

CRUISE REPORT

Cruise Number: DY-09-06
FOCI Number: FOCI
Ship: NOAA Ship OSCAR DYSON

Area of Operations: Bering Sea

Itinerary:

Departure - April 24, 2009, 1500, Dutch Harbor, AK
Arrival - May 4, 2009, 0800, Dutch Harbor, AK

Participating Organizations:

NOAA - Pacific Marine Environmental Laboratory (PMEL)
7600 Sand Point Way N.E., Seattle, Washington 98115-6439

NOAA - Alaska Fisheries Science Center (AFSC)
7600 Sand Point Way N.E.
Seattle, Washington 98115-0070

Chief Scientist: Carol DeWitt, NOAA/PMEL

Personnel:

Jay Clark, AFSC/PMEL
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William Floering, NOAA/PMEL
Aaron Lang, USFWS
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Objectives of Cruise:

To recover and deploy surface and subsurface oceanographic instrumentation moorings. To complete conductivity, temperature and depth (CTD) profiler casts. To complete bongo and CalVET tows.

Summary of Operations:

CTD casts	34
Mooring deployments	6
Mooring recoveries	5
Bongo tows	12
CalVET tows	6

Samples Collected:

Chlorophyll samples	107
Nutrient samples	112
Salinity samples	29

Summary of Cruise:

The NOAA Ship Oscar Dyson departed Dutch Harbor en route to Amukta Pass on April 24, 2009, 1500 L. We arrived at the easternmost CTD station at Amukta Pass on April 25th. A repair to the CTD winch caused an approximately 1.5 hr delay in the start of operations. After winch repairs, a CTD with nutrient samples was completed at each of the six stations across Amukta Pass.

We proceeded to 07AMP-1A and searched near location 52 25.984' N, 171 27.0' W for approximately 2.5 hrs with the 18 and 38 KHz ship sounder. In addition, the release was repeatedly interrogated but did not respond. We were not able to confirm whether 07AMP-1A was still at this location.

We proceeded to the CTD "L" line. Eight of the "L" stations were completed. In addition to the CTD, a 600 m bongo tow was completed at the sixth and eighth stations. Several of the standard "L" CTD stations were dropped in order to ensure enough time for mooring operations at the Kodiak Crab sites, Bering Sea site 2 and Bering Sea site 4.

We proceeded to the offshore Kodiak Crab mooring site. We completed a pre-recovery CTD but were not able to locate the mooring. We deployed 09KC-2A and pinged on its release to verify that the deck unit was working properly. We then proceeded to the inshore mooring site where we completed a CTD. We were unable to locate the mooring. We returned to the offshore mooring site and began search operations. After approximately 8 hrs of searching, a very faint pinging was detected. No range signal was received. Initially it was thought that the pinging was faint because the mooring was far away. But as the search pattern took us further from the deployment site, we stopped receiving any pings from the release. It was decided to head back between the two locations where the faint pinging had been detected. Eventually the ping replies were received again. When we were approximately 600 m away from the release, and after the sounders had been secured, release ranges were received. It was determined that the mooring was at its deployment location and despite the release pinging malfunction, the mooring was successfully recovered.

We proceeded to Bering Sea mooring site 2 where two CTDs were completed to accommodate the nutrient and chlorophyll sampling. We recovered 08BS-2C (08BSP-2B had previously been dragged up by a fisherman). Then due to lack of daylight, we completed the CTD/bongo stations at 4 "box" sites surrounding the mooring site. In addition, we completed the bongo and CalVET tows at the center station. We deployed 09BSM-2A, 09BST-2A and 09BSP-2A. Three CTDs with nutrient and chlorophyll samples were completed after mooring deployment operations. We ran a search pattern for 08BSP-2A for approximately 12 hours. We did not locate the mooring.

We proceeded to Bering Sea mooring site 4. As we were approaching the mooring site, we pinged for a lost mooring - 08BS-4A. Just as we were getting reading to switch release codes to 08BS-4B, pinging was heard from 08BS-4A. We located 08BS-4A and then two CTDs with nutrient and chlorophyll samples were completed. We recovered 08BS-4A which was missing the top two floats with temperature sensors (5 and 8 m deep). In total, one Seacat with WETStar, one ECO-fluorometer, ten SBE-39s, two Microcats, one ISUS, one release, one 41" float and two 28" floats were recovered. We then recovered 08BS-4B. Then due to lack of daylight, we completed the CTD/bongo stations at 4 "box" sites surrounding the mooring site. The next morning, we recovered 08BSP-4B and deployed 09BSP-4A and 09BSM-4A. Two CTDs with nutrient and chlorophyll samples were completed after mooring deployment operations. In addition, we completed the bongo and CalVET tows at the center station.

We returned to Bering Sea site 2, and continued searching for mooring 08BSP-2A until operations were halted to begin our return to port. We proceeded to Dutch Harbor where we disembarked.

