rosette water sampler	on deck	54° 42,73' N	13° 56,72' E	11,9	0,7	337	342	2
2017/08/14	10:16:00	XX162/0027-2	CTD/RO CTD/rosette water sampler	surface	54° 36,70' N	14° 2,69' E	5,1	0,6	56	61	2
2017/08/14	10:22:00	XX162/0027-2	CTD/RO CTD/rosette water sampler	at 20 m	54° 36,73' N	14° 2,73' E	5,1	0,1	42	57	2
2017/08/14	10:25:59	XX162/0027-2	CTD/RO CTD/rosette water sampler	on deck	54° 36,73' N	14° 2,73' E	5,1	0,0	123	75	2
2017/08/14	11:24:00	XX162/0028-1	CTD/RO CTD/rosette water sampler	surface	54° 37,95' N	14° 16,96' E	5,1	1,0	14	62	3
2017/08/14	11:31:00	XX162/0028-1	CTD/RO CTD/rosette water sampler	at 29 m	54° 38,02' N	14° 16,96' E	5,1	0,5	310	44	3
2017/08/14	11:34:59	XX162/0028-1	CTD/RO CTD/rosette water sampler	on deck	54° 38,03' N	14° 16,92' E	5,1	0,4	283	46	2
2017/08/14	14:37:00	XX162/0029-1	CTD/RO CTD/rosette water sampler	surface	55° 10,07' N	14° 15,03' E	5,1	0,7	230	219	4
2017/08/14	14:48:00	XX162/0029-1	CTD/RO CTD/rosette water sampler	at 44 m	55° 10,01' N	14° 14,97' E	5,1	0,2	216	191	3
2017/08/14	14:52:59	XX162/0029-1	CTD/RO CTD/rosette water sampler	on deck	55° 10,00' N	14° 14,96' E	5,1	0,2	213	196	4
2017/08/14	15:56:00	XX162/0030-1	CTD/RO CTD/rosette water sampler	surface	55° 15,32' N	14° 29,54' E	5,1	1,2	271	210	4
2017/08/14	16:06:00	XX162/0030-1	CTD/RO CTD/rosette water sampler	at 42 m	55° 15,25' N	14° 29,50' E	5,1	0,2	202	216	4
2017/08/14	16:10:59	XX162/0030-1	CTD/RO CTD/rosette water sampler	on deck	55° 15,24' N	14° 29,49' E	5,1	0,1	198	217	4
2017/08/14	17:11:00	XX162/0031-1	CTD/RO CTD/rosette water sampler	surface	55° 24,33' N	14° 32,28' E	5,1	1,4	223	222	5
2017/08/14	17:26:00	XX162/0031-1	CTD/RO CTD/rosette water sampler	at 60 m	55° 24,27' N	14° 32,22' E	5,1	0,3	200	220	4
2017/08/14	17:29:59	XX162/0031-1	CTD/RO CTD/rosette water sampler	on deck	55° 24,25' N	14° 32,21' E	5,1	0,4	201	206	4
2017/08/14	17:34:00	XX162/0031-2	CTD/RO CTD/rosette water sampler	surface	55° 24,22' N	14° 32,19' E	5,1	0,4	202	210	4
2017/08/14	17:44:00	XX162/0031-2	CTD/RO CTD/rosette water sampler	at 58 m	55° 24,19' N	14° 32,18' E	5,1	0,3	96	207	4
2017/08/14	17:49:59	XX162/0031-2	CTD/RO CTD/rosette water sampler	on deck	55° 24,18' N	14° 32,22' E	5,1	0,3	146	213	4
2017/08/14	18:55:00	XX162/0032-1	CTD/RO CTD/rosette water sampler	surface	55° 28,00' N	14° 42,98' E	5,1	0,8	261	207	6
2017/08/14	19:06:00	XX162/0032-1	CTD/RO CTD/rosette water sampler	at 67 m	55° 27,98' N	14° 42,95' E	5,1	0,3	54	211	4
2017/08/14	19:10:59	XX162/0032-1	CTD/RO CTD/rosette water sampler	on deck	55° 28,00' N	14° 42,97' E	5,1	0,2	351	205	5
2017/08/14	20:27:00	XX162/0033-1	CTD/RO CTD/rosette water sampler	surface	55° 23,37' N	15° 3,52' E	5,1	1,2	350	235	3
2017/08/14	20:38:00	XX162/0033-1	CTD/RO CTD/rosette water sampler	at 73 m	55° 23,43' N	15° 3,43' E	5,1	0,2	339	239	3
2017/08/14	20:45:59	XX162/0033-1	CTD/RO CTD/rosette water sampler	on deck	55° 23,45' N	15° 3,41' E	5,1	1,9	244	231	3
2017/08/14	21:56:00	XX162/0034-1	CTD/RO CTD/rosette water sampler	surface	55° 23,04' N	15° 19,99' E	5,1	0,8	94	197	4
2017/08/14	22:05:00	XX162/0034-1	CTD/RO CTD/rosette water sampler	at 89 m	55° 23,04' N	15° 20,01' E	5,1	0,3	241	168	5
2017/08/14	22:10:59	XX162/0034-1	CTD/RO CTD/rosette water sampler	on deck	55° 23,02' N	15° 19,98' E	5,1	0,2	227	178	4
2017/08/15	00:01:00	XX162/0035-1	CTD/RO CTD/rosette water sampler	surface	55° 9,63' N	15° 39,59' E	5,1	0,7	15	154	7
2017/08/15	00:11:00	XX162/0035-1	CTD/RO CTD/rosette water sampler	at 92 m	55° 9,64' N	15° 39,60' E	5,1	0,2	193	141	7
2017/08/15	00:18:59	XX162/0035-1	CTD/RO CTD/rosette water sampler	on deck	55° 9,63' N	15° 39,61' E	5,1	0,2	133	147	9
2017/08/15	01:21:00	XX162/0036-1	CTD/RO CTD/rosette water sampler	surface	55° 18,11' N	15° 47,84' E	5,1	1,1	156	163	7
2017/08/15	01:31:00	XX162/0036-1	CTD/RO CTD/rosette water sampler	at 93 m	55° 18,05' N	15° 47,84' E	5,1	0,2	39	160	6
2017/08/15	01:35:59	XX162/0036-1	CTD/RO CTD/rosette water sampler	on deck	55° 18,05' N	15° 47,88' E	5,1	0,3	122	160	6
2017/08/15	02:25:00	XX162/0037-1	CTD/RO CTD/rosette water sampler	surface	55° 15,05' N	15° 58,95' E	5,1	0,6	67	148	8
2017/08/15	02:40:59	XX162/0037-1	CTD/RO CTD/rosette water sampler	on deck	55° 15,01' N	15° 58,99' E	5,1	0,1	152	155	6
2017/08/15	03:04:00	XX162/0037-2	CTD/RO CTD/rosette water sampler	surface	55° 15,00' N	15° 58,97' E	5,1	0,1	158	154	7
2017/08/15	03:15:00	XX162/0037-2	CTD/RO CTD/rosette water sampler	at 44 m	55° 14,99' N	15° 59,00' E	5,1	0,1	156	151	6
2017/08/15	03:20:59	XX162/0037-2	CTD/RO CTD/rosette water sampler	on deck	55° 14,98' N	15° 59,00' E	5,1	0,1	224	150	6
2017/08/15	03:26:00	XX162/0037-3	CTD/RO CTD/rosette water sampler	surface	55° 14,97' N	15° 58,95' E	5,1	0,4	185	150	6
