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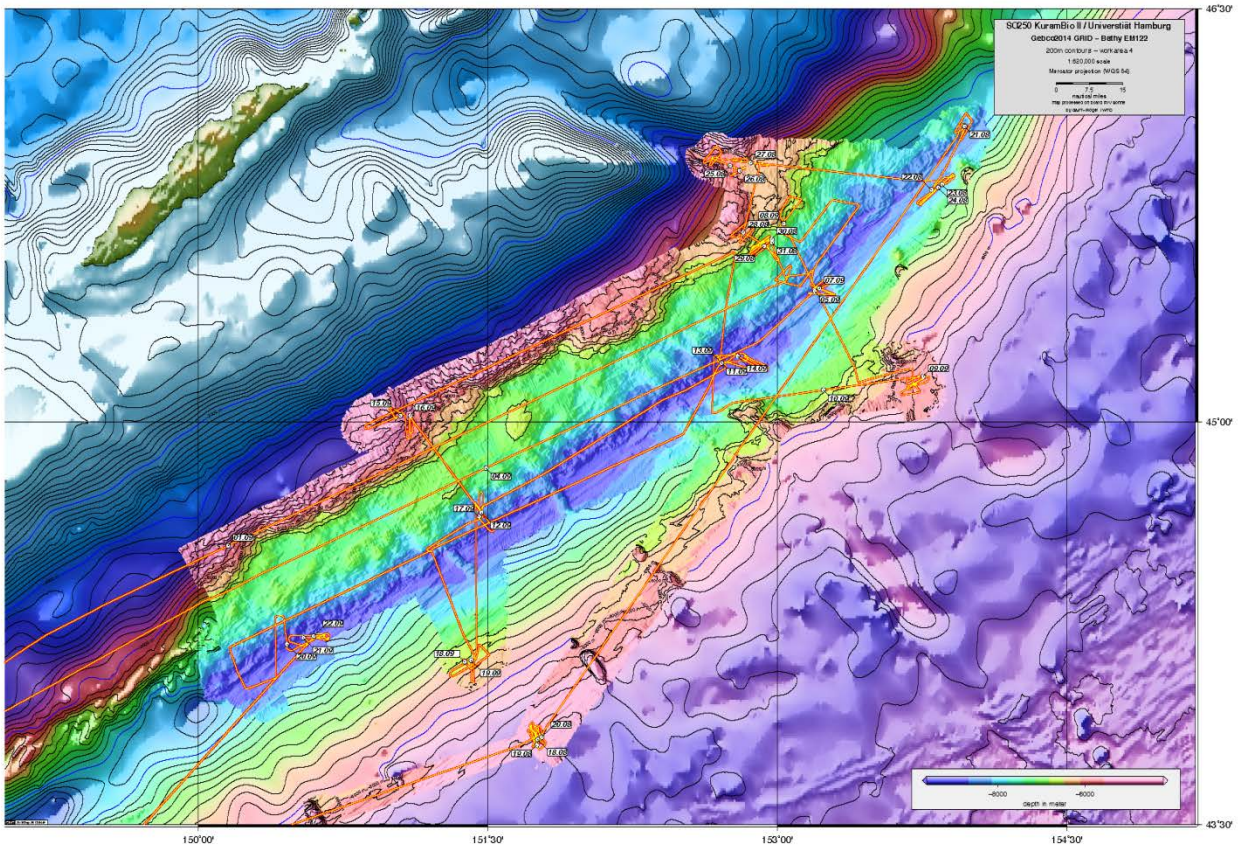
Short Cruise Report
R/V SONNE cruise SO-250
Tomakomai – Yokohama (Japan)
16.08.2016-26.09.2016
Chief Scientist: Prof. Angelika Brandt
Captain: Oliver Meyer



Objectives

The German-Russian expedition KuramBio II (Kurile-Kamchatka Biodiversity Studies II) with RV *Sonne* has been performed between 16.8.–26.9.2016 in the Kurile-Kamchatka Trench (KKT) region (SO-250). This expedition follows the Russian-German SoJaBio (Sea of Japan Biodiversity Studies) expedition to the Sea of Japan in 2010, the German-Russian KuramBio expedition to the KKT area in 2012, and the Russian German SokhoBio (Sea of Okhotzk Biodiversity Studies) expedition in 2015. The goals of these expeditions were to study the biodiversity and biogeography as well as trophic characteristics of the benthic organisms in these different northwest Pacific deep-sea environments.

