



HOKKAIDO UNIVERSITY

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THE “OSHORU MARU” CRUISE 210
TO THE COAST OF SANRIKU

IN DECEMBER 2009

1. Cruise Itinerary

Cruise 210

Departure from Ofunato	Dec. 23, 2009
Start hydrographic research (OS09175)	24
Finish hydrographic research (OS09178)	25
Return to Ofunato	26
Departure from Ofunato	26
Return to Hakodate	27

Total coverage 448.5 miles 5 days at sea

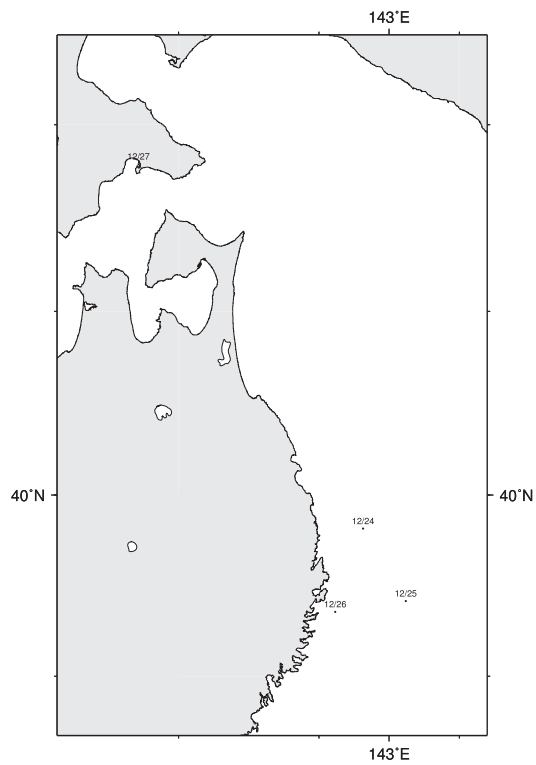


Figure 1: Noon position

2. Vessel Personnel

Captain:		Associate Professor	Shogo Takagi
Crew :	Chief Officer	Instructor	Yoshihiko Kamei
	First 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 210

Under Graduate instructor:	Professor	(School of Marine Biosciences, Kitasato University)	
			Ryousuke Kado
	Lecturer	(School of Marine Biosciences, Kitasato University)	
			Yuichiro Yamada
	Associate Professor	(Trainig ship Oshoro maru, Hokkaido University)	
			Yoshiyuki Kajiware
	Teaching Assistant:		3 Person
	Under Graduate Students:		61 Persons
	Total		97 Persons

3. Items of Research

Hydrographic observations: Fig. 2 Table 1,2

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”.

Table 1: List of Oceanographic Stations

Station	Lat.(*)	Long.(*)	Date	S.M.T	T.Z.	Depth	COL.	TR.	S.S.T.	WR.	Remark
OS09175	39-59.7N	143-00.4E	12/24	0357	9	1306	-	-	9.5	bc	9Plus-0769
OS09176	39-47.2N	142-19.5E	12/24	1405	9	506	-	-	-	bc	9Plus-0769
OS09177	39-31.1N	142-44.1E	12/25	0832	9	1370	3	12	12.1	c	9Plus-0769
OS09178	39-18.0N	142-26.5E	12/25	1258	9	995	3	14	11	c	9Plus-0769