2017/08/15	03:39:00	XX162/0037-3	CTD/RO CTD/rosette water sampler	at 5 m	55° 14,95' N	15° 58,94' E	5,1	0,1	21	141	6
2017/08/15	03:41:59	XX162/0037-3	CTD/RO CTD/rosette water sampler	on deck	55° 14,95' N	15° 58,94' E	5,1	0,1	13	150	6
2017/08/15	03:52:00	XX162/0037-4	PLA Plankton net	surface	55° 14,93' N	15° 58,98' E	5,1	0,1	186	139	6
2017/08/15	03:55:00	XX162/0037-4	PLA Plankton net	on deck Tiefe 84 m	55° 14,92' N	15° 58,98' E	5,1	0,1	184	142	6

2017/08/15	04:04:00	XX162/0037-4	PLA	Plankton net	on deck		55° 14,91' N	15° 58,96' E	5,1	0,4	193	136	6
2017/08/15	04:57:59	XX162/0037-4	PLA	Plankton net			55° 14,81' N	15° 59,05' E	5,1	0,2	148	131	6
2017/08/15	04:58:00	XX162/0037-5	APSN	Apstein net	surface		55° 14,81' N	15° 59,05' E	5,1	0,2	147	141	6
2017/08/15	05:33:59	XX162/0037-5	APSN	Apstein net	on deck		55° 14,76' N	15° 59,18' E	5,1	0,2	350	142	7
2017/08/15	06:10:00	XX162/0038-1	CTD/RO	CTD/rosette water sampler	surface		55° 18,03' N	16° 0,66' E	5,1	1,1	142	145	6
2017/08/15	06:21:00	XX162/0038-1	CTD/RO	CTD/rosette water sampler	at depth	86 m	55° 18,00' N	16° 0,77' E	5,1	0,2	43	143	7
2017/08/15	06:33:59	XX162/0038-1	CTD/RO	CTD/rosette water sampler	on deck		55° 18,06' N	16° 0,82' E	5,1	0,3	15	155	6
2017/08/15	06:45:00	XX162/0039-1	CTD/RO	CTD/rosette water sampler	surface		55° 18,43' N	16° 1,74' E	5,1	0,8	123	145	5
2017/08/15	06:59:00	XX162/0039-1	CTD/RO	CTD/rosette water sampler	at depth	85 m	55° 18,44' N	16° 1,83' E	5,1	0,4	34	154	5
2017/08/15	07:05:59	XX162/0039-1	CTD/RO	CTD/rosette water sampler	on deck		55° 18,47' N	16° 1,86' E	5,1	0,4	58	155	5
2017/08/15	07:16:00	XX162/0040-1	CTD/RO	CTD/rosette water sampler	surface		55° 18,80' N	16° 2,39' E	5,1	1,4	83	166	5
2017/08/15	07:28:00	XX162/0040-1	CTD/RO	CTD/rosette water sampler	at 85 m		55° 18,83' N	16° 2,51' E	5,1	0,4	43	153	6
2017/08/15	07:35:59	XX162/0040-1	CTD/RO	CTD/rosette water sampler	on deck		55° 18,87' N	16° 2,56' E	5,1	0,4	44	154	6
2017/08/15	07:50:00	XX162/0041-1	CTD/RO	CTD/rosette water sampler	surface		55° 19,30' N	16° 3,13' E	5,1	1,3	108	150	7
2017/08/15	08:02:00	XX162/0041-1	CTD/RO	CTD/rosette water sampler	at depth	84 m	55° 19,33' N	16° 3,28' E	5,1	0,5	65	153	7
2017/08/15	08:20:59	XX162/0041-1	CTD/RO	CTD/rosette water sampler	on deck		55° 19,30' N	16° 3,29' E	5,1	0,2	116	154	6
2017/08/15	11:47:00	XX162/0042-1	CTD/RO	CTD/rosette water sampler	surface		55° 13,00' N	17° 4,02' E	5,1	0,9	19	110	8
2017/08/15	11:57:00	XX162/0042-1	CTD/RO	CTD/rosette water sampler	at 89 m		55° 13,03' N	17° 4,02' E	5,1	0,1	238	105	8
2017/08/15	12:00:59	XX162/0042-1	CTD/RO	CTD/rosette water sampler	on deck		55° 13,04' N	17° 4,01' E	5,1	0,1	293	109	7
2017/08/15	13:55:00	XX162/0043-1	CTD/RO	CTD/rosette water sampler	surface		55° 17,23' N	17° 35,48' E	5,1	0,3	65	118	10
2017/08/15	14:07:00	XX162/0043-1	CTD/RO	CTD/rosette water sampler	at 82 m		55° 17,21' N	17° 35,53' E	5,1	0,5	119	123	10
2017/08/15	14:11:59	XX162/0043-1	CTD/RO	CTD/rosette water sampler	on deck		55° 17,21' N	17° 35,55' E	5,1	0,1	293	122	9
2017/08/15	16:19:00	XX162/0044-1	CTD/RO	CTD/rosette water sampler	surface		55° 19,61' N	18° 14,05' E	5,1	0,3	147	108	11
2017/08/15	16:29:00	XX162/0044-1	CTD/RO	CTD/rosette water sampler	at 75 m		55° 19,63' N	18° 14,12' E	5,1	0,2	359	114	9
2017/08/15	16:35:59	XX162/0044-1	CTD/RO	CTD/rosette water sampler	on deck		55° 19,63' N	18° 14,14' E	5,1	0,1	98	108	9
2017/08/15	18:04:00	XX162/0045-1	CTD/RO	CTD/rosette water sampler	surface		55° 33,01' N	18° 23,93' E	5,1	1,0	115	118	12
2017/08/15	18:05:00	XX162/0045-2	SD	Secchi disc	surface		55° 33,00' N	18° 23,95' E	5,1	0,4	106	120	12
2017/08/15	18:06:59	XX162/0045-2	SD	Secchi disc	on deck		55° 33,00' N	18° 23,96' E	5,1	0,1	76	120	12
2017/08/15	18:07:00	XX162/0045-3	HN	Hand net	surface		55° 33,00' N	18° 23,96' E	5,1	0,1	54	122	12
2017/08/15	18:11:59	XX162/0045-3	HN	Hand net	on deck		55° 33,01' N	18° 23,97' E	5,1	0,1	133	122	13
2017/08/15	18:15:00	XX162/0045-1	CTD/RO	CTD/rosette water sampler	at 87 m		55° 33,01' N	18° 23,96' E	5,1	0,1	148	122	10
2017/08/15	18:21:59	XX162/0045-1	CTD/RO	CTD/rosette water sampler	on deck		55° 33,00' N	18° 23,98' E	5,1	0,1	202	124	12
2017/08/15	18:37:00	XX162/0045-4	CTD/RO	CTD/rosette water sampler	surface		55° 33,00' N	18° 23,98' E	5,1	0,0	138	120	12
2017/08/15	18:47:00	XX162/0045-4	CTD/RO	CTD/rosette water sampler	at 86 m		55° 33,01' N	18° 23,97' E	5,1	0,2	293	118	12
2017/08/15	18:57:59	XX162/0045-4	CTD/RO	CTD/rosette water sampler	on deck		55° 33,01' N	18° 23,98' E	5,1	0,0	63	121	11
2017/08/15	20:00:00	XX162/0046-1	CTD/RO	CTD/rosette water sampler	surface		55° 38,00' N	18° 35,94' E	5,1	1,1	12	114	13
2017/08/15	20:13:00	XX162/0046-1	CTD/RO	CTD/rosette water sampler	at 92 m		55° 37,98' N	18° 36,02' E	5,1	0,3	132	112	12
