Acoustic Recording Package cruise report JR 184

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RRS James Clark Ross, November 2007

General overview:

During JR184 three stand alone ARPs were recovered, no unit was redeployed and 3 units refurbished. The units will be redeployed during JR 185.

On arrival at FIPASS the despatched Cornell University cargo was available in Stanley office but it was not labelled properly. The concrete blocks where not organised and we had to get them delivered to the ship. An old net was provided to wrap 4 concrete blocks and 6 m of rope where attached.

Refurbishment:

A total of 4 units were refurbished during JR184:

1) Popup 75
Dataset retrieved. Unit refurbished. HDD removed #353. New HDD#620.

2) Popup 73
Dataset retrieved. Sea water ingress. Electronics unusable. Glass sphere damaged. 9-way chassis mount connector removed. HDD removed #375.

3) Popup 26
Dataset retrieved but data found to be bad. Batteries dead. Serious corrosion on 9-pin chassis connector and extension; replaced with same off unit 73. Unit refurbished. HDD removed #205. New HDD #623.

4) Popup 80
Dataset retrieved. Mud on popup indicated likely positioning in sediment. Unit refurbished. HDD removed #197. New HDD#621.

Report on the unit on the big moorings:

The unit came afloat accidentally afloat with the rest of the mooring and showed some signs of being hocked by a fishing hook and/or some rough handling. Nevertheless the unit worked and we were able to refurbish it. But the hard hat was so badly damaged, that another hard hat was used to modify it to a stand alone unit.

Report on the three stand alone units:

The recovery of the three stand alone units went very well. Earlier concerns regarding their visibility in the water can be withdrawn. The yellow hard hat and the orange buoy are visible even in marginal condition. The second Shag Rock mooring was placed on a slope so in the first instance we could not establish communication but moving the ship to the other side of the slop made communication with the mooring possible. Thereafter the mooring was released and recovered strait away. The WCB mooring seems to been buried in mud, as communication was not very good in the first instance and the unit came back still covered in mud. Therefore the rope length of all units was increased by aprox. 10 m.
After the three stand alone units went through full refurbishment this time the hard hats, ropes and acoustic releases where reused. All the equipment seemed to be in good conditions. No corrosion to the metal parts or damage to the ropes was visible. Only the batteries in the acoustic releases where changed and new dropping parts with new shackles where put in place. Because of the reuse of the hard hats, the number on the hard hats differs from the actual no of the glass sphere units.

Appendix:

Whale pop-up information of recovered stand alone units:

	Recovered	Sonardyne	
Pop-up ID	Date	Release code	HDD serial no.
26	01/11/2007	003.1	205
73	01/11/2007	001.1	375
80	10/11/2007	002.1	197

For Sophie / Dave to fill in:

Whale pop-up information of all deployed units:

	Deployment				Sonardyne	
Pop-up ID	Date	Time	Latitude	Longitude	Release code	HDD no.

Setup of the PopUp units:

Pop Up 26 (in hard hat 80) – stand alone unit

Sample rate:

Qualified DSM drive ID
Drive has been used since last prefill.
HDD model number:
HDD serial number:
Firmware revision:
Total user-addressable sectors:
Next recording begins at sector
Remaining recording

Start time:

Stand alone Sonardyne release:

Release: 240 841 – 001
Batteries: 16 V
Release code: 003.1

Pop Up 75 (in hard hat 73) - stand alone unit

Stand alone Sonardyne release:

Release: 240 841 – 005
Batteries: 15.99
Release code: 002.1

Pop Up 80 (in hard hat 75) – stand alone unit

Stand alone Sonardyne release:

Release: 240 841 – 002
Batteries: 16 V
Release code: 001.1

Mooring cruise report *JR 184*

Peter Enderlein & Tanja Pangerc

Background, Aims and Methodology:

The background, aims and methodology of the mooring project is described in detail in the JR 82 cruise report

Recovery and redeployment during JR 184:

Having probably been pulled up by a long liner, the mooring was found floating by the fisheries patrol vessel Pharos and stored at FIPAS, Stanley. Upon collection the mooring was inspected for damage and all instruments seemed to be in good condition. Close inspection showed the CTD had worked fine, however, the ADCP unfortunately hadn't due to a corroded connector. Before redeployment this connector was replaced together with batteries and all the hardware bits (shackels, ropes, cyclinks, chain) and CTD data was uploaded. Shallow water mooring was then successfully redeployed **at 11:12:00 11/11/2007 @-53.80065S and-37.93695 W.**

The deployment took place as described in the second deployment report in JR96, with the changes described in the JR100 mooring cruise report: To control the release of the weights, they were lowered over the stern with the starboard Effer crane on a strop and a sacrificial rope attached to the weights was threaded through two deck eyes. The weights were then lowered down until the sacrificial rope took up the weight. Then the strop was taken of. At the release point the rope was cut on top of a piece of wood between the eyebolts using a knife.

