



HOKKAIDO UNIVERSITY

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**THE " OSHORO MARU " CRUISE 211
TO THE OYASHIO REGION**

IN JANUARY 2010

1. Cruise Itinerary

Cruise 211

Departure from Hakodate

Jan. 12 2010

Start hydrographic research (OS10001)

13

Finish hydrographic research (OS10001)

13

Return to Hakodate

15

Total coverage 390.7 miles

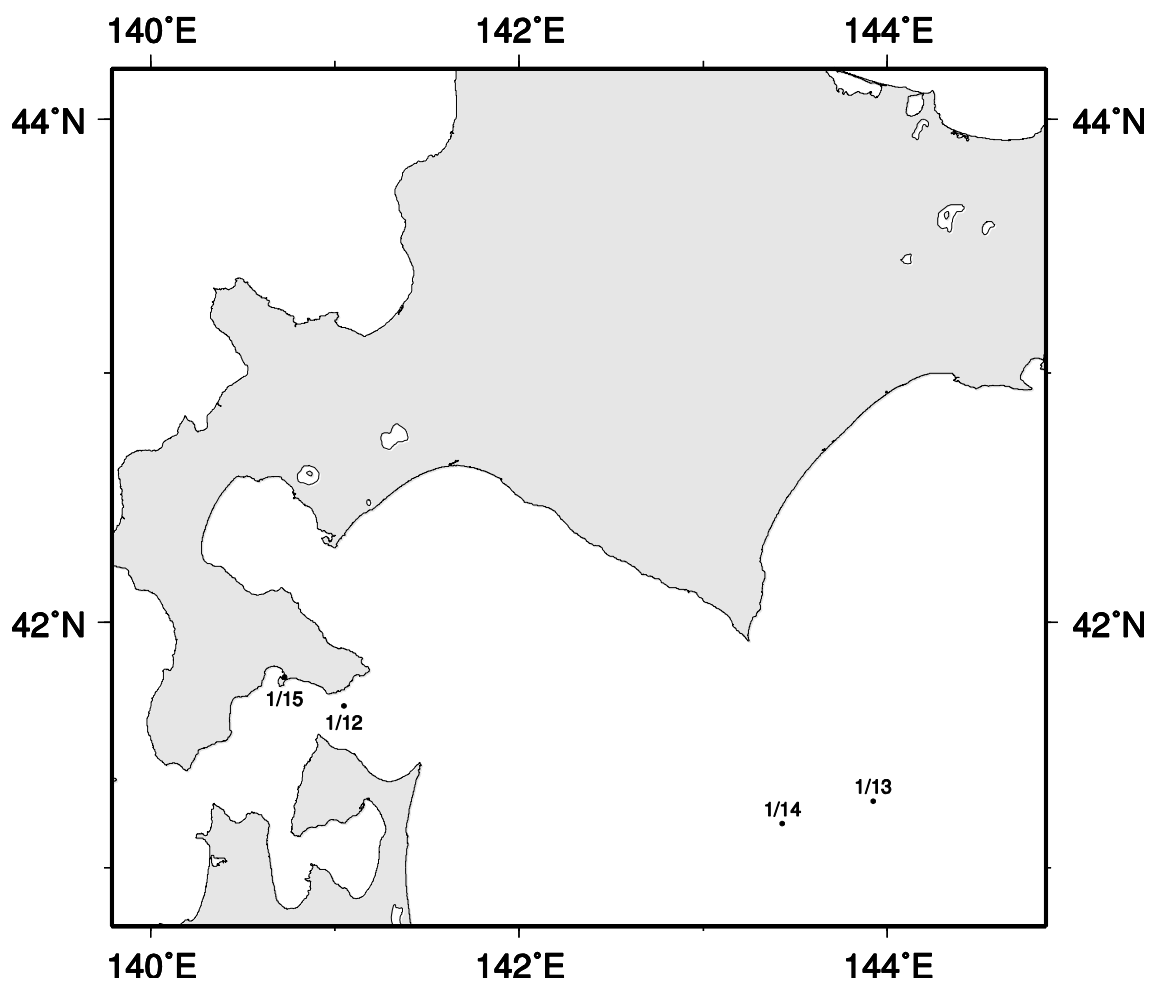


Figure 1. Noon position

2. Vessel Personnel

Captain:		Associate Professor	Shogo Takagi
Crew:	First Officer	Instructor	Yoshihiko Kamei
	Second Officer	Instructor	Keiichiro Sakaoka
	Second Officer	Technical official	Naoki Hoshi
	Third Officer	Technical official	Takuzo Abe
	Chief Engineer	Instructor	Jyunichi Kimura
	And 24 men		

Cruise 211

Research Staff:	Associate Professor	(Laboratory of Marine Biodiversity)	Atsushi Yamaguchi
	Senior Curator	(Department of Botany, National Museum of Nature and Science)	Akihiro Tuji
	Research Student	(Institute of Geology and Paleontology, Graduate School of Science, Tohoku University)	Kaoru Ogane
	Graduate Students		2 persons
	Under Graduate Students		4 persons
	Total		39 persons

3. Items of Research

Hydrographic observations:	Fig. 2	Table 1, 2
Plankton Sampling		Table 3

4. Data on Temperature, Salinity and Computed Dynamic Depth Anomaly

Hydrographic work on deck and the data processing were made by the deck officers, crews, research staff and cadets of the “Oshoro Maru”. Temperature and salinity were measured by CTD (Seabird SBE9Plus and SBE-19). Dynamic computations were made using a desk-top computer aboard the “Oshoro Maru”.

