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Short Cruise Report
RV SONNE SO264

The Plio/Pleistocene to Holocene development of the pelagic North Pacific from surface to depth – assessing its role for the global carbon budget and Earth´s climate
(SONNE-EMPEROR)

Suva (Fiji) – Yokohama (Japan)
30.6.2018 – 24.8.2018
Chief Scientist: Dirk Nürnberg
Captain: Oliver Meyer

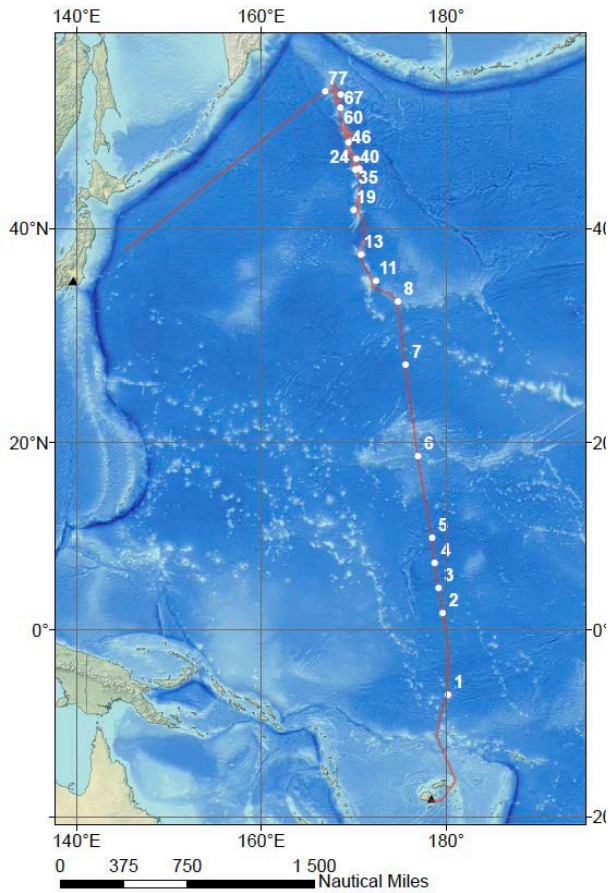

Fig. 1a. Bathymetric chart of the North Pacific showing WATER/PLANKTON stations.

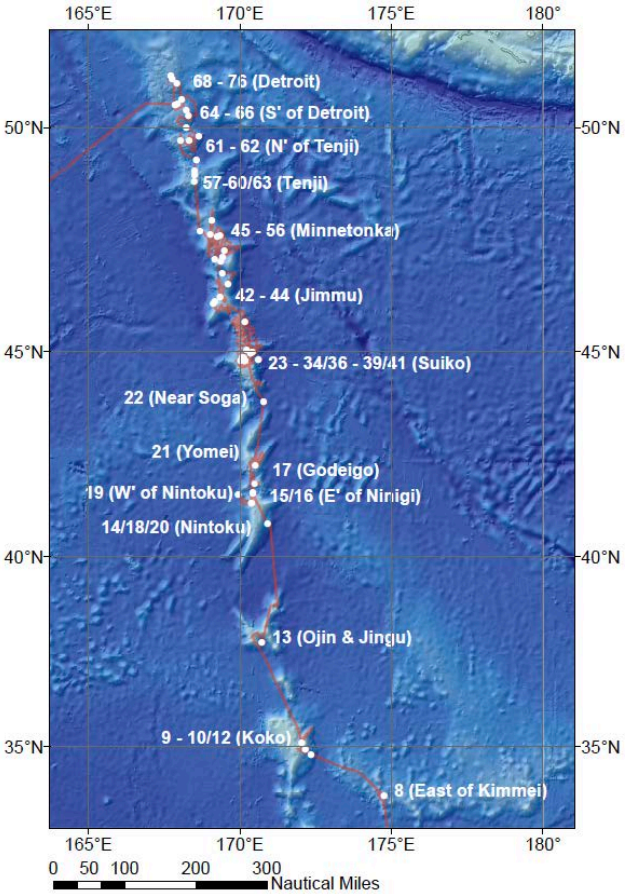

Fig. 1b. Bathymetric chart showing GEO-stations.

Research objectives and scientific background

RV SONNE cruise SO264 took place in the framework of the BMBF-funded joint project "SONNE-EMPEROR: The Plio/Pleistocene to Holocene development of the pelagic North Pacific from surface to depth – assessing its role for the global carbon budget and Earth´s climate". SONNE-EMPEROR focuses on establishing a new paleoceanographic North - South reference transect along the **Emperor Seamount Chain** in the N Pacific. Our approach for the first time progresses beyond previous studies of single isolated sites in this region, as we systematically compile and study proxy-data time series to reconstruct the physical and chemical paleoceanography of the N Pacific between ~30°N and ~50°N.

The sediment core transect accomplished during SO264 crossed major oceanographic and climatic patterns, comprising the Kuroshio Extension, the Kuroshio Bifurcation Front, the Subarctic Boundary, and the Subarctic Front. SO264 gathered a suite of closely-spaced high-quality sediment cores from the so far largely unexplored offshore, pelagic N Pacific ocean areas (Fig. 1, 2).

The recovery of sediment cores was an integral prerequisite for subsequent paleoceanographic studies and will contribute to a much improved dynamic and three-dimensional understanding of the long-term evolution of climate modes and their linkage to regional N Pacific and large-scale climate and ocean circulation variability. An intense plankton, water and sediment surface sampling program between 7°N and 50°N serves to evaluate, calibrate and validate paleoceanographic proxy parameters (Fig. 1). With the newly acquired sample sets, we are able to address exciting and highly debated hypotheses on the role of the N Pacific across the following themes:

Development of Subarctic N Pacific Surface Stratification: Effects on CO_2 Balance

We intend to assess latitudinal and temporal changes in biogenic export production, and the limits and efficiency of nutrient utilization, which largely determine to a large extent the strength of the "biological carbon pump". We aim to resolve the mechanisms driving changes in water mass structure and biological productivity and their timing, and to address the vertical variability in nutrient distribution and consumption by multi-proxy studies on centennial to orbital timescales.

Development of the N Pacific Subtropical and Subarctic Gyres

We intend to reconstruct the subtropical to subarctic N Pacific upper ocean thermocline and pycnocline on Plio/Pleistocene to Holocene timescales, and the response to global and regional changes in climate and oceanography. We will decipher the interaction between the subarctic and subtropical gyres, and the variations and work modes of the Kuroshio and Alaska current systems, and thier effect on sea ice and iceberg dynamics.

Role of the Pacific Meridional Overturning Circulation in the Climate System

It is still unknown whether the dense surface water masses in the N Pacific penetrated to the intermediate or the deep-water level during the past and how regionally variable such processes were. We now are able to address these issues with the newly recovered sediment cores from <2000 to ~5000 m water depth, and to decipher the regional/vertical temporal variability of deep and intermediate water ventilation and overturning modes.

Subsurface Inter-Oceanic Teleconnections in the Pacific – the Ocean Tunnel

The mode in which the subsurface water mass exchange between subtropical and tropical ocean areas takes place, is a matter of debate. In particular, the oceanographic details of such flow and the pathways of flow, likewise termed as „ocean tunnel", need to be determined. We are positive that we may relate the pronounced long-term Plio-/Pleistocene changes in N Pacific subsurface temperature, salinity, and thermocline depth to the equatorial W Pacific area.

