

CMOP Cruise Report – 27 - 30 September 2011 – on RV Wecoma (W1109D)
(submitted October 3, 2011 by Murray Levine)
(CMOP-Cruise-Report-Sep-2011-v3.doc)

Science Personnel:

Murray Levine (OSU) Chief Scientist,
Michael Wilkin(OHSU), Katie Rathmell(OHSU), Suzanne de Lorenzo (OHSU), David Langner (OSU), Jesse Lopez (OHSU), Brad Weir (OSU), Rachel Golda (OHSU), Michael Garcia (OHSU)

List of tasks accomplished:

Hooked up ISUS to CTD
CTDs along NH line at 10, 15, 20, 25, 35, 45 nautical miles
Deployed refurbished buoy at SATURN-02; CTD on station
Recovered buoy at SATURN-02
Recovered glider Phoebe about 40 nm north of CR line
CTDs along CR line at 4, 7, 10, 15, 20, 25, 30, 35, 40 nautical miles
Deployed NH-10 mooring (Sitka); recovered NH-10 mooring (Alder)
Calibration of some microcats on CTD casts at NH-35 and NH-45

Daily Log

All times are given in local PDT unless otherwise noted.

26 Sept – Loading Day

Langner and Craig Risien (OSU) arrive in morning to oversee loading of NH-10 buoy (Sitka) and mooring hardware; attached sensors to mooring wire.
1300 Wilkin and Rathmell arrive with SATURN-02 and OGI-01 moorings.
Burke Hales and Dale Hubbard (OSU) attach two SAMI instruments and a Seacat on the bridle of Sitka.
1445 Meeting on the bridge with Captain Jeff, Levine, Wilkin, Rathmell, Langner, O’Gorman, and a few others. Discuss the cruise plan. Bad weather, specifically 20 ft wave predications are a concern. Captain would prefer to leave at 1000 as planned and see how conditions really are; Levine is less optimistic and is leaning toward delaying departure until the swell has begun to decrease. Jeff will look at bar when coming to the Wecoma at 0800 in the morning and make decision then.
Dinner for some at Nye beach pizza place.
OHSU CTD team arrives and sets up filtering equipment.
ISUS calibrated by running program with sensor in de-ionized water in paper cup—
ISUS172G.cal file created

27 Sept – Tuesday

0700 wave height rising, now at 15 ft according to NDBC buoy 46050. Forecast from 0230 says swell building to 21 ft!

0830 Meet with Jeff on bridge and discuss weather. He still thinks we could go! After discussion with science party, Levine decided to delay departure until next flood tide around 1800 PT.

We will therefore skip the NH-10 deploy/recovery for now. Hope is to do the NH CTD line after leaving Newport and continue on with the schedule as given in the cruise report.

1000 Safety lecture and drill in main lab. New policy is for all personnel to practice putting on survival suits (at least once a year).

Jeff leaves ship and will return at 1700.

O’Gorman holds CTD training session with OHSU folks who have no experience.

Leave dock at 1750. Exciting bar crossing! One giant wave after leaving the jetty was reported to be between 20-30 ft according to those on the bridge.

The expert CTD team led by Suzanne DeLorenzo worked after dinner starting at NH-3. They did casts at NH-10, NH-15, NH-20, NH-25 (see table below). Last cast ended just before midnight.

28 September -- Wednesday

We transited to the OGI-01 site. We were in the trough much of the time while traveling northward. For some, this interrupted sleep much of the night.

We were at OGI-01 by 0700 PT. After breakfast the final components of the mooring were assembled. The buoy was deployed by rolling it over the starboard side. Finished by 0830 PT. Anchor released at:

Day 271, 1520:15 UTC, water depth 100m, 46 deg 02.12’ N, 124 deg 14.62’ W

Since glider Phoebe is about 60 nmiles north, we decided to make a run to retrieve it. Anticipate recovery using the ship’s RHIB (rigid hull inflatable boat) which must be done in daylight with favorable seas.

Arrived at glider about 1330 PT. Since weather and seas had turned most favorable, retrieval was attempted by leaning over and grabbing it. There were many people with poles and nets of various configurations to help coax the glider into Michael Wilkin’s waiting arms—well done.