Specific hypotheses tested were:

Hypothesis 1: The hadal of the Kuril-KamchatkaTrench is characterized by a high number of species (not lower than in the abyssal plain near the KKT). The Kuril basin of the Sea of Okhotsk is characterized by a higher number of species than the deep Sea of Japan because it is less bathymetrically isolated, but lower species richness than the abyssal Northwest Pacific and the KKT (KuramBio II). H1 will be tested using systematic and zoogeographic comparisons.

Hypothesis 2: The number of endemic species will increase with increasing the depth in the KKT. The hadal depths of the KKT will isolate species of the Sea of Okhotsk from species of the abyssal northwest Pacific. H2 will be tested using both morphological as well as molecular genetic analyses of frequent families. For example, within the Isopoda species of the Munnopsidae can swim, species of the Macrostylidae cannot swim. One would expect a higher genetic divergence within species or populations occurring on both sides of the KKT within the Munnopsidae than within the Macrostylidae.

Hypothesis 3: The hadal depths of the Kuril-Kamchatka Trench are isolated species of the Sea of Okhotsk from species of the abyssal Northwest Pacific. The number of endemic species will increase with increasing hadal depth in the KKT. H3 will be tested using systematics and zoogeographic analyses.

We have deployed a CTD, multi-beam echo sounder, multinet, multiple corer, box corer, epibenthic sledge, and Agassiz trawl at eleven working areas between 5100 and 9583 m depth in order to document the topography of the seafloor and to collect organisms of all size classes from protists to megafauna.

During the first investigations on board of the RV *Sonne* (KuramBio I), we documented a rich fauna at two stations deeper than 5000 m in the Kuril-Kamchatka Trench in all groups of organisms, from protists to meio-, macro-, and megafauna. During this expedition we sampled a much higher number of species than were previously known and increased the knowledge of deep-sea species from depths between 5000-6000 m from 300 known species to >1781 species. The fauna of the open NW Pacific differs to the fauna of Sea of Japan and also to the fauna of the Sea of Okhotsk. We therefore have to assume that the Kuril-Kamchatka Trench indeed isolates the fauna of the Kuril Basin of the Sea of Okhotsk from the NW Pacific. Nevertheless, there appear to be species which can cross the Krusenstern and Bussol Straits and reach the abyssal depth of the NW Pacific Ocean. Whether the percentage of endemic species in the Kuril-Kamchatka Trench increases with increasing depth can only be answered after more detailed analyses and identification of the species in the home laboratories.

Narrative

Forty scientists from of nine nationalities (17 Germans, twelve Russians, three Japanese, respectively two French and Polish, and each one South Korean, Czech, Mexican, and Spaniard) embarked the research vessel *Sonne* for the deep-sea expedition KuramBio II (SO 250) in Tomakomai (Japan, Hokkaido) on August 15th. In the afternoon of the same day we started unpacking our cargo as well as assembling gears and setting up the labs. In the morning of August 16th 2016, RV *Sonne* left the Tomakomai harbor at 9.00 am.

The first study area A8 and first station were reached already on Thursday August 18th at midnight. The first station was located at 43°82N 151°76'E at 5130 m depth. We decided to begin our sampling at a "shallow" site, and not the deep A1 area with 8200 m in order to accelerate the initiation of our work flow on board which includes time-consuming sample sorting etc., as well as to establish routine in the deployment of the gears before operating them in over 8000 m depth. We started to deploy a CTD prior to seafloor mapping using the EM 122, as we needed the CTD for the calibration of the multi-beam echo sounder (EM 122). We also collected both water column measurements and water samples for biochemistry. Following the deployment of the CTD (a device measuring physical parameters of the water column) with a rosette of Niskin bottles (a water sampler) down to 2000 m depth, a Multi-closing plankton net was deployed. The multi-closing plankton net is used, specifically for catching planktonic organisms at certain depths. The sea floor was scanned with an echo sounder to study the topography. Based on the newly created maps, the benthos sampling stations were planned. The benthos gear included a multicorer (MUC), a giant box corer (BC), a camera-epibenthic sledge (C-EBS) or epibenthic sledge (EBS) without camera (below 6000 m depth), as well as an Agassiz trawl (AGT). The complete set of instruments was successfully operated and the scientists on board RV *Sonne* productively worked at abyssal and hadal depths.