Fertilising the Pelagic N Pacific – Atmospheric vs. Oceanic Micronutrient Sources

Transport of critically needed iron to the pelagic N Pacific by atmospheric dust is regarded as principal mechanism to relieve the upper ocean of micro-nutrient limitation during glacial times. The simulation of Last Glacial Maximum dust deposition and dust sources for the N Pacific region changed the views on the role of eolian dust for ocean fertilization during cool climates. A systematic study on the temporal / spatial variability of eolian dust contribution to the N Pacific variability in response to changes in atmospheric circulation (Westwind Drift) and sea ice distribution, and its effect on marine productivity will be made possible through our newly recovered N-S-oriented core transect.

Narrative

Starting point of the SO264 trip was the port city Suva on the south-eastern coast of the largest island of Fiji, Viti Levu. On June 29, 2018, 8:00 a.m., the 38 participants were brought by the ship´s agent from the hotel to RV SONNE, which was already loaded with the eight containers sent ahead. The day in port was used for further ship-side preparations. All work was completed on time, so that RV SONNE left port on June 30, 2018 at 9:30 a.m. and set off with fresh winds (8 Bft). The 3000 nautical miles-long, ~12-day-long transit to the working area along the Emperor Seamount Chain became necessary to transfer the ship from the tropical regions to the subsequent working areas in the N Pacific. The first days until July 2, 2018 at tropical water temperatures of 28°C and air temperatures of 26°C, were used to set up the laboratories, to work out the sampling procedures and to start with the cruise report. Every second day, science meetings for the entire group were held for mutual information and coordination. The group leaders met daily to discuss the work to be done every day. We used the long northbound transit from the tropics to subarctic climatic zones as a unique opportunity to carry out "en passent" water sampling for nutrient and isotope measurements, as well as net catches and water filtration for microplankton and suspended organic matter.

A storm from SE directions blew us towards the first water station at ~11°S 179°E. On arrival on July 2, 2018 early in the morning at 6:00, the station was abandoned due to heavy wind and waves. By the afternoon of July 2, 2018, weather improved and transit continued through the West Pacific Warm Pool, a wide ocean region characterized by extremely high water temperatures of up to 29.5°C (whereby the air temperatures remain 1-2°C cooler). In the morning at 5:00 on July 3, 2018 we reached the next "water station" at ~7°S 179°50´E. In the following days, four more water stations between 2°N and 10°N were carried out, with which we crossed the equatorial current system. Starting routinely with a multinet that has been lowered to ~100 m, the deployment of the CTD/rosette unit followed providing water mass properties and water samples down to large depths. A subsequent multinet documented the deeper occurrences of the plankton down to 600-800 m. A highlight of the first week at sea was the crossing of the equator on July 4, 2018 at an unique geographical latitude of 0° and a longitude of 180°.

At the end of the 1st week (July 8, 2018) we reached the clockwise circulating Subtropical Gyre. As this is a nutrient-poor, oligotrophic ocean region, we significantly increased the distances between water stations. For the first time on 10°03.4´N 178°26.9´E, about 400 nautical miles from the nearest human settlements, and then continuously within the Subtropical Gyre and in the area of the Kuroshio Current up to ~30°N, we documented sightings of drifting garbage. The Subtropical Gyre, often termed as "Great Pacific Garbage Patch", rightly bears this name due to its high portion of floating waste.

At the beginning of the week from July 9 to 15, 2018, we continued our "Transpacific Water Sampling Program" at 18°N, 27°N and 33°N. At ~32°N we left the influence of the Subtropical Gyre and entered the Kuroshio Current, one of the world largest current systems. With a transport volume of ~45 million cubic meters of water per second, the Kuroshio transports tropical heat northwards, meets the southward flowing Oyashio Current off Japan and is deflected eastward into the N Pacific.

On Friday, July 13, 2018, marine geological work started east of the Kimmei Volcano in the SE area of the Emperor Seamount Chain. The Emperor volcanoes rise several 1000 m above the 5-6 km deep sea plain. Sediment sampling of the (southern) volcanoes was commonly difficult, as their flanks are very steep and the southern plateaus are mostly free of sediment. However, targeted and slow bathymetric and sediment echosound profiling allowed to detect small sediment pockets and basins. On the volcano E of Kimmei, a core station in ~2700 m resulted in our first sediment core of ~10 m length with carbonate-rich sediments and prominent volcanic ash layers.

The volcano Koko (36°N 171°E) in the NW was sampled on July 14-15, 2018. Four stations at 1100-4000 m were approached. The discovery of a strongly altered shallow marine lagoonal sediments refers to the subsidence history of this approximately 50 million year old volcanic structure.

During July 16-22, 2018, RV SONNE left the influence of the Kuroshio Current at ~37°N and entered the area of the counterclockwise circulating W Subarctic Gyre. The water and air temperatures dropped significantly to 11°C and 13°C, respectively. From July 19, 2018 the N Pacific became foggy and hazy, while winds remained commonly weak. The week was marked by an intensive geological program with 33 deployments during which several volcanoes of the Emperor Seamount Chain were mapped and sampled between 37°N and 44°N: Ojin, Nintoku and Yomei. Cores were retrieved from both the shallowest regions at 1100-1300 m water depth, and from the seamount flanks down to water depths of ~5700 m. Seafloor observations with the TV-MUC showed that the still carbonate-rich sediments in shallow to medium water depths are frequently eroded or strongly solidified by currents. From below ~2500 m water depth, we registered nice core recoveries of up to 19 m.

On Sunday, July 22, 2018 at the base of Suiko Seamount (~44°50'N 170°E), an intensive sampling program of the water column down to 4400 m commenced. The oceanic surface layer was sampled with the multiple closing net. The Suiko volcano is located close to the Subarctic Front, which is defined as a 4°C isotherm in 100 m water depth and represents the approximate boundary between the wind-driven, counter-rotating Subtropical and Subarctic gyre systems.

In the week from July 23 to 29, we performed ten geo-stations on Suiko Seamount with 19 deployments. With core recoveries averaging 80% and lengths of up to 19 m, we have brought almost 120 m of sediment core length on deck. Sediment cores were extracted from water depths of 1800-3200 m. The varied sediment sequences correlate very well within the working area. Prominent volcanic ash layers offer additional possibilities for supra-regional correlation and approaches for age dating. On Saturday, July 28, 2018 at 45°N and 170°E, we had the midterm celebration.

During the first half of the week from July 30 to August 5, 2018, the volcano Jimmu at 46°N was the focus of our activities: Four stations at water depths of ~1900-3200 m. It was found that due to the lower sedimentation rates, the short cores from the volcano summit contain more "time" and allow a deeper look into the geological past than the longer sediment cores from the deeper slopes. The typical facies changes from carbonate oozes to terrigenous deposits, interrupted by prominent volcanic ash layers, will allow for core correlations across large areas. Our work progress slowed down on Thursday, August 2, 2018, as a violent SW storm developed with up to 22 m/s wind speeds (9 Bft.) and wave heights of ~6 m. On Friday to Saturday (August 3-4, 2018) the station work was abandoned and we used the ship time to map the Minnetonka volcano at 47°N 169°E.

