

FINAL CRUISE INSTRUCTIONS

FOCI

NOAA Ship *MILLER FREEMAN*, Cruise MF-04-05 Leg 2

May 17, 2004, Through May 21, 2004

Chief Scientist – William J. Floering, NOAA/PMEL

1.0 FINAL CRUISE INSTRUCTIONS

1.1 **Cruise Title** – Fisheries-Oceanography Coordinated Investigations (FOCI).

1.2 **Cruise Numbers:**

1.2.1 **Cruise Number** – MF-04-05 Leg 2

1.2.2 **FOCI Number** – 3MF04

1.3 **Cruise Dates:**

1.3.1 **Departure** – Depart Monday, May 17, 2004, from Ketchikan, Alaska.

1.3.2 **Arrival** – Arrive Friday, May 21, 2004, in Kodiak, Alaska.

1.4 **Operating Area** – Gulf of Alaska, Shelikof Strait.

2.0 CRUISE OVERVIEW

2.1 **Cruise Objectives**

- To sample a sustained eddy south of Kodiak Island.
- To recover and deploy mooring at site SSP-2 in Shelikof Strait.

2.2 **Applicability** – These instructions, with **FOCI Standard Operating Instructions for NOAA Ship MILLER FREEMAN**, dated April 8, 2002, present complete information for this cruise.

2.3 **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

2.4 Personnel

2.4.1 Chief Scientist

Name	Gender	Affiliation	E-mail Address
William J. Floering (206) 526-6480	Male	PMEL	William.Floering@noaa.gov

2.4.2 Participating Scientists – None

2.5 Administration

2.5.1 Ship Operations

Marine Operations Center, Pacific
1801 Fairview Avenue East, Seattle, Washington 98102-3767
Telephone: (206) 553-4548
Fax: (206) 553-1109

Commander Michele G. Bullock, NOAA
Chief, Operations Division, Pacific (MOP1)
Telephone: (206) 553-8705
Cellular: (206) 390-7527
E-mail: Michele.Bullock@noaa.gov

Larry Mordock
Deputy Chief, Operations Division (MOP1x1)
Telephone – Work: (206) 553-4764
Home: (206) 365-3567
Cellular: (206) 465-9316
E-mail: Larry.Mordock@noaa.gov

2.5.2 Scientific Operations

Dr. Phyllis J. Stabeno, PMEL
Telephone: (206) 526-6453
E-mail: Phyllis.Stabeno@noaa.gov

3.0 OPERATIONS

3.1 Data To Be Collected – A fully functional and calibrated Thermosalinograph (TSG) system will be necessary for surface water sampling in the area of the eddy. Conductivity, Temperature, and Depth (CTD) profiler casts will be completed in the eddy and at the mooring site. Two ARGOS satellite tracked drifters will be deployed near the center of the eddy (center to be determined by satellite imagery). Mooring 03SSP-2B will be recovered by conventional means or by dragging and mooring 04SSP-2A will be deployed.

