

CRUISE REPORT

Cruise Number: MF03-03

Vessel: NOAA Ship Miller Freeman

Area of Operations: Gulf of Alaska, Shelikof Strait, Unimak Pass, Bering Sea

Itinerary: Depart Kodiak, Alaska: 24 February 2003
Arrive Dutch Harbor, Alaska: 7 March 2003

Participating Organizations:

PMEL/FOCI
AFSC/FOCI
Univ. of Alaska, Fairbanks

Chief Scientist: William Floering
NOAA/PMEL/OERD2/FOCI
206-526-6480
William.Floering@noaa.gov

Other Participating Scientists:

Earl Roskie	M	USA	NOAA/PMEL
Carol DeWitt	F	USA	NOAA/PMEL
Sara Thornton	F	Canada	Univ. of Alaska Fairbanks
Susan Henricks	F	USA	Univ. of Alaska Fairbanks

Cruise Objectives: The primary objective of the cruise will be the recovery and deployment of moorings in the Gulf of Alaska and Bering Sea. The second objective will be biological and physical ocean property sampling at and near the mooring locations.

Summary of Operations and Samples Collected:

CTD Casts	37
Bongo Tows	15
Drifter Deployments	5
Moorings Recovered	9
Moorings Deployed	8
Mooring Argos Transmitter Serviced	1
Dragging Operations for "lost" Mooring	1
Salinity Samples	30
Chlorophyll Samples	22
Nutrient Samples	28
ADCP Trackline Mileage	N/A

Cruise Summary:

Miller Freeman left Kodiak, Alaska, U.S. Coast Guard Base on February 24th and steamed east to the FATE mooring site. Both Argos transmitters mounted on the FATE mooring had stopped transmitting a couple of months earlier so there was some speculation as to the condition of the FATE mooring. Upon arrival it was evident that the FATE mooring surface float was gone. We were able to locate and range on the release but there was no evidence available to determine how much of the mooring was laying on the bottom in 2400 meters of water and how much of the mooring had drifted off with the surface float. Plans are presently being made to try a grapple/ drag to recover what remains of this mooring on a subsequent cruise.

From the FATE site we steamed north to mooring site GBM-3. Along the way we released 4 Argos drifting buoys, evenly spaced between FATE and GBM-3. At GB3M we launched the rescue boat and attached an Argos transmitter on the surface mooring. Near GB3M were the iron meter mooring and an ADCP mooring. Our intent was to release the iron meter mooring at GB-3 but due to an overlap in release frequencies and commands on an old and a new Benthos release, two moorings were released with one command. We recovered the ADCP mooring at GBP-3, since we did not expect this mooring to be released we were not set up to re-deploy on this cruise. The iron/tapps profiler mooring tried to release as well, but it has apparently lost its floatation. Every indication is that the release for this mooring is lying on the bottom in 185 meters of water. This mooring had a submerged Argos transmitter attached to the top float when it was deployed. A day after deployment this transmitter was sending a position signal from the surface and the transmitter was eventually picked up off the beach near Kodiak Island. Until the remainder of the mooring is recovered and we have more information we can only assume a vessel hit the top float, setting the Argos transmitter adrift. While on station, we tried unsuccessfully to recover this mooring by dragging grapples. We are currently making plans to recover the iron meter/tapps mooring using a contracted ROV system from Kodiak, Alaska.

From mooring site GB3 we steamed west to the Shelikof Strait PMEL line 8. Arriving at night we completed the line of 7 CTD stations along this historic line 8. Shelikof Strait ADCP moorings SSP1 and SSP2 were recovered and redeployed without incident. SSP3 was located on station. The Benthos release would enable and range but would not disable or release. This mooring will continue to collect data for some time and we will try to release/recover mooring SSP3 on a subsequent cruise in April.

From Shelikof Strait we steamed west again to the Pavlof Bay mooring. This mooring was successfully recovered and redeployed. After leaving Pavlof Bay we steamed west to Unimak Pass. A fifth Argos drifter was released on the north side of Unimak pass. From here we steamed east to the two KRAB moorings, KC1 and KC2. KC1 and KC2 were recovered and redeployed at the same historical location.