During the week from August 6-12, 2018, the successful work on Minnetonka was completed. Ten geo-stations in water depths of 2100-4000 m and partly difficult "terrain" brought core recoveries of almost 110 m. The very variable sediment sequences were characterized for the first time by the occurrence of siliceous diatom oozes, which differ clearly from the carbonate-rich sediment types occurring further south. These diatomaceous oozes are typical of the northern N Pacific and known from the northern Bering Sea or the Sea of Okhotsk.

On Wednesday, August 8, 2018 the transit to Tenji Seamount took place. Tenji surprises with mighty undisturbed sediment sequences also on the shallow plateau areas. With only a few deployments, we recovered ~80 m cores from water depths of 2300- 5200 m. A 24-hour multinet station at ~49°20'N 168°30'E took place on Thursday and Friday (August 9-10, 2018). The biologists carried out a large number of plankton net catches down to water depths of 800 m to obtain a detailed picture of plankton diversity and activity. After weeks of

thick and cold fog typical for the N Pacific summer season, this weekend (August 11-12, 2018) was sunny and warm again. The last working days before leaving for Yokohama (August 13-17, 2018) concentrated on the northernmost volcano of the Emperor Seamount Chain, Detroit Seamount. Except for a few nautical miles we worked our way up to the 200 mile zones of Russia and the USA. The northernmost station was at 51°N and 167°E. Our task was primarily to develop longer cores at already known site locations.

We entered the port of Yokohama on August 23, 2018. Disembarkment of the scientific crew was on August 30, 2018. The entire route passed during SO264 was 8430 nm. Bathymetric mapping covered ~78.017 km^2 during the transit from Suva to the study area, ~55.960 km^2 on the Emperor Seamount Chain, and ~44.993 km^2 during the back transit from the last station to the beginning of the Japanese EEZ. In total, we mapped 178.970 km^2. During SO264 we carried out 183 deployments at 77 stations. We ran 18 CTD/rosettes and 43 multinets. The geological program comprised 54 multicorer (MUC) deployments, 40 gravity corers (GC), 20 piston corers (PC), 5 box corers (Kasten, KAL) corers, and 3 giant box corers (GKG). We retrieved ca. 640 m of sediment cores (except MUC, pilot cores, and GKG).

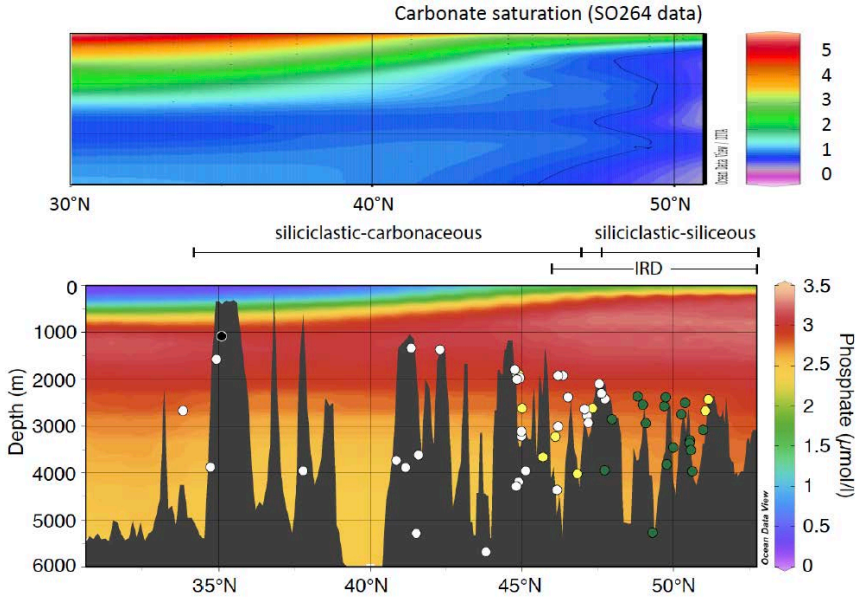

Fig. 2. Sediment coring locations of RV SONNE cruise SO264 on the Emperor Seamount Chain in the North Pacific on top of WOA phosphate profile (lower diagram) and in comparison to carbonate saturation data measured during SO264 (upper diagram). White dots: carbonaceous sediments; green dots: siliceous sediments; yellow dots: bent corers; black dot: only core-catcher available.

Acknowledgements

RV SONNE cruise SO264 took place in the framework of the BMBF joint project „The Plio/Pleistocene to Holocene development of the pelagic North Pacific from surface to depth – assessing its role for the global carbon budget and Earth´s climate" (BMBF Project No. 03G0264A). The principical investigators Dirk Nürnberg (GEOMAR) and Ralf Tiedemann (AWI) acknowledge generous funding from the "Bundesministerium für Bildung und Forschung". Additional financial support for the accomplishment of the cruise came from their home institutions, which is greatly appreciated. The chief scientist of cruise SO264, Dirk Nürnberg, thanks the master and crew of RV SONNE and all cruise participants for all their efforts during the expedition. The Projektträger Jülich, represented by Mrs. Doreen Rößler, and the Leitstelle Deutsche Forschungsschiffe Hamburg, represented by Mr. Niels Jakobi, are thanked for kind support.

SO264 Fahrtteilnehmer / *SO264 cruise participants*

	Name / *Name*	**Tätigkeit / Task**	**Institut / *Institute***
1.	Nürnberg, Dirk	Fahrtleiter / *Chief Scientist*	GEOMAR
2.	Abell, Jordan Tyler	Ph.D. student / Geochemistry	LDEO
3.	Arévalo G., Marcelo C.	Technician / Geology	Serv. Exped.
4.	Brück, Liane P.	Technician / Paleomagnetics	MARUM
5.	Bubenshchikova, Natalia	Scientist / Tephrastratigraphy	IO RAS
6.	Chao, Weng Si	Ph.D. student / Paleoceanogr.	AWI
7.	Dong, Zhi	Scientist / Geochemistry	FIO
8.	Evers, Florian	Technician / Geology	GEOMAR
9.	Fessler, Sebastian C.	Technician / Geology.	GEOMAR
10.	Hars, Martina	Technician / Geology.	GEOMAR
11.	Höfken, Adrian F.	Student / Paleomagn.	MARUM
12.	Jacobi, Lara	Ph.D. student / Paleoceanogr.	GEOMAR
13.	Jentzen, Anna	Scientist / Microplankton	MPI
14.	Karas, Cyrus	Scientist / Paleoceanography	Univ. Santiago
15.	Keul, Nina	Scientist / Microplankton	IFG/Univ. Kiel
16.	Kreps, Gastón	Scientist / Phys. Oceanogr.	CADIC-CONICET
17.	Langemann, Linda	Student. / Sedimentology	AWI
18.	Lembke-Jene, Lester	Scientist / Coordinator	AWI
19.	Liu, Jianxing	Scientist / Paleomag.	FIO
20.	Liu, Ling	Ph.D. student / Micropaleontol.	AWI
21.	Max, Lars W.	Scientist / Hydroacoustics	AWI
22.	Mellon, Stefanie A.	Scientist / Geochemistry	Univ. Dalhousie
23.	Meier, Karl	Student / Sedimentology	GEOMAR
24.	Niemann, Steffen	Student / Geology	FH Kiel
25.	Over, Laura	Student / Bathymetry	AWI
26.	Pape, Christian	Student / Sedimentology	GEOMAR
27.	Ronge, Thomas A.	Scientist / Paleoceanography	AWI
28.	Ruggieri, Nicoletta	Scientist / Org. Geochemistry	AWI
29.	Schnakenberg, Annika	Ph.D. student / Geochemistry	AWI
30.	Schumacher, Valea	Technician / Microplankton	AWI
31.	Stoerling, Tjoerdis	Student / Sedimentology	GEOMAR
32.	Steffen, Melanie U.	Scientist / Bathymetry	AWI
33.	Volz, Jessica	Ph.D. student / Geochemistry	AWI
34.	Wang, Kunshan	Scientist / Mineralogy	FIO
35.	Wu, Yonghua	Scientist / Biostratigraphy	FIO
36.	Yu, Yang	Ph.D. student / Geochemistry	GEOMAR
37.	Zorzi, Coralie D.	Ph.D. student / Biostratigraphy	GEOTOP
38.	Zou, Jianjun	Scientist / Geochemistry	FIO