2017/08/15	20:18:59	XX162/0046-1	CTD/RO	CTD/rosette water sampler	on deck		55° 37,98' N	18° 36,01' E	5,1	0,1	200	114	11
2017/08/15	21:45:00	XX162/0047-1	CTD/RO	CTD/rosette water sampler	surface		55° 52,00' N	18° 38,37' E	5,1	0,7	68	135	10
2017/08/15	21:58:00	XX162/0047-1	CTD/RO	CTD/rosette water sampler	at 111 m		55° 52,00' N	18° 38,41' E	5,1	0,2	116	134	11
2017/08/15	22:00:59	XX162/0047-1	CTD/RO	CTD/rosette water sampler	on deck		55° 52,00' N	18° 38,42' E	5,1	0,2	89	131	12
2017/08/15	23:00:00	XX162/0048-1	CTD/RO	CTD/rosette water sampler	surface		55° 50,43' N	18° 51,95' E	5,1	0,6	113	138	12
2017/08/15	23:09:00	XX162/0048-1	CTD/RO	CTD/rosette water sampler	at 99 m		55° 50,41' N	18° 51,99' E	5,1	0,4	146	141	11
2017/08/15	23:14:59	XX162/0048-1	CTD/RO	CTD/rosette water sampler	on deck		55° 50,41' N	18° 51,99' E	5,1	0,2	153	138	11

2017/08/16	01:01:00	XX162/0049-1	CTD/RO CTD/rosette water sampler	surface	56° 5,02' N	19° 9,96' E	5,1	0,9	112	141	11
2017/08/16	01:12:00	XX162/0049-1	CTD/RO CTD/rosette water sampler	at 121 m	56° 4,99' N	19° 9,98' E	5,1	0,1	259	143	10
2017/08/16	01:20:59	XX162/0049-1	CTD/RO CTD/rosette water sampler	on deck	56° 5,00' N	19° 10,01' E	5,1	0,1	328	144	11
2017/08/16	03:04:00	XX162/0050-1	CTD/RO CTD/rosette water sampler	surface	56° 20,90' N	19° 22,59' E	5,1	0,9	143	150	10
2017/08/16	03:16:00	XX162/0050-1	CTD/RO CTD/rosette water sampler	at 130 m	56° 20,85' N	19° 22,63' E	5,1	0,1	187	151	10
2017/08/16	03:24:59	XX162/0050-1	CTD/RO CTD/rosette water sampler	on deck	56° 20,83' N	19° 22,63' E	5,1	0,2	158	150	10
2017/08/16	05:06:00	XX162/0051-1	CTD/RO CTD/rosette water sampler	surface	56° 38,03' N	19° 34,87' E	5,1	3,3	71	167	11
2017/08/16	05:25:00	XX162/0051-1	CTD/RO CTD/rosette water sampler	at 140 m	56° 38,01' N	19° 34,95' E	5,1	0,5	144	157	10
2017/08/16	05:35:59	XX162/0051-1	CTD/RO CTD/rosette water sampler	on deck	56° 38,09' N	19° 35,01' E	5,1	4,4	12	149	10
2017/08/16	08:12:00	XX162/0052-1	CTD/RO CTD/rosette water sampler	surface	57° 4,33' N	19° 49,79' E	5,1	0,1	45	159	10
2017/08/16	08:28:00	XX162/0052-1	CTD/RO CTD/rosette water sampler	at 204 m	57° 4,32' N	19° 49,81' E	5,1	0,2	6	157	10
2017/08/16	08:37:59	XX162/0052-1	CTD/RO CTD/rosette water sampler	on deck	57° 4,32' N	19° 49,82' E	5,1	0,0	231	158	10
2017/08/16	08:55:00	XX162/0052-2	CTD/RO CTD/rosette water sampler	surface	57° 4,32' N	19° 49,83' E	5,1	0,1	147	158	10
2017/08/16	09:06:00	XX162/0052-2	CTD/RO CTD/rosette water sampler	at 59 m	57° 4,31' N	19° 49,86' E	5,1	0,2	146	158	10
2017/08/16	09:10:59	XX162/0052-2	CTD/RO CTD/rosette water sampler	on deck	57° 4,31' N	19° 49,87' E	5,1	0,1	197	155	10
2017/08/16	10:51:00	XX162/0053-1	CTD/RO CTD/rosette water sampler	surface	57° 19,20' N	20° 3,04' E	5,1	0,4	124	162	11
2017/08/16	11:09:00	XX162/0053-1	CTD/RO CTD/rosette water sampler	at 235 m	57° 19,20' N	20° 3,03' E	5,1	0,1	231	161	10
2017/08/16	11:28:59	XX162/0053-1	CTD/RO CTD/rosette water sampler	on deck	57° 19,21' N	20° 3,00' E	5,1	0,4	162	168	10
2017/08/16	11:32:00	XX162/0053-2	SD Secchi disc	surface	57° 19,20' N	20° 3,02' E	5,1	0,2	155	161	10
2017/08/16	11:33:59	XX162/0053-2	SD Secchi disc	on deck	57° 19,19' N	20° 3,02' E	5,1	0,2	98	168	11
2017/08/16	11:34:00	XX162/0053-3	HN Hand net	surface	57° 19,19' N	20° 3,03' E	5,1	0,1	132	165	10
2017/08/16	11:40:59	XX162/0053-3	HN Hand net	on deck	57° 19,20' N	20° 3,05' E	5,1	0,1	145	168	11
2017/08/16	11:43:00	XX162/0053-4	CTD/RO CTD/rosette water sampler	surface	57° 19,20' N	20° 3,05' E	5,1	0,0	243	170	10
2017/08/16	12:00:00	XX162/0053-4	CTD/RO CTD/rosette water sampler	at 235 m	57° 19,20' N	20° 3,04' E	5,1	0,0	91	169	9
2017/08/16	12:17:59	XX162/0053-4	CTD/RO CTD/rosette water sampler	on deck	57° 19,19' N	20° 3,01' E	5,1	0,0	95	174	9
2017/08/16	12:30:00	XX162/0053-5	CTD/RO CTD/rosette water sampler	surface	57° 19,20' N	20° 3,01' E	5,1	0,0	114	174	9
2017/08/16	12:45:00	XX162/0053-5	CTD/RO CTD/rosette water sampler	at 213 m	57° 19,19' N	20° 3,03' E	5,1	0,2	352	180	9
2017/08/16	12:54:59	XX162/0053-5	CTD/RO CTD/rosette water sampler	on deck	57° 19,20' N	20° 3,03' E	5,1	0,3	188	177	10
2017/08/16	14:41:00	XX162/0053-6	CTD/RO CTD/rosette water sampler	surface	57° 19,23' N	20° 3,03' E	5,1	0,2	240	186	8
2017/08/16	14:59:00	XX162/0053-6	CTD/RO CTD/rosette water sampler	at 235 m	57° 19,23' N	20° 2,97' E	5,1	0,1	28	181	8
2017/08/16	15:08:59	XX162/0053-6	CTD/RO CTD/rosette water sampler	on deck	57° 19,24' N	20° 2,99' E	5,1	0,2	37	179	9
2017/08/16	15:40:00	XX162/0053-7	CTD/RO CTD/rosette water sampler	surface	57° 19,22' N	20° 2,99' E	5,1	0,1	289	194	7
2017/08/16	15:53:00	XX162/0053-7	CTD/RO CTD/rosette water sampler	at 120 m	57° 19,22' N	20° 2,97' E	5,1	0,1	64	204	7
2017/08/16	15:59:59	XX162/0053-7	CTD/RO CTD/rosette water sampler	on deck	57° 19,22' N	20° 2,98' E	5,1	0,2	153	202	7