During the third week we finished our work in areas A6 and A5 and started to work in area A4 at 8700 m depth. In the late evening of the 31st of August we had to interrupt our station work and return to Tomakomai due to a case of illness of a crew member who had to be brought to hospital. However, since the 2nd of September in the morning 4 a.m. we were back in our study area. We were able to use the steaming time back to the station A4 for seafloor mapping in order to obtain more precise bathymetric information of the topography of our next research area A7 at depth of roughly 9500 m.

Back at station area A4 we had to start with the multinet again, which we had to interrupt in order to leave to Tomakomai as soon as possible. After this deployment we got the first sediment from depth 8700 m on deck by means of large box corer (GKG), but the GKG was full to the brim, thus the surface of the sample was disturbed. For that reason we gave the GKG a second trial, however, with the same result and sediment up to the top of the gear. The first MUC deployment did not release in the soft sediment and returned on deck empty, however, with muddy

corers. We now know that the sediment in the central Kuril Kamchatka Trench is very soft and has a high water content what hampers easy sampling with corers. We therefore changed our deployment strategy for the MUC and retrieved it at higher speed right after bottom contact, in order to allow for an instant closing and sample securing of the twelve corers. This strategy then brought us excellent material for sedimentology and meiofaunal research from depth 8700 m back on deck, and therefore we repeated this deployment once more, and after additional three hours of waiting, the MUC came on deck with a wonderful sample. All twelve cores were filled with sediment and there were still some 10 cm of overlaying bottom water, so that the sample was perfect. On September 8th we reached the area A3 and after the deployment of CTD and the EM122 we determined the position for the corers and towed equipment before we started with the veer the multinet.

Until Saturday morning of the 10th September we were able to work at this station, when we had to weather a storm and stop working. We therefore could not repeat the AGT and EBS deployments in this area, as we had no additional time to loose after the long journey back to back to Japan. We therefore decided to map the hadal of the Kuril-Kamchatka trench in this region of A7 with the multi-beam echo sounder even better in order to possibly move the 9500 m station further to the southwest. When we realized that the southern-more areas were getting shallower we decided to get back to the planned 9500 m station, and when the weather was favorable enough we deployed the box corer at this depth which brought a phantastic sample from the seafloor in 9500 m depth with a rich fauna, for example pogonophorans, which are derived polychaetes which feed chemosynthetically via symbiontic bacteria. Afterwards, we tried to take meiofauna and sediment samples with the multiple corer (MUC). Despite trying to adjust the setup of the gear and the deployment protocol, we did not succeed and had to come up with an alternative plan. Instead, we deployed the box corer once more and took subsamples manually with the MUC cores. Then, we ventured to deploy the epibenthic sledge (EBS). For this operation had to make use of the full length of available work length of the cable, 11,000 m. This was not the first time because already during the maiden voyage of RV *Sonne* (Vema-TRANSIT; SO 237) EBS samples were taken from the bottom of the Puerto Rico Trench from > 8.300 m. However, the key difference between these deployments was that here at the KKT the water depth exceeds that of the PRT by more than thousand meters. As a consequence the EBS could not be deployed in the usual way, using a cable length 1.5 times that of the water depth, simply because we do not have so much wire available. Thus the deployment was a challenge! We reduced the towing speed but trawled for longer time, about one hour. The expect-ations and anxiety were thus high when the EBS broke through the surface after many hours of deployment. Everyone cheered when we saw that indeed there were nice samples in the cod ends of the EBS. Echiurids and elpidiid holothurians, amphipods, bivalves (clams, mussels) and many other taxa were found in this sample. Subsequently we were as excited while awaiting the AGT. Just as the EBS, the deployment was successful and we collected loads of megafauna organisms from the hadal – for example more than 1100 holothurians. Like at all sampling sites

before we also encountered a high abundance at this deepest station. This also includes organisms that make use of calcium carbonate for skeletal hard structures. Accordingly we are able to reject the hypothesis that such organisms cannot thrive below the calcite compensation depth (depending on the region between 3000–5000 m) due to problems with building up calcareous structures.