(*):Fixed position by Global Positioning system

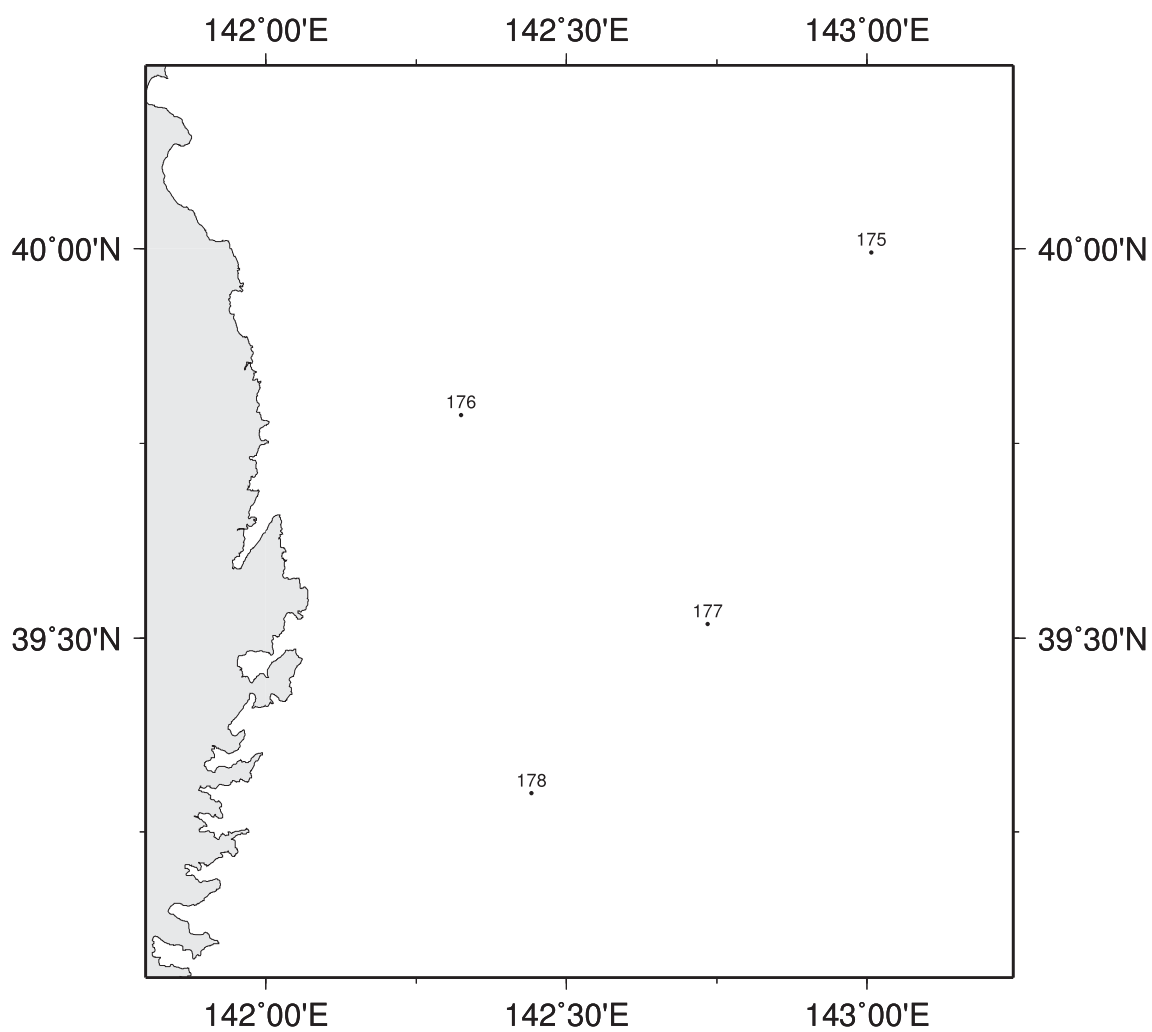


Figure 2: Oceanographic stations

Table 2: Oceanographic data

Station	OS09175		
Longitude	39-59.7N		
Latitude	143-00.4E		
Depth(m)	1306		
Press.	Temp.	Sal.	SIG-T
5	9.849	33.704	25.966
10	9.186	33.637	26.022
20	8.723	33.587	26.056
30	8.200	33.534	26.093
40	7.838	33.495	26.116
50	7.508	33.456	26.132
75	7.070	33.490	26.220
100	5.154	33.503	26.471
125	4.583	33.525	26.552
150	4.185	33.536	26.603
200	3.328	33.564	26.709
250	2.935	33.589	26.764
300	3.051	33.687	26.833
400	3.278	33.846	26.939
500	3.389	34.029	27.074

Station	OS09176		
Longitude	39-47.2N		
Latitude	142-19.5E		
Depth(m)	506		
Press.	Temp.	Sal.	SIG-T
5	9.998	33.815	26.027
10	9.999	33.815	26.027
20	9.868	33.792	26.032
30	9.541	33.746	26.049
40	9.257	33.700	26.059
50	9.090	33.673	26.065
75	8.003	33.509	26.103
100	7.887	33.494	26.108
125	7.699	33.464	26.112
150	7.278	33.412	26.130
200	6.258	33.550	26.375
250	4.452	33.531	26.571
300	3.619	33.555	26.674
400	3.078	33.716	26.853

Station	OS09177		
Longitude	39-31.1N		
Latitude	142-44.1E		
Depth(m)	1370		
Press.	Temp.	Sal.	SIG-T
5	12.556	33.964	25.679
10	12.569	33.964	25.676
20	12.579	33.964	25.674
30	12.580	33.964	25.674
40	12.576	33.964	25.674
50	12.570	33.962	25.674
75	12.554	33.961	25.676
100	10.957	33.809	25.856
125	9.540	33.841	26.124
150	7.587	33.764	26.364
200	7.231	33.961	26.569
250	3.567	33.580	26.699
300	3.313	33.631	26.764
400	3.222	33.788	26.897
500	3.430	33.942	27.001

Station	OS09178		
Longitude	39-18.0N		
Latitude	142-26.5E		
Depth(m)	995		
Press.	Temp.	Sal.	SIG-T
5	11.781	33.869	25.752
10	11.336	33.830	25.804
20	10.223	33.758	25.944
30	9.177	33.621	26.010
40	8.890	33.603	26.042
50	8.642	33.576	26.060
75	8.020	33.504	26.096
100	7.906	33.529	26.133
125	7.297	33.531	26.221
150	6.081	33.533	26.383
200	4.332	33.569	26.614
250	3.398	33.561	26.700
300	3.015	33.606	26.771
400	3.243	33.795	26.901
500	3.328	33.920	26.993

