

## Cruise Report 6-10<sup>th</sup> July 2009

**Cruise Personnel:** Tom Rippeth (PSO), Yueng-Djern Lenn, Ben Lincoln, Chris Old, Ben Powell, Louiza Norman, Charlotte Williams, Peter Hughes, Paul O'Connor (Irish Marine), Clare Davis (Liverpool University).

### **Cruise Objectives:**

- 1) 50 hour time series of microstructure measurements using the VMP profiler next to mooring site in the seasonally stratified part of the Western Irish Sea.
- 2) CTD profiles and water samples for chemical analysis.
- 3) Retrieval of ADCP and thermistor moorings
- 4) Download of moored instrument data and instrument servicing
- 5) Redeployment of ADCP and thermistor moorings

### **Report:**

Fine weather allowed operations to run to plan with no problems during retrieval and deployment of moorings.

Two issues with the mooring instruments caused loss of data:

- 1) 300KHz ADCP lost compass calibration causing the instrument to stop recording after 9 days.
- 2) Met buoy weather station problems caused loss of all meteorological data over entire moored period. This problem could not be solved during the mooring turnaround so met data is still not being collected.

Two issues relating to chemical water samples being taken from the CTD:

- 1) The Scientific fridge was being used for food storage, with samples knocked over and potentially destroyed by the cook.
- 2) Food waste was being disposed of over the side of the ship, potentially leading to contamination of samples.

The ADCP from the ship recorded data that was sensitive to the movement of the ship, so despite removing the bottom track much of the velocity data during the 50 hour station was unreliable.

### **Timetable**

#### **Monday 6<sup>th</sup> July 2009**

09.00 GMT            Loading and testing of equipment/instruments in Menai Bridge.

#### **Tuesday 7<sup>th</sup> July 2009**

06:00	Depart Menai Bridge		
14:00	Arrive at planned mooring site	53° 46.805 N	005° 37.804 W
14:02	CTD cast #1 – fired 12 bottles		
		53° 46.805 N	005° 37.804 W
14:35 - 16:30	17 VMP casts	53° 46.203' N	005° 37.322' W
16:33	CTD cast #2– fired 0 bottles		

		53° 46.301 N	005° 38.365 W
17:04-18:50	13 VMP casts	53° 46.204 N	005° 37.950 W
18:45	CTD cast #3– fired	0 bottles	
		53° 46.314 N	005° 37.670 W
18:57-20:30	13 VMP casts	53° 46.887 N	005° 37.457 W
20:36	CTD cast #4– fired	0 bottles	
21:15 – 00:10	19 VMP casts	53° 46.665 N	005° 37.323 W

### Wednesday 8<sup>th</sup> July 2009

00:57	CTD cast #6	no bottles fired	
		53° 46.210 N	005° 36.344' W
01:20 – 02:30	10 VMP casts	53° 46.210 N	005° 36.344 W
02:37	CTD cast #7	no bottles fired	
		53° 45.824 N	005° 37.291' W
02:55 – 04:20	12 VMP casts	53° 46.763 N	005° 37.863 W
04:30	CTD cast #8	53° 45.824 N	005° 37.291' W
04:45	CTD cast #9	53° 45.824 N	005° 37.291' W
05:06 – 06:20	11 VMP casts	53° 45.824 N	005° 37.291' W
07:03	CTD cast #10	53° 45.664 N	005° 37.387 W
07:18 – 08:25	10 VMP casts	53° 47.106 N	005° 37.418 W
08:34	CTD cast #11	53° 47.445 N	005° 37.774 W
08:48 – 11:00	16 VMP casts	53° 47.106 N	005° 37.418 W
11:03	CTD cast #12	53° 48.480 N	005° 39.246 W
11:20 – 12:25	9 VMP casts	53° 48.480 N	005° 39.246 W
12:28	CTD cast #13	53° 45.800 N	005° 37.487 W
13:55 – 15:20	13 VMP casts	53° 46.046 N	005° 38.753 W
15:27	CTD cast #14	53° 46.036 N	005° 38.917 W
15:41 – 16:50	10 VMP casts	53° 45.792 N	005° 38.905 W
17:00	CTD cast #15	53° 46.309 N	005° 38.905 W
17:20 - 19:00	18 VMP casts	53° 47.725 N	005° 39.175 W
19:04	CTD cast #16	53° 47.143 N	005° 38.739 W
19:18 - 20:50	13 VMP casts	53° 47.143 N	005° 38.739 W
21:04	CTD cast #17	53° 48.219 N	005° 39.290 W
21:40 – 23:00	13 VMP casts	53° 47.256 N	005° 37.954 W

### Thursday 9<sup>th</sup> July 2009

00:33 – 01:30	10 VMP casts		
01:45	CTD cast #19		
02:03 – 3:40	14 VMP casts		
03:41	CTD cast #20	53° 45.554 N	005° 39.066 W
04:01 – 05:00	10 VMP casts	53° 45.115 N	005° 35.167 W
05:08	CTD cast #21	53° 45.398 N	005° 39.420 W
05:25 – 06:30	10 VMP casts	53° 45.398 N	005° 39.420 W
07:05	CTD cast #22	53° 46.294 N	005° 39.017 W
07:20 – 09:00	13 VMP casts	53° 46.294 N	005° 39.017 W
09:02 – 09:55	9 VMP casts	53° 47.603N	005° 38.880 W
10:01	CTD cast #23	53° 47.600 N	005° 39.426 W

10:17 – 12:00	16 VMP casts	53° 47.757 N	005° 40.183 W
12:10	CTD cast #24	53° 48.496 N	005° 40.941 W
13:01 - 13:50	7 VMP casts	53° 47.132 N	005° 36.987 W
14:00	CTD cast #25	53° 47.132 N	005° 36.987 W

#### MOORING RECOVERY

14:25	L shaped mooring, toriod buoy recovered
14:36	300kHz ADCP recovered
14:53	U shaped mooring, toroid buoy recovered
15:02	Thermistors recovered
15:08	600kHz ADCP on surface
15:12	Both moorings recovered – steam to Holyhead
15:15 – 18:00	Instrument calibration and data download

Arrive in Holyhead harbour

#### Friday 10<sup>th</sup> July 2009

am	Steam to mooring site
15:28	Release subsurface ADCP & thermistor chain as single mooring Position 53° 46.857 N 005° 37.999 W
15:51	Release 300 kHz (bed) ADCP mooring Position 53° 46.815 N 005° 37.411 W
16:03	CTD Calibration cast 53° 46.719 N 005° 37.518 W
16:15	Depart for Troon