2.2 Ocean Acoustics

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Objectives

The restricted accessibility of the Southern Ocean throughout most of the year confines our knowledge of the distribution patterns, habitat use and behaviour of marine mammals in this area. Most of the Antarctic marine mammals produce species-specific vocalizations during a variety of behavioral contexts. Hence, passive acoustic monitoring (PAM) offers a valuable tool for research on these species, capable of covering large temporal and spatial scales. Particularly, in remote areas such as the Southern Ocean, moored PAM recorders are the tool of choice, as data can be collected year-round, under poor weather conditions, during darkness and in areas with dense ice cover.

The HAFOS observing system, a large-scale oceanographic mooring array distributed throughout the Weddell Sea, serves as host to numerous passive acoustic recorders which were recovered, refurbished and redeployed during PS129 to continue the long-term collection of passive acoustic data in this area. The basin-wide design of the HAFOS observatory and the multi-year scale of data collection enables unprecedented investigations of the spatio-temporal patterns in marine mammal biodiversity at the different mooring locations. The HAFOS array set-up and design also allows collecting information on the detection range of the various marine mammal sounds. Information on the distance over which marine mammal sounds can be detected by passive acoustic sensors is of vital importance when acoustic presence data are linked to information on environmental parameters in the context of studies of species-specific habitat usage.

Work at sea

2.2.1 Recovery of moored acoustic recorders

In total, 10 passive acoustic recorders moored at 9 different locations were recovered during PS129. Due to temporal limitations resulting from the ship-speed constraints imposed on this expedition, calling at the southwesternmost PAM equipped mooring AWI250-3 was not attempted. Recovery attempts of PAM equipped moorings AWI249-3 and AWI257-2, albeit being on-site, were abandoned after a short while as recoveries under the prevailing quasi-continuous sea-ice conditions would have required an estimated 6-12 hours of shiptime, which we did not have at our disposition. These mooring recoveries were postponed to the next expedition which hopefully will suffer from less severe time constraints.

The recovered recorders comprised 9 SonoVaults (manufactured by Develogic GmbH, Hamburg) and one AURAL (manufactured by MultiElectronique). Nine of these recorders had been deployed during *Polarstern* expedition PS117, while one recorder (SV1024) had been deployed one year prior to PS129 in mooring BGC-1 during *Polarstern* expedition PS124. An overview of the recovery information of all recovered acoustic recorders is provided in Table 2.22 and Figure 2.16, while deployment positions of the recorders are marked in Figure 2.18.

Tab. 2.22: Overview of SonoVault and AURAL recorders recovered during PS129. All SV recorders

For further information see the end of the Chapter.

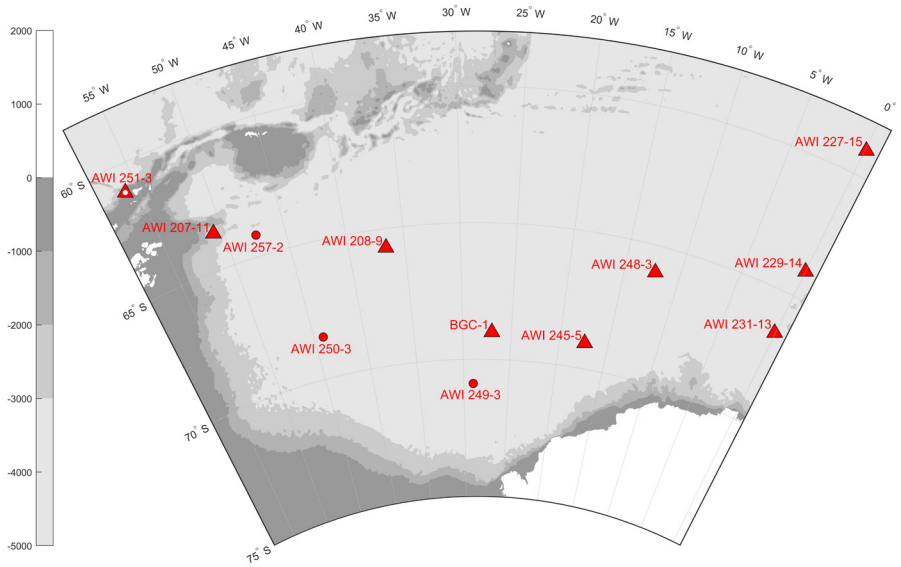

Fig. 2.16: Map of positions of PAM recorders recovered during PS129 (red triangles pointing up) and of moorings with recorders not retrieved (red dots)

After recovery, the acoustic recorders were rinsed with freshwater and cleaned from biological fouling. States of recovered recorders were queried (if possible) by connecting a laptop through a serial connection and using the software 'Develogic Device Control' (Ver 1.0.4.26525, provided by the instrument manufacturer) for the SonoVault recorders and a software provided by Multi-Electronique for the AURAL. The recorders were then left to dry overnight to prevent damage to the electronics from water that was retained in the threading of the recorder's housing. SV1002 and AU0085 from AWI251-03 were opened on the same day due to the lack of time towards the end of the expedition. The area around the openings with the sealings were carefully dried with compressed air and tissues before opening. After opening the recorder housing, the internal power supply was disconnected and its remaining voltage measured. In case of the SonoVaults, all SD cards, which had been labeled prior to deployment with the recorder's serial number, the recording module number and the SD card-slot, were removed and backed up (see below).

Each recovered recorder was calibrated post-recovery to allow calculations of received sound levels. For the calibration of the complete system, including the hydrophone, a Brüel & Kjaer calibrator (Type 4229) with the custom-made adapter (SV.PA manufactured by Develogic) for the TC 4037 hydrophones was used. The calibration frequency is 251.2 Hz ± 0.1% (ISO 266) and the amplitude (at 1013 hPa) is 153.95 dB SPL. Additionally, a gain calibration of the electronic board was performed by connecting a frequency generator (MR Pro, NTI) to the hydrophone input on the electronic board. The generator was set to a sinus of 5 mV amplitude (rms) and the frequencies 100 Hz, 250 Hz, 1 kHz and 10 kHz. For all calibration recordings, the recorder was set to the deployment sampling rate and gain setting to record one file of 5-minute length. All recordings were stored, and signal levels and system gain were calculated. All hydrophones mounted on the recovered SonoVaults were checked individually with an oscilloscope. The B&K pistonphone was used to generate a calibrated signal. Approximately 10 mV_{rms} is expected for the differential hydrophone output. This value, combined with the

qualitative check of the symmetry of the positive and negative outputs, was used as an indicator for the hydrophone's state.

The hard disk with the acoustic data from the AURAL was removed from the instrument. A calibration of this instrument has not yet been performed.

Data retrieval and backup

Five of the nine recovered passive acoustic devices deployed on PS117 recorded for periods ranging between 450 days and 565 days (Fig. 2.17). In 3 recorders (SV1006, SV1060, SV1020), recordings stopped early due to a firmware or electronics error. One recorder (SV1060) had burned internally, presumingly due to a battery failure caused by a deep discharge of one of the lithium cells. The recorder deployed during PS124 reached a recording period of 356 days, having been set to sample at 48 kHz continuously for one year. A total of approximately 28 TB and >3,900 days of passive acoustic data were obtained. Further details are discussed in the section "Preliminary technical results".

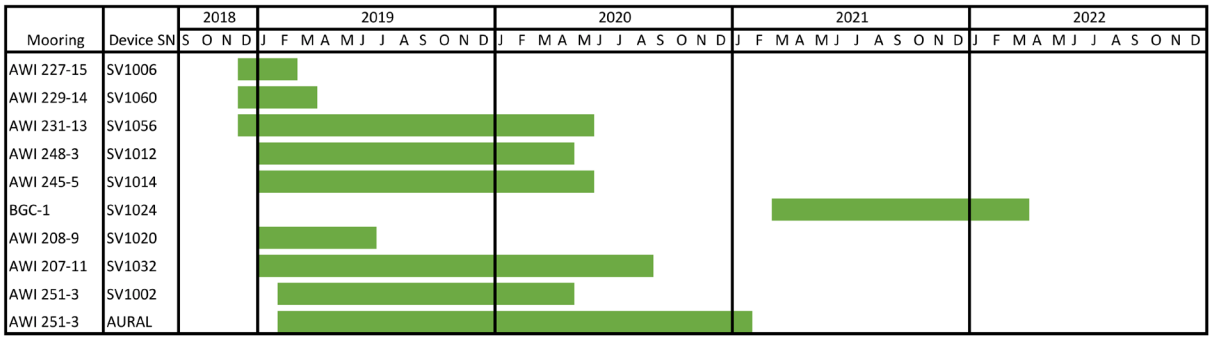

Fig. 2.17: Recording months of passive acoustic recorders retrieved during PS129. Note: granularity equals one month, not days

The SonoVault recorders store data on 35 SD cards (allowing a maximum of 4.4 TB of data storage per recorder for recorders deployed during PS117). After recovery, the SD cards were removed from the recorders and the acoustic data were copied using a custom-written shell script. Up to 5 SD cards were copied simultaneously, with data initially saved with original filenames sorted into monthly and daily folders to one HDD (10 TB WD red) drive. The backup process included the renaming of files based on each files' internal time stamp (WAV-header) to the file name format 'YYYYMMDD-HHMMSS_AWIXXX-ZZ_SVXXXX.wav' (with X representing the IDs of mooring and SonoVault recorder, respectively and Z indicating the consecutive numbering of this mooring, i.e., the number of the current servicing cycle at a respective mooring). After copying was completed, the data were synchronized with a second HDD (10 TB WD red) for backup and copied temporarily to a third external HDD used for the preliminary analysis on board. SD cards from the burnt (SV1060) instrument were treated to prevent further corrosion. They first were rinsed from residues with milli-Q water, wiped dry and left drying over night. In a second step, contacts were cleaned using contact spray for electronics. In a last step the contacts were cleaned using a fiberglass pen. As a result, data from 5 SD cards could be saved. Another two SD cards will have to be sent to a laboratory specializing on data recovery from the embedded microchips.

2.2.1 Deployment of moored acoustic recorders

A total of 15 SonoVault recorders were deployed in 15 moorings during PS129 (Fig. 2.18). These recorders are equipped with electronic version V4.1. All new recorders use the firmware

version V4.14. Prior to this expedition, all SonoVault recorders were refurbished by the manufacturer and overpressure valves were installed in all instruments, except for SV1009 and SV1023. The refurbishment included the exchange of O-rings, a pressure test, the exchange of the RTC-clock batteries on the electronics, as well as the test of hydrophones and recording electronics. At the AWI facilities, recorders were equipped with batteries (Tadiran SL-2780) prior to shipping. O-rings were carefully checked, cleaned and greased before closing the housing prior to deployment.

At three moorings (AWI251-04, CWS01-01, WWS02-01), an AURAL recorder (Multi-Electronique, Canada) was deployed alongside a SonoVault recorder for extended recording duration (albeit at a subsampling scheme).

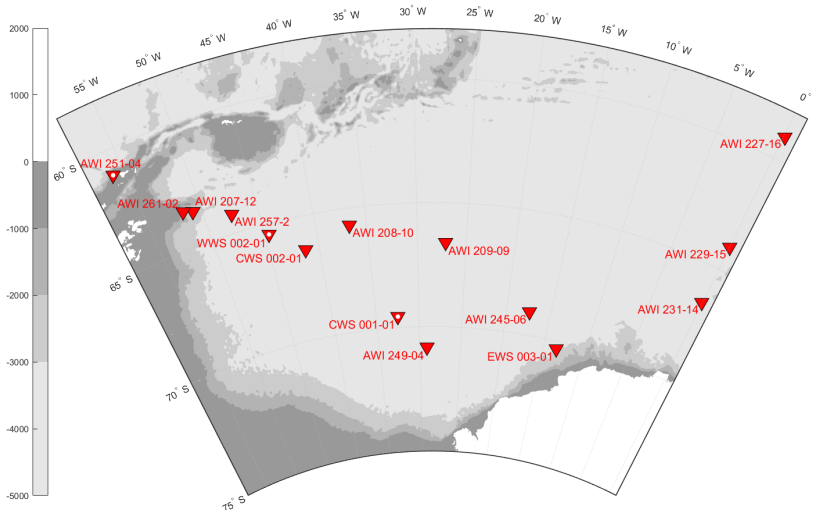

Fig. 2.18: Map of SonoVault (red triangles) and Aural (additional white dot in center of triangle) deployment positions during PS129. A total of 15 SonoVaults and 3 Aural recorders were moored.

Recorders were calibrated prior to deployment in the same manner as the post-recovery calibrations described above, using the Brüel & Kjaer calibrator (Type 4229) and the NTI frequency generator (MR Pro). All hydrophones were checked analog to the recovery check during the preparation for deployment. Three SonoVaults were equipped with new hydrophones of the type D60 (Neptune Sonar). These hydrophones have a slightly lower sensitivity (-195.5 dB re1V/µPa) than the standard TC4037-3 (RESON) (-193 dB re1V/µPa).

Prior to the deployment, newly formatted SD cards were placed into the SD card slots on each recording module. 12 recorders of the type SonoVault now contain 33 SD cards with a capacity of 128 GB each (ATP Industrial Grade SD Cards) and two additional 256 GB (acon Industrial Grade SD Cards), resulting in a total storage capacity of 4.6 TB per recorder, while the three remaining SonoVault recorders use 5 x 7 = 35 SD cards with 128 GB (ATP Industrial Grade SD Cards) resulting in 4.4 TB storage capacity. All SD cards were formatted to FAT32 using the freeware tool ‘SDXCformatterFAT32’. On each first SD card (S0) of the first of five recording modules (M0-M4), the recording configuration (e.g., gain setting, sample rate) was stored. Additionally, the module number was copied onto S0 of every recording module to make the set of seven SD cards of this module available for storage.

All SonoVaults were programmed to record at a sampling rate of 48 kHz with 24 bit and to store data in files of 600 seconds duration (Tab. 2.23). A quasi one-day-on/1-day-off scheduling (subsampling scheme) was set with recordings starting at 11:30 every second day to record for 25 hours, then stop for 23 hours. Internal data storage was structured to store data in daily folders. Gain was set to level 7 which in this hardware/firmware release corresponds to

about 41-45 dB in all deployed recorders (Tab. 2.23). Every instrument was first tested with its operational setting and then started at least one day prior to the deployment.

AURAL recorders AU0231 and AU0086, model number AURAL-M2, were equipped with a PATA-SATA adapter and a 1 TB hard disc. The scheduling was set to 10-min-long recordings every full hour, starting at 31 December 2022 at 12:00. The internal jumpers were set to a gain of 22 dB. The AURALs were tested for a couple of hours prior to the deployment with a different scheduling (5 minutes every 15 minutes).

AURAL recorder AU0303 at AWI251-04 is the latest AURAL model AURAL-M3. Data is stored on 5 micro-SD-cards and settings are made using a WIFI connection and a browser-based GUI. It was set to record in parallel to the SonoVault with a sampling frequency of 32 kHz, 10 minutes every hour. The new system is expected to use less power and to run for up to 900 days with the current settings. During instrument preparation, its hydrophone behaved erratically, with the AURAL not recording any hydrophone signals. During the last tests, however, this problem did not occur anymore and the instrument was deployed with this hydrophone. We attempted to calibrate the AURAL with its HTI-96-min hydrophone using an adapter for the B&K Pistonphone. However, the system was oversaturated by the signal due to the set gain of 22 dB. Nevertheless, a calibration with the frequency generator was performed, analysis pending.

All recorders were attached to the mooring rope by means of two plastic brackets mounted at two positions around the housing. In comparison with the PS117 deployments, the brackets were placed farther apart. The brackets were then attached to the Dyneema mooring rope. In case of the last 5 deployed recorders, the brackets were attached to a 5 m rope and then rope-shackled in between two mooring lines for easier handling during the deployment. All metal parts are titanium grade 5.

On AWI251-04, additionally, an AZFP (Acoustic Zooplankton and Fish Profiler, ASL) and an ADCP (Acoustic Doppler Current Profiler) were deployed alongside the acoustic recorders for the detection of the presence of prey. The AZFP is using the backscatter of acoustic pings at four different frequencies (38 kHz, 125 kHz, 200 kHz, 455 kHz) to detect zooplankton. AZFP55115 is deployed at 239 m water depth and is set to have bursts every 5 minutes, consisting of 4 pings every 20 seconds. Burst pings will be stored without averaging. The pulse length for every frequency is set to the maximum (1000 µs) to bring the maximum power into the water column. The range for the measurement is set to 280 m, with bin sizes of 0.25 m. A deployment period of 1100 days was assumed for the setup, which was set to start at 12:00 UTC on 24 April 2022. The limiting factor according to the software will be the power consumption.

Furthermore, a 75 kHz ADCP (SN 22858) was deployed in 303 m water depth. The ADCP was started at 14:47 UTC on 24 April 2022 and was set to ping every 10 minutes. With this setting, the ADCP ping and the AZFP pings will not interfere with each other (unless a major clock drift occurs for either of the instruments). Apart from information on the currents at the mooring position, its data is also intended to be used for analysis of presence of zooplankton.

Tab. 2.23: Overview of acoustic recorders deployed during PS129

For further information see the end of the Chapter.

2.2.2 Maintenance of the PALAOA observatory

PALAOA (Perennial Acoustic Observatory in the Antarctic Ocean) located on the Ekström ice shelf since 2005, has collected continuous underwater recordings from the coastal Antarctic environment using a hydrophone deployed at ca. 160 m depth. With the ice shelf advancing by about 150 m per year, the position has been constantly changing.