2017/08/16	16:44:00	XX162/0053-8	CTD/RO CTD/rosette water sampler	surface	57° 19,18' N	20° 2,99' E	5,1	0,1	282	220	7
2017/08/16	16:53:00	XX162/0053-8	CTD/RO CTD/rosette water sampler	at 39 m	57° 19,23' N	20° 2,97' E	5,1	0,0	266	227	7
2017/08/16	16:57:59	XX162/0053-8	CTD/RO CTD/rosette water sampler	on deck	57° 19,22' N	20° 2,99' E	5,1	0,3	84	224	7
2017/08/16	17:45:00	XX162/0053-9	CTD/RO CTD/rosette water sampler	surface	57° 19,23' N	20° 2,98' E	5,1	0,1	151	226	5
2017/08/16	17:52:00	XX162/0053-9	CTD/RO CTD/rosette water sampler	at 60 m	57° 19,22' N	20° 2,99' E	5,1	0,1	200	224	6
2017/08/16	18:10:59	XX162/0053-9	CTD/RO CTD/rosette water sampler	on deck	57° 19,20' N	20° 2,95' E	5,1	0,2	241	223	6
2017/08/16	18:42:00	XX162/0053-10	CTD/RO CTD/rosette water sampler	surface	57° 19,14' N	20° 2,87' E	5,1	0,2	185	230	6
2017/08/16	19:03:00	XX162/0053-10	CTD/RO CTD/rosette water sampler	at 233 m	57° 19,14' N	20° 3,02' E	5,1	0,1	114	237	6
2017/08/16	19:15:59	XX162/0053-10	CTD/RO CTD/rosette water sampler	on deck	57° 19,11' N	20° 3,02' E	5,1	0,2	121	245	6
2017/08/16	20:07:00	XX162/0053-11	CTD/RO CTD/rosette water sampler	surface	57° 19,17' N	20° 2,97' E	5,1	0,3	170	248	7

2017/08/16	20:28:00	XX162/0053-11	CTD/RO CTD/rosette water sampler	at 235 m	57° 19,15' N	20° 2,96' E	5,1	0,2	12	254	6
2017/08/16	20:39:59	XX162/0053-11	CTD/RO CTD/rosette water sampler	on deck	57° 19,15' N	20° 2,95' E	5,1	0,3	251	267	6
2017/08/17	04:19:00	XX162/0054-1	CTD/RO CTD/rosette water sampler	surface	57° 19,14' N	20° 7,96' E	5,1	0,1	151	7	4
2017/08/17	04:39:00	XX162/0054-1	CTD/RO CTD/rosette water sampler	at 238 m	57° 19,15' N	20° 7,94' E	5,1	0,1	181	25	4
2017/08/17	04:48:59	XX162/0054-1	CTD/RO CTD/rosette water sampler	on deck	57° 19,16' N	20° 7,93' E	5,1	0,2	204	5	6
2017/08/17	06:05:00	XX162/0055-1	CTD/RO CTD/rosette water sampler	surface	57° 21,99' N	20° 20,02' E	5,1	0,7	353	3	7
2017/08/17	06:25:00	XX162/0055-1	CTD/RO CTD/rosette water sampler	at 215 m	57° 22,01' N	20° 20,04' E	5,1	0,2	289	4	8
2017/08/17	06:33:59	XX162/0055-1	CTD/RO CTD/rosette water sampler	on deck	57° 22,02' N	20° 19,99' E	5,1	0,2	239	7	7
2017/08/17	07:50:00	XX162/0056-1	CTD/RO CTD/rosette water sampler	surface	57° 31,44' N	20° 32,60' E	5,1	1,8	30	7	7
2017/08/17	08:07:00	XX162/0056-1	CTD/RO CTD/rosette water sampler	at 154 m	57° 31,53' N	20° 32,63' E	5,1	0,4	189	4	6
2017/08/17	08:13:59	XX162/0056-1	CTD/RO CTD/rosette water sampler	on deck	57° 31,50' N	20° 32,62' E	5,1	0,3	212	3	6
2017/08/17	09:51:00	XX162/0057-1	CTD/RO CTD/rosette water sampler	surface	57° 37,05' N	20° 9,90' E	5,1	0,3	295	356	5
2017/08/17	10:03:00	XX162/0057-1	CTD/RO CTD/rosette water sampler	at 140 m	57° 37,02' N	20° 9,82' E	5,1	0,2	216	13	4
2017/08/17	10:13:59	XX162/0057-1	CTD/RO CTD/rosette water sampler	on deck	57° 36,98' N	20° 9,78' E	5,1	0,3	198	353	5
2017/08/17	12:02:00	XX162/0058-1	CTD/RO CTD/rosette water sampler	surface	57° 43,66' N	20° 41,43' E	5,1	0,8	346	343	6
2017/08/17	12:13:00	XX162/0058-1	CTD/RO CTD/rosette water sampler	at 133 m	57° 43,67' N	20° 41,37' E	5,1	0,1	92	343	7
2017/08/17	12:19:59	XX162/0058-1	CTD/RO CTD/rosette water sampler	on deck	57° 43,68' N	20° 41,44' E	5,1	0,4	31	345	6
2017/08/17	15:11:00	XX162/0059-1	CTD/RO CTD/rosette water sampler	surface	57° 59,98' N	19° 54,02' E	5,1	1,3	306	292	1
2017/08/17	15:31:00	XX162/0059-1	CTD/RO CTD/rosette water sampler	at 191 m	58° 0,01' N	19° 53,98' E	5,1	0,1	224	246	2
2017/08/17	15:40:59	XX162/0059-1	CTD/RO CTD/rosette water sampler	on deck	57° 59,99' N	19° 53,97' E	5,1	0,1	159	233	2
2017/08/17	16:05:00	XX162/0059-2	CTD/RO CTD/rosette water sampler	surface	57° 59,97' N	19° 54,01' E	5,1	0,3	310	221	3
2017/08/17	16:15:00	XX162/0059-2	CTD/RO CTD/rosette water sampler	at 28 m	57° 59,97' N	19° 53,99' E	5,1	0,0	89	219	4
2017/08/17	16:18:59	XX162/0059-2	CTD/RO CTD/rosette water sampler	on deck	57° 59,97' N	19° 54,00' E	5,1	0,1	97	212	4
2017/08/17	16:28:00	XX162/0059-3	CTD/RO CTD/rosette water sampler	surface	57° 59,98' N	19° 54,04' E	5,1	0,2	339	229	3
2017/08/17	16:38:00	XX162/0059-3	CTD/RO CTD/rosette water sampler	at 28 m	57° 59,99' N	19° 54,01' E	5,1	0,0	192	212	3
2017/08/17	16:41:59	XX162/0059-3	CTD/RO CTD/rosette water sampler	on deck	57° 59,99' N	19° 54,02' E	5,1	0,1	127	215	4
2017/08/17	16:43:00	XX162/0059-4	CTD/RO CTD/rosette water sampler	surface	57° 59,99' N	19° 54,02' E	5,1	0,0	119	209	4
2017/08/17	16:50:00	XX162/0059-4	CTD/RO CTD/rosette water sampler	at 33 m	57° 59,98' N	19° 54,03' E	5,1	0,1	121	208	3
2017/08/17	16:53:59	XX162/0059-4	CTD/RO CTD/rosette water sampler	on deck	57° 59,98' N	19° 54,05' E	5,1	0,2	107	197	3
2017/08/17	17:55:00	XX162/0060-1	CTD/RO CTD/rosette water sampler	surface	58° 0,03' N	19° 36,13' E	5,1	1,2	270	204	7