After we finished the deepest hadal station successfully we mapped our way towards area A10 during the night and started collecting more samples in the early morning of 17th September. First we deployed the plankton net. After the deployments of a box corer and two multiple corers the EBS presented completely different sediment as compared to the hadal stations. It contained sand and gravel with small stones. This site is located at the upper slope of the KKT towards the Sea of Okotsk and is apparently affected by strong currents which erode the smaller sediment particles. Nevertheless we could already get a glimpse at the many small critters that the sample contained during washing and sieving it. It was shown that the hadal organisms of many taxa are really larger at abyssal depths than in the abyss. The AGT also brought a good sample with a lot of megafauna as well as several big stones.

After finishing our work in area A10 we returned to A9, where we completed our set of deployments with the multiple corer, EBS, as well as AGT. Subsequently we continued mapping the seafloor around the final site A11 in order to understand the bottom topography better and make appropriate decisions as to where to deploy the benthos gear. We were also interested in finding the deepest location in that area, as it has been reported that the maximum depth of the Kuril-Kamchatka Trench would be 10542 m at 44.07.00’N 150°18.00’O (Jamieson, 2015). However, the data in the literature are incorrect and need to be revised. Since we wanted to sample a fifth station at hadal depths in the middle of the trench we chose the deepest area in this region and thus could sample once more in > 9500 m depth. We again deployed our devices successfully and now have a very good comparison at this great depth. Comparably to the last very deep station at 9581 m one could immediately recognize that the diversity of organisms was significantly lower than at abyssal depths, but the abundances of species that occurred in the samples was immense. At this last station area we immediately saw the same species which we sampled at the last 9500 m station in high numbers of individuals. Our work in this last station area was completed on Thursday, 22nd September at about midnight (0.00) with the deployment of a multinet.

During the expedition SO250, KuramBio II, we travelled 40 days, 22 hours and 36 minutes on board of RV Sonne over a distance of 3985 nautical miles. We have sampled 106 stations with a standardized deployment of our gear. We have deployed 53.100 m of single-conductor cable and 619.841 m of deep-sea wire during the course of the six weeks. Our Access database has recorded 869 numbers for Kautex jars as well as 3123 inventory numbers for sorted samples. We bring very extensive animal material and PCR products back home.

Moreover, we have informed the public about our work by means of 42 daily logs in three languages (German, English, Russian) published via the Senckenberg Museum's blog farm (http://www.senckenberg.de/root/index.php?page_id=5253&blogEntryID=450).

Acknowledgements

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Cruise Participants

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7. Bruhn, Marco	Technician	DZMB WHV
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17. Heitland, Nele	Marine Biology	CeNak, ZMH
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Institutes

AORI – Atmosphere and Ocean Research Institute, University of Tokyo
IMB – Institut für Marine Biologie, Vladivostok, Russia
CeNak, ZMH – Centre of Natural History, Zoological Museum Hamburg
DZMB WHV – Deutsches Zentrum für Biodiversitätsforschung in WHV
DZMB HH – Deutsches Zentrum für Biodiversitätsforschung in HH
FIS – Forschungsinstitut Senckenberg, Frankfurt
HCU – HarborCity University Hamburg
HU Korea – Hanyang University Korea
IORAS – Shirshov Institute, Moscow, Russia
Korea – Hanyang University in Seoul, Korea
MSU - M.V.Lomonosov Moscow State University
NSM – Department of Zoology, National Science Museum, Japan
POI – Pacific Oceanographic Institute
PBO – University of Lodz, Department of Polar Biology and Oceanobiology
SAMS – Scottish Association for Marine Science
TMSS – Takehara Marine Science Station, Hiroshima University, Japan
UG – University of Geneva, Switzerland
UT – University of Tokyo, Japan
ZSM – Zoologische Staatssammlung München