During the supply of the *Neumayer III* station from 28 until 31 December 2014, an aluminum box, containing modified SonoVault electronics, was installed at the position of the former PALAOA container. It was recessed into the snow and covered with a wooden board and some snow. The box (80 cm x 60 cm x 60 cm) included a Reson input module EC6073 for the active hydrophone (Reson TC4032) and a SonoVault electronics module, similar to those used in the moored recorders. For the power supply, four 90 Ah, 12V batteries were included, two connected in row for each, the active hydrophone and the recording electronics. The battery setup was changed later in 2015 to two batteries in a row and those rows in parallel, supplying both the hydrophone and the recording electronics. Storage capacity is 4.4 TB (35 x 128 GB SDXC). With a sampling rate of 96 kHz at 24 bit and a file size corresponding to of 600 sec (10 min), the PALAOA system was expected to hold recording capacities for up to 6 months. Servicing was provided by the overwintering team of the *Neumayer III* station. Based on their experience, a servicing interval of approximately 3 months proved to be necessary.

For PS129 it was intended to calibrate the hydrophone and recording equipment using a frequency generator attached to the calibration input on the EC6073 input module. However, on 20 March and later on 23 March 2022, when approaching the shelf with *Polarstern*, it seemed as if the hydrophone cable was open-ended at the shelf-ice edge. A helicopter flight to the PALAOA site on 23 March 2022, confirmed this suspicion. The hydrophone cable must have been ripped during a recent calving event of the ice shelf. The recording box was removed and the electronics, including the data storage, was taken back to the ship. Analyzing the recovered acoustic data revealed that the calving event took place on the 27 February 2022 at approximately 08:16 UTC.

On 23 March 2022, i.e., approximately one month after PALAOA's break-off and immediately prior to removing its recording box, the latter's location was determined by handheld GPS as 70.502781°S 08.205716°W.

Preliminary technical results

Preliminary technical evaluation

Recovered SonoVaults had been deployed with mounts, consisting of two plastic brackets, reaching around the instrument housing at two positions spaced by about 1 m, with all metal parts being titanium grade 2. The clamps had been attached directly to the Dyneema rope (though with relatively little spacing of about 1 m, possibly allowing the recorder to vibrate in stronger currents). Upon recovery, no complications with this form of attachment were observed. None of the recovered recorders exhibited signs of corrosion on neither the device nor the mounts. All but the two recorders recovered at AWI251-03 were quasi-free of biofouling. Two recorders at AWI251-03, however, exhibited massive biofouling. The AURAL (AU0085) was completely overgrown, while the SonoVault (SV1002) was overgrown with the exception of the hydrophone, which exhibited only a thin biofilm.

All hydrophones were tested after recovery. Two recovered hydrophones (SN4011021 of recorder SV1020, SN4011040 of recorder SV1024) proved defect. They exhibited asymmetric sinus signals in the oscilloscope reading and the rms amplitude of the signal was lower than the expected 10 mV_{rms}. The underlying damage and its cause remain unknown. The corresponding

recorders' system gain deviated accordingly between pre- and post-deployment pistphone calibrations.

Communication with recovered instruments

Communication efforts after recovery were successful with only 1 out of 9 SonoVault and for the single Aural recorder. A computer was connected via RS232 to the instruments. Success of communication efforts and information retrieved from the recorders are listed in Table 2.24.

Tab. 2. 24: Overview of results of preliminary technical and data quality evaluation of recorders recovered during PS129

For further information see the end of the Chapter.

Operation period and failures

All SonoVaults had ceased recording prior to recovery. All devices had been equipped with sufficient power and storage capacity to bridge up to 2 years deployment with recordings. Most of the recovered SonoVaults used the hardware version 4.1, with firmware version 4.13, and were set to Low Power Mode for sampling. The maximum recording duration (620-660 days) did not reach the recording duration from the previous expedition. It is assumed that the new 128 GB SD-cards used during this recent deployment might have had a higher power consumption and led to the shorter recording times.

Recorders SV1006 and SV1020 recorded only for some weeks before stopping to record, presumably due to a software or electronics error, as the log files exhibited good batteries levels at the time of stopping and electronics could be restarted after recovery. The reason for the error is unknown though, as recorders ran for several days prior to the deployment without fault and were checked only hours before the deployment.

Clock drift and post calibration

Where possible, the status of the system, the clock drift of the precision clock, voltage and SD-card status were checked using the communication software. To post-calibrate the hardware in combination with the hydrophone, a laboratory power supply was connected to the hardware. A post calibration of each recovered recorder was performed to ensure the correct calculation of signal levels after recovery (see Tab. 2.23, Gain PHS and MRPro).

Preliminary data quality evaluation

Two of the SonoVault recordings exhibited distinct peaks in the spectra (Fig. 2.19), representing tonal noise within the frequency range 25 Hz up to the Nyquist frequency, which likely is caused by the electronics. No cause of this noise could yet be determined, but will be under investigation. Table 2.25 summarizes the occurrence and type of noise found during the preliminary analysis of the recovered data.

Tab. 2.25: Overview of PAM recorders data quality

AWI22715_SV1006	Some electronic noise, order of 2 dB
AWI23113_SV1056	No electronic noise discernable in annual spectra.
AWI24803_SV1012	No electronic noise discernable in annual spectra.
AWI245-05_SV1014	No electronic noise discernable in annual spectra.

BGC-1_SV1024	“Flat” spectrum” for f > 3 Hz, possibly broken hydrophone
AWI 208-9_SV1020	“Flat” spectrum” for f > 3 Hz, possibly broken hydrophone
AWI 207-11_SV1032	Pronounced electronic noise, order of 10 dB
AWI 251-3_SV1002	No electronic noise discernable in annual spectra.
AWI 251-3_AU	pending

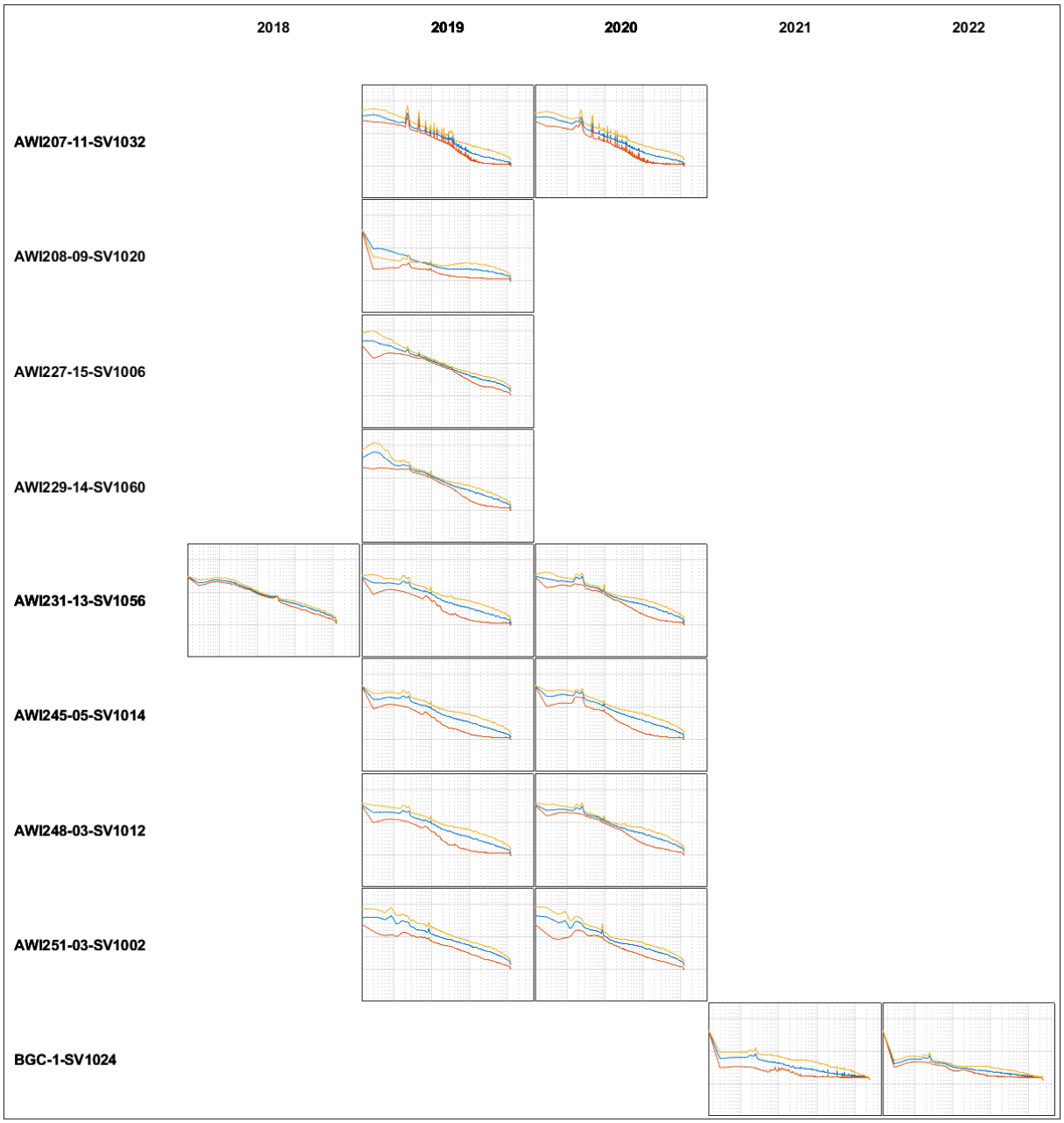

Fig. 2.19: Annual spectra of recorded data. Actual recording length varies with recorder and years. The logarithmic frequency (x-) axis ranges from 1 Hz to 50 kH, the sound pressures spectral density from 40 to 110 dB re 1 µPa2Hz.

Preliminary scientific results

Recordings were examined using the OPUS analysis tools (opus.aq) to calculate annual spectrograms (Figs. 2.20). Spectrograms indicate that tonal noise existed in AWI207 11_SV1032 throughout the recording period and throughout the short recording period of AWI227 15_SV1006. "Flat" spectra prevail for AWI208-9_SV1020 and BGC_SV1024 for the duration of their recordings. The remaining 9 recordings exhibit enhanced energy in the fin and blue whale bands and frequent broadband events, probably related to storms and cryophonic sound.

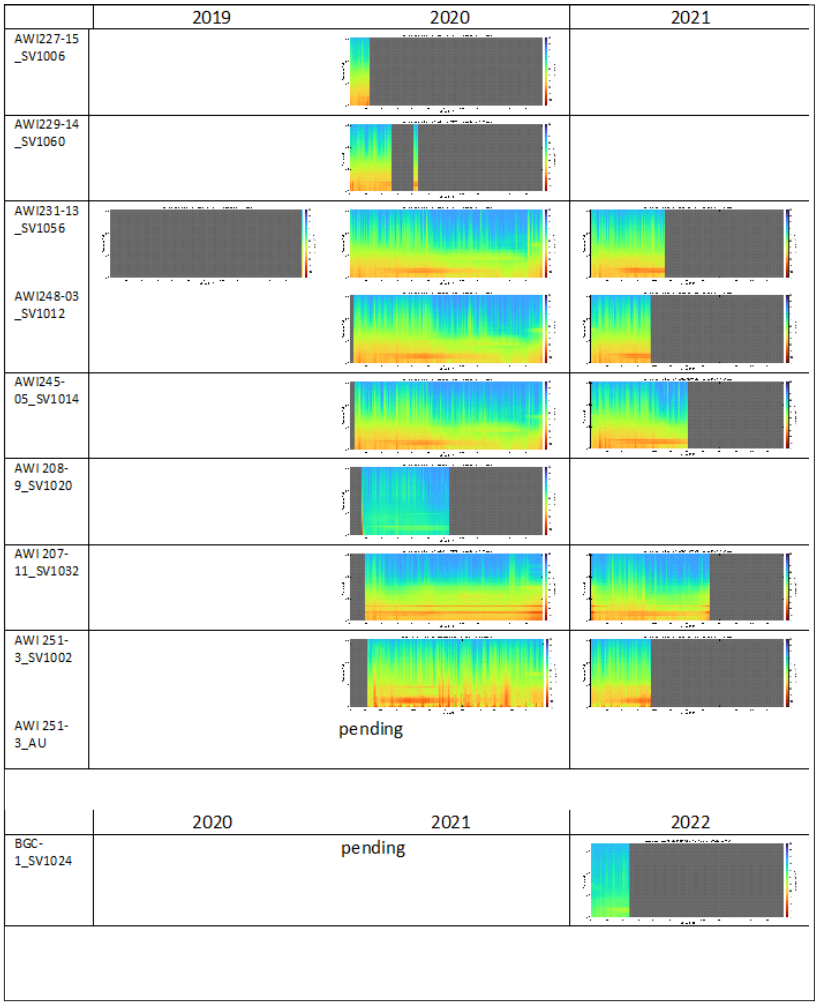

Fig. 2.20: Annual spectrograms of acoustic recordings captured by recorders deployed during previous expedition PS117 (top) and PS124 (bottom)

We randomly sampled 52 days over one complete year of recording per recovered mooring. We then systematically selected twelve 10-min acoustic files from the sampled day (one 10-min file out of every two hours) to ensure the representativity of the acoustic activity during that day. This made a total of about 600 files per mooring when recordings from the complete year where available. We manually analyzed every sample (10-min file) using Raven Pro 1.5 (Cornell Lab of Ornithology, Ithaca, USA) to visually and aurally identifying the presence/absence of species-specific calls from spectrograms. Spectrogram calculations employed various parameter settings to optimize visual contrasts of signal to noise gradients. Due to time constrains, data from AWI251-3 were not included in the analysis.

For each recorder, we computed the acoustic-presence proportion of every single species over the studied year (or shorter periods if data was missing). This allowed us to coarsely assess the marine mammal community composition at the recording sites and the species distribution over the studied area (Fig. 2.21).

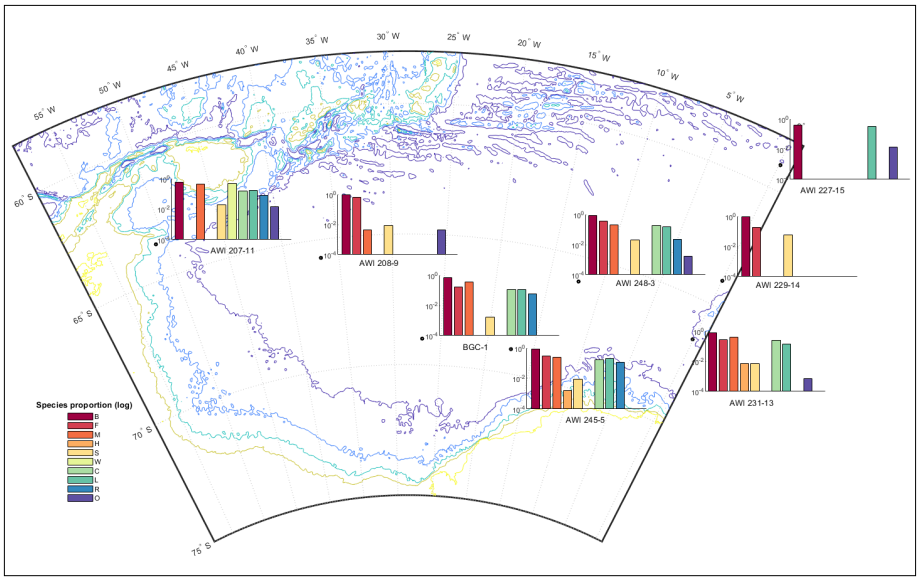

Fig. 2.21: Spatial distribution of marine mammal community composition

We also computed the species daily proportion of acoustic presence to assess the temporal variation in the structure of the communities at the specific sites (Fig. 2.22).

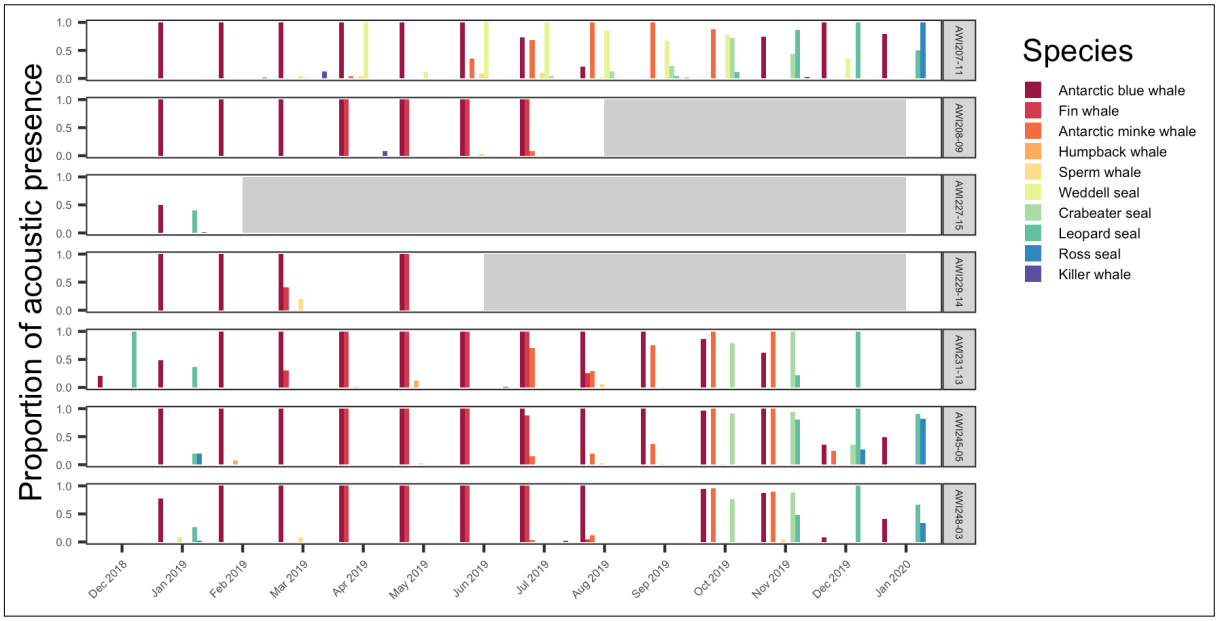

Fig. 2.22: Species daily proportion of acoustic presence

Pinnipeds

Only considering the random subset of data that was analyzed, Weddell seals (*Leptonychotes weddellii*) were exclusively detected at AWI207-11 in 2019. However, their acoustic presence was recurrent at the station lasting from April to December. On all analyzed sites with data available during the austral summer (4/7), we detected crabeater seals (*Lobodon carcinophaga*), leopard seals (*Hydrurga leptonyx*) and Ross seals (*Ommatophoca rossii*), except for AWI231-13, where no acoustic activity from Ross seals was detected. In all cases, the pack-ice related *pinniped* species followed a similar temporal pattern, with crabeater seals being acoustically conspicuous at the sites from September to December, leopard seals from October/November to January and Ross seals from the end of December to January. Only on AWI207-11 did we observe crabeater seal calls from July on.