Data verification:

The CTD has worked fine all the time, the ADCP stopped working very shortly after the deployment, due to a corroded connector.

Work carried out:

CTD 2463:

- Data download
- Main O-Ring replaced
- Batteries replaced in 2463

ADCP 2967:

- Data download
- Connector replaced
- Batteries replaced in 2967

NOVATEC beacons R09-21

- Batteries replaced in R09-21

ARGOS beacons 35520

- Batteries replaced in 35520

Releases 217 & 218

- Batteries in releases 217 and 218 replaced

New Instrument settings (general):

CTD

start time: 12.11.2007
sample interval: 480 sec.

ADCP

Start time: 12.11.2007
Duration: 360 days
Sample interval: 8 min
Pings in interval: 10

Appendix

mooring eventlog:

11:12:00 11/11/2007 -53.80065 -37.93695 Weight released. Mooring deployed.
11:01:00 11/11/2007 -53.79943 -37.93573 Acoustic release deployed.
10:59:00 11/11/2007 -53.79929 -37.93559 Floats deployed.
10:56:00 11/11/2007 -53.79910 -37.93539 Buoy released.
10:53:00 11/11/2007 -53.79899 -37.93529 Commence deployment.

JR184 Western Core Box Acoustic Report

Peter Enderlein & Tanja Pangerc

November 2007

General introduction:

The Western Core Box (WCB) survey was conducted between 7th and 10th of November 2007. The acoustic survey was run from west to east starting at the northern end of Transect 1.1 at 08.11 GMT. Detailed operating instructions of the ships echo sounder (EK60) can be found in the WCB survey protocol, current version 2.0 from December 2006. The EK60 was run continuously throughout the cruise with a 2 second ping rate and data logging was continuous. The weather this time was exceptional good, with calm seas throughout the survey.

EK60 settings and operation:

The echosounder pc AP10 and the EK60 workstation 2 are integrated into the ship's LAN. ER60 .raw data files were logged to a Sun workstation jrua, using a Samba connection, which is backed up at regular intervals. Echolog was run on workstation 2 and wrote compressed files also directly to the Sun workstation via a Samba connection. All the settings used are the settings outlined in the WCB survey protocol Version 2.0 from December 2006.

Data processing

The data were not post-processed during the cruise.

EK60 (ER60) settings

Variable	38 kHz	120 kHz	200 kHz
Ping interval (per sec)	2	2	2
Salinity (PSU)	34	34	34
Temperature (°C)	1	1	1
Sound velocity (m/s)	1453	1453	1453
Mode	Active	Active	Active
Transducer type	ES38	ES120-7	ES200-7
Transceiver Serial no.	009072033fa5	00907203422d	009072033f91
Transducer depth (m)	0	0	0
Pulse length (ms)	1.024	1.024	1.024
Max Power (W)	2000	500	300

CTD operations

During each night two CTD cast where conducted covered by the AME engineer on board.

XBT operation:

XBT's where deployed as scheduled and because of the good weather we had only one failure, probably due to interested birds getting caught in the thin wire.

Calibration:

No calibration experiments were conducted on the cruise.

Problems:

The ships Doppler log is back working again and caused regular interference when on the shelf. During the 4th day on transect 4.1 and 4.2 the Doppler log was switched off reducing the amount of interference dramatically.

Event logs:

WCB acoustic survey log

17:27:05 10/11/2007 -53.86305 -37.59137 end of WCB transect W 4.2 south
13:06:16 10/11/2007 -53.14966 -37.83269 start of WCB transect W 4.2 north
12:21:40 10/11/2007 -53.15982 -37.96569 end of WCB transect W4.1 north
07:00:39 10/11/2007 -53.79961 -37.85851 start of WCB transect W 4.1 south an other day of calm seas, doppler log off, no interference on 120 kHz
17:57:13 09/11/2007 -53.18542 -38.14025 end of WCB transect W 3.2 north
13:39:08 09/11/2007 -53.89183 -37.90655 start of WCB transect W 3.2 south
12:21:08 09/11/2007 -53.92718 -38.21998 End of WCB transect W 3.1 south
12:11:41 09/11/2007 -53.90209 -38.22795 lots of small targets, in general interference on 120 on the shelf
07:59:50 09/11/2007 -53.22060 -38.44909 Start of WCB transect W3.1 north 3rd day of very calm seas
17:51:42 08/11/2007 -53.96168 -38.52661 end of WCB transect W2.2 south
13:33:29 08/11/2007 -53.25487 -38.75083 start of WCB transect W2.2 north
12:18:40 08/11/2007 -53.28596 -39.03862 End of WCB transect W 2.1 north
09:50:52 08/11/2007 -53.68892 -38.91389 coming of the shelf break, lots of targets
07:59:19 08/11/2007 -53.99339 -38.81916 Start of WCB transect W2.1 south an other day of very calm sea
18:24:01 07/11/2007 -53.31555 -39.30373 End of WCB transect W 1.2 north
14:09:12 07/11/2007 -54.01727 -39.09103 some interferance on 120 kHz
14:06:51 07/11/2007 -54.02383 -39.08894 start of WCB transect W 1.2 south
12:29:48 07/11/2007 -54.05607 -39.39157 End of WCB transect w1.1 South.
08:11:03 07/11/2007 -53.34844 -39.60205 start of WCB transect W1.1 in the north nice calm sea

XBT event log

17:23:21 10/11/2007	331905	t500026	-53.85312	-37.59381	33.837100	yes	ek60	Dup | Info
16:20:12 10/11/2007	331916	t500025	-53.67687	-37.65369	33.858200	yes	ek60	Dup | Info
15:15:00 10/11/2007	331915	t500024	-53.49851	-37.71420	33.932400	yes	ek60	Dup | Info
14:11:00 10/11/2007	331914	t500023	-53.32911	-37.77157	33.955400	yes	ek60	Dup | Info
13:06:00 10/11/2007	331913	t500022	-53.14894	-37.83298	33.965400	yes	ek60	Dup | Info
12:23:00 10/11/2007	331896	t500021	-53.15616	-37.96689	33.960100	yes	ek60	Dup | Info
11:16:45 10/11/2007	331984	t500019	-53.33593	-37.90393	33.939200	yes	ek60	Dup | Info
10:10:22 10/11/2007	331895	t500018	-53.51591	-37.84673	33.940900	yes	ek60	Dup | Info
09:05:32 10/11/2007	311899	t500017	-53.69138	-37.78844	33.856700	yes	ek60	Dup | Info
08:00:24 10/11/2007	311903	t500016	-53.86952	-37.72749	33.849400	yes	ek60	Dup | Info
12:21:36 09/11/2007	331894	t500015	-53.92843	-38.21959	33.902800	yes	ek60	Dup | Info
11:15:14 09/11/2007	331898	t500014	-53.74962	-38.27771	33.911800	yes	ek60	Dup | Info
10:09:26 09/11/2007	331902	t500013	-53.57288	-38.33468	33.948700	yes	ek60	Dup | Info
09:05:09 09/11/2007	331893	t500012	-53.39814	-38.39267	33.885400	yes	ek60	Dup | Info
07:59:56 09/11/2007	331897	t500011	-53.22085	-38.44900	33.919500	yes	ek60	Dup | Info
12:18:08 08/11/2007	331901	t500010	-53.28838	-39.03784	33.911400	yes	ek60	Dup | Info
11:13:32 08/11/2007	322349	t500009	-53.46372	-38.98359	33.921800	yes	ek60	Dup | Info
10:09:57 08/11/2007	322345	t500008	-53.63733	-38.93003	33.926200	yes	ek60	Dup | Info
09:03:12 08/11/2007	322341	t500007	-53.81842	-38.87383	33.933000	yes	ek60	Dup | Info
07:59:33 08/11/2007	322348	t500006	-53.99274	-38.81934	33.937200	yes	ek60	Dup | Info
12:29:00 07/11/2007	322358	t500005	-54.05387	-39.39225	33.928600	Yes	ek60	Dup | Info
11:25:57 07/11/2007	322362	t500004	-53.88150	-39.44413	33.938500	Yes	ek60	Dup | Info
10:19:54 07/11/2007	322314	t500003	-53.70148	-39.49744	33.942000	yes	ek60	Dup | Info
09:15:56 07/11/2007	322313	t500002	-53.70148	-39.49744	33.942000	yes	ek60	Dup | Info
08:11:47 07/11/2007	322315	t500001	-53.35044	-39.60143	33.930300	yes	PC screen went just before XBT launch ek60	Dup | Info