- 3.1.1 Scientific Computer System (SCS)** – The ship's SCS shall operate throughout the cruise, acquiring and logging data from navigation, meteorological, oceanographic, and fisheries sensors. See *FOCI Standard Operating Instructions for NOAA Ship MILLER FREEMAN* (SOI 5.2) for specific requirements.
- 3.2 Staging Plan** – One acoustic release, a 30-inch metal float, and two ARGOS satellite tracked drifters will be shipped to Ketchikan, Alaska, prior to the start of this cruise.
- 3.3 De-staging Plan** – Upon completion of the cruise, all PMEL mooring equipment, and associated instrumentation will be offloaded in Kodiak, Alaska, and shipped to Seattle, Washington.
- 3.4 Cruise Plan** – NOAA Ship *MILLER FREEMAN* will depart Ketchikan, Alaska, and steam toward the location provided for the eddy south of Kodiak Island. As we approach the center of the eddy, a CTD cast to 1,500 meters will be completed 24 nautical miles from the center of the eddy. As we approach the center, a second CTD will be completed 12 nautical miles from the eddy center. CTD cast number 3 will be at the eddy center. Two drifters will be released near the center of the eddy. CTD 4 is 12 nautical miles past the center and CTD 5 will be completed 24 nautical miles beyond the center of the eddy. The direction we traverse the eddy is not critical.
- Following the work at the eddy, we will steam to mooring site 03SSP-2B in Shelikof Strait. We will once again attempt to release this mooring by conventional means. If unsuccessful we will complete wire dragging operation to recover this mooring. Following the recovery, a new 04SSP-2A mooring will be deployed followed by a CTD cast. The return to Kodiak, Alaska, will complete this cruise.
- 3.5 Station Locations** – Currently the center of the eddy is 55° 00.0' N, 151° 30.0' W. Mooring 03SSP-2B is located at 57° 37.12' N., 155° 04.49' W.
- 3.6 Station Operations** – The following are operations to be conducted on this cruise. The procedures for these operations are listed in the *FOCI Standard Operating Instructions for NOAA Ship MILLER FREEMAN* (SOI).
- CTD/Water Sample Operations (SOI 3.2), and
 - ARGOS Satellite Tracked Drifter Buoy Deployments (SOI 3.2.11).
- 3.7 Underway Operations** – The following are underway operations to be conducted on this cruise. The procedures for these operations are listed in the *FOCI Standard Operating Instructions for NOAA Ship MILLER FREEMAN* (SOI).
- Radiometer Operations (SOI 3.2.14),
 - Scientific Computer System (SCS) data acquisition , and
 - Thermosalinograph monitoring (SOI 5.3).
- 3.8 Applicable Restrictions** – None.
- 3.9 Small Boat Operations** – None.

4.0 FACILITIES

4.1 Equipment and Capabilities Provided by Ship

- Oceanographic winch with slip rings and 3-conductor cable terminated for CTD,
- Sea-Bird Electronics' SBE 911*plus* CTD system with stand, each CTD system should include underwater CTD, weights, and pinger. There should be one deck unit and tape recorder for the two systems,
- 10-liter Niskin sampling bottles for use with rosette (10 plus 4 spares),
- Conductivity and temperature sensor package to provide dual sensors on the CTD (primary),
- AUTOSAL salinometer, for CTD field corrections,
- Wire speed indicators and readout for quarterdeck, Rowe, and Marco winches,
- For meteorological observations: 2 anemometers (one R. M. Young system interfaced to the SCS), calibrated air thermometer (wet-and dry-bulb) and a calibrated barometer and/or barograph,
- Freezer space for storage of biological and chemical samples (blast and storage freezers, indicate desired temperatures),
- SIMRAD EQ-50 echosounder,
- JRC JFV-200R color sounder recorder,
- Bench space in DataPlot for PCs, monitor, printer and VCR to fly MOCNESS,
- Use of Pentium PC in DataPlot for data analysis,
- Scientific Computer System (SCS),
- Electrical connection between Rowe winch and DataPlot,
- Removable stern platform in place,
- Laboratory space with exhaust hood, sink, lab tables and storage space,
- Adequate deck lighting for night-time operations,
- Navigational equipment including GPS and radar,
- Safety harnesses for working on quarterdeck and fantail, and
- Ship's crane(s) used for loading and/or deploying.

4.2 Equipment and Capabilities Provided by Scientists

- Sea-Bird Electronics' SBE 911*plus* CTD system,
- PMEL PC with SEASOFT software for CTD data collection and processing,
- Fluorometer and light meter to be mounted on CTD,
- CTD stand modified for attachment of fluorometer,
- Conductivity and temperature sensor package to provide dual sensors on the CTD (backup),
- CTD rosette sampler,
- IAPSO standard water
- Subsurface mooring
- ARGOS tracked drifter buoys with optical sensors,
- Miscellaneous scientific sampling and processing equipment, and
- Scientific ultra-cold freezer.