Cetaceans

Single vocalizations and/or choruses of Antarctic blue whales (*Balaenoptera musculus intermedia*), fin whales (*B. physalus*) and Antarctic minke whales (*B. bonaerensis*) were very common at almost all recording positions. Fin whales were not detected at AWI227-15, probably because data from 2019 were missing from February on there and this species showed to be acoustically active from February to August at the remaining stations. They were also not observed at AWI207-11, but due to the pervasive mechanical noise present in these recordings it may also be possible that we were not able to distinguish their acoustic signature in the spectrograms. Most likely, the absence of Antarctic minke whale calls at AWI227-15 and AWI229-14 was also due to the lack of recordings during their acoustically active period in the Weddell Sea. Humpback whale (*Megaptera novaeangliae*) songs were only observed occasionally at the two southernmost sites, AWI245-5 and AWI231-13.

Sperm whale (*Physeter macrocephalus*) clicks were observed, even though not very frequently, in almost all recording positions. Killer whale (*Orcinus orca*) clicks and whistles were observed at 5 out of the 7 locations, however, their frequency was also very low.

Other sound sources

Pervasive tonal mechanical noise was detected in all recordings from AWI207-11 in 2019. Recordings from all sites, especially those located along the Greenwich Meridian transect and in the central Weddell Sea, presented intense and frequent noises with varying frequency and temporal patterns. The probable source of these noises was sea-ice related, either from the interaction between different sorts of sea-ice floes, the melting or hardening of the ice, or the calving/breaking off from close-by iceberg. Nevertheless, the precise source of each of these noises still needs to be determined.

Data management

Passive acoustic data will be transferred to the AWI silo and made accessible through the OPUS.aq webpage and will be archived, published and disseminated according to international standards by the World Data Center PANGAEA Data Publisher for Earth & Environmental Science (https://www.pangaea.de) within two years after the end of the expedition at the latest. By default, the CC-BY license will be applied. P.I.'s: Ilse van Opzeeland and Olaf Boebel.

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Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung (2017) Polar Research and Supply Vessel POLARSTERN Operated by the Alfred-Wegener-Institute. Journal of large-scale research facilities, 3, A119. http://dx.doi.org/10.17815/jlsrf-3-163.

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Backus RH, Schevill WE (1966) Physeter clicks. In: Norris KS (ed), Whales, dolphins and porpoises. University of California Press, Berkely and Los Angeles, U.S.A., p. 510-528.

Tab. 2.2: Instrumentation of moorings recovered during PS129. The column “CTD” gives the station number of the CTD casts carried out near the mooring location at deployment and recovery.

					Deploy				Recover				Instrument		
Mooring	Latitude	Longitude	EK80 Reading	Corr. depth [m]	Station # PS117_		Date	Time	Station # PS129_		Date	Time	Type	S/N	Depth (m)
					Moor	CTD			Moor	CTD					
AWI227-15	59°03.02’S	000°06.44’E		4605	22-4	22-2	2018-12-13	10:10	18-1	18-7	2022-03-12				
								09:58				08:23	SonoVault	1006	285
								08:26				10:30	SBE37SMP	12479	4560
AWI229-14	64°00.49’S	000°00.84'W		5060	24-2	none	2019-01.01	22:38	25-2	25-8	2022-03-15				
								20:10				09:39	SBE56	9494	82
								20:15				09:37	SBE56	9495	133
								20:20				09:37	SBE56	9496	184
								20:30				09:33	SBE56	9497	235
								20:36				09:33	Nortec	12654	256
								20:36				09:33	SBE56	9492	256
								20:45				09:44	SonoVault	1060	1060
								20:47				09:50	SBE56	2385	2098
								20:52				09:53	SBE56	2382	2385
								20:56				09:55	SBE56	2396	2382
								21:00				09:56	SBE56	3811	2396
								21:05				09:59	SBE56	3811	3811
								21:05				09:59	Aquadopp	12658	12658
								22:27				11:11	SBE37SMP	2092	12481
AWI231-13	66°31.03’S	000°04.48’W		4580	15-5	15-1	2018-12-27	18:34	27-5	27-2	2022-03-17				
								18:14				08:38	SonoVault	1056	303
								16:11				10:18	SBE37SMP	10944	4536
AWI244-06	69°00.08’ S	07°01.65’ W		2900	33-4	33-6	2019-01-05	20:01	**PS126** _116-1		2021-03-20	15:00			
													PAM	1049	300
													SBE37	8122	2903
AWI248-03	65°58.12’S	12°13.84’W		4950	34-5	34-2	2019-01-07	10:37	30-2	30-1	2022-03-19				
								18:14				09:10	SonoVault	1012	350
								16:11				10:30	SBE37SMP	8123	4906
AWI245-5	69°03.64’S	17°23.49’W		4734	35-4	35-6	2019-01-08	14:20	65-2	65-1	2022-04-04				
								14:12				11:10	SonoVault	1014	300
								12:10				12:57	SBE37SMP	8124	4691

					Deploy				Recover				Instrument		
Mooring	Latitude	Longitude	EK80 Reading	Corr. depth [m]	Station # PS117_ Moor	Station # PS117_ CTD	Date	Time	Station # PS129_ Moor	Station # PS129_ CTD	Date	Time	Type	S/N	Depth (m)
BGC-1	69°00.03'S	27°00.29'W		CTD→4676		PS124_ 117-2	2021-03-24	13:13	72-2	72-1	2022-04-07	15:01	Lab on Chip	7	
												15:01	Nitrate		
												15:01	CO2	219	
												15:02	RAS-500	12073	
												15:02	Ecotriplet	17c	
												15:02	SBE37SMP	21026	132 ist
												15:03	RDI WH300	12667	
								13:06				15:10	SBE56	7824	
								13:00				15:15	SBE37SMP	2100	
								12:55				15:19	SBE56	7825	
								12:24				15:23	SBE37SM	449	
								12:00				15:30	Octopus		
								12:00				15:30	Suna	449	
								12:00				15:30	Vp6	7LP	
								12:00					SBE56	6513	
								12:02				15:46	Sediment trap	2009404	
								11:50				16:06	SonoVault	1024	
								11:27				16:39	Sediment trap	2009406	
AWI249-3	70°53.22'S	28°56.97'W		4362	53-3	53-4	2019-01-20	11:20			skipped				
								09:52					SonoVault	1010	307
								11:10					SBE37	8126	4319
AWI208-9	65°41.78'S	36°41.01'W		4714	56-6	56-2	23.01.2019	16:00	86-2	86-1	2022-04-14				
								15:47				12:31	SonoVault	1020	294
								15:28				11:03	Aquadopp	12685	794
								15:26				11:03	SBE37SMP	3812	797
								13:58				10:48	SBE37SMP	9841	4758
AWI250-3	68°28.85'S	44°05.94'W		4100	57-4	57-3	24.01.2019	20:28			skipped				
								20:16					SonoVault	1048	294
								20:08					Aquadopp	12718	795
								20:08					SBE37SMP	3813	797
								18:40					SBE37SMP	9839	4057

					Deploy				Recover				Instrument		
Mooring	Latitude	Longitude	EK80 Reading	Corr. depth [m]	Station # PS117_		Date	Time	Station # PS129_		Date	Time	Type	S/N	Depth (m)
					Moor	CTD			Moor	CTD					
AWI257-2	64°12.94'S	47°29.38'W		4292	64-2	64-4	27.01.2019	17:50			skipped				
								17:38					PAM		311
								17:24					RCM8	11888	813
								17:24					SBE37SMP	9831	813
								16:05					SBE37SMP	9493	4285
AWI207-11	63°39.36'S	50°48.66'W		2510	72-2	72-3	29.01.2019	17:08	109-1	109-3	2022-04-22				
												02:01	SBE37SMP	10934	250
								17:00				02:10	QM150	23548	291
								16:53				02:10	SonoVault	1032	300
								16:36				02:30	Aquadopp	12745	
								16:36				02:30	SBE37SMP	6928	
								16:05					SBE37SMP	10937	
								16:00				03:18	RCM8	3517	
												03:18	SBE39	8641	
												03:11	SBE39	8642	
								15:47				03:11	SBE39	8643	
												03:28	SBE37SMP	10943	
								15:37				03:38	QM6000	24053	
AWI251-03	61°01.38'S	55°58.68'W	335		99-2	99-3	2019-02-01	18:30	127-1	127-3	2022-04-24				
								18:25				14:25	Aural	0085	148
								18:21				14:38	SonoVault	1002	153

Tab. 2.3: Instrumentation of mooring deployments during PS129

					Deploy				Recover				Instrument		
Mooring	Latitude	Longitude	EK80 Reading	Corr. depth [m]	Station # PS129_ Moor	CTD	Date	Time	Station # Moor	CTD	Date	Time	Type	S/N	Depth (m)
AWI227-16	59° 03.02'S	00° 06.44'E	4632	4587	18-2		2022-03-12	14:21							
								14:04					SonoVault	1005	282
								12:43					SBE37	1232	782
								11:28					SBE37	10933	4542
AWI229-15	64° 01.26'S	00° 00.83'E	5173	5146	25-3		2022-03-15	15:25					SBE37SMP	10929	252
AWI229-15	64° 01.26'S	00° 00.83'E	5173	5146	25-3		2022-03-15	15:25					SBE37SMP	10929	252
								15:19					SonoVault	1009	296
								15:11					SBE37SMP	10930	377
								15:07					SBE37SM	225	450
								15:02					SBE37SMP	10931	550
								14:58					SBE37SM	230	650
								14:49					SBE37SMP	10932	750
								12:24					SBE37SM	238	5102
AWI231-14	66° 31.03'S	00° 04.48'W	4602	4557	27-6		2022-03-17	13:40					SonoVault	1021	307
AWI231-14	66° 31.03'S	00° 04.48'W	4602	4557	27-6		2022-03-17	13:40					SonoVault	1021	307
								13:16					SBE37SMP	9848	800
								11:14					SBE37SM	239	4514
EWS 001-01	70° 47.87'S	12° 13.05'W	706	683	58-1		2022-04-02	09:11					SBE56SMP	10940	324
EWS 001-01	70° 47.87'S	12° 13.05'W	706	683	58-1		2022-04-02	09:11					SBE56SMP	10940	324
								09:11					ADCP QM150	23807	324
								09:07					SBE 37SMP	10941	329
								08:59					SBE56	7826	383
								08:52					SBE56	7827	443
								08:45					SBE 37SMP	10942	503
								08:40					SBE56	7828	563
													ADCP WH600	1002	635
													SBE56	7829	676
								08:33					SBE 37SMP	10928	676
EWS 002-01	70° 35.17'S	12° 51.46'W	1423	1348	59-2		2022-04-02	16:50					ADCP QM150	22283	289
								16:50					SBE 37SMP	10946	289
								16:45					SBE 37SMP	10947	

					Deploy				Recover				Instrument		
Mooring	Latitude	Longitude	EK80 Reading	Corr. depth [m]	Station # PS129_ Moor	CTD	Date	Time	Station # Moor	CTD	Date	Time	Type	S/N	Depth (m)
								16:34					SBE56	7830	448
								16:28					SBE56	7831	548
													SBE56	7833	648
								16:11					SBE 37SMP	9490	748
								16:01					SBE56	6368	848
								15:56					SBE56	6986	948
								15:52					SBE 37SMP	2088	1048
													SBE56	6988	1148
								15:35					ADCP WH300	951	1250
								15:35					SBE56	6989	1250
								15:19					SBE 37	11420	1341
													SBE53	439	1348
EWS 003-01			3359	3304	62-5		2022-04-03	12:18					SonoVault	1008	244
								11:50					SoSo	0061	800
								11:46					Aquadopp	16505	799
								11:44					SBE 37	3814	799
								10:32					SBE 37	224	3296
													SBE53	438	3304
AWI245-06	69° 03.64'S	17° 23.49'W	4762	4721	65-3		2022-04-04	15:43					SonoVault	1022	285
								15:26					SoSo	2025	806
								15:20					Aquadopp	16600	807
								15:19					SBE37SMP	9838	807
								13:54					SBE37SM	218	4678
AWI249-04	70° 53.22'S	28° 56.97'W	4420	4374	74-3		2022-04-08	18:35					SonoVault	1026	300
								18:15					SoSo	43	809
								18:12					Aquadopp	16581	809
								18:11					SBE37SMP	9832	809
								16:29					SBE37SM	235	4319
CWS01-01	69° 57.55'S	36° 43.87'W	4476	4430	77-1		2022-04-10	22:18					Aural	0231	255
								22:08					SonoVault	1031	314
								21:47					SoSo	0018	817
								21:44					Aquadopp	16544	818
								21:41					SBE37SMP	2090	818
								19:53					SBE37SM	233	4387

					Deploy				Recover				Instrument		
Mooring	Latitude	Longitude	EK80 Reading	Corr. depth [m]	Station # PS129_ Moor	CTD	Date	Time	Station # Moor	CTD	Date	Time	Type	S/N	Depth (m)
AWI209-09	66° 36.45'S	27° 07.29'W	4861	4821	80-1		2022-04-12	16:45					SonoVault	1025	299
								16:31					SBE37SMP	9491	799
								14:55					SBE37SM	440	4813
AWI208-10	65° 41.78'S	36° 41.01'W	4756	4715	86-3		2022-04-14	15:10					SonoVault	1049	300
								14:00					SBE37SMP	9487	796
								13:26					SBE37SM	442	4758
CWS02-01 (1)			4566	4524	91-1		2022-04-16						SonoVault	1030	1030
													SoSo	0017	798
													Aquadopp	16550	799
													SBE37SMP	2101	799
													SBE37SM	444	4481
WWS02-01	66° 34.62'S	44° 00.91'W	4463	4416	94-1		2022-04-17	20:30					Aural	0086	257
								20:22					SonoVault	1027	310
								20:09					SoSo	0066	812
								20:01					AquaD	16572	814
								20:01					SBE37SMP	9488	814
								18:42					SBE37SM	232	4408
													SBE53	437	4416
AWI257-03	64° 12.94'S	47° 29.38'W	4197	4142	100-2		2022-04-19	20:24					SonoVault	1034	310
								20:01					SoSo	0045	812
													AquaD	11330	813
													SBE37SMP	7690	813
								18:20					SBE37SM	435	4134
AWI207-12	63° 39.36'S	50° 48.66'W	2555	2502	109-2		2022-04-21	23:38					SM37SMP	2089	249
								23:33					QM150	23456	290
								23:31					SonoVault	1013	300
								23:06					SM37SMP	11421	805
								22:18					SM37SMP	2094	2200
								22:16					AquaD	11348	2203
								22:15					SBE39	7862	2210
								22:14					SBE39	7861	2260
								22:00					SBE39	7860	2310
								21:53					SM37SMP	2234	2410
								21:50					QM150	24052	2500

					Deploy				Recover				Instrument		
Mooring	Latitude	Longitude	EK80 Reading	Corr. depth [m]	Station # PS129_ Moor	CTD	Date	Time	Station # Moor	CTD	Date	Time	Type	S/N	Depth (m)
								21:50					SBE37SMP	2020	2500
													SBE53	436	
AWI261-02	63° 30.87'S	50° 38.20'W	1660	1618	114-1		2022-04-22	21:01					SonoVault	1023	255
								20:24					SBE37SMP	9840	755
								20:32					SBE56	6990	1268
								20:24					SBE37SMP	2092	1318
								20:20					SBE56	6991	1368
								20:05					SBE37SMP	2093	1409
								19:56					SBE56	7068	1468
								19:49					SBE37SMP	9834	1518
								19:45					SBE56	7069	1568
								19:38					SBE37SMP	12478	1609
								19:36					ADCP QM150	14088	1609
AWI251-04	61° 01.38'S	55° 58.68'W	323	311	127-2		2022-04-24	16:08					Aural	303	148
								16:08					SonoVault	1054	153
								15:49					AZFP	55115	239
								15:38					ADCP LR 075	22858	303
								15:38					SBE37SMP	2359	330

(1) Originally, it was planned to exchange mooring AWI250-3 with AWI250-4. However, due to temporal constraints, calling at AWI250 was cancelled. Instead, CWS02-01 was deployed further north and AWI250-3 was left untouched

Abbreviations for Tables 2.2 and 2.3:

ADCP LR075	RD Instruments Doppler Current Profiler, Type Long Ranger 75 kHz
ADCP QM150	RD Instruments Doppler Current Profiler, Type Quarter Master 150 kHz
ADCP WH600	RD Instruments Doppler Current Profiler, Type Workhorse 600 kHz
AquaD	Nortek Aquadopp Acoustic Current Meter
Aural	Multi-Electronique (MTE) Aural Passive Acoustic Recorder
AVT	Aanderaa Current Meter with Temperature Sensor
AZFP	ASL Environmental Sciences Acoustic Zooplankton and Fish Profiler
PAM	Passive Acoustic Monitor (Type: AURAL or SONOVAULT)
RCM11	Aanderaa Doppler Current Meter (acoustic)
SBE37	SeaBird Electronics MicroCat Conductivity and Temperature Logger
SBE39	SeaBird Electronics Temperature Logger
SBE56	SeaBird Electronics Temperature Logger
SonoVault	Develogic SonoVault Passive Acoustic Recorder
SOSO	Develogic RAFOS Sound Source
Ecotriplet	Fluorescence sensor
ISUS	Nitrate Sensor
LOC	Lab on Chip sensors
RAS-500	Remote Access Sampler RAS-48-500
Sediment trap	KUM sediment traps
Suna	Nitrate Sensor
VVP6	Underwater Vision Profiler 6

Tab. 2.5: CTD casts of PS129

Station ID	LADC P Cast	Date-Time in water	Date-Time at depth	Latitude	Longitude	EK80 depth [reading]	Corr. Depth [m]	Altim [m]	CTD max. pressure [dbar]	Config	Comment
014_01	2	2022-03-11T10:15:30	2022-03-11T10:26:09	55°56.57'S	002°56.11'E	3524.9	3466	98.7	153	1	Test cast Most bottles leaking
018_07	4	2022-03-12T23:39:32	2022-03-13T03:20:08	59°05.52'S	000°07.33'E	4668.7	4730	94.9	4682	1	Winch problems. Stopped at about 2350 meters for 2.5 h. Beam transmission decrased strongly during the cast Altimeter did not work
023_01	5	2022-03-14T05:56:45	2022-03-14T07:50:12	61°00.13'S	000°00.01'E	5373	5343	8.1	5468	2	Calibration cast. 2nd oxygen sensor broken during cast
025_08	6	2022-03-16T01:15:47	2022-03-16T03:18:31	64°04.42'S	000°04.66'E	5177.5	5148	10.6	5264	3	2nd oxygen sensor spiky
027_02	7	2022-03-16T21:59:05	2022-03-16T23:32:36	66°28.90'S	000°04.28'W	4444.5	4394	28.1	4476	3	2nd oxygen sensor spiky. Altimeter did not work. Cast stopped 90m above bottom, visible from LADCP
030_01	8	2022-03-19T03:08:16	2022-03-19T04:59:12	65°56.13'S	012°11.92'W	5037.7	5005	14.2	5109	3	2nd oxygen sensor spiky
040_02	9	2022-03-21T13:12:33	2022-03-21T13:41:23	70°45.07'S	010°49.84'W	928	902	4.8	918	3	Calibration cast. 2nd oxygen sensor spiky
041_02	10	2022-03-23T18:08:00	2022-03-23T18:19:35	70°31.76'S	008°12.20'W	226.9	221	4.8	223	3	2nd oxygen sensor spiky
042_01	11	2022-03-24T01:23:12	2022-03-24T01:44:13	70°50.51'S	010°35.35'W	253.3	241	4.1	252	3	2nd oxygen sensor spiky
047_01	13	2022-03-25T16:52:45	2022-03-25T17:10:07	70°47.18'S	010°45.14'W	617.3	599	9.8	594	3	2nd oxygen sensor spiky
049_01	14	2022-03-26T12:13:07	2022-03-26T12:29:05	70°56.61'S	010°32.16'W	296.4	289	4.8	295	3	2nd oxygen sensor spiky
053_03	15	2022-03-28T05:54:41	2022-03-28T06:06:47	70°52.41'S	010°28.94'W	234.7	221	3.9	234	4	New 2nd oxygen sensor
054_03	16	2022-03-29T01:56:27	2022-03-29T02:29:39	70°39.23'S	011°00.34'W	1376.3	1333	9.7	1352	4	
058_02	18	2022-04-02T10:17:56	2022-04-02T10:41:37	70°53.18'S	011°17.42'W	691.5	667	5.7	693	4	Wrong LADCP cast number in CTD header
059_01	19	2022-04-02T12:39:25	2022-04-02T13:21:02	70°50.07'S	011°24.61'W	1429.4	1392	4.3	1396	4	
060_01	20	2022-04-02T19:33:38	2022-04-02T20:16:59	70°36.09'S	012°13.03'W	2024.4	1972	4.7	2012	4	Calibration cast. Bottle 23 leaked
062_04	21	2022-04-03T07:07:44	2022-04-03T08:28:27	70°18.01'S	013°26.76'W	3319.1	3265	7.5	3349	4	Bottle 1 did not close
064_02	22	2022-04-03T18:07:51	2022-04-03T19:50:36	69°42.75'S	015°24.25'W	4756.5	4720	9.2	4821	4	Calibration cast

Station ID	LADCP Cast	Date-Time in water	Date-Time at depth	Latitude	Longitude	EK80 depth [reading]	Corr. Depth [m]	Altim [m]	CTD max. pressure [dbar]	Config	Comment
065_01	23	2022-04-04T04:46:16	2022-04-04T06:21:27	69°05.11'S	017°20.09'W	4759.1	4720	9.9	4823	4	
068_01	24	2022-04-05T08:26:52	2022-04-05T06:10:32	68°13.30'S	019°44.36'W	4873.6	4832	7.7	4942	4	Bottle 23 and 24 did not close. CTD was started again, with the filename PS129_068_02
070_01	25	2022-04-05T19:23:22	2022-04-05T21:02:59	67°15.95'S	023°35.76'W	4874.9	4832	10.8	4940	4	
071_02	26	2022-04-07T10:16:34	2022-04-07T10:28:05	68°43.04'S	027°03.11'W	4723.7	4679	98.7	317	4	shallow cast
072_01	27	2022-04-07T13:56:48	2022-04-07T14:12:51	68°58.13'S	026°59.64'W	4708.7	4669	98.7	456	4	shallow cast
072_03	29	2022-04-07T19:28:03	2022-04-07T19:43:15	69°00.11'S	027°02.51'W	4705.3	4669	98.7	406	4	Shallow cast, cast was delayed, LADCP was turned off again to save battery
074_04	30	2022-04-08T20:34:32	2022-04-08T20:48:43	70°49.09'S	029°14.72'W	4426.2	4384	98.7	405	4	Shallow calibration cast
080_02	31	2022-04-12T17:47:52	2022-04-12T19:24:19	66°36.91'S	027°12.42'W	4859.5	4821	9.3	4926	4	ADCP Battery changed, calibration cast
082_01	32	2022-04-13T05:43:37	2022-04-13T07:21:41	66°14.96'S	030°26.13'W	4804.6	4760	8.9	4868	4	Communication failure with the CTD, bottles couldn't be closed, for the upcast the file "PS129_82_01_upcast" was created
083_02	33	2022-04-13T13:16:12	2022-04-13T15:00:40	66°06.29'S	031°49.82'W	4784.8	4740	9.7	4846	4	Change to the winch SE32.1 to reestablish communication with the CTD
086_01	34	2022-04-14T05:08:36	2022-04-14T06:45:15	65°40.08'S	036°36.78'W	4760	4720	9.8	4819	4	Winch SE32.1 was used
087_01	35	2022-04-14T21:27:08	2022-04-14T23:07:07	65°21.29'S	038°43.16'W	4750.1	4709	9.6	4808	4	Changed back to winch EL31
088_01	36	2022-04-15T08:28:39	2022-04-15T10:10:33	65°02.45'S	041°08.32'W	4746.6	4699	6.6	4807	4	
096_01	40	2022-04-18T08:44:44	2022-04-18T10:25:25	64°44.32'S	043°30.60'W	4637.7	4597	9.2	4691	4	LADCP problems at the startup, erroneous measurement at 360m
097_01	42	2022-04-18T21:47:20	2022-04-18T23:25:20	64°28.82'S	045°18.02'W	4479.4	4445	5.5	4530	4	
099_01	43	2022-04-19T08:25:56	2022-04-19T09:54:47	64°18.02'S	046°40.10'W	4383.2	4333	10	4424	4	Depth for bottle 3 was miscalculated at first, CTD was lowered a few meters to the correct depth
100_03	44	2022-04-19T21:32:09	2022-04-19T22:56:57	64°16.74'S	047°28.15'W	4192.1	4151	9.1	4231	4	
102_01	46	2022-04-20T05:05:03	2022-04-20T06:30:09	64°07.96'S	047°57.24'W	4091.9	4040	5	4126	4	New grease was applied to the LADCP plugs, LADCP was restarted because of a delay in the search for a suitable hole in the ice
103_01	47	2022-04-20T11:18:08	2022-04-20T12:37:56	64°04.66'S	048°21.91'W	3924.6	3868	8.3	3949	4	

Station ID	LADC P Cast	Date-Time in water	Date-Time at depth	Latitude	Longitude	EK80 depth [reading]	Corr. Depth [m]	Altim [m]	CTD max. pressure [dbar]	Config	Comment
104_01	49	2022-04-20T17:30:09	2022-04-20T18:45:32	63°59.66'S	048°49.17'W	3709.2	3687	9.8	3722	4	
105_01	50	2022-04-21T01:10:31	2022-04-21T02:20:44	63°52.59'S	049°09.13'W	3445.3	3395	10.7	3452	4	Faulty 2nd oxygen sensor; because of ice conditions station was changed to a location of equal depth less than 3nm away
106_01	51	2022-04-21T06:41:04	2022-04-21T07:49:09	63°48.88'S	049°32.68'W	3206.2	3135	10	3202	5	New 2nd oxygen sensor was installed
107_01	52	2022-04-21T15:15:16	2022-04-21T16:12:49	63°44.06'S	050°21.05'W	2683.4	2628	4.5	2677	5	Calibration cast, new 2nd oxygen sensor was not working, CTD was covered in jelly fish tentacles
109_03	53	2022-04-22T04:19:46	2022-04-22T05:16:26	63°40.47'S	050°45.23'W	2575.7	2515	9.9	2560	5	Bottles 14 and 18 didn't close
110_01	55	2022-04-22T09:24:12	2022-04-22T10:14:50	63°36.97'S	051°04.43'W	2379.1	2328	9.9	2363	5	LADCP was restarted during the search for better ice conditions
111_01	56	2022-04-22T13:02:49	2022-04-22T13:51:06	63°34.32'S	051°18.08'W	2225.4	2180	9.6	2207	5	
112_01	58	2022-04-22T16:11:51	2022-04-22T16:55:41	63°31.92'S	051°27.35'W	2013.3	1963	9.8	1992	5	
114_02	59	2022-04-22T22:23:17	2022-04-22T23:02:22	63°28.67'S	051°36.84'W	1823.3	1775	10.2	1819	5	
116_01	61	2022-04-23T02:17:17	2022-04-23T03:25:03	63°28.85'S	051°50.40'W	1231.3	1196	9.9	1210	5	CTD got frozen on deck during repositioning, cast 115_01 was restarted due to technical problems
117_01	62	2022-04-23T06:05:50	2022-04-23T06:28:59	63°27.96'S	052°05.79'W	940.2	912	9.7	922	5	
119_01	63	2022-04-23T08:40:48	2022-04-23T09:00:58	63°24.59'S	052°16.37'W	687.2	667	10.2	673	5	Bottles 8,7 and 15 were not registered as fired and didn't close
120_01	64	2022-04-23T12:16:27	2022-04-23T12:30:37	63°21.06'S	052°43.66'W	459.1	444	10.6	447	5	
121_01	65	2022-04-23T17:19:38	2022-04-23T17:32:43	63°15.64'S	053°20.99'W	394.9	376	7.9	386	5	
122_01	66	2022-04-23T21:26:18	2022-04-23T21:38:26	63°10.12'S	053°57.26'W	236.9	221	9.7	231	5	
123_01	67	2022-04-24T00:20:38	2022-04-24T00:35:50	63°05.47'S	054°31.42'W	479	463	9.8	466	5	
127_03	68	2022-04-24T16:57:38	2022-04-24T17:10:27	61°00.07'S	055°59.73'W	380.5	366	10.64	379	5	Calibration cast

Tab. 2.6: OFOBS CTD deployments

		Profile start		Profile end			CTD SN	Comment
Station name	Date	Latitude south	Longitude west	Latitude south	Longitude west	File name		
PS129_040_05	22-03-21T21:56	70.732825	10.916521	70.725818	10.912191	SBE37SM-RS232_03707727_2022_03_21.hex	7727	
PS129_043_03	24-03-22T08:39	70.86189	10.748137	70.852686	10.667725	SBE37SM-RS232_03707727_2022_03_24.hex	7727	Didn't record
PS129_047_04	25-03-22T23:24	70.778072	10.743258	70.779168	10.624015	SBE37SM-RS232_03709494_2022_03_26.hex	9494	
PS129_049_03	26-03-22T14:45	70.940804	10.523132	70.935392	10.497735	SBE37SM-RS232_03709494_2022_03_26.hex	9494	
PS129_050_01	27-03-22T01:23	70.942587	10.574757	70.933009	10.550206	SBE37SM-RS232_03709494_2022_03_27.hex	9494	
PS129_053_02	28-03-22T02:51	70.871975	10.519886	70.885567	10.471686	SBE37SM-RS232_03709494_2022_03_28.hex	9494	
PS129_054_02	28-03-22T23:09	70.64989	10.968565	70.640635	10.958279	SBE37SM-RS232_03709494_2022_03_29.hex	9494	
PS129_057_04	30-03-22T03:44	70.910549	11.183418	70.895211	11.137764	SBE37SM-RS232_03709494_2022_03_30.hex	9494	

Tab. 2.8: Metadata of RAFOS sound sources deployed during PS129

Mooring	Sound Source Position	Sound Source S/N	Position LAT	Position LON	Corr. water depth [m]	Deploy depth [m]	Deployment date /time [UTC]	Sweep Time [UTC]	1st sweep [UTC]	Configuration *)
EWS 003-01	W22	D0048 EI0061 ZBP2052	70° 17.905' S	013° 26.779' W	3304	800	2022-04-03 T12:41:00	12:40	20220401T12:40:00 1)	repeat=0xffff; Amp=95%; Tuning Coil = ON
AWI245-06	W09	D0046 EI0043 ZBP2050	69° 03.636' S	017° 23.455' W	4721	806	2022-04-04 T16:03:00	13:00	20220404T13:00:00 (checked with Dummy Load)	repeat=0xffff; Amp=95%; Tuning Coil = ON
AWI249-04	W13	D0043 EI0047 ZBP2122	70° 49.932' S	029° 07.930' W	4374	821	2022-04-08 T19:50:00	13:20	20220409T13:20:00	repeat=0xffff; Amp=95%; Tuning Coil = ON
CWS 001-01	W21	D0018 EI0050 ZBP2056	69° 33.349' S	032° 28.620' W	4430	817	2022-04-10 T22:36:00	12:40	20220410T12:40:00 (checked with Dummy Load)	repeat=0xffff; Amp=95%; Tuning Coil = ON
CWS 002-01	W23	D0017 EI0058 ZBP2053	66° 22.766' S	041° 23.502' W	4524	797	16.04.2022 T17:05:22	13:00	20220416T13:00:00	repeat=0xffff; Amp=95%; Tuning Coil = OFF 2)
WWS 002-01	W20	D0030 EI0066 ZBP2054	65° 25.985'S	044° 35.575'W	4416	812	17.04.2022 T20:44:00	13:20	20220417T13:20:00 (checked with Dummy Load)	repeat=0xffff; Amp=95%; Tuning Coil = ON
AWI257-2	W10	D0045 EI0065 ZBP2116	64° 14.420' S	047° 29.114' W	4142	810	2022-04-19T20:42:39	12:40	20220419T12:40:00 (checked with Dummy Load)	repeat=0xffff; Amp=95%; Tuning Coil = ON

Standard Configuration: interval=86400000ms; f=259.38-260.9Hz; duration=80000ms;
*) Sound source deployment configuration tested prior to deployment, but at half-hourly intervals and connected to Dummy Load
1) First sweep on deck with Dummy Load (two days prior to deployment) OK, second sweep (one day prior to deployment) aborted. Amplifier set to 95% instead of 100% Additional tests at half hourly intervals OK; deployment configuration changed accordingly to 95%
2) Test sweep with dummy load did not work, presumably caused to the tuning coil. The tuning coil switched off for deployment

Tab. 2.9: Ice resilient APEX float tests and clock readings

internal ID	Apex S/N	WMO	IMEI	TestTdate	Test result	Float Time	iPhone Time	Offset [s]	Comment
PS129_01	9215	7900990	300125061143710	19.03.2022T17:06	PASSED	16:41:06	16:41:00	+6	1)
PS129_02	9224	7900999	300125061162760	19.03.2022T20:42	PASSED	20:07:12	20:07:00	+12	
PS129_03	9223	7900998	300125061162770	19.03.2022T19:56	PASSED	19:19:16	19:19:00	+16	
PS129_04	9216	7900991	300125061163760	27.03.2022T11:52	PASSED	11:21:02	11:21:00	+2	2)
PS129_05	9220	7900995	300125061144830	23.03.2022T10:14	PASSED	09:37:00	09:37:00	+0	
PS129_17	8893	7900986	300125061813240	23.03.2022T09:25	PASSED	08:43:34	08:44:00	-26	3)
PS129_06	9217	7900992	300125061246210	26.03.2022T12:33	PASSED	11:44:05	11:44:00	+5	
PS129_07	9218	7900993	300125061165760	27.03.2022T11:12	PASSED	10:25:10	10:26:00	+10	
PS129_08	9213	7900988	300125061142720	26.03.2022T11:36	PASSED	10:41:05	10:51:00	+5	
PS129_09	9221	7900996	300125061167760	23.03.2022T15:24	PASSED	14:41:17	14:41:00	+17	
PS129_10	8888	7900981	300125061323740	26.03.2022T10:18	PASSED	09:31:05	09:31:00	+5	
PS129_11H	8889	7900982	300125061326720	23.03.2022T17:29	PASSED	16:41:05	16:41:00	+5	
PS129_12	9222	7900997	300125061163750	26.03.2022T09:23	PASSED	08:38:16	08:38:00	+16	
PS129_13	8892	7900985	300125061810140	21.03.2022T16:41	PASSED	16:01:18	16:01:00	+18	
PS129_14	8891	7900984	300125061321740	23.03.2022T12:34	PASSED	11:50:05	11:50:00	+5	
PS129_15	8890	7900983	300125061321650	23.03.2022T11:41	PASSED	10:56:09	10:56:00	+9	
PS129_17	9212	7900987	300125061140800	21.03.2022T15:30	PASSED	15:31:02	15:31:00	+2	
PS129_16	9219	7900994	300125061148800	23.03.2022T16:31	PASSED	15:43:11	15:43:00	+11	
PS129_18	8878	7900971	300125061811150	25.03.2022T10:33	PASSED	09:44:08	09:44:00	+8	
PS129_19	8879	7900972	300125061814250	23.03.2022T13:25	PASSED	12:45:09	12:45:00	+9	
PS129_20	8887	7900980	300125061324710	23.03.2022T14:29	PASSED	13:45:09	13:45:00	+9	
PS129_21	8886	7900979	300125061326710	25.03.2022T11:52	PASSED	10:43:16	10:43:00	+16	4)
	9214	7900989	300125061756090	-	FAILED	-	-	-	