1415 PT headed south to SATURN-02 site and arrived near sundown. First the new SATURN-02 was deployed at the correct site (as shown on nautical charts)—the buoy was rolled over the starboard side with an impressive splash. Anchor released at:

Day 272 0243:35 UTC, water depth 41 m, 46 deg 10.40’ N, 124 deg 07.65’ W

Then a CTD cast was done for later comparison with the existing mooring. Next we recovered the old SATURN-02 mooring by hooking it, lifting it with the ship’s crane and dragging it over the starboard side. It was draped across the deck and the buoy secured using straps. The wire below the buoy was then separated from buoy by transferring the load of the mooring line to the capstan. The trawl wire was wrapped around the ship through the A-frame; the mooring wire was

released leaving the mooring wire trailing behind the ship. Then the trawl winch was used to spool up the wire and chain and finally the anchor.

The CTD team then conducted night ops with CTD casts along the CR line. They profiled from CR-7 to CR-40, until morning, ending at about 0700 PT.

29 September – Thursday

We transited from CR-40 and arrived at NH-10 about 1645 PT. We first deployed the refurbished NH-10 mooring with the buoy known as Sitka. Anchor released at:

Day 273, 0023:50 UTC, water depth 82 m, 44 deg 38.29' N, 124 deg 18.19' W

The weather was spectacular. Glassy calm. No wind. No swell. Warm with plenty of Sun. The contrast from a few days ago was remarkable. Mooring operations are so much safer and forgiving than if there had been serious waves. After dinner at 1800 we recovered the existing mooring with the buoy known as Alder. The recovery method was similar to that used on SATURN-02. All instruments came back.

To finish the cruise we are headed out to NH-35 and NH-45 for CTDs. Some microcats from the NH-10 mooring were attached to the CTD for intercomparison purposes.

30 September -- Friday

After NH-45 headed back to Newport and docked by 0800 PT. It is hard to believe the cruise was only three days long! Unloading the ship went quickly as fuel trucks were invading the dock at 1000 – a surprise to us.

CTD Summary

All times here are UTC. The alignment of the ISUS files with the CTD casts is based on looking at the times in the cast*.hex and DIVE*.dat files.

| Date | Day | Cast # * | Station | Time | Bottles | ISUS files**** |
|---------|-----|----------|-----------|------|------------|----------------|
| 9/28/11 | 271 | 01 | NH-03 | 0203 | 2.6, 40 | DIVE160.dat |
| 9/28/11 | 271 | 02 | NH-10 | 0325 | 2.6, 74 | DIVE161.dat |
| 9/28/11 | 271 | 03 | NH-15 | 0408 | | DIVE162.dat |
| 9/28/11 | 271 | 04 | NH-20 | 0512 | | DIVE163.dat |
| 9/28/11 | 271 | 05 | NH-25 | 0608 | 2, 280 | DIVE164.dat |
| 9/28/11 | 271 | *** | | 1722 | | DIVE165.dat |
| 9/29/11 | 272 | 06 | Saturn-02 | 0253 | 1.8 | DIVE166.dat |
| 9/29/11 | 272 | 07 | CR-4 | 0501 | 1.6 | DIVE167.dat |
| 9/29/11 | 272 | 08 | CR-7 | 0541 | 1, 12 | DIVE168.dat |
| 9/29/11 | 272 | 09 | CR-7 | 0616 | 2, 10, 45 | DIVE169.dat |
| 9/29/11 | 272 | 10 | CR-10 | 0714 | 2 | |
| 9/29/11 | 272 | 11 | CR-15 | 0803 | | DIVE170.dat |
| 9/29/11 | 272 | 12 | CR-20 | 0857 | 1, 16, 126 | DIVE171.dat |
| 9/29/11 | 272 | ** | | 0928 | | DIVE172.dat |
| 9/29/11 | 272 | 13 | CR-25 | 1017 | 143 | DIVE173.dat |
| 9/29/11 | 272 | 14 | CR-30 | 1058 | | DIVE174.dat |
| 9/29/11 | 272 | 15 | CR-35 | 1220 | 2, 20, 498 | DIVE175.dat |
| 9/29/11 | 272 | 16 | CR-40 | 1329 | | DIVE176.dat |
| 9/30/11 | 273 | 17 | NH-35 | 0515 | 1, 18, 425 | DIVE177.dat |
| 9/30/11 | 273 | 18 | NH-45 | 0652 | 1, 20, 680 | DIVE178.dat |

* = cast number xx is the same number embedded in the filename castxx.hex, etc.

** = no CTD data file found; however there is an ISUS file DIVE172.dat. So, maybe CTD file was overwritten?

*** = no CTD data file or log sheet, so no cast. Not sure why there is an ISUS file

**** = calibration file: ISUS172G.CAL; created on board Wecoma before the cruise using de-ionized water