Legend

AWI	Alfred-Wegener-Institut – Helmholtz Zentrum für Polar & Meeresforschung; Bremerhaven, Germany
CADIC-CONICET	Laboratorio de Oceanografia; Ushuaia, Argentine
FH Kiel	University of Applied Sciences Kiel; Germany
FIO	The First Institute of Oceanography; Qingdao, China
GEOMAR	Helmholtz Centre for Ocean Research Kiel; Germany
GEOTOP	Département des Sciences de la Terre et de l'Atmosphère, Université du Québec à Montreal; Canada
IFG/CAU	Institute for Geosciences – Christian-Albrechts-University Kiel; Germany
IO RAS	P.P. Shirshov Institute of Oceanology
LDEO	Lamont-Doherty Earth Observatory; Palisades, NY, USA
MARUM	University Bremen; Germany
MPI	Max Planck Institute for Chemistry; Mainz, Germany
Serv. Exp.	Servicio de Apoyo a Expediciones Cientificas y Exploración; Punta Arenas, Chile
Univ. Dalhousie	Dept. Oceanography, Dalhousie University; Halifax, Canada
Univ. Santiago	Universidad Mayor, Escuela Geologia, Santiago, Chile

SO264 Schiffsbesatzung / *SO264 Ship's crew*

	Name / *Name*	**Tätigkeit / Task**	**Institut / *Institute***
1.	Meyer, Oliver	Captain	
2.	Aden, Nils	Chief Mate, Nautical Officer	
3.	Göbel, Jens	2nd Mate, Nautical Officer	
4.	Büchele, Ulrich	2nd Mate, Nautical Officer	
5.	Walther, Anke	Medical doctor	
6.	Hermesmeyer, Dieter	Chief Engineer	
7.	Horsel, Roman	2nd Engineer	
8.	Stegmann, Tim	2nd Engineer	
9.	Leppin, Jörg	Electronics engineer	
10.	Pregler, Hermann	Electronics technician	
11.	Tardeck, Frederic	System operator	
12.	Meinecke, Stefan	System operator	
13.	Schmidt, Hendrik	Electrician	
14.	Ulbricht, Martin	Electrician	
15.	Bolik, Torsten	Fitter	
16.	Blaurock, André	Motorman	
17.	Yaylagül, Deniz	Motorman	
18.	Werning, Tom	Motorman	
19.	Bierstedt, Torsten	Boatswain	
20.	Ernst, Arnold	Mechanic	
21.	Vogel, Dennis	Mechanic	
22.	Fricke, Ingo	Mechanic	
23.	Eidam, Oliver	Mechanic	
24.	Freitag, Patrick	Mechanic	
25.	Papke, René	Mechanic	
26.	Siefken, Tobias	Mechanic	
27.	Garnitz, André	1st cook	
28.	Streifling, Stefan	Assistant Cook	
29.	Vogt, Alexander	1st Steward	
30.	Manuel, Christopherson	Steward	
31.	Steep, Maik	Steward	
32.	Kroeger, Sven	Steward	

SO264 Stationsliste / SO264 *Station list*

SO264 station list Station No.	Gear No.	Station label	Area	Gear	Date (dd.mm.yy)	at seafloor/ at depth UTC	Latitude at depth (deg/min)	Longitude at depth (deg/min)	Water depth EM122 (m)	Rope length (m)	Core recovery (m)
SO264-1	-1	SO264-1-1	Tuvalu	MSN	02.07.18	18:26				100	
SO264-1	-2	SO264-1-2	Tuvalu	CTD	02.07.18				5338	3000	
SO264-1	-3	SO264-1-3	Tuvalu	MSN	02.07.18	22:17				500	
SO264-2	-1	SO264-2-1	Howland & Baker	MSN	04.07.18	20:11	01°46,991'N	179°36,700'E	5622	100	
SO264-2	-2	SO264-2-2	Howland & Baker	CTD	04.07.18	21:12	01°46,990'N	179°36,695'E	5612	1200	
SO264-2	-3	SO264-2-3	Howland & Baker	MSN	04.07.18	22:33	01°46,990'N	179°36,697'E	5613	600	
SO264-3	-1	SO264-3-1	Kiribati	MSN	05.07.18	13:08	04°30,574'N	179°05,050'E	5683	100	
SO264-3	-2	SO264-3-2	Kiribati	CTD	05.07.18	14:11	04°30,566'N	179°08,030'E	5683	1200	
SO264-3	-3	SO264-3-3	Kiribati	MSN	05.07.18	15:39	04°30,565'N	179°08,026'E	5683	600	
SO264-4	-1	SO264-4-1	Harrie Island	MSN	06.07.18	6:15	07°19,740'N	178°44,623'E	5425	100	
SO264-4	-2	SO264-4-2	Harrie Island	CTD	06.07.18	8:54	07°19,742'N	178°44,619'E	5436	5300	
SO264-5	-1	SO264-5-1	Marshall Islands	MSN	07.07.18	0:11	09°59,420'N	178°27,618'E	5740	100	
SO264-5	-2	SO264-5-2	Marshall Islands	CTD	07.07.18	1:13	09°59,422'N	178°27,618'E	5738	1200	
SO264-5	-3	SO264-5-3	Marshall Islands	MSN	07.07.18	2:41	09°59,420'N	178°27,618'E	5737	600	
SO264-6	-1	SO264-6-1	Wake Island	MSN	08.07.18	21:27	18°33,599'N	176°55,200'E	3590	100	
SO264-6	-2	SO264-6-2	Wake Island	CTD	08.07.18	23:20	18°33,608'N	176°55,199'E	3578	3500	
SO264-6	-3	SO264-6-3	Wake Island	MSN	09.07.18	1:18	18°33,604'N	176°55,207'E	3575.3	700	
SO264-7	-1	SO264-7-1	International	MSN	11.07.18	3:05	27°46,953'N	175°36,530'E	5532	100	
SO264-7	-2	SO264-7-2	International	CTD	11.07.18	4:12	27°46,956'N	175°36,537'E	5512	1500	
SO264-7	-3	SO264-7-3	International	MSN	11.07.18	5:41	27°46,957'N	175°36,542'E	5513	700	
SO264-8	-1	SO264-8-1	"east of Kimmei Seamount"	TV-MUC	12.07.18	19:41	33°39,615°N	174°45,044'E	2682	2687	
SO264-8	-2	SO264-8-2	"east of Kimmei Seamount"	GC10	12.07.18	22:15	33°39,616'N	174°45,044'E	2682	2712	9.72
SO264-8	-3	SO264-8-3	"east of Kimmei Seamount"	MSN	12./13.07.18	0:05	33°39,271'N	174°46,167'E	2716	100	
SO264-8	-4	SO264-8-4	"east of Kimmei Seamount"	CTD	13.07.18	1:49	33°39,267'N	174°46,164'E	2716	2682	
SO264-8	-5	SO264-8-5	"east of Kimmei Seamount"	MSN	13.07.18	3:33	33°39,263'N	174°46,165'E	2720	800	
SO264-9	-1	SO264-9-1	"Koko Seamount"	TV-MUC	13.07.18	19:58	34°46,982'N	172°20,986'E	3866	3871	
SO264-9	-2	SO264-9-2	"Koko Seamount"	PC20	13.07.18	23:24	34°46,977'N	172°20,987'E	3865	3859.7	15.7
SO264-10	-1	SO264-10-1	"Koko Seamount"	TV-MUC	14.07.18	6:27	34°55,551'N	172°08,745'E	1599	1581	
SO264-10	-2	SO264-10-2	"Koko Seamount"	GC10	14.07.18	7:45	34°55,752'N	172°08,752'E	1573	1577	0
SO264-11	-1	SO264-11-1	"Koko Seamount"	MSN	14.07.18	16:32	35°31,573'N	172°23,333'E	4089	100	
20264-11	-2	SO264-11-2	"Koko Seamount"	CTD	14.07.18	18:50	35°31441'N	172°23,220'E	4001	3976	
20264-11	-3	SO264-11-3	"Koko Seamount"	MSN	14.07.18	21:07	35°31,444'N	172°23,220'E	3997	800	
SO264-12	-1	SO264-12-1	"Koko Seamount"	TV-MUC	15.07.18	1:24	35°07,251'N	172°02,184'E	1078.9	1091	
SO264-12	-2	SO264-12-2	"Koko Seamount"	GC5	15.07.18	2:31	35°07,250'N	172°02,191'E	1077.4	1082	0
S0264-13	-1	SO264-13-1	"Ojin & Jingu Seamount"	TV-MUC	16.07.18	2:17	37°47,860'N	170°43,221'E	3933	3945	