1) self-test only partially logged

2) self-test passed only on second try, touched ice flow when dropped, presumably at damper disk

3) log sheet not completed

4) self-test passed only on third try

Time(iPhone) - Time(WempeClock) = -2s

Tab. 2.10: Ice resilient APEX float deployments, all featuring Ice Sensing Algorithm (ISA) and RAFOS receivers

Apex S/N	WMO	deployment Datetime	Station PS129_	deployment latitude	deployment longitude	EK80 depth reading	CDT cast	sea ice	Corrected depth	Profiles sent until 2022-05-23	Comments Profiles
9215	7900990	2022-03-20T07:22	35-1	69° 22,491' S	009° 15,944' W	3296	none	none	3241	5	
9224	7900999	2022-03-20T12:27	37-1	70° 02,821' S	008° 39,546' W	2546	none	pancake, >95%	2493		
9223	7900998	2022-03-20T13:03	38-1	70° 03,543' S	008° 43,664' W	2087	none	pancake, >95%	2039		
9216	7900991	2022-04-02T21:40	60-2	70° 36,081' S	012° 12,871' W	2024	60-1	none	1976		
9220	7900995	2022-04-02T23:17	61-1	70° 27,893' S	012° 48,739' W	2359	none	none	2308	3	
8893	7900986	2022-04-03T12:49	62-6	70° 17,714' S	013° 26,526' W	3367			3312		
9217	7900992	2022-04-03T17:33	64-1	69° 44,786' S	015° 17,740' W	4754	64-2	none	4713	1	
9218	7900993	2022-04-04T22:07	65-8	69° 01,739' S	017° 28,411' W	4766	65-1	none	4725	3	
9213	7900988	2022-04-08T06T12	73-1	69° 57.538' S	027° 56,895' W	4606	none	pancake, >95%	4564		
9221	7900996	2022-04-09T23:46	74-9	70° 38.030' S	029° 19.800' W	4620	74-4	floes, >95%	4577		
8888	7900981	2022-04-10T10:00	75-1	70° 08.015' S	030° 59.889' W	4514	none	floes, >95%	4469		
8889	7900982	2022-04-10T12:11	helicopter	70° 44.855' S	031° 10.573'W	none	none		none		by helicopter
9222	7900997	2022-04-10T16:36	76-1	69° 46.013' S	032° 01.362' W	4270	none	floes, >95%	4221		
8892	7900985	2022-04-10T22:54	77-2	69° 33.229' S	032° 28.230' W	4477	none	new ice, > 95%	4431		no plugs
8891	7900984	2022-04-11T08:48	78-1	68° 59.702' S	031° 56.559' W	none	none	new ice, > 95%	none		no plugs, 6)
8890	7900983	2022-04-11T12:32	88-2	65° 62.050' S	041° 08.439' W	4745	88_1	none	4704	1	no plugs
9212	7900987	2022-04-16T17:20	90-1	66° 22,784' S	041° 23,910' W	4567	none	new ice, > 95%	4523		
9219	7900994	2022-04-16T01:51	91-2	66° 04,892' S	041° 45,811' W	4492	none	floes, >95%	4447		
8878	7900971	2022-04-17T05:02	92-1	66° 02,222' S	043° 30,435' W	4472	none	100%	4426		5)
8879	7900972	2022-04-17T21:00	94-2	65° 25,966' S	044° 36,015' W	4469	283.2	100%	4424		no plugs
8887	7900980	2022-04-18T04:40	95-1	65° 00,179' S	043° 54,511' W	4618	none	100%	4575		no plugs
8886	7900979	2022-04-18T12:38	96-2	65° 25,966' S	044° 36,015' W	4638	96-1	100%	4595	1	
9214	7900989										

5) dropped into turbulent wake, float not seen under water
6) EK80 gives false readings, float ice cage touched A-frame when lifting over reeling

Tab. 2.11: ARVOR float deployments. *Ice Sensing Algorithm (ISA)

internal ID	ARVOR S/N	WMO	Datetime time	Station PS129_	deployment latitude	deployment longitude	EK80 depth reading	CDT cast	Sea ice	Corrected depth [m]
PS129-BSH1	AI2600-22DE001	6904211	2022-03-07T20:51	PS129_4-1	45° 00.219' S	011° 25.364' E	4888.4	none	none	4887
PS129-BSH2	AI2600-22DE002	6904210	2022-03-08T11:09	PS129_7-1	46° 59.714' S	010° 01.181' E	4556.9	none	none	4543
PS129-BSH3	AI2600-22DE003	6904209	2022-03-09T12:42	PS129_10-1	50° 00.791' S	007° 46.020' E	4451.2	none	none	4426
PS129-BSH4	AI2600-22DE004	6904208	2022-03-11T21:55	PS129_16-1	57° 37.450' S	001° 20.715' E	4226.2	none	none	4182
PS129-BSH5	AI2600-22DE005	6904207	2022-03-13T20:18	PS129_21-1	59° 31.759' S	000° 00.447' W	4659.7	none	none	4617
PS129-BSH6	AI2600-21DE018	6904130	2022-03-13T22:18	PS129_22-1	59° 50.669' S	000° 00.001' E	5381.7	none	none	5355

Tab. 2.12: SOCCOM float deployments

SOCCOM float S/N	Datetime time	Station PS129_	deployment latitude	deployment longitude	EK80 depth reading	CDT cast PS129_	Sea ice	Corrected depth	Comment
19014	05.03.2022T12:56	PS129_1-1	37° 30.256´ S	016° 19.712´ E		none	none		Subtropical
19302	07.03.2022T11:05	PS129_3-1	43° 37.687´ S	012° 21.926´ E		none	none		Subtropical
19996	13.03.2022T05:57	PS129_18-8	59° 06.633´ S	000° 06.225´ E		18-7	none		Subpolar
19598	17.03.2022T19:10	PS129_27-9	66° 33.886´ S	000° 17.519´ W		27-2	none		Subpolar
19951	19.03.2022T10:51	PS129_30-3	65° 58.121´ S	012° 11.299´ W		30-1	none		Subpolar
19378	04.04.2022T22:00	PS129_65-7	69° 02.091´ S	017° 27.749´ W		65-1	none		Subpolar
19045	07.04.2022T12:02	PS129_71-4	68° 42.809´ S	027° 04.704´ W		71-2	brown pancakes 100%		Subpolar.
19445	12.04.2022T21:59	PS129_80-3	66° 36.996´ S	027° 12.743´ W		80-2	none		Subpolar
19441	14.04.2022T15:44	PS129_86-4	65° 41.710´ S	036° 41.039´ W		86-1	none		Subpolar

Tab. 2.13: Salinity measurements by salinometer. Numbers printed red indicate values that exhibited a discontinuity in the OPS reading, resulting in their exclusion from the calibration process.

									Salinity from CTD		Deviation	
Station Nr.	Date	OTE Bottle	Press [dbar]	Salinity OPS	Measured	Operator	Bottle Nr.	Remark	Sensor 1	Sensor 2	to Sensor 1	to Sensor 2
PS129_018_07	12-03-2022T23:39	3	4509	34.6447	18.03.2022	ST	132	OPS006	34.6468	34.6453	-0.0021	-0.0006
PS129_018_07	12-03-2022T23:39	3	4509	34.6450	18.03.2022	ST	16-6	OPS006	34.6468	34.6453	-0.0018	-0.0003
PS129_018_07	12-03-2022T23:39	3	4509	34.6455	08.04.2022	ST	171	OPS007	34.6468	34.6453	-0.0013	0.0002
PS129_018_07	12-03-2022T23:39	3	4509	34.6450	08.04.2022	ST	157	OPS007	34.6468	34.6453	-0.0018	-0.0003
PS129_018_07	12-03-2022T23:39	3	4509	34.6453	08.04.2022	ST	141	OPS007	34.6468	34.6453	-0.0015	0.0000
PS129_018_07	12-03-2022T23:39	3	4509	34.6456	08.04.2022	ST	169	OPS007	34.6468	34.6453	-0.0012	0.0003
PS129_018_07	12-03-2022T23:39	4	4354	34.6453	18.03.2022	ST	144	OPS006	34.6470	34.6457	-0.0017	-0.0004
PS129_018_07	12-03-2022T23:39	4	4354	34.6451	18.03.2022	ST	150	OPS006	34.6470	34.6457	-0.0019	-0.0006
PS129_023_01	14-03-2022T05:56	1	5466	34.6443	18.03.2022	ST	4	OPS006	34.6460	34.6439	-0.0017	0.0004
PS129_023_01	14-03-2022T05:56	1	5466	34.6442	18.03.2022	ST	8-46	OPS006	34.6460	34.6439	-0.0018	0.0003
PS129_023_01	14-03-2022T05:56	1	5466	34.6439	18.03.2022	ST	113	OPS006	34.6460	34.6439	-0.0021	0.0000
PS129_023_01	14-03-2022T05:56	1	5466	34.6444	18.03.2022	ST	122	OPS006	34.6460	34.6439	-0.0016	0.0005
PS129_023_01	14-03-2022T05:56	3	5099	34.6448	18.03.2022	ST	127	OPS006	34.6463	34.6446	-0.0015	0.0002
PS129_023_01	14-03-2022T05:56	3	5099	34.6444	18.03.2022	ST	142	OPS006	34.6463	34.6446	-0.0019	-0.0002
PS129_023_01	14-03-2022T05:56	3	5099	34.6453	16.04.2022	ST	181	OPS006	34.6463	34.6446	-0.0010	0.0007
PS129_023_01	14-03-2022T05:56	3	5099	34.6454	16.04.2022	ST	201	OPS006	34.6463	34.6446	-0.0009	0.0008
PS129_023_01	14-03-2022T05:56	3	5099	34.6460	16.04.2022	ST	153	OPS006	34.6463	34.6446	-0.0003	0.0014
PS129_023_01	14-03-2022T05:56	3	5099	34.6458	16.04.2022	ST	165	OPS006	34.6463	34.6446	-0.0005	0.0012
PS129_023_01	14-03-2022T05:56	4	4491	34.6456	18.03.2022	ST	136	OPS006	34.6486	34.6468	-0.0030	-0.0012
PS129_023_01	14-03-2022T05:56	4	4491	34.6458	18.03.2022	ST	166	OPS006	34.6486	34.6468	-0.0028	-0.0010
PS129_023_01	14-03-2022T05:56	5	4077	34.6493	18.03.2022	ST	125	OPS006	34.6517	34.6502	-0.0024	-0.0009
PS129_023_01	14-03-2022T05:56	5	4077	34.6499	18.03.2022	ST	148	OPS006	34.6517	34.6502	-0.0018	-0.0003
PS129_025_08	16-03-2022T01:15	1	5261	34.6445	18.03.2022	ST	156	OPS006	34.6474	34.6452	-0.0029	-0.0007
PS129_025_08	16-03-2022T01:15	1	5261		18.03.2022	ST	170	OPS006, invalid	34.6474	34.6452		
PS129_025_08	16-03-2022T01:15	1	5261	34.6459	03.04.2022	ST	134	OPS006	34.6474	34.6452	-0.0015	0.0007

									Salinity from CTD		Deviation	
Station Nr.	Date	OTE Bottle	Press [dbar]	Salinity OPS	Measured	Operator	Bottle Nr.	Remark	Sensor 1	Sensor 2	to Sensor 1	to Sensor 2
PS129_025_08	16-03-2022T01:15	1	5261	34.6457	03.04.2022	ST	117	OPS006	34.6474	34.6452	-0.0017	0.0005
PS129_025_08	16-03-2022T01:15	2	5009		18.03.2022	ST	48	OPS006, invalid	34.6498	34.6479		
PS129_025_08	16-03-2022T01:15	2	5009	34.6478	18.03.2022	ST	100	OPS006	34.6498	34.6479	-0.0020	-0.0001
PS129_025_08	16-03-2022T01:15	3	4695	34.6518	18.03.2022	ST	164	OPS006	34.6545	34.6527	-0.0027	-0.0009
PS129_025_08	16-03-2022T01:15	3	4695	34.6516	18.03.2022	ST	179	OPS006	34.6545	34.6527	-0.0029	-0.0011
PS129_025_08	16-03-2022T01:15	5	4081	34.6518	18.03.2022	ST	180	OPS006	34.6546	34.6531	-0.0028	-0.0013
PS129_025_08	16-03-2022T01:15	5	4081	34.6517	18.03.2022	ST	159	OPS006	34.6546	34.6531	-0.0029	-0.0014
PS129_025_08	16-03-2022T01:15	5	4081				20-4	pending	34.6546	34.6531		
PS129_025_08	16-03-2022T01:15	5	4081				115	pending	34.6546	34.6531		
PS129_025_08	16-03-2022T01:15	5	4081				154	pending	34.6546	34.6531		
PS129_025_08	16-03-2022T01:15	5	4081				161	pending	34.6546	34.6531		
PS129_027_02	16-03-2022T21:58	1	4473	34.6515	18.03.2022	ST	167	OPS006	34.6542	34.6522	-0.0027	-0.0007
PS129_027_02	16-03-2022T21:58	1	4473	34.6516	18.03.2022	ST	137	OPS006	34.6542	34.6522	-0.0026	-0.0006
PS129_027_02	16-03-2022T21:58	1	4473	34.6521	03.04.2022	ST	152	OPS006	34.6542	34.6522	-0.0021	-0.0001
PS129_027_02	16-03-2022T21:58	1	4473	34.6522	03.04.2022	ST	168	OPS006	34.6542	34.6522	-0.0020	0.0000
PS129_027_02	16-03-2022T21:58	2	4316	34.6524	18.03.2022	ST	81-6	OPS006	34.6542	34.6524	-0.0018	0.0000
PS129_027_02	16-03-2022T21:58	2	4316	34.6520	18.03.2022	ST	126	OPS006	34.6542	34.6524	-0.0022	-0.0004
PS129_027_02	16-03-2022T21:58	3	4101	34.6524	18.03.2022	ST	119	OPS006	34.6543	34.6529	-0.0019	-0.0005
PS129_027_02	16-03-2022T21:58	3	4101	34.6524	18.03.2022	ST	114	OPS006	34.6543	34.6529	-0.0019	-0.0005
PS129_027_02	16-03-2022T21:58	3	4101				8-15	pending	34.6543	34.6529		
PS129_027_02	16-03-2022T21:58	3	4101				155	pending	34.6543	34.6529		
PS129_027_02	16-03-2022T21:58	3	4101				346	pending	34.6543	34.6529		
PS129_027_02	16-03-2022T21:58	3	4101				111	pending	34.6543	34.6529		
PS129_027_02	16-03-2022T21:58	4	3874	34.6529	18.03.2022	ST	124	OPS006	34.6549	34.6533	-0.0020	-0.0004
PS129_027_02	16-03-2022T21:58	4	3874	34.6526	18.03.2022	ST	128	OPS006	34.6549	34.6533	-0.0023	-0.0007
PS129_030_01	19-03-2022T03:09	2	5006	34.6438	03.04.2022	ST	4-6	OPS006	34.6459	34.6441	-0.0021	-0.0003

