

Cruise Report, Cruise AR-94-03

July 12-16, 1994
NOAA Ship MacArthur

Cruise Objectives

The objective of cruise AR-94-03 was to measure water properties and currents in the region of Amukta Pass of the Aleutian Islands. A better understanding of these currents will help FOCI (the Fisheries Oceanography Coordinated Investigation) to better predict the survival of pollock larvae and young fish.

Personnel

William Parker- Chief Scientist
Sigrid Salo

Activities

The primary goal of the cruise was to deploy three subsurface moorings which will remain in place for roughly a year to measure currents, water temperature, pressure, and salinity. Two of the moorings measured properties at 100m, 200m, 500m, and 750m, while meters at the deepest mooring were at 100m, 200m, 400m, 600m, and 1000m. All three moorings were successfully deployed.

A secondary goal of the cruise was to occupy 20 CTD sites in 4 transects; north of Yunaska Island, north of Atka Island, in the Alaska Stream south of Amlia Island, and in Amukta Pass. One of the stations was cancelled because of problems with the CTD, but all the other CTDs were accomplished.

The final objective of the cruise was to deploy two ARGOS drifting buoys. The buoys are tracked by satellites and their displacement provides another measure of currents. The buoys are towed by drogues which are at a depth of 40m, to minimize the effect of transitory wind-driven currents. Both of the buoys were successfully released southeast of Amukta Pass. One was deployed at a site where the water depth was 1000m, the other was set out where the water was 400m deep.

List of Mooring Deployments

Mooring	Time(GMT)	Latitude	Longitude	Depth
F94B01	12 July 2132	53 08.434N	170 17.619W	803m
F94B02	14 July 1955	52 26.568N	174 06.835W	1030m
F94B03	15 July 0632	51 52.35 N	173 31.05 W	1180m

* The time listed is the time the anchor was deployed.
The mooring was actually in place 3-5 minutes later.

List of CTD Stations Occupied

Cast No.	Time(GMT)	Latitude	Longitude	Depth
1	13 July 0927	53 32.9N	170 30.9W	2800m
2	13 July 1238	53 24.1N	170 32.5W	2100m
3	13 July 1504	53 12.9N	170 24.2W	1550m
4	13 July 1636	53 07.5N	170 19.0W	975m
5	13 July 1738	53 03.1N	170 14.9W	206m
6	14 July 1000	52 57.9N	174 04.9W	3360m
7	14 July 1206	52 45.9N	174 05.0W	2970m
8	14 July 1423	52 33.1N	174 05.1W	2050m
9	14 July 1602	52 28.1N	174 06.0W	1320m
10	14 July 1716	52 25.0N	174 06.0W	600m
11	15 July 0757	51 54.0N	173 31.0W	150m
12	15 July 0858	51 51.1N	173 32.2W	1080m
13	15 July 1022	51 49.0N	173 33.0W	1560m
14	15 July 1336	51 45.2N	173 32.6W	2850m
15	15 July 1529	51 40.0N	173 31.5W	3450m
17**	15 July 2315	52 22.0N	172 08.9W	398m
18	16 July 0023	52 21.2N	171 50.2W	325m
19	16 July 0144	52 24.3N	171 44.0W	338m
20	16 July 0256	52 26.0N	171 32.1W	510m

Casts in water shallower than 1500m were stopped approximately 20m above the bottom. In deeper water, the casts were limited to the upper 1500m.

* Times listed are the times the CTD was at depth.

** Cast 16 was omitted.

List of ARGOS Buoy Deployments

Buoy	Time(GMT)	Latitude	Longitude	Depth
7237	16 July 0745	52 15.7N	170 19.2W	1005m
7227	16 July 0841	52 26.8N	170 24.1W	402m

Completion of the projected FOCI operations was the result of the dedication and perseverance from the officers and deck force aboard the NOAA Ship McArthur in accomplishing new tasks for this crew and vessel.