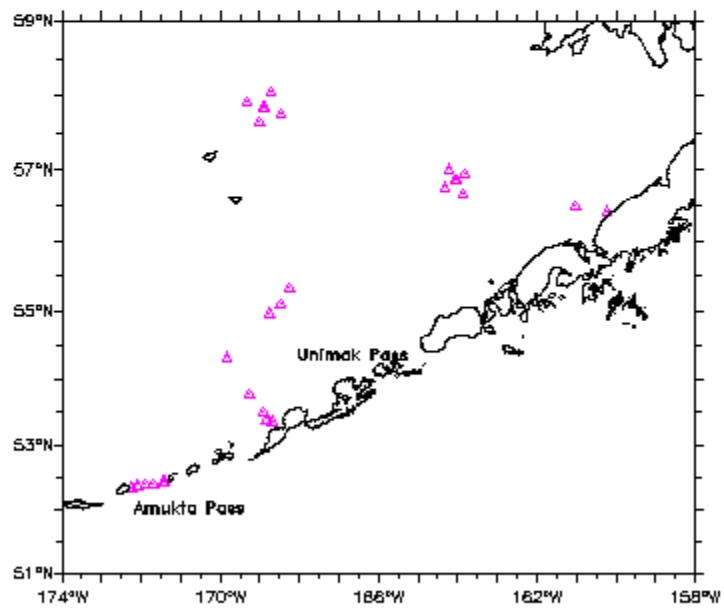
Acknowledgements: It was a pleasure to work with Captain Hoshlyk and his crew. Captain Hoshlyk was very accommodating to our changing cruise requirements and his support to the scientific party was appreciated. The hard work of the crew - especially the short-handed deck crew - is greatly appreciated.

Specifics of operations:

Date	Time	Button	Station	Haul	Alt Station	Latitude (N)	Longitude (W)	EK60 (m)
4/24/2009	23:53:06	CB Lowered				53	54.9702 166	35.832 20
4/25/2009	21:27:00	CTD At Depth	1	1	CTD001	52	26.76 171	23.925 216
4/25/2009	22:25:34	CTD At Depth	2	1	CTD002	52	26.9868 171	27.6132 448
4/26/2009	0:07:49	CTD At Depth	3	1	CTD003	52	24.8292 171	40.8168 450
4/26/2009	2:10:58	CTD At Depth	4	1	CTD004	52	24.4668 171	53.3196 291
4/26/2009	3:57:54	CTD At Depth	5	1	CTD005	52	23.4432 172	5.5236 363
4/26/2009	5:23:32	CTD At Depth	6	1	CTD006	52	21.258 172	14.5254 208
4/26/2009	19:57:47	CTD At Depth	7	1	CTD007	53	21.9966 168	41.2554 433
4/26/2009	21:32:44	CTD At Depth	8	1	CTD008	53	24.2214 168	50.4894 976
4/26/2009	23:31:20	CTD At Depth	9	1	CTD009	53	30.6756 168	54.273 1797
4/27/2009	2:56:26	CTD At Depth	10	1	CTD010	53	46.6974 169	15.549 1529
4/27/2009	7:50:44	CTD At Depth	11	1	CTD011	54	19.9038 169	49.3488 1856
4/27/2009	14:12:30	CTD At Depth	12	1	CTD012	54	58.2246 168	44.7582 2003
4/27/2009	16:06:13	Bongo At Depth	12	2	BON001	54	57.9282 168	45.0378 2023
4/27/2009	19:00:14	CTD At Depth	13	1	CTD013	55	6.5298 168	29.0382 1702
4/27/2009	21:49:29	CTD At Depth	14	1	CTD014	55	20.055 168	14.4432 1387
4/27/2009	23:01:29	Bongo At Depth	14	2	BON002	55	20.3826 168	15.2346 1456
4/28/2009	22:46:45	CTD At Depth	15	1	CTD015	56	30.0054 161	1.194 68
4/29/2009	0:19:22	Mooring Deployed	15	2	09KC-2A	56	29.841 160	59.655 65
4/29/2009	0:32:28	CB Retracted				56	29.91 160	59.91
4/29/2009	3:08:12	CTD At Depth	16	1	CTD016	56	25.7046 160	13.8294 26
4/29/2009	5:22:08	CB Lowered				56	26.631 160	26.8434 21
4/29/2009	18:10:00	Mooring Recovered			08KC-2A	56	30.0204 161	0.6174
4/30/2009	3:27:01	CTD At Depth	17	1	CTD017	56	51.6756 164	2.5968 71
4/30/2009	3:45:05	CTD At Depth	18	1	CTD018	56	51.8676 164	2.3724 73
4/30/2009	4:08:15	Mooring Recovered			08BS-2C	56	51.9108 164	3.2376
4/30/2009	6:16:55	CTD At Depth	19	1	CTD019	56	56.586 163	49.9218 71
4/30/2009	6:35:32	Bongo At Depth	19	2	BON003	56	56.8446 163	49.7742 71
4/30/2009	8:11:21	CTD At Depth	20	1	CTD020	57	1.074 164	12.5922 70
4/30/2009	8:39:30	Bongo At Depth	20	2	BON004	57	1.1382 164	12.9414 70
4/30/2009	10:31:24	CTD At Depth	21	1	CTD021	56	46.1376 164	20.0838 76
4/30/2009	10:50:02	Bongo At Depth	21	2	BON005	56	46.4376 164	19.443 75
4/30/2009	12:34:01	CTD At Depth	22	1	CTD022	56	40.1844 163	52.1724 77
4/30/2009	12:58:41	Bongo At Depth	22	2	BON006	56	40.002 163	52.1652 76
4/30/2009	14:27:39	Bongo At Depth	23	1	BON007	56	51.8094 164	3.6534 73
4/30/2009	15:11:28	Calvet At Depth	23	2	cal001	56	51.8874 164	3.108 73
4/30/2009	15:55:40	Calvet At Depth	23	3	cal002	56	52.1892 164	4.5258 72
4/30/2009	16:10:58	Calvet At Depth	23	4	cal003	56	52.2486 164	4.6692 72
4/30/2009	21:08:27	Mooring Deployed	23	5	09BSM-2A	56	51.9276 164	3.1794 73
4/30/2009	23:00:36	Mooring Deployed	23	6	09BST-2A	56	51.906 164	3.2652 73
5/1/2009	0:35:23	Mooring Deployed	23	7	09BSP-2A	56	51.9648 164	2.7762 72
5/1/2009	1:06:16	CTD At Depth	23	8	CTD023	56	52.4922 164	2.5374 72
5/1/2009	1:27:13	CTD At Depth	23	9	CTD024	56	52.6902 164	2.3604 72
5/1/2009	1:45:36	CTD At Depth	23	10	CTD025	56	52.7688 164	2.0706 71
5/2/2009	4:35:37	CTD At Depth	24	1	CTD034	57	51.8646 168	54.1818 72
5/2/2009	4:57:37	Mooring Recovered	24	2	08BS-4A	57	52.1538 168	53.7942 72
5/2/2009	6:10:00	CTD At Depth	25	1	CTD026	57	51.4236 168	53.4732 72
5/2/2009	6:28:15	CTD At Depth	25	2	CTD027	57	51.5676 168	53.9616 73
5/2/2009	6:40:02	Mooring Recovered	25	3	08BS-4B	57	51.477 168	53.0202 72
5/2/2009	6:40:02	Mooring Recovered	25	4	09BS-4B	57	51.477 168	53.0202
5/2/2009	9:01:26	CTD At Depth	26	1	CTD028	57	46.299 168	28.017 72
5/2/2009	9:18:24	Bongo At Depth	26	2	BON008	57	46.7568 168	27.4752 72
5/2/2009	11:47:30	CTD At Depth	27	1	CTD029	57	39.4572 169	0.144 70
5/2/2009	12:05:32	Bongo At Depth	27	2	BON009	57	39.7104 168	59.6682 70