									Salinity from CTD		Deviation	
Station Nr.	Date	OTE Bottle	Press [dbar]	Salinity OPS	Measured	Operator	Bottle Nr.	Remark	Sensor 1	Sensor 2	to Sensor 1	to Sensor 2
PS129_030_01	19-03-2022T03:09	2	5006	34.6438	03.04.2022	ST	8-46	OPS006	34.6459	34.6441	-0.0021	-0.0003
PS129_030_01	19-03-2022T03:09	3	4800				144	pending	34.6468	34.6453		
PS129_030_01	19-03-2022T03:09	3	4800				150	pending	34.6468	34.6453		
PS129_030_01	19-03-2022T03:09	3	4800				16-6	pending	34.6468	34.6453		
PS129_030_01	19-03-2022T03:09	3	4800				132	pending	34.6468	34.6453		
PS129_030_01	19-03-2022T03:09	3	4800	34.645	03.04.2022	ST	127	OPS006	34.6468	34.6453	-0.0018	-0.0003
PS129_030_01	19-03-2022T03:09	3	4800	34.6451	03.04.2022	ST	136	OPS006	34.6468	34.6453	-0.0017	-0.0002
PS129_030_01	19-03-2022T03:09	4	4223	34.6510	03.04.2022	ST	166	OPS006	34.6531	34.6517	-0.0021	-0.0007
PS129_030_01	19-03-2022T03:09	4	4223	34.6506	03.04.2022	ST	125	OPS006	34.6531	34.6517	-0.0025	-0.0011
PS129_030_01	19-03-2022T03:09	5	3771	34.6533	03.04.2022	ST	148	OPS006	34.6558	34.6547	-0.0025	-0.0014
PS129_030_01	19-03-2022T03:09	5	3771	34.6532	03.04.2022	ST	142	OPS006	34.6558	34.6547	-0.0026	-0.0015
PS129_040_02	21-03-2022T13:13	6	861	34.6284	03.04.2022	ST	175	OPS006	34.6279	34.6276	0.0005	0.0008
PS129_040_02	21-03-2022T13:13	6	861	34.6287	03.04.2022	ST	174	OPS006	34.6279	34.6276	0.0008	0.0011
PS129_040_02	21-03-2022T13:13	6	861				10-46	pending	34.6279	34.6276		
PS129_040_02	21-03-2022T13:13	6	861				123	pending	34.6279	34.6276		
PS129_040_02	21-03-2022T13:13	6	861				116	pending	34.6279	34.6276		
PS129_040_02	21-03-2022T13:13	6	861				5-8	pending	34.6279	34.6276		
PS129_040_02	21-03-2022T13:13	8	776	34.6065	03.04.2022	ST	170	maybe forgot to wipe the intake manifold, OPS006	34.6062	34.6058	0.0003	0.0007
PS129_040_02	21-03-2022T13:13	8	776	34.6070	03.04.2022	ST	176	OPS006	34.6062	34.6058	0.0008	0.0012
PS129_059_01	02-04-2022T12:38	6	1355	34.6760	03.04.2022	ST	156	OPS006	34.6749	34.6742	0.0011	0.0018
PS129_059_01	02-04-2022T12:38	6	1355	34.6733	03.04.2022	ST	164	jump in reading	34.6749	34.6742	-0.0016	-0.0009
PS129_059_01	02-04-2022T12:38	6	1355				120	pending	34.6749	34.6742		
PS129_059_01	02-04-2022T12:38	6	1355				137	pending	34.6749	34.6742		
PS129_059_01	02-04-2022T12:38	6	1355				4-8	pending	34.6749	34.6742		
PS129_059_01	02-04-2022T12:38	6	1355				119	pending	34.6749	34.6742		

									Salinity from CTD		Deviation	
Station Nr.	Date	OTE Bottle	Press [dbar]	Salinity OPS	Measured	Operator	Bottle Nr.	Remark	Sensor 1	Sensor 2	to Sensor 1	to Sensor 2
PS129_059_01	02-04-2022T12:38	7	1235	34.6760	03.04.2022	ST	100	OPS006	34.6778	34.6772	-0.0018	-0.0012
PS129_059_01	02-04-2022T12:38	7	1235	34.6761	03.04.2022	ST	179	OPS006	34.6778	34.6772	-0.0017	-0.0011
PS129_059_01	02-04-2022T12:38	8	1051	34.6747	03.04.2022	ST	128	OPS006	34.6760	34.6756	-0.0013	-0.0009
PS129_059_01	02-04-2022T12:38	8	1051	34.6747	03.04.2022	ST	126	OPS006	34.6760	34.6756	-0.0013	-0.0009
PS129_060_01	02-04-2022T19:33	6	1907				81-6	pending	34.6679	34.6672		
PS129_060_01	02-04-2022T19:33	6	1907				180	pending	34.6679	34.6672		
PS129_060_01	02-04-2022T19:33	6	1907				124	pending	34.6679	34.6672		
PS129_060_01	02-04-2022T19:33	6	1907				7-1	pending	34.6679	34.6672		
PS129_060_01	02-04-2022T19:33	6	1907	34.6682	08.04.2022	ST	159	OPS007	34.6679	34.6672	0.0003	0.0010
PS129_060_01	02-04-2022T19:33	6	1907	34.6682	08.04.2022	ST	114	OPS007	34.6679	34.6672	0.0003	0.0010
PS129_060_01	02-04-2022T19:33	7	1644	34.6717	08.04.2022	ST	167	OPS007	34.6712	34.6709	0.0005	0.0008
PS129_060_01	02-04-2022T19:33	7	1644	34.6721	08.04.2022	ST	500	OPS007	34.6712	34.6709	0.0009	0.0012
PS129_060_01	02-04-2022T19:33	8	1411	34.6738	08.04.2022	ST	400	Wax, OPS007	34.6731	34.6727	0.0007	0.0011
PS129_060_01	02-04-2022T19:33	8	1411	34.6738	08.04.2022	ST	401	Wax, OPS007	34.6731	34.6727	0.0007	0.0011
PS129_062_04	03-04-2022T07:07	2	3258	34.6578	08.04.2022	ST	405	Wax, OPS007	34.6584	34.6576	-0.0006	0.0002
PS129_062_04	03-04-2022T07:07	2	3258	34.6575	08.04.2022	ST	407	Wax, OPS007	34.6584	34.6576	-0.0009	-0.0001
PS129_062_04	03-04-2022T07:07	2	3258	34.6578	08.04.2022	ST	411	Wax, OPS007	34.6584	34.6576	-0.0006	0.0002
PS129_062_04	03-04-2022T07:07	2	3258		08.04.2022	ST	412	Not degassed, Wax, OPS007, invalid	34.6584	34.6576		
PS129_062_04	03-04-2022T07:07	2	3258		08.04.2022	ST	408	Not degassed. Wax, OPS007, invalid	34.6584	34.6576		
PS129_062_04	03-04-2022T07:07	2	3258		08.04.2022	ST	413	Not degassed. Wax, OPS007, invalid	34.6584	34.6576		
PS129_062_04	03-04-2022T07:07	3	3104	34.6578	08.04.2022	ST	406	Wax, OPS007	34.6585	34.6579	-0.0007	-0.0001
PS129_062_04	03-04-2022T07:07	3	3104	34.6585	08.04.2022	ST	410	Wax, OPS007	34.6585	34.6579	0.0000	0.0006
PS129_062_04	03-04-2022T07:07	4	2957	34.6585	08.04.2022	ST	409	Wax, OPS007	34.6593	34.6586	-0.0008	-0.0001
PS129_062_04	03-04-2022T07:07	4	2957	34.6586	08.04.2022	ST	404	Wax, OPS007	34.6593	34.6586	-0.0007	0.0000
PS129_064_02	03-04-2022T18:08	2	4593	34.6516	08.04.2022	ST	127	OPS007	34.6533	34.6521	-0.0017	-0.0005

									Salinity from CTD		Deviation	
Station Nr.	Date	OTE Bottle	Press [dbar]	Salinity OPS	Measured	Operator	Bottle Nr.	Remark	Sensor 1	Sensor 2	to Sensor 1	to Sensor 2
PS129_064_02	03-04-2022T18:08	2	4593	34.6517	08.04.2022	ST	136	OPS007	34.6533	34.6521	-0.0016	-0.0004
PS129_064_02	03-04-2022T18:08	2	4593				4-6	pending	34.6533	34.6521		
PS129_064_02	03-04-2022T18:08	2	4593				8-46	pending	34.6533	34.6521		
PS129_064_02	03-04-2022T18:08	2	4593				168	pending	34.6533	34.6521		
PS129_064_02	03-04-2022T18:08	2	4593				152	pending	34.6533	34.6521		
PS129_064_02	03-04-2022T18:08	3	4385	34.6532	08.04.2022	ST	403	Wachsflasche, OPS007	34.6545	34.6534	-0.0013	-0.0002
PS129_064_02	03-04-2022T18:08	3	4385	34.6533	08.04.2022	ST	402	Wax, OPS007	34.6545	34.6534	-0.0012	-0.0001
PS129_064_02	03-04-2022T18:08	4	4082	34.6541	08.04.2022	ST	414	Wax, OPS007	34.6554	34.6543	-0.0013	-0.0002
PS129_064_02	03-04-2022T18:08	4	4082	34.6539	08.04.2022	ST	415	Wax, OPS007	34.6554	34.6543	-0.0015	-0.0004
PS129_065_01	04-04-2022T04:45	2	4696				421	Wax, OPS007	34.6494	34.6480		
PS129_065_01	04-04-2022T04:45	2	4696				422	Wax, OPS007	34.6494	34.6480		
PS129_065_01	04-04-2022T04:45	2	4696				430	Wax, OPS007	34.6494	34.6480		
PS129_065_01	04-04-2022T04:45	2	4696				428	Wax, OPS007	34.6494	34.6480		
PS129_065_01	04-04-2022T04:45	2	4696	34.6477	08.04.2022	ST	439	no Wax, OPS007	34.6494	34.6480	-0.0017	-0.0003
PS129_065_01	04-04-2022T04:45	2	4696	34.6476	08.04.2022	ST	126	Wax, OPS007	34.6494	34.6480	-0.0018	-0.0004
PS129_065_01	04-04-2022T04:45	3	4314	34.6533	08.04.2022	ST	425	Wax, OPS007	34.6547	34.6537	-0.0014	-0.0004
PS129_065_01	04-04-2022T04:45	3	4314	34.6532	08.04.2022	ST	423	Wax, OPS007	34.6547	34.6537	-0.0015	-0.0005
PS129_065_01	04-04-2022T04:45	4	4184	34.6532	08.04.2022	ST	134	OPS007	34.6551	34.6541	-0.0019	-0.0009
PS129_065_01	04-04-2022T04:45	4	4184	34.6531	08.04.2022	ST	117	OPS007	34.6551	34.6541	-0.0020	-0.0010
PS129_068_01	05-04-2022T04:32	2	4912				148	pending	34.6473	34.6458		
PS129_068_01	05-04-2022T04:32	2	4912				125	pending	34.6473	34.6458		
PS129_068_01	05-04-2022T04:32	2	4912				164	pending	34.6473	34.6458		
PS129_068_01	05-04-2022T04:32	2	4912				176	pending	34.6473	34.6458		
PS129_068_01	05-04-2022T04:32	2	4912	34.6462	14.04.2022	ST	179	OPS006	34.6473	34.6458	-0.0011	0.0004
PS129_068_01	05-04-2022T04:32	2	4912	34.6462	14.04.2022	ST	170	OPS006	34.6473	34.6458	-0.0011	0.0004
PS129_068_01	05-04-2022T04:32	3	4341	34.6525	16.04.2022	ST	426	OPS006	34.6534	34.6524	-0.0009	0.0001

									Salinity from CTD		Deviation	
Station Nr.	Date	OTE Bottle	Press [dbar]	Salinity OPS	Measured	Operator	Bottle Nr.	Remark	Sensor 1	Sensor 2	to Sensor 1	to Sensor 2
PS129_068_01	05-04-2022T04:32	3	4341	34.6545	16.04.2022	ST	424	OPS006	34.6534	34.6524	0.0011	0.0021
PS129_068_01	05-04-2022T04:32	4	3976	34.6542	16.04.2022	ST	420	OPS006	34.6551	34.6540	-0.0009	0.0002
PS129_068_01	05-04-2022T04:32	4	3976	34.6538	16.04.2022	ST	417	OPS006	34.6551	34.6540	-0.0013	-0.0002
PS129_070_01	05-04-2022T19:23	2	4800				100	pending	34.6472	34.6457		
PS129_070_01	05-04-2022T19:23	2	4800				128	pending	34.6472	34.6457		
PS129_070_01	05-04-2022T19:23	2	4800				174	pending	34.6472	34.6457		
PS129_070_01	05-04-2022T19:23	2	4800				156	pending	34.6472	34.6457		
PS129_070_01	05-04-2022T19:23	2	4800	34.6457	16.04.2022	ST	175	OPS006	34.6472	34.6457	-0.0015	0
PS129_070_01	05-04-2022T19:23	2	4800	34.6459	16.04.2022	ST	142	OPS006	34.6472	34.6457	-0.0013	0.0002
PS129_070_01	05-04-2022T19:23	3	4615	34.6469	16.04.2022	ST	433	OPS006	34.6480	34.6467	-0.0011	0.0002
PS129_070_01	05-04-2022T19:23	3	4615	34.6473	16.04.2022	ST	416	OPS006	34.6480	34.6467	-0.0007	0.0006
PS129_070_01	05-04-2022T19:23	5	3976	34.6620	16.04.2022	ST	418	OPS006	34.6537	34.6529	0.0083	0.0091
PS129_070_01	05-04-2022T19:23	5	3976	34.6618	16.04.2022	ST	427	OPS006	34.6537	34.6529	0.0081	0.0089
PS129_080_02	12-04-2022T17:48	2	4620				134	pending	34.6481	34.6468		
PS129_080_02	12-04-2022T17:48	2	4620				126	pending	34.6481	34.6468		
PS129_080_02	12-04-2022T17:48	2	4620				122	pending	34.6481	34.6468		
PS129_080_02	12-04-2022T17:48	2	4620				167	pending	34.6481	34.6468		
PS129_080_02	12-04-2022T17:48	2	4620	34.6474	14.04.2022	ST	127	OPS006	34.6481	34.6468	-0.0007	0.0006
PS129_080_02	12-04-2022T17:48	2	4620	34.6476	14.04.2022	ST	117	OPS006	34.6481	34.6468	-0.0005	0.0008
PS129_080_02	12-04-2022T17:48	3	4449	34.6491	14.04.2022	ST	404	OPS006	34.6499	34.6487	-0.0008	0.0004
PS129_080_02	12-04-2022T17:48	3	4449	34.6857	14.04.2022	ST	431	OPS006	34.6499	34.6487	0.0358	0.037
PS129_080_02	12-04-2022T17:48	4	3966	34.6534	14.04.2022	ST	429	OPS006	34.6544	34.6533	-0.001	1E-04
PS129_080_02	12-04-2022T17:48	4	3966	34.6535	14.04.2022	ST	410	OPS006	34.6544	34.6533	-0.0009	0.0002
PS129_083_02	13-04-2022T13:15	2	4697				159	pending	34.6461	34.6449		
PS129_083_02	13-04-2022T13:15	2	4697				166	pending	34.6461	34.6449		
PS129_083_02	13-04-2022T13:15	2	4697				171	pending	34.6461	34.6449		

									Salinity from CTD		Deviation	
Station Nr.	Date	OTE Bottle	Press [dbar]	Salinity OPS	Measured	Operator	Bottle Nr.	Remark	Sensor 1	Sensor 2	to Sensor 1	to Sensor 2
PS129_083_02	13-04-2022T13:15	2	4697				439	pending	34.6461	34.6449		
PS129_083_02	13-04-2022T13:15	2	4697	34.6454	14.04.2022	ST	157	OPS006	34.6461	34.6449	-0.0007	0.0005
PS129_083_02	13-04-2022T13:15	2	4697	34.6454	14.04.2022	ST	169	OPS006	34.6461	34.6449	-0.0007	0.0005
PS129_083_02	13-04-2022T13:15	3	4490	34.6465	14.04.2022	ST	406	OPS006	34.6473	34.6462	-0.0008	0.0003
PS129_083_02	13-04-2022T13:15	3	4490	34.6466	14.04.2022	ST	407	OPS006	34.6473	34.6462	-0.0007	0.0004
PS129_083_02	13-04-2022T13:15	4	4287	34.6485	14.04.2022	ST	403	OPS006	34.6493	34.6483	-0.0008	0.0002
PS129_083_02	13-04-2022T13:15	4	4287	34.6486	14.04.2022	ST	405	OPS006	34.6493	34.6483	-0.0007	0.0003
PS129_086_01	14-04-2022T05:08	2	4618	34.6454	18.04.2022	ST	136	OPS006	34.6461	34.6448	-0.0007	0.0006
PS129_086_01	14-04-2022T05:08	2	4618	34.6453	20.04.2022	ST	141	OPS006	34.6461	34.6448	-0.0008	0.0005
PS129_086_01	14-04-2022T05:08	2	4618	34.6453	20.04.2022	ST	113	OPS006	34.6461	34.6448	-0.0008	0.0005
PS129_086_01	14-04-2022T05:08	2	4618	34.6454	20.04.2022	ST	114	OPS006	34.6461	34.6448	-0.0007	0.0006
PS129_086_01	14-04-2022T05:08	2	4618	34.6454	20.04.2022	ST	411	OPS006	34.6461	34.6448	-0.0007	0.0006
PS129_086_01	14-04-2022T05:08	2	4618	34.6545	18.04.2022	ST	438	OPS006	34.6461	34.6448	0.0084	0.0097
PS129_086_01	14-04-2022T05:08	3	4492	34.6455	18.04.2022	ST	409	OPS006	34.6461	34.6450	-0.0006	0.0005
PS129_086_01	14-04-2022T05:08	3	4492	34.6757	18.04.2022	ST	432	OPS006	34.6461	34.6450	0.0296	0.0307
PS129_086_01	14-04-2022T05:08	4	4180	34.6488	18.04.2022	ST	401	OPS006	34.6500	34.6488	-0.0012	0
PS129_086_01	14-04-2022T05:08	4	4180	34.6834	18.04.2022	ST	436	OPS006	34.6500	34.6488	0.0334	0.0346
PS129_087_01	14-04-2022T21:25	2	4697	34.6441	19.04.2022	ST	169	OPS006	34.6455	34.6443	-0.0014	-0.0002
PS129_087_01	14-04-2022T21:25	2	4697	34.6441	19.04.2022	ST	157	OPS006	34.6455	34.6443	-0.0014	-0.0002
PS129_087_01	14-04-2022T21:25	2	4697	34.6438	19.04.2022	ST	403	OPS006	34.6455	34.6443	-0.0017	-0.0005
PS129_087_01	14-04-2022T21:25	2	4697	34.7156	19.04.2022	ST	435	OPS006	34.6455	34.6443	0.0701	0.0713
PS129_087_01	14-04-2022T21:25	2	4697	34.6444	18.04.2022	ST	410	OPS006	34.6455	34.6443	-0.0011	0.0001
PS129_087_01	14-04-2022T21:25	2	4697	34.6601	18.04.2022	ST	434	OPS006	34.6455	34.6443	0.0146	0.0158
PS129_087_01	14-04-2022T21:25	3	4490	34.645	18.04.2022	ST	170	maybe forgot to wipe the intake manifold, OPS006	34.6472	34.6461	-0.0022	-0.0011
PS129_087_01	14-04-2022T21:25	3	4490	34.646	18.04.2022	ST	179	OPS006	34.6472	34.6461	-0.0012	-0.0001