Steaming northwest, we headed for the Bering Sea mooring site BS-2. A series of 5 bongo/CTD stations were completed at the 4 corners around the mooring site plus one station in the center. Moorings BSST-2, BSP-2 and BS-2 were recovered and redeployed without incident.

Traveling along the 70-meter isobath, we completed 4 CTD casts between mooring site BS-2 and BS-4. Upon arrival at site BS-4 we conducted CTD casts and bongo tows at the 4 corners around the mooring site and completed one pair of events in the center of the box defined by the 4 corners. From site BS-4 we steamed southwest to mooring site BS-3 where another series of 5 CTD casts and bongo tows were completed.

The sampling at mooring site BS-3 completed our work for this cruise. A request was received from AFSC to test out the Miller Freeman trawl system before the next cruise. We were able to allocate about 6 hours to that effort and still make our scheduled arrival time at Dutch Harbor the morning of March 7th.

A few of the smaller instruments were shipped back to Seattle, the bulk of the mooring equipment remained on Miller Freeman to be offloaded upon their arrival in Seattle on April 7th, 2003.

Summary of Cruise:

Days lost to weather – 0

Days lost to equipment failure – 0

Acknowledgments:

As Chief Scientist I would like to thank the officers and crew of the Miller Freeman for a job well done. I would also like to acknowledge the efforts of everyone in the scientific party for their contributions and the success of this cruise.

Attachments:

Table 1: Cruise Summary MF-03-03

DATE	GMT	EVENT	LAT	N	LONG	W	
		Depart Kodiak, AK.					
25-Feb	130	Begin cruise MF03-03	57	43.6 N	152	12.43	
25-Feb	1635	FATE	58	15.58	147	41.68	
25-Feb	1716	Drifter	58	15.63	147	41.01	release drifter #37514
25-Feb	1930	Drifter	58	36.06	148	06.11	release drifter #37510
25-Feb	2137	Drifter	58	55.49	148	30.49	release drifter #37495
25-Feb	2350	Drifter	59	15.89	148	55.63	release drifter #37491
26-Feb	3	GB3M	59	17.46	148	57.43	Attach Argos transmitter to surface mooring
26-Feb	113	CTD 1	59	17.24	148	58.23	CTD at GB3 Tapps/Iron meter Mooring and GB2
26-Feb	150	GB3 GB2	59	17.72	148	57.57	Mooring released
26-Feb	950	GB3	59	17.76	148	56.98	End dragging operations to recover GB3
27-Feb	2201	CTD 2	57	43.17	155	15.61	Begin line 8 CTD series
27-Feb	1346	CTD 3	57	41.10	155	10.37	
27-Feb	1411	CTD 4	57	41.27	155	09.85	