Stationlist

Station	Date / Time UTC	Device	Latitude start	Longitude start	Depth (m)
SO250_1	17.08.2016 16:15	CTD	43° 49,201' N	151° 45,604' E	5143.9
SO250_2	17.08.2016 19:04	KONGSBERG EM122	43° 50,721' N	151° 42,874' E	5228.9
SO250_3	17.08.2016 21:42	MSN	43° 49,205' N	151° 45,652' E	5142.7
SO250_4	18.08.2016 03:21	Multi Corer	43° 49,194' N	151° 45,595' E	5143.4
SO250_5	18.08.2016 07:24	Multi Corer	43° 49,196' N	151° 45,593' E	5149.4
SO250_6	18.08.2016 11:47	Giant Box Corer	43° 49,198' N	151° 45,610' E	5145.6
SO250_7	18.08.2016 17:19	Agassiz Trawl	43° 52,459' N	151° 44,274' E	5229.7
SO250_8	19.08.2016 03:50	EpiBenthic Sledge	43° 51,698' N	151° 45,851' E	5191.2
SO250_9	19.08.2016 12:00	Agassiz Trawl	43° 52,385' N	151° 43,600' E	5258.3
SO250_10	19.08.2016 21:52	EpiBenthic Sledge	43° 51,810' N	151° 46,543' E	5188.1
SO250_11	20.08.2016 18:50	CTD	46° 4,623' N	153° 58,207' E	8123.8
SO250_12	20.08.2016 20:22	KONGSBERG EM122	46° 3,607' N	153° 55,424' E	7869.1
SO250_13	20.08.2016 22:42	MSN	46° 4,623' N	153° 58,242' E	8135.5
SO250_14	21.08.2016 06:25	Giant Box Corer	45° 50,878' N	153° 47,992' E	8250.7
SO250_15	21.08.2016 14:22	Multi Corer	45° 50,876' N	153° 47,991' E	8250.3
SO250_16	21.08.2016 20:48	Multi Corer	45° 50,876' N	153° 47,994' E	8250.4
SO250_17	22.08.2016 04:12	EpiBenthic Sledge	45° 54,160' N	153° 54,685' E	7994.0
SO250_18	22.08.2016 16:06	Agassiz Trawl	45° 47,459' N	153° 44,302' E	8110.4
SO250_19	23.08.2016 05:44	EpiBenthic Sledge	45° 54,216' N	153° 54,562' E	7973.2
SO250_20	23.08.2016 18:19	Agassiz Trawl	45° 47,580' N	153° 44,272' E	8111.3
SO250_21	24.08.2016 13:09	CTD	45° 57,737' N	152° 39,916' E	5958.0
SO250_22	24.08.2016 14:28	KONGSBERG EM122	45° 56,150' N	152° 38,885' E	5305.3
SO250_23	24.08.2016 17:19	MSN	45° 57,728' N	152° 39,846' E	5960.4
SO250_24	25.08.2016 00:23	Giant Box Corer	45° 55,263' N	152° 47,539' E	6064.2
SO250_25	25.08.2016 04:45	Giant Box Corer	45° 55,221' N	152° 47,470' E	6066.4
SO250_26	25.08.2016 11:42	Multi Corer	45° 55,234' N	152° 47,469' E	6064.8
SO250_27	25.08.2016 16:44	Multi Corer	45° 55,228' N	152° 47,466' E	6065.4
SO250_28	25.08.2016 22:33	EpiBenthic Sledge	45° 55,757' N	152° 50,177' E	6118.7
SO250_29	26.08.2016 08:53	Agassiz Trawl	45° 57,191' N	152° 47,075' E	6183.1
SO250_30	26.08.2016 19:57	EpiBenthic Sledge	45° 56,386' N	152° 56,701' E	6246.1