									Salinity from CTD		Deviation	
Station Nr.	Date	OTE Bottle	Press [dbar]	Salinity OPS	Measured	Operator	Bottle Nr.	Remark	Sensor 1	Sensor 2	to Sensor 1	to Sensor 2
PS129_087_01	14-04-2022T21:25	4	4227	34.6476	18.04.2022	ST	407	OPS006	34.6505	34.6496	-0.0029	-0.0020
PS129_087_01	14-04-2022T21:25	4	4227	34.649	18.04.2022	ST	429	OPS006	34.6505	34.6496	-0.0015	-0.0006
PS129_088_01	15-04-2022T08:28	5	4698				408	pending	34.6433	34.6421		
PS129_088_01	15-04-2022T08:28	5	4698				400	pending	34.6433	34.6421		
PS129_088_01	15-04-2022T08:28	5	4698				415	pending	34.6433	34.6421		
PS129_088_01	15-04-2022T08:28	5	4698				423	pending	34.6433	34.6421		
PS129_088_01	15-04-2022T08:28	5	4698	34.6424	18.04.2022	ST	413	OPS006	34.6433	34.6421	-0.0009	0.0003
PS129_088_01	15-04-2022T08:28	5	4698	34.6425	18.04.2022	ST	425	OPS006	34.6433	34.6421	-0.0008	0.0004
PS129_088_01	15-04-2022T08:28	6	4492	34.6444	18.04.2022	ST	406	OPS006	34.6453	34.6442	-0.0009	0.0002
PS129_088_01	15-04-2022T08:28	6	4492	34.7224	18.04.2022	ST	437	OPS006	34.6453	34.6442	0.0771	0.0782
PS129_088_01	15-04-2022T08:28	7	4181	34.6476	18.04.2022	ST	414	OPS006	34.6487	34.6477	-0.0011	-0.0001
PS129_088_01	15-04-2022T08:28	7	4181	34.6475	18.04.2022	ST	500	OPS006	34.6487	34.6477	-0.0012	-0.0002
PS129_096_01	18-04-2022T08:44	2	4593	34.6432	19.04.2022	ST	127	OPS006	34.6447	34.6435	-0.0015	-0.0003
PS129_096_01	18-04-2022T08:44	2	4593	34.6433	19.04.2022	ST	402	OPS006	34.6447	34.6435	-0.0014	-0.0002
PS129_096_01	18-04-2022T08:44	2	4593				405	pending	34.6447	34.6435		
PS129_096_01	18-04-2022T08:44	2	4593				412	pending	34.6447	34.6435		
PS129_096_01	18-04-2022T08:44	2	4593				419	pending	34.6447	34.6435		
PS129_096_01	18-04-2022T08:44	2	4593				181	pending	34.6447	34.6435		
PS129_096_01	18-04-2022T08:44	3	4434	34.6458	19.04.2022	ST	20-1	OPS006	34.6470	34.6458	-0.0012	0.0000
PS129_096_01	18-04-2022T08:44	3	4434	34.6457	19.04.2022	ST	153	OPS006	34.6470	34.6458	-0.0013	-0.0001
PS129_096_01	18-04-2022T08:44	4	4176	34.648	19.04.2022	ST	142	OPS006	34.6496	34.6485	-0.0016	-0.0005
PS129_096_01	18-04-2022T08:44	4	4176	34.6479	19.04.2022	ST	165	OPS006	34.6496	34.6485	-0.0017	-0.0006
PS129_097_01	18-04-2022T21:47	5	4387				170	pending	34.6473	34.6460		
PS129_097_01	18-04-2022T21:47	5	4387	34.6461	20.04.2022	ST	410	OPS006	34.6473	34.6460	-0.0012	0.0001
PS129_097_01	18-04-2022T21:47	5	4387				437	pending	34.6473	34.6460		
PS129_097_01	18-04-2022T21:47	5	4387	34.646	20.04.2022	ST	438	OPS006	34.6473	34.6460	-0.0013	0.0000

									Salinity from CTD		Deviation	
Station Nr.	Date	OTE Bottle	Press [dbar]	Salinity OPS	Measured	Operator	Bottle Nr.	Remark	Sensor 1	Sensor 2	to Sensor 1	to Sensor 2
PS129_097_01	18-04-2022T21:47	5	4387				429	pending	34.6473	34.6460		
PS129_097_01	18-04-2022T21:47	5	4387				175	pending	34.6473	34.6460		
PS129_097_01	18-04-2022T21:47	6	4177	34.6504	20.04.2022	ST	117	OPS006	34.6514	34.6500	-0.001	0.0004
PS129_097_01	18-04-2022T21:47	6	4177	34.6501	20.04.2022	ST	136	OPS006	34.6514	34.6500	-0.0013	0.0001
PS129_097_01	18-04-2022T21:47	7	3877	34.653	20.04.2022	ST	426	OPS006	34.6543	34.6532	-0.0013	-0.0002
PS129_097_01	18-04-2022T21:47	7	3877	34.6529	20.04.2022	ST	431	OPS006	34.6543	34.6532	-0.0014	-0.0003
PS129_099_01	19-04-2022T08:25	4	4129	34.6523	20.04.2022	ST	179	OPS006	34.6536	34.6526	-0.0013	-0.0003
PS129_099_01	19-04-2022T08:25	4	4129				432	pending	34.6536	34.6526		
PS129_099_01	19-04-2022T08:25	4	4129				404	pending	34.6536	34.6526		
PS129_099_01	19-04-2022T08:25	4	4129				413	pending	34.6536	34.6526		
PS129_099_01	19-04-2022T08:25	4	4129				436	pending	34.6536	34.6526		
PS129_099_01	19-04-2022T08:25	4	4129	34.6523	20.04.2022	ST	500	OPS006	34.6536	34.6526	-0.0013	-0.0003
PS129_099_01	19-04-2022T08:25	5	3769	34.6543	20.04.2022	ST	434	OPS006	34.6555	34.6545	-0.0012	-0.0002
PS129_099_01	19-04-2022T08:25	5	3769	34.6543	20.04.2022	ST	416	OPS006	34.6555	34.6545	-0.0012	-0.0002
PS129_099_01	19-04-2022T08:25	6	3405	34.6558	20.04.2022	ST	417	OPS006	34.6568	34.6558	-0.001	0.0000
PS129_099_01	19-04-2022T08:25	6	3405	34.6563	20.04.2022	ST	427	OPS006	34.6568	34.6558	-0.0005	0.0005
PS129_100_03	19-04-2022T21:32	4	3975	34.6535	20.04.22, 2	ST	20-1	OPS006	34.6545	34.6533	-0.001	0.0002
PS129_100_03	19-04-2022T21:32	4	3975				153	pending	34.6545	34.6533		
PS129_100_03	19-04-2022T21:32	4	3975				127	pending	34.6545	34.6533		
PS129_100_03	19-04-2022T21:32	4	3975				407	pending	34.6545	34.6533		
PS129_100_03	19-04-2022T21:32	4	3975				406	pending	34.6545	34.6533		
PS129_100_03	19-04-2022T21:32	4	3975	34.6533	20.04.22, 2	ST	420	OPS006	34.6545	34.6533	-0.0012	0.0000
PS129_100_03	19-04-2022T21:32	5	3693	34.6542	20.04.22, 2	ST	418	OPS006	34.6554	34.6544	-0.0012	-0.0002
PS129_100_03	19-04-2022T21:32	5	3693	34.6543	20.04.22, 2	ST	409	OPS006	34.6554	34.6544	-0.0011	-0.0001
PS129_100_03	19-04-2022T21:32	6	3359	34.6559	20.04.22, 2	ST	401	OPS006	34.6568	34.6558	-0.0009	0.0001
PS129_100_03	19-04-2022T21:32	6	3359	34.6559	20.04.22, 2	ST	433	OPS006	34.6568	34.6558	-0.0009	0.0001

									Salinity from CTD		Deviation	
Station Nr.	Date	OTE Bottle	Press [dbar]	Salinity OPS	Measured	Operator	Bottle Nr.	Remark	Sensor 1	Sensor 2	to Sensor 1	to Sensor 2
PS129_102_01	20-04-2022T05:05	5	3982	34.6494	22.04.2022	ST	402	OPS006	34.6503	34.6494	-0.0009	0.0000
PS129_102_01	20-04-2022T05:05	5	3982	34.6492	22.04.2022	ST	165	OPS006	34.6503	34.6494	-0.0011	-0.0002
PS129_102_01	20-04-2022T05:05	6	3873	34.6535	22.04.2022	ST	435	OPS006	34.6545	34.6534	-0.001	0.0001
PS129_102_01	20-04-2022T05:05	6	3873	34.6534	22.04.2022	ST	157	OPS006	34.6545	34.6534	-0.0011	0.0000
PS129_102_01	20-04-2022T05:05	7	3617	34.6542	22.04.2022	ST	169	OPS006	34.6554	34.6545	-0.0012	-0.0003
PS129_102_01	20-04-2022T05:05	7	3617	34.6542	22.04.2022	ST	403	OPS006	34.6554	34.6545	-0.0012	-0.0003
PS129_103_01	20-04-2022T11:17	5	3667	34.6541	22.04.2022	ST	424	OPS006	34.6551	34.6542	-0.001	-0.0001
PS129_103_01	20-04-2022T11:17	5	3667	34.654	22.04.2022	ST	410	OPS006	34.6551	34.6542	-0.0011	-0.0002
PS129_103_01	20-04-2022T11:17	7	3051	34.6569	22.04.2022	ST	414	OPS006	34.6578	34.6569	-0.0009	0.0000
PS129_103_01	20-04-2022T11:17	7	3051	34.6569	22.04.2022	ST	431	OPS006	34.6578	34.6569	-0.0009	0.0000
PS129_104_01	20-04-2022T17:29	5	3483	34.6529	22.04.2022	ST	142	OPS006	34.6540	34.6532	-0.0011	-0.0003
PS129_104_01	20-04-2022T17:29	5	3483	34.6531	22.04.2022	ST	425	OPS006	34.6540	34.6532	-0.0009	-0.0001
PS129_104_01	20-04-2022T17:29	6	3360	34.654	26.04.2022	ST	500	OPS007	34.6554	34.6546	-0.0014	-0.0006
PS129_104_01	20-04-2022T17:29	6	3360	34.6536	26.04.2022	ST	179	OPS007	34.6554	34.6546	-0.0018	-0.0010
PS129_105_01	21-04-2022T01:09	5	3005	34.6564	22.04.2022	ST	401	OPS006	34.6570	34.6565	-0.0006	-0.0001
PS129_105_01	21-04-2022T01:09	5	3005	34.6563	22.04.2022	ST	409	OPS006	34.6570	34.6565	-0.0007	-0.0002
PS129_105_01	21-04-2022T01:09	6	2816	34.6575	22.04.2022	ST	433	OPS006	34.6580	34.6575	-0.0005	0.0000
PS129_105_01	21-04-2022T01:09	6	2816	34.6575	22.04.2022	ST	434	OPS006	34.6580	34.6575	-0.0005	0.0000
PS129_106_01	21-04-2022T06:40	5	2521	34.6591	22.04.2022	ST	417	OPS006	34.6589	34.6584	0.0002	0.0007
PS129_106_01	21-04-2022T06:40	5	2521	34.6586	22.04.2022	ST	411	OPS006	34.6589	34.6584	-0.0003	0.0002
PS129_106_01	21-04-2022T06:40	5	2521	34.6587	22.04.2022	ST	427	OPS006	34.6589	34.6584	-0.0002	0.0003
PS129_106_01	21-04-2022T06:40	6	3041	34.6292	22.04.2022	ST	418	OPS006	34.6296	34.6291	-0.0004	0.0001
PS129_106_01	21-04-2022T06:40	6	3041	34.6292	22.04.2022	ST	136	OPS006	34.6296	34.6291	-0.0004	0.0001
PS129_106_01	21-04-2022T06:40	6	3041	34.629	22.04.2022	ST	420	OPS006	34.6296	34.6291	-0.0006	-0.0001
PS129_107_01	21-04-2022T15:15	5	2295	34.6571	26.04.2022	ST	417	OPS007	34.6574	34.6571	-0.0003	0.0000
PS129_107_01	21-04-2022T15:15	5	2295	34.6571	26.04.2022	ST	416	OPS007	34.6574	34.6571	-0.0003	0.0000

									Salinity from CTD		Deviation	
Station Nr.	Date	OTE Bottle	Press [dbar]	Salinity OPS	Measured	Operator	Bottle Nr.	Remark	Sensor 1	Sensor 2	to Sensor 1	to Sensor 2
PS129_107_01	21-04-2022T15:15	6	1974	34.6611	26.04.2022	ST	438	OPS007	34.6614	34.6612	-0.0003	-0.0001
PS129_107_01	21-04-2022T15:15	6	1974	34.6609	26.04.2022	ST	20-1	OPS007	34.6614	34.6612	-0.0005	-0.0003
PS129_109_03	22-04-2022T04:19	5	1814	34.6638	26.04.2022	ST	113	OPS007	34.6640	34.6637	-0.0002	0.0001
PS129_109_03	22-04-2022T04:19	5	1814	34.6639	26.04.2022	ST	114	OPS007	34.6640	34.6637	-0.0001	0.0002
PS129_109_03	22-04-2022T04:19	6	1431	34.673	26.04.2022	ST	426	OPS007	34.6727	34.6726	0.0003	0.0004
PS129_109_03	22-04-2022T04:19	6	1431	34.6728	26.04.2022	ST	141	OPS007	34.6727	34.6726	0.0001	0.0002
PS129_112_01	22-04-2022T16:12	5	1419	34.6616	26.04.2022	ST	6	OPS007	34.6606	34.6615	0.001	0.0001
PS129_112_01	22-04-2022T16:12	5	1419	34.6621	26.04.2022	ST	7	OPS007	34.6606	34.6615	0.0015	0.0006
PS129_112_01	22-04-2022T16:12	6	926	34.6841	26.04.2022	ST	8	OPS007	34.6832	34.6834	0.0009	0.0007
PS129_112_01	22-04-2022T16:12	6	926	34.6843	26.04.2022	ST	9	OPS007	34.6832	34.6834	0.0011	0.0009
PS129_114_02	22-04-2022T22:23	5	1622	34.619	26.04.2022	ST	157	OPS007, repeat	34.6175	34.6183	0.0015	0.0007
PS129_114_02	22-04-2022T22:23	5	1622	34.619	26.04.2022	ST	402	OPS007	34.6175	34.6183	0.0015	0.0007
PS129_114_02	22-04-2022T22:23	6	1603	34.6202	26.04.2022	ST	435	OPS007	34.6194	34.6186	0.0008	0.0016
PS129_114_02	22-04-2022T22:23	6	1603	34.6201	26.04.2022	ST	165	OPS007	34.6194	34.6186	0.0007	0.0015
PS129_116_01	23-04-2022T02:56	5	926	34.6692	26.04.2022	ST	136	OPS007	34.6682	34.6684	0.001	0.0008
PS129_116_01	23-04-2022T02:56	5	926	34.6692	26.04.2022	ST	418	OPS007	34.6682	34.6684	0.001	0.0008
PS129_116_01	23-04-2022T02:56	6	521	34.67	26.04.2022	ST	420	OPS007	34.6693	34.6699	0.0007	0.0001
PS129_116_01	23-04-2022T02:56	6	521	34.67	26.04.2022	ST	424	OPS007	34.6693	34.6699	0.0007	0.0001
PS129_117_01	23-04-2022T06:05	5	660	34.6333	26.04.2022	ST	410	OPS007	34.6322	34.6324	0.0011	0.0009
PS129_117_01	23-04-2022T06:05	5	660	34.6332	26.04.2022	ST	169	OPS007	34.6322	34.6324	0.001	0.0008
PS129_117_01	23-04-2022T06:05	6	505	34.6616	26.04.2022	ST	401	OPS007	34.6600	34.6603	0.0016	0.0013
PS129_117_01	23-04-2022T06:05	6	505	34.6615	26.04.2022	ST	403	OPS007	34.6600	34.6603	0.0015	0.0012
PS129_119_01	23-04-2022T08:40	5	663	34.6222	26.04.2022	ST	431	OPS007	34.6206	34.6203	0.0016	0.0019
PS129_119_01	23-04-2022T08:40	5	663	34.6222	26.04.2022	ST	409	OPS007	34.6206	34.6203	0.0016	0.0019
PS129_119_01	23-04-2022T08:40	6	642	34.6218	26.04.2022	ST	414	OPS007	34.6204	34.6203	0.0014	0.0015
PS129_119_01	23-04-2022T08:40	6	642	34.6215	26.04.2022	ST	427	OPS007	34.6204	34.6203	0.0011	0.0012