SO264 station list Station No.	Gear No.	Station label	Area	Gear	Date (dd.mm.yy)	at seafloor/ at depth UTC	Latitude at depth (deg/min)	Longitude at depth (deg/min)	Water depth EM122 (m)	Rope length (m)	Core recovery (m)
S0264-13	-2	SO264-13-2	"Ojin & Jingu Seamount"	PC20	16.07.18	5:32	37°47,865'N	170°43,327'E	3935	3930	13.81
S0264-13	-3	SO264-13-3	"Ojin & Jingu Seamount"	MSN	16.07.18	8:03	37°47,283'N	170°44,249'E	4022	100	
S0264-13	-4	SO264-13-4	"Ojin & Jingu Seamount"	CTD	16.07.18	10:12	37°47,276'N	170°44,251'E	4021	3999	
S0264-13	-5	SO264-13-5	"Ojin & Jingu Seamount"	MSN	16.07.18	12:24	37°47,284'N	170°44,249'E	4016	700	
SO264-14	-1	SO264-14-1	"Nintoku Seamount"	GC20	17.07.18	8:39	40°50,034'N	170°54,201'E	3750	3766	18.41
SO264-14	-2	SO264-14-2	"Nintoku Seamount"	MUC	17.07.18	10:58	40°50,038'N	170°54,189'E	3739	3765	
SO264-15	-1	SO264-15-1	"east of Ninigi Seamount"	TV-MUC	17.07.18	20:03	41°36,914'N	170°25,343'E	3668	3686	
SO264-15	-2	SO264-15-2	"east of Ninigi Seamount"	GC20	18.07.18	5:41	41°36,917'N	170°25,340'E	3662	3706	14.48
SO264-16	-1	SO264-16-1	"east of Ninigi Seamount"	TV-MUC	17./18.07.18	23:00	41°34,910'N	170°25,781'E	3570	3588	
SO264-16	-2	SO264-16-2	"east of Ninigi Seamount"	PC20	18.07.18	1:58	41°34,914'N	170°25,783'E	3572	3568	14.8
SO264-17	-1	SO264-17-1	"Godeigo Seamount"	TV-MUC	18.07.18	18:39	41°49,691'N	170°29,236'E	2072	./.	
SO264-18	-1	SO264-18-1	"Nintoku Seamount"	TV-MUC	18.07.18	23:17	41°20,037'N	170°22,438'E	1313	1321	
SO264-18	-2	SO264-18-2	"Nintoku Seamount"	GC5	19.07.18	0:30	41°20,042'N	170°22,441'E	1313	1320	0
S0264-19	-1	SO264-19-1	"west of Nintoku Seamount"	MUC	19.07.18	7:09	41°32,781'N	169°55,732'E	5304	5337	
S0264-19	-2	SO264-19-2	"west of Nintoku Seamount"	GC20	19.07.18	10:14	41°32,784'N	169°55,738'E	5311	5363	14.37
SO264-19	-3	SO264-19-3	"west of Nintoku Seamount"	MSN	19.07.18	13:01	41°31,770'N	169°55,712'E	5307	100	
SO264-19	-4	SO264-19-4	"west of Nintoku Seamount"	CTD	19.07.18	15:46	41°31,766'N	169°55,712'E	5308	5276	
SO264-19	-5	SO264-19-5	"west of Nintoku Seamount"	MSN	19.07.18	18:22	41°31,766'N	169°55,710'E	5304.7	700	
SO264-20 (=18)	-1	SO264-20-1	"Nintoku Seamount"	PC5	19.07.18	22:19	41°20,025'N	170°22,742'E	1308	approx. 1310	0.7
SO264-21	-1	SO264-21-1	"Yomei Seamount"	TV-MUC	20.07.18	20:14	42°17,222'N	170°30,346'E	1329	1336	
SO264-21	-2	SO264-21-2	"Yomei Seamount"	GC5	20.07.18	21:26	42°17,222'N	170°30,350'E	1329.5	1340	0
SO264-22	-1	SO264-22-1	"near Soga Seamount"	MUC	21.07.18	8:35	43°48,890'N	170°46,845'E	5709	5738	
SO264-22	-2	SO264-22-2	"near Soga Seamount"	GC20	21.07.18	11:55	43°48,891'N	170°46,843'E	5704	5739	16.21
SO264-23	-1	SO264-23-1	"Suiko Seamount"	TV-MUC	22.07.18	2:41	44°48,831'N	170°36,785'E	4248	4256	
SO264-23	-2	SO264-23-2	"Suiko Seamount"	PC20	22.07.18	6:01	44°48,832'N	170°36,784'E	4245	4240	16.29
SO264-24	-1	SO264-24-1	"Suiko Seamount"	MSN	22.07.18	9:03	44°48,051'N	170°35,841'E	4299	100	
SO264-24	-2	SO264-24-2	"Suiko Seamount"	CTD	22.07.18	11:18	44°48,063'N	170°35,867'E	4304	4265	
SO264-24	-3	SO264-24-3	"Suiko Seamount"	GC20	22.07.18	14:15	44°48,061'N	170°35,877'E	4295	4345	14.8
SO264-24	-4	SO264-24-4	"Suiko Seamount"	MSN	22.07.18	16:32	44°47,129'N	170°35,453'E	4411	750	
SO264-24	-5	SO264-24-5	"Suiko Seamount"	MSN	22.07.18	18:09	44°47,129'N	170°35,449'E	4409	750	
SO264-25	-1	SO264-25-1	"Suiko Seamount"	TV-MUC	23.07.18	0:56	44°46,339'N	170°07,987'E	1819	1804	
SO264-25	-2	SO264-25-2	"Suiko Seamount"	PC20	23.07.18	2:52	44°46,345'N	170°07,978'E	1788	1780	
SO264-26	-1	SO264-26-1	"Suiko Seamount"	MUC	23.07.18	4:46	44°46,405'N	170°10,318'E	1772	1786	
SO264-26	-2	SO264-26-2	"Suiko Seamount"	GC20	23.07.18	6:00	44°46,412'N	170°10,325'E	1771	1791	16.43
SO264-27 (=25)	-1	SO264-27-1	"Suiko Seamount"	GC20	23.07.18	7:50	44°46,338'N	170°07,984'E	1788	1808	0