SO250_31	27.08.2016 06:12	Agassiz Trawl	45° 57,131' N	152° 47,039' E	6084.5
SO250_32	27.08.2016 17:53	CTD	45° 41,582' N	152° 49,499' E	6038.3
SO250_33	27.08.2016 19:20	KONGSBERG EM122	45° 40,457' N	152° 46,135' E	6000.8
SO250_34	27.08.2016 21:38	MSN	45° 41,614' N	152° 49,528' E	7680.7
SO250_35	28.08.2016 03:50	KONGSBERG EM122	45° 41,608' N	152° 49,264' E	6030.3
SO250_36	28.08.2016 06:14	Giant Box Corer	45° 38,616' N	152° 55,917' E	7134.6
SO250_37	28.08.2016 12:17	Giant Box Corer	45° 38,605' N	152° 55,918' E	7133.7
SO250_38	28.08.2016 18:42	Multi Corer	45° 38,604' N	152° 55,916' E	7137.6
SO250_39	29.08.2016 00:41	Multi Corer	45° 38,609' N	152° 55,922' E	7136.6
SO250_40	29.08.2016 06:12	EpiBenthic Sledge	45° 38,001' N	152° 52,003' E	6835.0
SO250_41	29.08.2016 17:19	Agassiz Trawl	45° 36,500' N	152° 51,501' E	6946.0
SO250_42	30.08.2016 04:51	EpiBenthic Sledge	45° 37,602' N	152° 52,499' E	6881.4
SO250_43	30.08.2016 15:14	Agassiz Trawl	45° 35,999' N	152° 52,007' E	7077.8
SO250_44	31.08.2016 03:06	CTD	45° 31,354' N	153° 2,822' E	7805.0
SO250_45	31.08.2016 04:57	KONGSBERG EM122	45° 34,239' N	153° 3,721' E	7822.4
SO250_46	31.08.2016 08:07	MSN	45° 31,334' N	153° 2,913' E	6377.6
SO250_47	04.09.2016 06:50	MSN	45° 28,760' N	153° 11,650' E	8741.1
SO250_48	04.09.2016 12:53	Giant Box Corer	45° 28,749' N	153° 11,650' E	8737.2
SO250_49	04.09.2016 19:51	Giant Box Corer	45° 28,749' N	153° 11,652' E	8738.9
SO250_50	05.09.2016 03:21	Multi Corer	45° 28,754' N	153° 11,659' E	8731.1
SO250_51	05.09.2016 09:12	Multi Corer	45° 28,742' N	153° 11,652' E	8734.4
SO250_52	05.09.2016 15:36	EpiBenthic Sledge	45° 32,000' N	153° 16,001' E	8358.1
SO250_53	06.09.2016 01:09	Multi Corer	45° 28,769' N	153° 11,616' E	9013.4
SO250_54	06.09.2016 07:18	Agassiz Trawl	45° 31,123' N	153° 18,182' E	8728.9
SO250_55	06.09.2016 20:09	EpiBenthic Sledge	45° 27,987' N	153° 17,967' E	8105.9
SO250_56	07.09.2016 06:17	Agassiz Trawl	45° 28,005' N	153° 17,998' E	8096.0
SO250_57	07.09.2016 18:27	KONGSBERG EM122	45° 35,782' N	153° 13,384' E	8312.3
SO250_58	08.09.2016 04:42	CTD	45° 11,001' N	153° 36,994' E	5965.4
SO250_59	08.09.2016 05:40	KONGSBERG EM122	45° 11,004' N	153° 37,007' E	5952.3
SO250_60	08.09.2016 08:37	MSN	45° 9,983' N	153° 45,371' E	5738.9
SO250_61	08.09.2016 14:30	Giant Box Corer	45° 10,007' N	153° 45,417' E	5740.8
SO250_62	08.09.2016 18:37	Multi Corer	45° 9,998' N	153° 45,418' E	5742.5