									Salinity from CTD		Deviation	
Station Nr.	Date	OTE Bottle	Press [dbar]	Salinity OPS	Measured	Operator	Bottle Nr.	Remark	Sensor 1	Sensor 2	to Sensor 1	to Sensor 2
PS129_120_01	23-04-2022T12:15	5	356	34.5981	26.04.2022	ST	433	OPS007	34.5958	34.5968	0.0023	0.0013
PS129_120_01	23-04-2022T12:15	5	356	34.5978	26.04.2022	ST	142	OPS007	34.5958	34.5968	0.002	0.0010
PS129_120_01	23-04-2022T12:15	6	319	34.5829	26.04.2022	ST	434	OPS007	34.5811	34.5818	0.0018	0.0011
PS129_120_01	23-04-2022T12:15	6	319	34.5826	26.04.2022	ST	425	OPS007	34.5811	34.5818	0.0015	0.0008
PS129_121_01	23-04-2022T17:19	5	303	34.5342	26.04.2022	ST	117	OPS007	34.5321	34.5322	0.0021	0.0020
PS129_121_01	23-04-2022T17:19	5	303	34.5342	26.04.2022	ST	411	OPS007	34.5321	34.5322	0.0021	0.0020

Tab. 2.20 : List of common problems of L-ADCP casts by station number

Station ID	LADCP cast	File Names	Large up-down compass difference (>15°)	Found no SADCP data in time window	Found LARGE timing difference between ADCPs	Found x ADCP w deviating more than 2.5 m/s from w-CTD.	Increased error because of shear-inverse difference	shifted CTD time series by x seconds	Comments
014_01	2	002DN000.000	-	-	-	-		-	test cast
018_07	4	004DN000.000 004UP000.000	-	-	-	-	X	-	-
023_01	5	005DN000.000 005UP000.000	-	-	-	-	X	-	
025_08	6	006DN000.000 006UP000.000	-	-	-	8	X	-	
027_02	7	007DN000.000 007UP000.000	-	-	-	-	X	-	
030_01	8	008DN000.000 008UP000.000	-	-	-	-	X	-	
040_02	9	009DN000.000 009DN001.000 009UP000.000 009UP001.000	18.4714	-	-	-	X	-	
041_02	10	010DN000.000 010UP000.000	-	X	-	-	X	-	
042_01	11	011DN000.000 011UP000.000	-	-	-	-	X	-	
047_01	13	013DN000.000 013UP000.000	-	-	-	-	X	-	
049_01	14	014DN000.000 014UP000.000	-	-	-	-	X	-	
053_03	15	015DN000.000 015UP000.000	-	-	-	-	X	-	
054_03	16	016DN000.000 016UP000.000	-	-	-	-	X	-	
058_02	18	018DN000.000 018UP000.000	-	-	-	-	X	-	
059_01	19	019DN000.000 019UP000.000	-	-	-	-	X	-	
060_01	20	020DN000.000 020UP000.000	-	-	-	1	X	-	

Station ID	LADCP cast	File Names	Large up-down compass difference (>15°)	Found no SADCP data in time window	Found LARGE timing difference between ADCPs	Found x ADCP w deviating more than 2.5 m/s from w-CTD.	Increased error because of shear-inverse difference	shifted CTD time series by x seconds	Comments
062_04	21	021DN000.000 021DN001.000 021DN002.000 021DN003.000 021UP000.000 021UP001.000 021UP002.000	-	-	-	-	X	-	data gap during upcast between 2,100m and 1,800m
064_02	22	022DN000.000 022DN001.000 022UP000.000 022UP001.000 022UP002.000	-	-	-	1	X	-	data gap during upcast between 2,400m and 2,300m
065_01	23	023DN000.000 023UP000.000	-	-	-	-	X	-	battery change
068_01	24	024DN000.000 024UP000.000 024UP001.000	-	-	-	1	X	-	
070_01	25	025DN000.000 025DN001.000 025UP000.000	-	-	-	-	X	-	only down looker contained data
071_02	26	026DN000.000 026UP000.000	-	-	-	-	X	-	
072_01	27	027DN000.000 027UP000.000	-	-	-	-	X	-	
072_03	29	029DN000.000 029UP000.000	-	-	-	-	X	-	
074_04	30	030DN000.000 030UP000.000	-	-	-	-	X	-	
080_02	31	031DN000.000 031UP000.000	-	-	-	-	X	-	ADCP battery was changed
082_01	32	032DN000.000 032UP000.000	-	-	-	1	X	-	a new CTD file, was created for the up cast

Station ID	LADCP cast	File Names	Large up-down compass difference (>15°)	Found no SADCP data in time window	Found LARGE timing difference between ADCPs	Found x ADCP w deviating more than 2.5 m/s from w-CTD.	Increased error because of shear-inverse difference	shifted CTD time series by x seconds	Comments
083_02	33	033DN000.000 033DN001.000 033UP000.000 033UP001.000	-	-	-	-	X	-	data gap during upcast between 1,400m and 1,000m
086_01	34	034DN000.000 034UP000.000	-	-	-	-	X	-	
087_01	35	035DN000.000 035UP000.000	-	-	-	37	X	-	large tilt values
088_01	36	036DN000.000 036DN001.000 036DN002.000 036UP000.000 036UP001.000 036UP002.000	16.7237	-	-	1	X	-	L-ADCP measured only below 2,500m on the downcast
096_01	40	040DN000.000 040UP000.000	-	-	-	-	X	-	error message at the L-ADCP start: date out of range
097_01	42	042DN000.000 042UP000.000	-	-	-	-	X	-	
099_01	43	043DN000.000 043UP000.000 043UP001.000	-	-	-	-	X	-	
100_03	44	044DN000.000 044DN001.000 044UP000.000 044UP001.000	-	-	-	-	X	14	data gap during the upcast between 1,800m and 300m
102_01	46	046DN000.000 046UP000.000	-	-	-	-	X	18	
103_01	47	047DN000.000 047UP000.000	-	-	-	-	X	-	
104_01	49	049DN000.000 049UP000.000	-	-	-	-	X	-	
105_01	50	050DN000.000 050UP000.000	-	-	-	-	X	-	

Station ID	LADCP cast	File Names	Large up-down compass difference (>15°)	Found no SADCP data in time window	Found LARGE timing difference between ADCPs	Found x ADCP w deviating more than 2.5 m/s from w-CTD.	Increased error because of shear-inverse difference	shifted CTD time series by x seconds	Comments
106_01	51	051DN000.000 051UP000.000	-	-	-	-	X	-	
107_01	52	052DN000.000 052UP000.000	-	-	-	-	X	-	
109_03	53	053DN000.000 053UP000.000	-	-	-	-	X	-	
110_01	55	055DN000.000 055DN001.000 055DN002.000 055UP000.000 055UP001.000 055UP002.000	-	-	-	-	X	31	2 data gaps during the upcast, between 1,600 and 1,500, and between 950 and 900m
111_01	56	056DN000.000 056UP000.000	-	-	-	-	X	-	
112_01	58	058DN000.000 058DN001.000 058DN002.000 058DN003.000 058UP000.000 058UP001.000 058UP002.000 058UP003.000	-	-	-	-	X	-	data gap between 850m and 700m
114_02	59	059DN000.000 059UP000.000	-	-	-	-	X	-	
116_01	61	061DN000.000 061DN001.000 061UP000.000	-	-	-	-	X	-	
117_01	62	062DN000.000 062UP000.000	-	-	-	-	X	-	
119_01	63	063DN000.000 063UP000.000	-	-	-	-	X	-	
120_01	64	064DN000.000 064UP000.000	-	-	-	-	X	-	

Station ID	LADCP cast	File Names	Large up-down compass difference (>15°)	Found no SADCP data in time window	Found LARGE timing difference between ADCPs	Found x ADCP w deviating more than 2.5 m/s from w-CTD.	Increased error because of shear-inverse difference	shifted CTD time series by x seconds	Comments
121_01	65	065DN000.000 065UP000.000	-	-	-	-	X	-	
122_01	66	066DN000.000 066UP000.000	-	-	-	-	X	-	
123_01	67	067DN000.000 067UP000.000	-	-	-	-	X	-	
127_03	68	068DN000.000 068UP000.000	-	-	-	-	X	-	

Tab. 2.22: Overview of SonoVault and AURAL recorders recovered during PS129. All SV recorders

Mooring	Device SN	Latitude	Longitude	Deployment depth/m	Deployment date /time (UTC)	Recovery date	Gain /dB *)	Setup	Condition
AWI 227-15	SV1006	59°03.02'S	000°06.44'E	285	2018-12-31T10:10	2022-03-12T10:32:00	44.2/44.4	24 kHz; 24 bit; LowPower mode	b), e)
AWI 229-14	SV1060	64°00.49'S	000°00.84'W	329	2019-01-01T22:38	2022-03-15T09:39:00	44.3/--	24 kHz; 24 bit; LowPower mode	b), c)
AWI 231-13	SV1056	66°31.03'S	000°04.48'W	303	2018:12:27T18:34	2022-03-18T08:29:00	44.5/44.7	24 kHz; 24 bit; LowPower mode	b), a)
AWI 248-3	SV1012	65°58.12'S	12°13.84'W	350	2019-01-07T10:37	2022-03-19T09:10:00	44.4/44.5	24 kHz; 24 bit; LowPower mode	b), a)
AWI 245-5	SV1014	69°03.64'S	17°23.49'W	300	2019-01-08T14:20	2022-04-04T09:27:00	44.3/44.1	24 kHz; 24 bit; LowPower mode	b), a)
BGC-1	SV1024	69°00.03'S	27°00.29'W	918	2021-03-24T13:13	2022-04-07T15:09:00	41.4/ 24.8	48 kHz; 24 bit; LowPower mode	d)
AWI249-3	**SV1010**	**70°53.22'S**	**28°56.97'W**	**307**	**2019-01-20T12:00**	**aborted due to ice**	**–**	**–**	**–**
AWI 208-9	SV1020	65°41.78'S	36°41.01'W	294	2019-01-23T16:01	2022-04-14T10:04:00	44.5/20	24 kHz; 24 bit; LowPower mode	b), a)
AWI 250-3	**SV1048**	**68°28.85'S**	**44°05.94'W**	**294**	**2019-01-24T20:28**	**position not reached**	**–**	**–**	**–**
AWI 257-2	**SV1033**	**64°12.94'S**	**47°29.38'W**	**311**	**2019-01-27T17:50**	**aborted due to ice**	**–**	**–**	**–**
AWI 207-11	SV1032	63°39.36'S	50°48.66'W	300	2019-01-29T17:08	2022-04-22T01:37:00	45.1/45.0	24 kHz; 24 bit; LowPower mode	b), a)
AWI 251-3	SV1002	61°01.38'S	55°58.68'W	181	2019-02-01T18:30	2022-04-24T13:52:39	41.3/40.5	24 kHz; 24 bit; LowPower mode	b), a)
AWI 251-3	AU0085	61°01.38'S	55°58.68'W	179	2019-02-01T18:30	2022-04-24T13:52:39	--/--	32 kHz; 16 bit;	b), a)

a) system in good condition; b) no communication established directly after recovery; c) electronics damaged, batteries burned, SD cards readable; d) hydrophone defect;
e) stopped early due to electronics failure (watchdog); f) problems with electronics during test and calibration after recovery;
*) Calibration before/after recovery, using a B&K Pistonphone at 251.2 Hz ± 0.1% (ISO 266) with amplitude of 153.95 dB SPL (at 1013 hPa air pressure);
1) Not calibrated;
2) calibration pending; 3) calibration not possible.

Tab. 2.23: Overview of acoustic recorders deployed during PS129

Mooring	Acoustic Recorder SN	Position Latitude	Position Longitude	water depth true [m]	Deploy. Depth [m]	Deploy. date /time (UTC)	hydrophone type	Gain PHO and MRPro /dB *)	Configuration	Start date recordings
AWI 227-16	SV1005	59° 02.977' S	000° 06.483' E	4587	282	2022-03-12T14:21	D60	43.3[a)] / 40.7[b)]	1) , 2)	2022-03-10T11:30
AWI 229-15	SV1009	64° 01.222' S	000° 00.820' E	5146	296	2022-03-15T15:41	TC4032	40.5 [a)] / 40.8 [b)]	1) , 2)	2022-03-10T11:30
AWI 231-14	SV1021	66° 31.043' S	000° 04.477' W	4557	307	2022-03-17T13:55	TC4032	40.5 [a)] / 40.8 [b)]	1) , 2)	2022-03-10T11:30
EWS 003-01	SV1008	70° 17.905' S	013° 26.779' W	3304	346	2022-04-03T12:41	TC4032	40.5 [a)] / 40.8 [b)]	1) , 2)	2022-03-22T11:30
AWI 245-06	SV1022	69° 03.636' S	017° 23.455' W	4721	285	2022-04-04T16:03	TC4032	40.1 [a)] / 40.9 [b)]	1) , 2)	2022-03-30T11:30
AWI 249-04	SV1026	70° 49.932' S	029° 07,930' W	4374	312	2022-04-08T19:50	TC4032	41.7 [a)] / -	1) , 2)	2022-04-05T11:30
CWS 001-01	SV1031	69° 33.349' S	032° 28.620' W	4430	314	2022-04-10T22:36	D60	43.6 [a)] / 40.8 [b)]	1) , 2)	2022-04-06T11:30
as above	AU0231	69° 33.349' S	032° 28.620' W	4430	268	2022-04-10T22:36	HTI-96-min	-	3)	2022-12-31T12:00
AWI 209-09	SV1025	66° 36.444' S	27° 07.279'W	4821	299	2022-04-12T17:06	TC4032	44.1 [a)] / 44.9 [b)]	1) , 2)	2022-04-12T11:30
AWI 208-10	SV1049	65° 41.760' S	36° 40.971 'W	4715	298	2022-04-14T15:34	TC4032	44.1 [a)] / 44.5 [b)]	1) , 2)	2022-04-12T11:30
CWS 002-01	SV1030	66° 22,766' S	041° 23,502' W	4524	298	2022.04.16T17:05	TC4032	40.3 [a)] / 40.9 [b)]	1) , 2)	2022-04-14T11:30
WWS 002-01	SV1027	65° 25.985'S	044° 35.575'W	4416	310	2022-04-17T20:44	TC4032	40.8 [a)] / 40.9 [b)]	1) , 2)	2022-04-13T11:30
as above	AU0086	65° 25.985'S	044° 35.575'W	4416	257	2022-04-17T20:44	HTI-96-min	-	3)	2022-12-31T12:00
AWI 257-2	SV1034	64° 14,420' S	047° 29,114' W	4142	308	2022-04-19T20:42	TC4032	44.8 [a)] / 44.8 [b)]	1) , 2)	2022-04-16T11:30
AWI 207-12	SV1013	63° 37,749' S	050° 47,457' W	2502	276	2022-04-21T23:50	TC4032	44.5 [a)] / 44.9 [b)]	1) , 2)	2022-04-15T11:30
AWI 261-02	SV1023	63° 29,929' S	051° 38,229' W	1618	255	2022-04-22T21:12	D60	46.8 [a)] / 44.9 [b)]	1) , 2)	2022-04-21T11:30
AWI 251-04	SV1054	61° 01,376' S	055° 58,665' W	311	153	2022-04-24T16:20	TC4032	40.9 [a)] / 41.2 [b)]	1) , 2)	2022-04-19T11:30
as above	AU0303	61° 01,376' S	055° 58,665' W	311	148	2022-04-24T16:20	HTI-96-min	-	3), 4)	2022-04-23T20:00

*) Calibration before deployment, using a a) B&K Pistonphone at 251.2 Hz ± 0.1% (ISO 266) and 153.95 dB SPL amplitude (at 1013 hPa air pressure) and b) a signal generator MR Pro at 1kHz with V0p=7.1mV connected to the hydrophone connector on the electronics board;
1) 48 kHz; 24 bit; Low Power Mode;
2) Schedule: 25 hrs ON / 23 hrs OFF (11:30-12:30 +1d);
3) Schedule: 10min every full hour, 32 kHz;
4) VLP WB2 OSR 128 (Very low power, wide band 2, over-sampling-rate 128)

Tab. 2. 24: Overview of results of preliminary technical and data quality evaluation of recorders recovered during PS129

Mooring	Recorder [SN]	Deployment Expedition	Deployment [datetime]	Recording end [date time]	comms	Battery status end (start)	Clock drift [sec / ann]	Quality data [days]	Missing records	Recording status	Electronic noise (preliminary results)
AWI 227-15	SV1006	PS117	2018-12-31T10:10	2019-02-08T08:05:50	No	13.9 (25)	nn	38	none	end, possibly electronic failure, reason unknown	4)
AWI 229-14	SV1060	PS117	2019-01-01T22:38	2019-05-10T12:39:28	No	nn	nn	127	From 22/03 to 02/05 2019 2 SD Cards not readable	burned out	no
AWI 231-13	SV1056	PS117	2018:12:27T18:34	2020-05-20T06:10:06	No	8.45 (25)	nn	509	none	end: battery low	no
AWI 248-3	SV1012	PS117	2019-01-07T10:37	2020-04-23T07:06:02	No	7.52 (25)	nn	470	none	end: battery low	no
AWI 245-5	SV1014	PS117	2019-01-08T14:20	2020-07-03T06:31:00	No	7.14 (25)	nn	540	none	end: battery low	no
BGC-1	SV1024	PS124	2021-03-24T13:13	2022-03-15T20:51:08	Yes	24.6 (25)	363	349	none	storage full	6)
AWI 208-9	SV1020	PS117	2019-01-23T16:01	2019-07-08T00:23:00				75	none	end, possibly electronic failure, reason unknown	6)
AWI 207-11	SV1032	PS117	2019-01-29T17:08	2020-08-14T13:32:52	No	6.83 (25)	7	561	none	end: battery low	4, 5)
AWI 251-3	SV1002	PS117	2019-02-01T18:30	2020-04-25T03:25:15	No	10.85 (25)	380	449	1)	end: battery low	1)
AWI 251-3	AURAL	PS117	2019-02-01T18:30	2021-02-04T03:00:00				734	1)	end: battery low	1)

to be analyzed
Comms: communication established after recovery
battery: voltage at recovery [V] (voltage at deployment [V]
tonal electronic noise
broadband instrument or mooring noise
hydrophone malfunction