SO264 station list Station No.	Gear No.	Station label	Area	Gear	Date (dd.mm.yy)	at seafloor/ at depth UTC	Latitude at depth (deg/min)	Longitude at depth (deg/min)	Water depth EM122 (m)	Rope length (m)	Core recovery (m)
SO264-28	-1	SO264-28-1	"Suiko Seamount"	MUC	23.07.18	20:16	44°51,551'N	170°03,989'E	1935	1940	
SO264-28	-2	SO264-28-2	"Suiko Seamount"	GC10	23.07.18	21:31	44°51,546'N	170°03,983'E	1935	1957	7.635
SO264-29	-1	SO264-29-1	"Suiko Seamount"	GC10	24.07.18	23:41	44°52,030'N	170°03,835'E	1966	1994	8.7
SO264-29	-2	SO264-29-2	"Suiko Seamount"	MUC	24.07.18	1:01	44°52,026'N	170°03,842'E	1965	1985	
SO264-30	-1	SO264-30-1	"Suiko Seamount"	MUC	24.07.18	3:08	44°46,466'N	170°01,004'E	1857	1876	
SO264-30	-2	SO264-30-2	"Suiko Seamount"	GC20	24.07.18	4:22	44°46,465'N	170°01,090'E	1857	1874	19.23
SO264-31	-1	SO264-31-1	"Suiko Seamount"	GC20	24.07.18	6:23	44°51,161'N	170°07,650'E	1942	1966	13.21
SO264-31	-2	SO264-31-2	"Suiko Seamount"	MUC	24.07.18	7:48	44°51,159'N	170°07,659'E	1941	1958	
SO264-32	-1	SO264-32-1	"Suiko Seamount"	MUC	24.07.18	20:05	44°59,773'N	170°24,285'E	3203	3231	
SO264-32	-2	SO264-32-2	"Suiko Seamount"	GC20	24.07.18	22:00	44°59,780'N	170°24,280'E	3200	3237	19.32
SO264-33	-1	SO264-33-1	"Suiko Seamount"	MUC	24./25.07.18	0:32	44°58,290'N	170°21,027'E	3141	3170	
SO264-33	-2	SO264-33-2	"Suiko Seamount"	GC20	25.07.18	2:30	44°58,290'N	170°21,024'E	3141	3139	17.38
SO264-34	-1	SO264-34-1	"Suiko Seamount"	MUC	25.07.18	5:56	45°01,850'N	170°13,549'E	2622	2648	
SO264-34	-2	SO264-34-2	"Suiko Seamount"	GC10	25.07.18	7:35	45°01,852'N	170°13,553'E	2622	2647	1.95
SO264-35	-1	SO264-35-1	"Suiko Seamount"	MSN	25.07.18	18:50	44°46,372'N	170°10,365'E	1769	100	
SO264-35	-2	SO264-35-2	"Suiko Seamount"	CTD	25./26.07.18	20:03	44°46,142'N	170°10,290'E	1730	1730	
SO264-36	-1	SO264-36-1	"Suiko Seamount"	BC6	28.07.18	22:00	44°46,409'N	170°10,319'E	1771	1794	4.9
SO264-37	-1	SO264-37-1	"Suiko Seamount"	BC6	28./29.07.18	0:30	44°52,027'N	170°03,838'E	1966	1983	
SO264-38 (=36)	-1	SO264-38-1	"Suiko Seamount"	GKG	29.07.18	3:22	44°46,414'N	170°10,317'E	1771	1790	
SO264-39	-1	SO264-39-1	"Suiko Seamount"	BC6	29.07.18	6:26	44°58,296'N	170°21,025'E	3143	3176	5.17
SO264-39	-2	SO264-39-2	"Suiko Seamount"	GKG	29.07.18	8:49	44°58,294'N	170°21,028'E	3141	3166	
SO264-39	-3	SO264-39-3	"Suiko Seamount"	GKG	29.07.18	10:55	44°58,295'N	170°21,025'E	3142	3173	
SO264-40	-1	SO264-40-1	"Suiko Seamount"	MSN	29.07.18	15:28	45°34,007'N	170°18,008'E	5401	100	
SO264-40	-2	SO264-40-2	"Suiko Seamount"	CTD	29.07.18	18:13	45°34,002'N	170°18,003'E	5401	5367	
SO264-40	-3	SO264-40-3	"Suiko Seamount"	MSN	29.07.18	20:33	45°34,004'N	170°18,003'E	5409.3	700	
SO264-41	-1	SO264-41-1	"Suiko Seamount"	MUC	29/30.07.18	23:43	45°41,947'N	170°09,306'E	3641	3672	
SO264-41	-2	SO264-41-2	"Suiko Seamount"	GC20	30.07.18	2:04	45°41,942'N	170°09,300'E	3645	3678	9.47
S0264-42	-1	SO264-42-1	"Jimmu Seamount"	TV-MUC	30.07.18	22:33	46°10,136'N	169°10,067'E	3024	3036	
S0264-42	-2	SO264-42-2	"Jimmu Seamount"	GC15	30./31.07.18	0:37	46°10,141'N	169°10,080'E	3021	3058	11.55
SO264-43	-1	SO264-43-1	"Jimmu Seamount"	TV-MUC	31.07.18	3:23	46°06,577'N	169°07,190'E	3242	3299	
SO264-43	-2	SO264-43-2	"Jimmu Seamount"	GC15	31.07.18	5:36	46°06,576'N	169°07,193'E	3239	3271	5.13
SO264-44	-1	SO264-44-1	"Jimmu Seamount"	TV-MUC	31.07.18	21:58	46°15,306'N	169°20,064'E	1892	1904	
SO264-44	-2	SO264-44-2	"Jimmu Seamount"	GC 5	31.07./01.08.18	23:51	46°15,298'N	169°20,062'E	1893	1917	2.31
SO264-44	-3	SO264-44-3	"Jimmu Seamount"	GC 10	01.08.18	0:38	46°15,307'N	169°20,064'E	1894	1913	9.26
SO264-45	-1	SO264-45-1	"Minnetonka Seamount"	MUC	01.08.18	8:03	46°33,795'N	169°36,072'E	2423	2446	