2017/08/17	18:08:00	XX162/0060-1	CTD/RO CTD/rosette water sampler	at 120 m	58° 0,02' N	19° 36,02' E	5,1	0,1	262	200	7
2017/08/17	18:14:59	XX162/0060-1	CTD/RO CTD/rosette water sampler	on deck	58° 0,03' N	19° 35,99' E	5,1	0,3	292	200	8
2017/08/17	20:12:00	XX162/0061-1	CTD/RO CTD/rosette water sampler	surface	58° 11,01' N	20° 3,10' E	5,1	1,3	278	188	5
2017/08/17	20:28:00	XX162/0061-1	CTD/RO CTD/rosette water sampler	at 158 m	58° 10,98' N	20° 2,87' E	5,1	0,3	292	182	6
2017/08/17	20:35:59	XX162/0061-1	CTD/RO CTD/rosette water sampler	on deck	58° 11,01' N	20° 2,84' E	5,1	0,2	345	188	6
2017/08/17	22:21:00	XX162/0062-1	CTD/RO CTD/rosette water sampler	surface	58° 26,50' N	20° 19,97' E	5,1	0,8	331	200	7
2017/08/17	22:32:00	XX162/0062-1	CTD/RO CTD/rosette water sampler	at 122 m	58° 26,60' N	20° 19,97' E	5,1	0,4	28	200	8
2017/08/17	22:39:59	XX162/0062-1	CTD/RO CTD/rosette water sampler	on deck	58° 26,61' N	20° 20,09' E	5,1	0,7	103	207	8
2017/08/18	01:06:00	XX162/0063-1	CTD/RO CTD/rosette water sampler	surface	58° 53,03' N	20° 18,99' E	5,1	1,1	261	201	8
2017/08/18	01:20:00	XX162/0063-1	CTD/RO CTD/rosette water sampler	at 158 m	58° 53,03' N	20° 18,86' E	5,1	0,1	307	201	8
2017/08/18	01:25:59	XX162/0063-1	CTD/RO CTD/rosette water sampler	on deck	58° 53,03' N	20° 18,84' E	5,1	0,2	250	201	9
2017/08/18	03:14:00	XX162/0064-1	CTD/RO CTD/rosette water sampler	surface	58° 52,09' N	19° 44,79' E	5,1	0,6	183	190	8
2017/08/18	03:28:00	XX162/0064-1	CTD/RO CTD/rosette water sampler	at 155 m	58° 52,02' N	19° 44,74' E	5,1	0,2	223	191	8
2017/08/18	03:45:59	XX162/0064-1	CTD/RO CTD/rosette water sampler	on deck	58° 51,96' N	19° 44,69' E	5,1	0,2	219	184	8

2017/08/18	05:51:00	XX162/0065-1	CTD/RO CTD/rosette water sampler	surface	58° 47,01' N	19° 6,05' E	5,1	0,8	210	148	9
2017/08/18	06:04:00	XX162/0065-1	CTD/RO CTD/rosette water sampler	at 118 m	58° 46,99' N	19° 6,07' E	5,1	0,1	265	151	9
2017/08/18	06:10:59	XX162/0065-1	CTD/RO CTD/rosette water sampler	on deck	58° 46,97' N	19° 6,05' E	5,1	0,1	244	147	10
2017/08/18	07:43:00	XX162/0066-1	CTD/RO CTD/rosette water sampler	surface	58° 42,77' N	18° 40,18' E	5,1	0,7	162	169	8
2017/08/18	08:02:00	XX162/0066-1	CTD/RO CTD/rosette water sampler	at 238 m	58° 42,71' N	18° 40,25' E	5,1	0,1	67	180	8
2017/08/18	08:10:59	XX162/0066-1	CTD/RO CTD/rosette water sampler	on deck	58° 42,69' N	18° 40,26' E	5,1	0,1	324	180	7
2017/08/18	10:11:00	XX162/0067-1	CTD/RO CTD/rosette water sampler	surface	0° 0,00' N	0° 0,00' E	0,0	0,0	0	0	0
2017/08/18	10:36:00	XX162/0067-1	CTD/RO CTD/rosette water sampler	at 440 m	0° 0,00' N	0° 0,00' E	0,0	0,0	0	0	0
2017/08/18	10:44:00	XX162/0067-2	SD Secchi disc	surface	0° 0,00' N	0° 0,00' E	0,0	0,0	0	0	0
2017/08/18	10:45:59	XX162/0067-2	SD Secchi disc	on deck	0° 0,00' N	0° 0,00' E	0,0	0,0	0	0	0
2017/08/18	10:54:59	XX162/0067-1	CTD/RO CTD/rosette water sampler	on deck	58° 35,00' N	18° 14,00' E	5,1	0,2	143	187	5
2017/08/18	11:21:00	XX162/0067-3	CTD/RO CTD/rosette water sampler	surface	58° 34,99' N	18° 13,97' E	5,1	0,0	261	181	4
2017/08/18	11:32:00	XX162/0067-3	CTD/RO CTD/rosette water sampler	at 102 m	58° 34,99' N	18° 13,99' E	5,1	0,1	79	182	5
2017/08/18	11:37:59	XX162/0067-3	CTD/RO CTD/rosette water sampler	on deck	58° 34,99' N	18° 14,01' E	5,1	0,1	145	184	5
2017/08/18	12:07:00	XX162/0067-4	CTD/RO CTD/rosette water sampler	surface	58° 35,00' N	18° 13,99' E	5,1	0,1	333	212	6
2017/08/18	12:12:00	XX162/0067-4	CTD/RO CTD/rosette water sampler	at 16 m	58° 35,01' N	18° 14,00' E	5,1	0,2	72	213	6
2017/08/18	12:16:59	XX162/0067-4	CTD/RO CTD/rosette water sampler	on deck	58° 35,00' N	18° 14,00' E	5,1	0,1	186	216	6
2017/08/18	14:31:00	XX162/0067-5	CTD/RO CTD/rosette water sampler	surface	58° 35,04' N	18° 14,03' E	5,1	0,1	190	222	6
2017/08/18	14:41:00	XX162/0067-5	CTD/RO CTD/rosette water sampler	at 91 m	58° 35,03' N	18° 14,03' E	5,1	0,1	189	219	5
2017/08/18	14:45:59	XX162/0067-5	CTD/RO CTD/rosette water sampler	on deck	58° 35,02' N	18° 14,02' E	5,1	0,1	198	220	6
2017/08/18	23:48:00	XX162/0068-1	CTD/RO CTD/rosette water sampler	surface	58° 19,60' N	18° 4,12' E	5,1	0,6	201	168	8
2017/08/18	23:59:00	XX162/0068-1	CTD/RO CTD/rosette water sampler	at 148 m	58° 19,58' N	18° 4,11' E	5,1	0,1	157	166	8
2017/08/19	00:08:59	XX162/0068-1	CTD/RO CTD/rosette water sampler	on deck	58° 19,57' N	18° 4,19' E	5,1	0,4	110	170	7
2017/08/19	02:09:00	XX162/0069-1	CTD/RO CTD/rosette water sampler	surface	58° 0,04' N	17° 59,89' E	5,1	0,7	116	123	10
2017/08/19	02:22:00	XX162/0069-1	CTD/RO CTD/rosette water sampler	at 164 m	58° 0,03' N	17° 59,99' E	5,1	0,0	84	133	8
2017/08/19	02:30:59	XX162/0069-1	CTD/RO CTD/rosette water sampler	on deck	58° 0,02' N	18° 0,02' E	5,1	0,1	49	148	10