SO250_63	08.09.2016 22:22	Multi Corer	45° 10,000' N	153° 45,431' E	5743.4
SO250_64	09.09.2016 02:55	Agassiz Trawl	45° 7,863' N	153° 40,800' E	5743.1
SO250_65	09.09.2016 12:56	EpiBenthic Sledge	45° 8,994' N	153° 40,825' E	5677.8
SO250_66	10.09.2016 02:52	KONGSBERG EM122	45° 3,405' N	152° 44,206' E	7397.2
SO250_67	10.09.2016 06:10	Giant Box Corer	45° 12,943' N	152° 42,847' E	9492.2
SO250_68	10.09.2016 12:58	Multi Corer	45° 12,937' N	152° 42,838' E	9495.1
SO250_69	10.09.2016 19:41	Multi Corer	45° 12,948' N	152° 42,838' E	9492.8
SO250_70	11.09.2016 04:15	EpiBenthic Sledge	45° 13,501' N	152° 49,988' E	9544.5
SO250_71	11.09.2016 08:29	KONGSBERG EM122	44° 57,503' N	152° 30,944' E	8033.6
SO250_72	11.09.2016 20:56	CTD	44° 31,504' N	151° 11,593' E	8430.5
SO250_73	11.09.2016 23:30	MSN	44° 39,885' N	151° 28,106' E	8222.7
SO250_74	12.09.2016 00:41	Multi Corer	44° 39,890' N	151° 28,112' E	8225.9
SO250_75	12.09.2016 06:34	Giant Box Corer	44° 39,889' N	151° 28,108' E	8220.5
SO250_76	12.09.2016 18:02	Multi Corer	45° 12,940' N	152° 42,833' E	7956.1
SO250_77	13.09.2016 01:38	EpiBenthic Sledge	45° 12,011' N	152° 55,491' E	8858.0
SO250_78	13.09.2016 12:36	Agassiz Trawl	45° 11,202' N	152° 56,770' E	8411.0
SO250_79	14.09.2016 02:24	Giant Box Corer	45° 12,985' N	152° 42,757' E	9427.8
SO250_80	14.09.2016 11:06	KONGSBERG EM122	45° 37,057' N	152° 45,850' E	6473.6
SO250_81	14.09.2016 18:21	MSN	45° 1,357' N	151° 2,853' E	5179.6
SO250_82	14.09.2016 19:42	Giant Box Corer	45° 1,355' N	151° 2,899' E	5220.1
SO250_83	14.09.2016 23:50	Multi Corer	45° 1,362' N	151° 2,897' E	5211.5
SO250_84	15.09.2016 04:00	Multi Corer	45° 1,360' N	151° 2,895' E	5214.4
SO250_85	15.09.2016 08:33	EpiBenthic Sledge	45° 3,080' N	150° 59,524' E	4520.7
SO250_86	15.09.2016 16:35	Agassiz Trawl	44° 56,737' N	151° 6,012' E	5678.7
SO250_87	16.09.2016 02:13	EpiBenthic Sledge	44° 58,024' N	151° 5,589' E	5640.8
SO250_88	16.09.2016 11:50	Multi Corer	44° 39,902' N	151° 28,108' E	8215.8
SO250_89	16.09.2016 18:12	EpiBenthic Sledge	44° 44,047' N	151° 27,420' E	7668.8
SO250_90	17.09.2016 04:59	Agassiz Trawl	44° 36,297' N	151° 31,910' E	9248.0
SO250_91	17.09.2016 21:00	CTD	44° 7,599' N	151° 26,589' E	6544.9
SO250_92	17.09.2016 22:13	KONGSBERG EM122	44° 10,234' N	151° 27,327' E	6615.4
SO250_93	18.09.2016 00:16	MSN	44° 6,566' N	151° 24,233' E	6571.1
SO250_94	18.09.2016 02:04	Giant Box Corer	44° 6,851' N	151° 25,541' E	6525.8
SO250_95	18.09.2016 06:35	Multi Corer	44° 6,852' N	151° 25,546' E	6522.4
SO250_96	18.09.2016 12:01	Multi Corer	44° 6,847' N	151° 25,552' E	6515.2
SO250_97	18.09.2016 18:04	EpiBenthic Sledge	44° 2,747' N	151° 24,880' E	6280.1
SO250_98	19.09.2016 03:49	Agassiz Trawl	44° 3,538' N	151° 19,425' E	6522.1
SO250_99	19.09.2016 15:55	KONGSBERG EM122	44° 31,225' N	151° 12,631' E	8536.6
SO250_100	20.09.2016 01:33	Giant Box Corer	44° 12,313' N	150° 39,080' E	9411.6
SO250_101	20.09.2016 08:16	Multi Corer	44° 12,405' N	150° 36,028' E	9539.8
SO250_102	20.09.2016 16:00	EpiBenthic Sledge	44° 11,986' N	150° 40,067' E	9011.0
SO250_103	21.09.2016 03:08	Agassiz Trawl	44° 12,510' N	150° 29,424' E	8894.7
SO250_104	21.09.2016 18:35	Multi Corer	44° 12,395' N	150° 36,013' E	9540.9
SO250_105	22.09.2016 02:24	Giant Box Corer	44° 12,389' N	150° 36,014' E	9538.5
SO250_106	22.09.2016 09:11	MSN	44° 12,525' N	150° 36,301' E	9538.9