SO264 station list Station No.	Gear No.	Station label	Area	Gear	Date (dd.mm.yy)	at seafloor/ at depth UTC	Latitude at depth (deg/min)	Longitude at depth (deg/min)	Water depth EM122 (m)	Rope length (m)	Core recovery (m)
SO264-45	-2	SO264-45-2	"Minnetonka Seamount"	GC 10	01.08.18	9:33	46°33,792'N	169°36,072'E	2425	2449	8.35
SO264-46	-1	SO264-46-1	"Minnetonka Seamount"	MSN	01.08.18	18:33	46°48,922'N	169°24,707'E	4000	100	
SO264-46	-2	SO264-46-2	"Minnetonka Seamount"	CTD	01.08.18	20:42	46°48,942'N	169°24,660'E	3992	3960	
SO264-46	-3	SO264-46-3	"Minnetonka Seamount"	MSN	01.08.18	22:51	46°48,941'N	169°24,667'E	3989	700	
SO264-46	-4	SO264-46-4	"Minnetonka Seamount"	MUC	01./02.08.18	0:33	46°48,935'N	169°24,659'E	3992	4023	
SO264-46	-5	SO264-46-5	"Minnetonka Seamount"	GC20	02.08.18	3:15	46°48,941'N	169°24,661'E	3992	4026	9
SO264-47	-1	SO264-47-1	"Minnetonka Seamount"	MUC	02.08.18	11:01	47°04,386'N	169°21,656'E	2644	2667	
SO264-47	-2	SO264-47-2	"Minnetonka Seamount"	GC10	02.08.18	12:44	47°04,394'N	169°21,667'E	2647	2679	6.94
SO264-48	-1	SO264-48-1	"Minnetonka Seamount"	TV-MUC	04.08.18	1:42	47°58,507'N	169°03,865'E	2872	2892	
SO264-48	-2	SO264-48-2	"Minnetonka Seamount"	GC15	04.08.18	3:44	47°58,505'N	169°03,878'E	2872	2902	8.92
SO264-49	-1	SO264-49-1	"Minnetonka Seamount"	TV-MUC	04.08.18	8:23	47°40,869'N	169°01,425'E	2433	2453	
SO264-49	-2	SO264-49-2	"Minnetonka Seamount"	GC9	04.08.18	10:09	47°40,869'N	169°01,419'E	2400	2403	5.9
SO264-50	-1	SO264-50-1	"Minnetonka Seamount"	MUC	04.08.18	18:38	47°19,301'N	169°29,069'E	2622	2645	
SO264-50	-2	SO264-50-2	"Minnetonka Seamount"	GC15	04.08.18	20:15	47°19,300'N	169°29,068'E	2629	2643	3.58
SO264-51	-1	SO264-51-1	"Minnetonka Seamount"	MUC	04./05.08.18	23:46	47°10,551'N	169°25,283'E	2933	2953	
SO264-51	-2	SO264-51-2	"Minnetonka Seamount"	GC9	05.08.18	1:31	47°10,548'N	169°25,282'E	2933	2953	7.71
SO264-52	-1	SO264-52-1	"Minnetonka Seamount"	MUC	05.08.18	4:41	47°07,277'N	169°09,872'E	2754	2779	
SO264-52	-2	SO264-52-2	"Minnetonka Seamount"	GC11	05.08.18	6:23	47°07,271'N	169°09,869'E	2752	2790	8
SO264-53	-1	SO264-53-1	"Minnetonka Seamount"	MUC	05.08.18	19:20	47°38,930'N	169°29,415'E	2325	2347	
SO264-53	-2	SO264-53-2	"Minnetonka Seamount"	GC11	05.08.18	20:49	47°38,934'N	169°20,417'E	2325	2360	8.63
SO264-54	-1	SO264-54-1	"Minnetonka Seamount"	TV-MUC	05./06.08.18	23:25	47°37,319'N	169°14,853'E	2127	2145	
SO264-54	-2	SO264-54-2	"Minnetonka Seamount"	PC15	06.08.18	1:22	47°37,318'N	169°14,852'E	2139	2129	11.43
SO264-55 (=51)	-1	SO264-55-1	"Minnetonka Seamount"	PC20	06./07.08.18	23:15	47°10,553'N	169°25,291'E	2936	2925	16.11
SO264-56	-1	SO264-56-1	"Minnetonka Seamount"	MUC	07.08.18	9:06	47°44,754'N	168°40,397'E	3946	3978	
SO264-56	-2	SO264-56-2	"Minnetonka Seamount"	GC20	07.08.18	11:26	47°44,752'N	168°40,398'E	3973	3989	12.66
SO264-57	-1	SO264-57-1	"Tenji Seamount"	MUC	07.08.18	20:45	48°50,814'N	168°29,006'E	2355	2377	
SO264-57	-2	SO264-57-2	"Tenji Seamount"	PC20	07.08.18	22:38	48°50,815'N	168°29,998'E	2356	2347	15.4
SO264-58	-1	SO264-58-1	"Tenji Seamount"	MUC	08.08.18	4:03	48°59,181'N	168°29,776'E	2588	2609	
SO264-58	-2	SO264-58-2	"Tenji Seamount"	PC20	08.08.18	6:20	48°59,189'N	168°29,773'E	2594	2578	17
SO264-59	-1	SO264-59-1	"Tenji Seamount"	MUC	08.08.18	10:59	49°04,961'N	168°30,319'E	2916	2938	
SO264-59	-2	SO264-59-2	"Tenji Seamount"	GC20	08.08.18	12:45	49°04,960'N	168°30,299'E	2930	2943	13.36
SO264-60	-1	SO264-60-1	"Tenji Seamount"	MSN	08.08.18	16:35	49°18,436'N	168°33,423'E	5270	700	
SO264-60	-2	SO264-60-2	"Tenji Seamount"	CTD	08.08.18	19:31	49°18,448'N	168°33,431'E	5270	5240	
SO264-60	-3	SO264-60-3	"Tenji Seamount"	MSN	08.08.18	22:08	49°18,446'N	168°33,440'E	5270.1	700	
SO264-60	-4	SO264-60-4	"Tenji Seamount"	MSN	08./09.08.18	23:23	49°18,441'N	168°33,435'E	5277	700	