2017/08/19	05:01:00	XX162/0070-1	CTD/RO CTD/rosette water sampler	surface	57° 43,10' N	17° 22,03' E	5,1	2,6	186	185	11
2017/08/19	05:16:00	XX162/0070-1	CTD/RO CTD/rosette water sampler	at 137 m	57° 43,01' N	17° 22,00' E	5,1	0,4	131	188	13
2017/08/19	05:23:59	XX162/0070-1	CTD/RO CTD/rosette water sampler	on deck	57° 43,00' N	17° 21,97' E	5,1	0,5	198	194	12
2017/08/19	10:22:00	XX162/0071-1	CTD/RO CTD/rosette water sampler	surface	57° 7,01' N	17° 40,02' E	5,1	0,4	203	213	10
2017/08/19	10:30:00	XX162/0071-1	CTD/RO CTD/rosette water sampler	at 107 m	57° 7,00' N	17° 39,97' E	5,1	0,2	353	208	10
2017/08/19	10:38:59	XX162/0071-1	CTD/RO CTD/rosette water sampler	on deck	57° 6,99' N	17° 39,98' E	5,1	0,8	190	209	9
2017/08/19	10:52:00	XX162/0071-2	CTD/RO CTD/rosette water sampler	surface	57° 6,84' N	17° 39,90' E	5,1	0,1	94	209	10
2017/08/19	10:54:00	XX162/0071-2	CTD/RO CTD/rosette water sampler	at 5 m	57° 6,85' N	17° 39,90' E	5,1	0,1	350	209	10
2017/08/19	11:08:59	XX162/0071-2	CTD/RO CTD/rosette water sampler	on deck	57° 6,83' N	17° 39,85' E	5,1	0,2	240	218	9
2017/08/20	04:01:00	XX162/0072-1	CTD/RO CTD/rosette water sampler	surface	56° 54,44' N	20° 13,17' E	5,1	1,7	174	239	10
2017/08/20	04:20:00	XX162/0072-1	CTD/RO CTD/rosette water sampler	at 141 m	56° 54,34' N	20° 13,01' E	5,1	0,3	260	240	8
2017/08/20	04:25:59	XX162/0072-1	CTD/RO CTD/rosette water sampler	on deck	56° 54,33' N	20° 12,96' E	5,1	0,2	270	243	7
2017/08/20	05:11:00	XX162/0073-1	CTD/RO CTD/rosette water sampler	surface	56° 55,42' N	20° 1,22' E	5,1	0,9	254	235	10
2017/08/20	05:24:00	XX162/0073-1	CTD/RO CTD/rosette water sampler	at 158 m	56° 55,39' N	20° 1,12' E	5,1	0,4	233	241	9
2017/08/20	05:40:00	XX162/0073-1	CTD/RO CTD/rosette water sampler	at 161 m	56° 55,37' N	20° 1,09' E	5,1	0,3	82	240	9
2017/08/20	05:46:59	XX162/0073-1	CTD/RO CTD/rosette water sampler	on deck	56° 55,39' N	20° 1,10' E	5,1	0,1	355	240	8
2017/08/20	06:52:00	XX162/0074-1	CTD/RO CTD/rosette water sampler	surface	56° 57,11' N	19° 46,30' E	5,1	1,8	255	226	9
2017/08/20	07:10:00	XX162/0074-1	CTD/RO CTD/rosette water sampler	at 179 m	56° 57,09' N	19° 46,25' E	5,1	0,3	248	228	8
2017/08/20	07:20:59	XX162/0074-1	CTD/RO CTD/rosette water sampler	on deck	56° 57,09' N	19° 46,20' E	5,1	0,6	256	230	8

2017/08/20	08:20:00	XX162/0075-1	CTD/RO CTD/rosette water sampler	surface	56° 58,80' N	19° 34,60' E	5,1	0,4	239	201	8
2017/08/20	08:37:00	XX162/0075-1	CTD/RO CTD/rosette water sampler	at 163 m	56° 58,81' N	19° 34,63' E	5,1	0,1	60	208	9
2017/08/20	08:44:59	XX162/0075-1	CTD/RO CTD/rosette water sampler	on deck	56° 58,80' N	19° 34,64' E	5,1	0,2	73	211	8
2017/08/20	09:38:00	XX162/0076-1	CTD/RO CTD/rosette water sampler	surface	57° 0,57' N	19° 21,32' E	5,1	1,3	228	185	8
2017/08/20	09:55:00	XX162/0076-1	CTD/RO CTD/rosette water sampler	at 172 m	57° 0,57' N	19° 21,26' E	5,1	0,2	68	194	9
2017/08/20	10:05:59	XX162/0076-1	CTD/RO CTD/rosette water sampler	on deck	57° 0,57' N	19° 21,25' E	5,1	0,1	324	202	10
2017/08/20	10:40:00	XX162/0077-1	CTD/RO CTD/rosette water sampler	surface	57° 1,73' N	19° 13,27' E	5,1	0,7	214	178	9
2017/08/20	10:51:00	XX162/0077-1	CTD/RO CTD/rosette water sampler	at 158 m	57° 1,71' N	19° 13,24' E	5,1	0,1	176	183	8
2017/08/20	10:59:59	XX162/0077-1	CTD/RO CTD/rosette water sampler	on deck	57° 1,71' N	19° 13,26' E	5,1	0,2	166	198	9
2017/08/20	11:50:00	XX162/0078-1	CTD/RO CTD/rosette water sampler	surface	57° 4,41' N	19° 1,55' E	5,1	0,8	223	210	9
2017/08/20	12:00:00	XX162/0078-1	CTD/RO CTD/rosette water sampler	at 111 m	57° 4,38' N	19° 1,50' E	5,1	0,1	316	206	9
2017/08/20	12:05:59	XX162/0078-1	CTD/RO CTD/rosette water sampler	on deck	57° 4,38' N	19° 1,48' E	5,1	0,1	233	210	9
2017/08/20	18:25:00	XX162/0079-1	CTD/RO CTD/rosette water sampler	surface	56° 52,64' N	17° 23,47' E	5,1	0,5	329	225	11
2017/08/20	18:38:00	XX162/0079-1	CTD/RO CTD/rosette water sampler	at 93 m	56° 52,58' N	17° 23,24' E	5,1	0,5	245	232	12
2017/08/20	18:45:59	XX162/0079-1	CTD/RO CTD/rosette water sampler	on deck	56° 52,54' N	17° 23,15' E	5,1	1,0	229	230	10
2017/08/20	20:35:00	XX162/0080-1	CTD/RO CTD/rosette water sampler	surface	56° 37,54' N	17° 7,85' E	5,1	2,8	209	227	8
2017/08/20	20:48:00	XX162/0080-1	CTD/RO CTD/rosette water sampler	at 75 m	56° 37,46' N	17° 7,77' E	5,1	0,3	249	223	8
2017/08/20	20:53:59	XX162/0080-1	CTD/RO CTD/rosette water sampler	on deck	56° 37,47' N	17° 7,75' E	5,1	0,2	10	229	8
2017/08/21	00:28:00	XX162/0081-1	CTD/RO CTD/rosette water sampler	surface	56° 7,01' N	16° 32,01' E	5,1	0,6	261	274	7
2017/08/21	00:35:00	XX162/0081-1	CTD/RO CTD/rosette water sampler	at 47 m	56° 7,00' N	16° 31,98' E	5,1	0,0	197	274	7
2017/08/21	00:39:59	XX162/0081-1	CTD/RO CTD/rosette water sampler	on deck	56° 7,00' N	16° 31,98' E	5,1	0,1	217	276	7