DATE	GMT	EVENT	LAT N	LONG W	
27-Feb	1501	CTD 5	57 38.42	155 04.56	
27-Feb	1544	CTD 6	57 36.18	155 01.05	
27-Feb	1641	CTD 7	57 32.99	154 52.91	
27-Feb	1730	CTD 8	57 31.14	154 46.88	
27-Feb	1815	CTD 9	57 29.13	154 41.48	
					Arrive mooring SSP-3
27-Feb	1849	SSP-3	57 29.17	154 48.03	ranges but would not
27-Feb	2136	SSP-2	57 37.05	155 04.63	release
27-Feb	2352	SSP-2	57 37.13	155 04.49	Mooring released
					Mooring deployed
28-Feb	14	CTD 10	57 36.83	155 05.27	Post deploy CTD at
28-Feb	141	SSP-1	57 41.18	155 12.32	SSP-2
28-Feb	322	SSP-1	57 41.09	155 12.20	Mooring released
					Mooring deployed
28-Feb	355	CTD 11	57 41.21	155 11.69	Post deploy CTD at
1-Mar	1643	CTD 12	55 10.84	161 41.70	SSP-1
					Pavlof Bay mooring
1-Mar	1731	Pavlof Bay	55 10.99	161 41.36	Pavlof Bay mooring
					released
1-Mar	1914	Pavlof Bay	55 10.87	161 41.20	Pavlof Bay mooring
1-Mar	1715	CTD	55 10.59	161 41.87	deployed
					CTD test
1-Mar	1930	CTD 13	55 10.59	151 41.87	Post deploy CTD at
2-Mar	1026	Drifter	54 23.98	165 27.37	Pavlof Bay
3-Mar	508	KC1	56 25.01	160 12.93	drifter #37478 released
3-Mar	540	KC1	56 25.04	160 12.95	Krab mooring released
3-Mar	554	CTD 14	56 25.12	160 13.40	Krab mooring deployed
3-Mar	1642	CTD 15	56 30.0	160 59.86	CTD at KC1
3-Mar	1702	KC2	56 29.99	160 59.85	CTD at KC2
3-Mar	1748	KC2	56 29.90	160 59.93	KC2 released
3-Mar	1753	CTD 16	56 29.63	161 00.19	KC2 deployed
					CTD at KC2
4-Mar	358	CTD 17	56 40.05	163 51.89	Begin box stations at
4-Mar	428	Bongo 1	56 39.61	163 52.56	BS-2
4-Mar	625	CTD 18	56 45.93	164 19.44	
4-Mar	641	Bongo 2	56 46.08	164 19.79	
4-Mar	823	CTD 19	57 00.72	164 12.73	
4-Mar	842	Bongo 3	57 00.93	164 13.29	
4-Mar	1009	CTD 21	56 56.40	163 49.76	
4-Mar	1028	Bongo 4	56 56.52	163 49.99	
4-Mar	1135	CTD 22	56 52.04	164 02.99	
4-Mar	1153	Bongo 5	56 52.07	164 03.48	End box stations at BS-2
4-Mar	1746	BSP-2	56 51.72	164 03.29	Mooring released
4-Mar	1807	BS-2	56 51.91	164 03.01	Mooring released
4-Mar	1850	BSST	56 51.88	164 02.56	Mooring released
				164 02.50	
4-Mar	2056	BSST	56 52.00	Mooring	
				deployed	

4/10/2003

DATE	GMT	EVENT	LAT N	LONG W	
4-Mar	2318	BS-2	56 52.02	164 03.03	Mooring deployed
4-Mar	2359	BSP-2	56 51.77	164 03.29	Mooring deployed
5-Mar	10	CTD 23	56 51.99	164 03.42	Post deploy CTD at site BS-2
5-Mar	348	CTD 24	57 07.04	164 59.74	Begin 70 meter isobath CTD line
5-Mar	727	CTD 25	57 24.77	165 51.69	
5-Mar	1028	CTD 26	57 31.96	166 44.18	
5-Mar	1370	CTD 27	57 38.08	167 37.05	End 70 meter Isobath CTD line
5-Mar	1604	CTD 28	57 46.07	168 28.08	Begin box stations at BS-4
5-Mar	1615	Bongo 6	57 46.15	168 28.32	
5-Mar	1814	CTD 29	58 04.24	168 43.54	
5-Mar	1829	Bongo 7	58 04.02	168 43.88	
5-Mar	2039	CTD 30	57 55.67	169 18.78	
5-Mar	2056	Bongo 8	57 55.64	169 19.61	
5-Mar	2235	CTD 31	57 50.84	168 51.83	
5-Mar	2254	Bongo 9	57 51.10	168 52.65	
6-Mar	20	CTD 32	57 39.14	169 00.88	
6-Mar	42	Bongo 10	57 39.15	169 00.38	End box stations at BS-4
6-Mar	1141	CTD 33	56 12.42	166 30.13	Begin box stations at BS-3
6-Mar	1153	Bongo 11	56 12.50	166 30.15	
6-Mar	1337	CTD 34	56 10.20	166 05.93	
6-Mar	1351	Bongo 12	56 10.17	166 06.12	
6-Mar	1558	CTD 35	55 58.92	166 34.65	
6-Mar	1612	Bongo 13	55 59.15	166 34.51	
6-Mar	1729	CTD 36	56 03.06	166 20.04	
6-Mar	1821	Bongo 14	56 03.16	166 20.07	cast repeated due to poor wire angle
6-Mar	1940	CTD 37	55 55.08	166 09.96	
6-Mar	1955	Bongo 15	55 55.34	166 09.56	End Box stations at BS- 3
7-Mar	930	03 Arrive Dutch Harbor, AK. End Cruise MF03-			

Figure 1: Station Map