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SO264-60	-5	SO264-60-5	"Tenji Seamount"	MSN	09.08.18	2:34	49°18,446'N	168°33,430'E	5273	700	
SO264-60	-6	SO264-60-6	"Tenji Seamount"	MSN	09.08.18	6:24	49°18,450'N	168°33,427'E	5274.9	700	
SO264-60	-7	SO264-60-7	"Tenji Seamount"	MSN	09.08.18	9:56	49°18,445'N	168°33,428'E	5269	700	
SO264-60	-8	SO264-60-8	"Tenji Seamount"	MSN	09.08.18	13:30	49°18,447'N	168°33,418'E	5272	700	
SO264-60	-9	SO264-60-9	"Tenji Seamount"	MSN	09.08.18	17:11	49°18,450'N	168°33,434'E	5266	700	
SO264-60	-10	SO264-60-10	"Tenji Seamount"	MSN	09.08.18	20:47	49°18,441'N	168°33,434'E	5264.9	700	
SO264-60	-11	SO264-60-11	"Tenji Seamount"	MSN	09./10.08.2018	0:18	49°18,445'N	168°33,433'E	5263.4	700	
SO264-60	-12	SO264-60-12	"Tenji Seamount"	GC15	10.08.18	4:47	49°18,444'N	168°33,426'E	5275	5313	10.57
SO264-60	-13	SO264-60-13	"Tenji Seamount"	GC15	10.08.18	8:18	49°18,442'N	168°33,430'E	5274	5316	10.25
SO264-60	-14	SO264-60-14	"Tenji Seamount"	MUC	10.08.18	11:25	49°18,442'N	168°33,434'E	5270	5308	
SO264-61	-1	SO264-61-1	"N' Tenji Seamount"	MUC	10.08.18	23:04	49°43,401'N	168°02,272'E	2590	2604	
SO264-61	-2	SO264-61-2	"N' Tenji Seamount"	PC20	10./11.08.18	1:11	49°43,399'N	168°02,267'E	2591	2582	15.7
SO264-62	-1	SO264-62-1	"N' Tenji Seamount"	TV-MUC	11.08.18	6:22	49°43,847'N	168°18,921'E	2378	2384	
SO264-62	-2	SO264-62-2	"N' Tenji Seamount"	PC20	11.08.18	8:22	49°43,840'N	168°18,918'E	2373	2363	15.5
SO264-63	-1	SO264-63-1	"Tenji Seamount"	MUC	11.08.18	22:39	49°48,761'N	168°38,731'E	3772	3802	
SO264-63	-2	SO264-63-2	"Tenji Seamount"	PC20	11./12.08.18	1:25	49°48,760'N	168°38,731'E	3779	3774	18.22
SO264-64	-1	SO264-64-1	"S' of Detroit Seamount"	PC20	12.08.18	7:22	49°59,494'N	168°13,468'E	3495	3486	18.55
SO264-64	-2	SO264-64-2	"S' of Detroit Seamount"	MUC	12.08.18	9:47	49°59,490'N	168°13,465'E	3492	3513	
SO264-65	-1	SO264-65-1	"S' of Detroit Seamount"	MUC	12.08.18	22:02	50°21,536'N	168°13,340'E	2496	2522	
SO264-65	-2	SO264-65-2	"S' of Detroit Seamount"	PC20	12./13.08.13	23:56	50°21,537'N	168°13,356'E	2498	2492	13.41
SO265-66	-1	SO264-66-1	"S' of Detroit Seamount"	MUC	13.08.18	2:42	50°15,065'N	168°17,834'E	2747	2747	
SO265-66	-2	SO264-66-2	"S' of Detroit Seamount"	PC20	13.08.18	4:41	50°15,067'N	168°17,821'E	2751	2742	15.04
SO264-67	-1	SO264-67-1	"Detroit Seamount"	MSN	13.08.18	7:54	50°14,680'N	168°35,175'E	5031	100	
SO264-67	-2	SO264-67-2	"Detroit Seamount"	CTD	13.08.18	10:22	50°14,701'N	168°35,172'E	5034	4993	
SO264-67	-3	SO264-67-3	"Detroit Seamount"	MSN	13.08.18	12:26	50°14,702'N	168°35,163'E	5033.4	5030.3	
SO264-68	-1	SO264-68-1	"Detroit Seamount"	MUC	13.08.18	20:18	50°29,040'N	167°51,501'E	3285	3306	
SO264-68	-2	SO264-68-2	"Detroit Seamount"	PC20	13.08.18	22:42	50°29,043'N	167°51,487'E	3284	3275	18.01
SO264-69	-1	SO264-69-1	"Detroit Seamount"	MUC	14.08.18	1:40	50°30,869'N	167°55,493'E	3478	3508	
SO264-69	-2	SO264-69-2	"Detroit Seamount"	PC20	14.08.18	4:05	50°30,877'N	167°55,478'E	3473	3478	18.55
SO264-70	-1	SO264-70-1	"Detroit Seamount"	PC20	14.08.18	7:34	50°34,915'N	168°04,292'E	3917	3928	5
SO264-70	-2	SO264-70-2	"Detroit Seamount"	MUC	14.08.18	10:43	50°34,910'N	168°04,294'E	3916	3944	
SO264-71	-1	SO264-71-1	"Detroit Seamount"	MUC	14.08.18	20:41	51°05,879'N	167°42,751'E	2394	2418	
SO264-71	-2	SO264-71-2	"Detroit Seamount"	PC20	14.08.18	22:32	51°05,880'N	167°42,755'E	2397	2400	1.22
SO264-72	-1	SO264-72-1	"Detroit Seamount"	MUC	15.08.18	1:54	51°01,206'N	167°45,887'E	2615	2642	
SO264-72	-2	SO264-72-2	"Detroit Seamount"	GC10	15.08.18	3:28	51°01,209'N	167°45,890'E	2626	2641	5.78

SO264 station list Station No.	Gear No.	Station label	Area	Gear	Date (dd.mm.yy)	at seafloor/ at depth UTC	Latitude at depth (deg/min)	Longitude at depth (deg/min)	Water depth EM122 (m)	Rope length (m)	Core recovery (m)
SO264-73	-1	SO264-73-1	"Detroit Seamount"	TV-MUC	15.08.18	6:23	50°56,497'N	167°55,170'E	3039	3083	
SO264-73	-2	SO264-73-2	"Detroit Seamount"	GC10	15.08.18	8:25	50°56,498'N	167°55,180'E	3047	3081	4.59
SO264-74	-1	SO264-74-1	"Detroit Seamount"	GC10	15.08.18	12:02	51°05,877'N	167°42,752'E	2396	2425	5.7
SO264-75	-1	SO264-75-1	"Detroit Seamount"	BC6	15./16.08.18	22:38	50°34,909'N	168°04,288'E	3919	3951	5.1
SO264-76	-1	SO264-76-1	"Detroit Seamount"	BC6	16.08.18	2:29	50°29,039'N	167°51,493'E	3297	3307	4.24
SO264-77	-1	SO264-77-1	"Detroit Seamount"	MSN	16.08.18	7:57	50°29,701'N	166°52,650'E	4981	100	
SO264-77	-2	SO264-77-2	"Detroit Seamount"	CTD	16.08.18	10:26	50°29,732'N	166°52,804'E	4978	4945	
SO264-77	-3	SO264-77-3	"Detroit Seamount"	MSN	16.08.18	12:48	50°29,727'N	166°52,806'E	4978	700	