2017/08/21	02:55:00	XX162/0082-1	CTD/RO CTD/rosette water sampler	surface	55° 45,70' N	16° 17,52' E	5,1	0,6	310	275	6
2017/08/21	03:04:00	XX162/0082-1	CTD/RO CTD/rosette water sampler	at 60 m	55° 45,74' N	16° 17,49' E	5,1	0,3	269	300	6
2017/08/21	03:08:59	XX162/0082-1	CTD/RO CTD/rosette water sampler	on deck	55° 45,74' N	16° 17,46' E	5,1	0,3	193	300	8
2017/08/21	04:55:00	XX162/0083-1	CTD/RO CTD/rosette water sampler	surface	55° 29,99' N	16° 0,03' E	5,1	0,9	279	250	7
2017/08/21	05:06:00	XX162/0083-1	CTD/RO CTD/rosette water sampler	at 78 m	55° 29,98' N	16° 0,02' E	5,1	0,1	307	258	7
2017/08/21	05:10:59	XX162/0083-1	CTD/RO CTD/rosette water sampler	on deck	55° 29,98' N	16° 0,04' E	5,1	0,1	6	245	8
2017/08/21	07:00:00	XX162/0084-1	CTD/RO CTD/rosette water sampler	surface	55° 13,31' N	16° 10,05' E	5,1	0,2	250	257	8
2017/08/21	07:10:00	XX162/0084-1	CTD/RO CTD/rosette water sampler	at 80 m	55° 13,28' N	16° 10,08' E	5,1	0,1	166	254	7
2017/08/21	07:15:59	XX162/0084-1	CTD/RO CTD/rosette water sampler	on deck	55° 13,28' N	16° 10,06' E	5,1	0,3	289	241	8
2017/08/21	08:13:00	XX162/0085-1	CTD/RO CTD/rosette water sampler	surface	55° 15,00' N	15° 59,00' E	5,1	0,9	275	249	6
2017/08/21	08:13:00	XX162/0085-4	SD Secchi disc	surface	55° 15,00' N	15° 59,00' E	5,1	0,9	275	249	6
2017/08/21	08:25:00	XX162/0085-1	CTD/RO CTD/rosette water sampler	at 88 m	55° 14,98' N	15° 58,95' E	5,1	0,2	352	237	6
2017/08/21	08:28:00	XX162/0085-2	HN Hand net	surface	55° 14,98' N	15° 58,95' E	5,1	0,2	211	229	6
2017/08/21	08:28:59	XX162/0085-4	SD Secchi disc	on deck	55° 14,98' N	15° 58,95' E	5,1	0,2	211	229	6
2017/08/21	08:30:59	XX162/0085-1	CTD/RO CTD/rosette water sampler	on deck	55° 14,98' N	15° 58,94' E	5,1	0,3	201	243	7
2017/08/21	08:36:59	XX162/0085-2	HN Hand net	on deck	55° 14,96' N	15° 58,95' E	5,1	0,1	150	252	6
2017/08/21	08:40:00	XX162/0085-3	ZNET Zooplankton net		55° 14,96' N	15° 58,93' E	5,1	0,3	249	252	7
2017/08/21	08:42:00	XX162/0085-3	ZNET Zooplankton net	max. depth 26 m	55° 14,95' N	15° 58,92' E	5,1	0,1	291	252	6
2017/08/21	08:46:59	XX162/0085-3	ZNET Zooplankton net		55° 14,96' N	15° 58,93' E	5,1	0,3	56	255	6
2017/08/21	08:47:00	XX162/0085-5	ZNET Zooplankton net		55° 14,97' N	15° 58,94' E	5,1	0,3	42	240	7
2017/08/21	08:49:00	XX162/0085-5	ZNET Zooplankton net	max. depth 50 m	55° 14,98' N	15° 58,94' E	5,1	0,4	330	253	6
2017/08/21	08:53:59	XX162/0085-5	ZNET Zooplankton net		55° 15,00' N	15° 58,91' E	5,1	0,2	341	254	7
2017/08/21	08:56:00	XX162/0085-6	ZNET Zooplankton net		55° 15,01' N	15° 58,91' E	5,1	0,3	350	246	6

2017/08/21	08:59:00	XX162/0085-6	ZNET	Zooplankton net	max. depth 85 m	55° 15,02' N	15° 58,89' E	5,1	0,1	307	252	7
2017/08/21	09:04:59	XX162/0085-6	ZNET	Zooplankton net		55° 15,02' N	15° 58,88' E	5,1	0,2	134	255	6
2017/08/21	09:11:00	XX162/0085-7	CTD/RO	CTD/rosette water sampler	surface	55° 15,00' N	15° 58,89' E	5,1	0,1	172	247	7
2017/08/21	09:23:00	XX162/0085-7	CTD/RO	CTD/rosette water sampler	at 88 m	55° 14,97' N	15° 58,91' E	5,1	0,2	210	258	7
2017/08/21	09:30:59	XX162/0085-7	CTD/RO	CTD/rosette water sampler	on deck	55° 14,95' N	15° 58,94' E	5,1	0,4	144	256	6
2017/08/21	11:16:00	XX162/0086-1	CTD/RO	CTD/rosette water sampler	surface	55° 9,62' N	15° 39,59' E	5,1	0,6	296	290	4
2017/08/21	11:27:00	XX162/0086-1	CTD/RO	CTD/rosette water sampler	at 92 m	55° 9,60' N	15° 39,57' E	5,1	0,1	114	294	4
2017/08/21	11:30:59	XX162/0086-1	CTD/RO	CTD/rosette water sampler	on deck	55° 9,60' N	15° 39,58' E	5,1	0,1	203	300	4
2017/08/21	12:42:00	XX162/0087-1	CTD/RO	CTD/rosette water sampler	surface	55° 0,01' N	15° 29,99' E	5,1	0,3	283	332	2
2017/08/21	12:51:00	XX162/0087-1	CTD/RO	CTD/rosette water sampler	at 74 m	55° 0,03' N	15° 29,97' E	5,1	0,1	306	347	3
2017/08/21	12:56:59	XX162/0087-1	CTD/RO	CTD/rosette water sampler	on deck	55° 0,02' N	15° 29,96' E	5,1	0,2	148	343	2
2017/08/21	14:04:00	XX162/0088-1	CTD/RO	CTD/rosette water sampler	surface	54° 50,67' N	15° 22,61' E	5,1	0,5	337	300	10
2017/08/21	14:17:00	XX162/0088-1	CTD/RO	CTD/rosette water sampler	at 61 m	54° 50,71' N	15° 22,60' E	5,1	0,7	357	341	11
2017/08/21	14:20:59	XX162/0088-1	CTD/RO	CTD/rosette water sampler	on deck	54° 50,73' N	15° 22,64' E	5,1	0,6	62	337	8
2017/08/21	15:24:00	XX162/0089-1	CTD/RO	CTD/rosette water sampler	surface	54° 41,96' N	15° 15,14' E	5,1	0,3	298	294	10
2017/08/21	15:33:00	XX162/0089-1	CTD/RO	CTD/rosette water sampler	at 69 m	54° 41,98' N	15° 15,05' E	5,1	0,7	285	290	10
2017/08/21	15:37:59	XX162/0089-1	CTD/RO	CTD/rosette water sampler	on deck	54° 41,99' N	15° 15,02' E	5,1	1,1	256	284	12
2017/08/21	16:41:00	XX162/0090-1	CTD/RO	CTD/rosette water sampler	surface	54° 37,68' N	15° 0,09' E	5,1	0,7	265	294	11