5/2/2009	14:06:38	CTD At Depth	28	1	CTD030	57	55.515	169	19.2372	67
5/2/2009	14:23:01	Bongo At Depth	28	2	BON010	57	55.53	169	19.0014	68
					Alt					EK60
Date	Time	Button	Station	Haul	Station	Latitude (N)		Longitude (W)		(m)
5/2/2009	16:28:53	CTD At Depth	29	1	CTD031	58	3.9666	168	43.7052	71
5/2/2009	16:46:02	CTD At Depth	29	2	CTD031B	58	3.9708	168	43.7874	71
5/2/2009	17:09:38	Bongo At Depth	29	3	BON011	58	3.9702	168	43.3626	71
5/2/2009	18:35:09	Mooring Recovered	30	1	08BSP- 4B	57	51.7962	168	52.5942	72
5/2/2009	22:21:33	Mooring Deployed	30	2	09BSM- 4A	57	51.177	168	52.2444	72
5/3/2009	0:35:13	Mooring Deployed	30	3	09BSP- 4A	57	50.967	168	51.9696	72
5/3/2009	2:01:13	CTD At Depth	30	4	CTD032	57	51.4422	168	51.9498	72
5/3/2009	2:19:38	CTD At Depth	30	5	CTD033	57	51.4266	168	52.0212	72
5/3/2009	2:39:47	Calvet At Depth	30	6	CAL004	57	51.492	168	52.1514	72
5/3/2009	2:56:02	Calvet At Depth	30	7	CAL005	57	51.4404	168	52.3938	72
5/3/2009	3:10:50	Calvet At Depth	30	8	CAL006	57	51.4062	168	52.5294	72
5/3/2009	3:25:50	Bongo At Depth	30	9	BON012	57	51.5376	168	52.9896	72
5/3/2009	17:22:09	Mooring search			08BSP- 2A	57	3.0048	164	17.4402	
5/4/2009	15:45:51	CB Retracted				53	55.0632	166	35.805	

Attachments:



2DY09