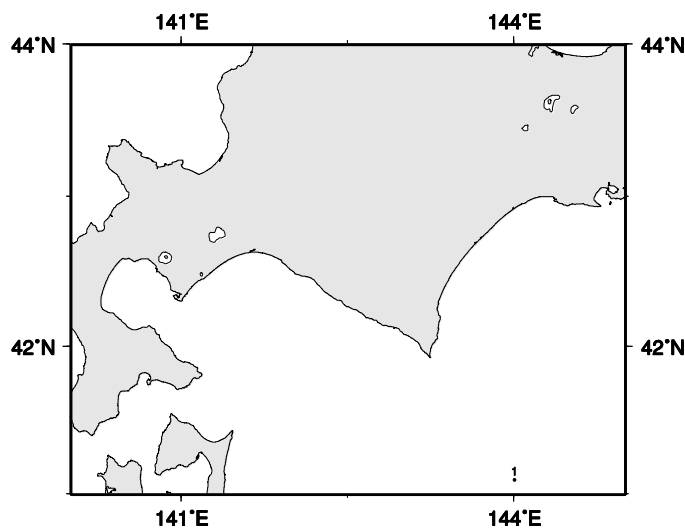


Figure 2. Oceanographic station

Table 1. List of Oceanographic Station

Station	Lat.(*)	Long.(*)	Date	S.M.T	T.Z.	Depth	COL.	TR.	S.S.T.	WR.	Remark
OS10001	41-06.0N	144-00.0E	1/13	1300	9	3417	4	14.7	1.5	-	9Plus-0769

(*) : Fixed position by Global Positioning System

Table 2. Oceanographic data

Station		OS10001			
Longitude		144-00.1E			
Latitude		41-06.4N			
Depth(m)		3417			
Press.	Temp.	Sal.	SIG-T		
5	4.372	33.262	26.366		
10	4.380	33.263	26.365		
20	4.381	33.263	26.366		
30	4.379	33.262	26.365		
40	4.381	33.263	26.365		
50	4.391	33.264	26.365		
75	4.439	33.272	26.366		
100	4.059	33.282	26.414		
125	3.252	33.353	26.548		
150	3.185	33.470	26.648		
175	2.999	33.527	26.709		
200	2.946	33.554	26.736		
250	2.863	33.656	26.824		
300	3.506	33.814	26.891		
400	3.330	33.917	26.990		
500	3.178	34.039	27.102		
600	3.032	34.140	27.196		
700	3.020	34.224	27.264		
800	2.953	34.304	27.334		
900	2.821	34.352	27.384		
1000	2.728	34.396	27.427		
1200	2.531	34.462	27.497		
1500	2.259	34.536	27.579		
2000	2.043	34.577	27.630		
2500	1.843	34.620	27.679		
3000	1.583	34.663	27.733		

5. Data on plankton collected by vertical hauls with a single or twin NORPAC net.

Vertical hauls with a single or twin-NORPAC net were made at hydrographic stations. This net was composed of 45 cm mouth diameter and 180 cm long conical one which was made of GG54 and XX13 having 0.33 mm and 0.10 mm mesh, respectively. The net was lowered to the estimated depth of 150 m, 500 m or near the bottom when the bottom depth was shallower than 150 m, and immediately hauled to the surface at a speed about 1 m s⁻¹. A flowmeter was mounted at the center of mouth of the net to estimate the volume water filtered. Sampling was conducted by research staffs and measurement of wet weight of the samples were made by A. Yamaguchi, K. Ishii, K. Matsuno, R. Saito, K. Ohgi, Y. Onishi, T. Homma, R. Ohashi, C. Tsukazaki, A. Kuroda, Y. Abe, M. Kawaguchi, T. Shiota, S. Mizuhara, K. Moribe and J. Fukuda (Laboratory of Marine Biology).

Table 3. Data on plankton collected by vertical hauls with a single or twin NORPAC net

GG54: 0.33 mm mesh, XX13: 0.10 mm mesh.

GG54: 0.25 mm mesh, XX13: 0.10 mm mesh.																			
Station no.	Position			S.M.T.		Length of wire	Angle of wire	Depth estimated by wire	Kind of cloth	Flowmeter		Estimated volume of water filtered (m ³)	Wet weight (g)		Sample no.				
	Lat. (N)	Lon.		Date	Hour	(m)	(°)	angle (m)		No.	Reading		per haul	per 1000 m ³					
OS 10001 (off Cape Erimo)	41-05	144-01	E	13 Jan.	15:22	154	13	150	GG54	1858	1582	23.14	0.7	32	10001				
					15:34	532	20	500	GG54	1858	6022	88.07	12.2	138	10003				
									XX13	3006	5600	81.19			10004				

- 1) Exclusively phytoplankton
- 2) Including some fragments of medusae.
- 3) *Neocalanus* abundant.
- 4) Gelatinous zooplankton abundant.
- 5) Salpida abundant.
- 6) Chaetognaths abundant.

6. Data on calibration of flowmeters

Flowmeters used for plankton nets were calibrated once in the cruise.

Table 4. Calibration data on flowmeters used for a twin or single NORPAC net and other kind of nets.
50-m wire out near Hakodate, 15 January 2010.

Flowmeter No.	Wire length (m)	Revolution								Mean
		1	2	3	4	5	6	7	8	
RG1858	50	623*	538*	539	539	525*	560*	548	549	544
RG3006	50	651*	544	537*	540	540*	560	550	562*	549

*: omitted from calculation