2017/08/21	16:51:00	XX162/0090-1	CTD/RO	CTD/rosette water sampler	at 50 m	54° 37,69' N	15° 0,01' E	5,1	0,6	275	290	12
2017/08/21	16:55:59	XX162/0090-1	CTD/RO	CTD/rosette water sampler	on deck	54° 37,70' N	14° 59,98' E	5,1	0,8	299	295	12
2017/08/21	23:27:00	XX162/0091-1	CTD/RO	CTD/rosette water sampler	surface	54° 52,68' N	13° 52,04' E	5,1	0,5	76	299	13
2017/08/21	23:32:00	XX162/0091-1	CTD/RO	CTD/rosette water sampler	at 43 m	54° 52,69' N	13° 52,02' E	5,1	0,0	251	303	12
2017/08/21	23:35:59	XX162/0091-1	CTD/RO	CTD/rosette water sampler	on deck	54° 52,69' N	13° 52,04' E	5,1	0,5	69	298	12
2017/08/22	01:37:00	XX162/0092-1	CTD/RO	CTD/rosette water sampler	surface	54° 55,49' N	13° 30,03' E	5,1	0,3	280	304	13
2017/08/22	01:45:00	XX162/0092-1	CTD/RO	CTD/rosette water sampler	at 44 m	54° 55,50' N	13° 30,05' E	5,1	0,2	71	305	12
2017/08/22	01:51:59	XX162/0092-1	CTD/RO	CTD/rosette water sampler	on deck	54° 55,49' N	13° 30,05' E	5,1	0,6	204	309	13
2017/08/22	02:02:00	XX162/0092-2	PLA	Plankton net	surface	54° 55,54' N	13° 29,97' E	5,1	0,6	301	309	13
2017/08/22	02:03:00	XX162/0092-2	PLA	Plankton net	on 28 m	54° 55,54' N	13° 29,96' E	5,1	0,1	187	302	11
2017/08/22	02:23:59	XX162/0092-2	PLA	Plankton net		54° 55,53' N	13° 29,88' E	5,1	0,4	274	312	12
2017/08/22	02:35:00	XX162/0092-3	CTD/RO	CTD/rosette water sampler	surface	54° 55,55' N	13° 29,99' E	5,1	0,5	3	304	12
2017/08/22	02:49:00	XX162/0092-3	CTD/RO	CTD/rosette water sampler	at 5 m	54° 55,54' N	13° 30,00' E	5,1	1,4	298	307	11
2017/08/22	02:51:59	XX162/0092-3	CTD/RO	CTD/rosette water sampler	on deck	54° 55,55' N	13° 29,96' E	5,1	0,1	292	301	10
2017/08/22	06:00:00	XX162/0093-1	CTD/RO	CTD/rosette water sampler	surface	54° 43,37' N	12° 47,11' E	5,1	1,1	281	316	11
2017/08/22	06:03:00	XX162/0093-2	SD	Secchi disc	surface	54° 43,38' N	12° 47,11' E	5,1	0,4	39	317	10
2017/08/22	06:04:59	XX162/0093-2	SD	Secchi disc	on deck	54° 43,39' N	12° 47,12' E	5,1	0,3	33	316	9
2017/08/22	06:05:00	XX162/0093-3	HN	Hand net	surface	54° 43,39' N	12° 47,12' E	5,1	0,3	278	315	11
2017/08/22	06:06:00	XX162/0093-1	CTD/RO	CTD/rosette water sampler	at 20 m	54° 43,39' N	12° 47,11' E	5,1	0,2	265	321	10
2017/08/22	06:15:59	XX162/0093-1	CTD/RO	CTD/rosette water sampler	on deck	54° 43,40' N	12° 47,06' E	5,1	0,2	265	321	11
2017/08/22	06:17:59	XX162/0093-3	HN	Hand net	on deck	54° 43,40' N	12° 47,06' E	5,1	0,1	215	317	10
2017/08/22	06:23:00	XX162/0093-4	ZNET	Zooplankton net		54° 43,42' N	12° 47,04' E	5,1	0,1	35	311	8
2017/08/22	06:25:00	XX162/0093-4	ZNET	Zooplankton net	max.depth 20 m	54° 43,41' N	12° 47,04' E	5,1	0,3	258	315	9
2017/08/22	06:30:59	XX162/0093-4	ZNET	Zooplankton net		54° 43,41' N	12° 47,03' E	5,1	0,2	116	314	10
2017/08/22	08:33:00	XX162/0094-1	CTD/RO	CTD/rosette water sampler	surface	54° 41,78' N	12° 41,99' E	5,1	1,2	282	299	10
2017/08/22	08:41:00	XX162/0094-1	CTD/RO	CTD/rosette water sampler	at 19 m	54° 41,78' N	12° 41,96' E	5,1	0,2	158	301	10

2017/08/22	08:44:59	XX162/0094-1	CTD/RO CTD/rosette water sampler	on deck	54° 41,79' N	12° 41,95' E	5,1	0,0	306	295	10
2017/08/22	12:04:00	XX162/0095-1	CTD/RO CTD/rosette water sampler	surface	54° 28,02' N	12° 13,03' E	5,1	0,4	284	283	12
2017/08/22	12:07:00	XX162/0095-2	SD Secchi disc	surface	54° 28,02' N	12° 13,02' E	5,1	0,1	148	285	12
2017/08/22	12:08:00	XX162/0095-3	HN Hand net	surface	54° 28,02' N	12° 13,02' E	5,1	0,1	142	286	12
2017/08/22	12:08:59	XX162/0095-2	SD Secchi disc	on deck	54° 28,02' N	12° 13,02' E	5,1	0,1	142	286	12
2017/08/22	12:11:00	XX162/0095-1	CTD/RO CTD/rosette water sampler	at 24 m	54° 28,02' N	12° 13,01' E	5,1	0,0	229	285	11
2017/08/22	12:15:59	XX162/0095-1	CTD/RO CTD/rosette water sampler	on deck	54° 28,02' N	12° 13,00' E	5,1	0,1	251	282	12
2017/08/22	12:15:59	XX162/0095-3	HN Hand net	on deck	54° 28,02' N	12° 13,00' E	5,1	0,1	251	282	12
2017/08/22	12:23:00	XX162/0095-4	ZNET Zooplankton net		54° 28,01' N	12° 12,99' E	5,1	0,1	168	278	12
2017/08/22	12:24:00	XX162/0095-4	ZNET Zooplankton net	max.24 m	54° 28,01' N	12° 12,99' E	5,1	0,1	160	279	12
2017/08/22	12:27:59	XX162/0095-4	ZNET Zooplankton net		54° 28,00' N	12° 12,99' E	5,1	0,1	223	284	10
2017/08/22	16:01:00	XX162/0096-1	CTD/RO CTD/rosette water sampler	surface	54° 18,89' N	11° 33,03' E	5,1	0,2	139	282	10
2017/08/22	16:09:00	XX162/0096-1	CTD/RO CTD/rosette water sampler	at 22 m	54° 18,89' N	11° 32,93' E	5,1	0,5	244	291	9
2017/08/22	16:12:59	XX162/0096-1	CTD/RO CTD/rosette water sampler	on deck	54° 18,88' N	11° 32,91' E	5,1	0,4	185	293	8
2017/08/22	16:19:00	XX162/0096-2	PLA Plankton net	surface	54° 18,86' N	11° 32,87' E	5,1	0,3	288	290	9
2017/08/22	16:20:00	XX162/0096-2	PLA Plankton net	on 21 m	54° 18,87' N	11° 32,87' E	5,1	0,2	300	289	9
2017/08/22	16:23:59	XX162/0096-2	PLA Plankton net		54° 18,87' N	11° 32,86' E	5,1	0,4	304	292	9