5.0 DISPOSITION OF DATA AND REPORTS

5.1 The following data products will be included in the cruise data package:

- NOAA Form 77-13d - Deck Log - Weather Observation Sheets,
- Electronic Marine Operations Abstracts,
- SCS backup – recordable compact diskette (CD-RW),
- Calibration Sheets for all ship's instruments used,
- CTD Cast Information/Rosette Log,
- Autosalinometer Log, and
- Ultra-cold Freezer Temperature Daily Log (SOI 5.4).

5.2 Pre- and Post-cruise Meetings – Cruise meetings may be held in accordance with FOCI Standard Operating Instructions for NOAA Ship MILLER FREEMAN (SOI 5.5).

6.0 ADDITIONAL PROJECTS

6.1 Definition – Ancillary and piggyback projects are secondary to the objectives of the cruise and should be treated as additional investigations. The difference between the two types of secondary projects is that an ancillary project does not have representation aboard and is accomplished by the ship's force.

6.2 Piggyback Projects – Any ancillary work done during this project will be accomplished with the concurrence of the Chief Scientist and on a not-to-interfere basis with the programs described in these instructions and in accordance with the NOAA Fleet Standing Ancillary Instructions.

6.3 Piggyback Projects – None.

7.0 HAZARDOUS MATERIALS

7.1 Inventory – Lithium battery pack enclosed within the MicroCAT pressure case.

7.2 Material Safety Data Sheet (MSDS) – All MSDSs can be found on the OERD HAZMAT Emergency Guidelines – MSDS compact diskette supplied to the ship.

8.0 MISCELLANEOUS

8.1 Communications – Specific information on how to contact the NOAA Ship MILLER FREEMAN and all other fleet vessels can be found at:

<http://www.pmc.noaa.gov/phone.htm>

8.2 Important Telephone and Facsimile Numbers and E-mail Addresses

8.2.1 Pacific Marine Environmental Laboratory (PMEL):

FOCI – Ocean Environmental Research Division (OERD2):

- (206) 526-4700 (voice)
- (206) 526-6485 (fax)

Administration:

- (206) 526-6810 (voice)
- (206) 526-6815 (fax)

E-Mail: FirstName.LastName@noaa.gov

8.2.2 NOAA Ship *MILLER FREEMAN* – Telephone methods listed in order of increasing expense:

Homeport – Seattle, Washington:

- (206) 553-4589
- (206) 553-4581
- (206) 553-8344

United States Coast Guard – Kodiak, Alaska

- (907) 487-9752
- (907) 487-9753
- (907) 487-4397
- (907) 487-4398

Cellular:

- (206) 660-7167

INMARSAT Mini-M

- 011-872-761-267-346 (voice/PBX)
- 011-872-761-267-347 (voice)
- 011-872-761-267-348 (fax)

INMARSAT B

- 011-872-330-394-120 (voice)
- 011-872-330-394-121 (fax)

E-Mail: NOAA.Ship.Miller.Freeman@noaa.gov (mention the person's name in SUBJECT field)

8.2.3 Marine Operations Center, Pacific (MOP):

Operations Division (MOP1)

- (206) 553-4548 (voice)
- (206) 553-1109 (facsimile)

E-Mail: `FirstName.LastName@noaa.gov`

E-Mail to Radio Room: Radio.Room@noaa.gov

9.0 APPENDICES

- 9.1 Equipment Inventory** – Currently on board **NOAA Ship *MILLER FREEMAN*** are two 1,600-pound anchors, one 30-inch metal float, one 75-kHz ADCP, wire, shackles, and associated hardware to deploy 04SSP-2A. Also on board are the drag hooks and chain. Two ARGOS tracked drifters, one 30-inch metal float, and one acoustic release will be shipped to Ketchikan, Alaska.