

REPORT ON RAPID-WAVE CRUISE TO FOR THE RECOVERY OF RAPID LANDERS OFF CABO MAYOR, BAY OF BISCAY, 09-08-2012

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INTRODUCTION. This was the fourth RAPID-WAVE cruise to the Northeast Atlantic, with the mission of recovering two RAPID landers deployed in 2011 (see report for Rioja 2011). This will be our last RAPID cruise in this area. This work is done in collaboration with the Instituto Español de Oceanografía (IEO), as part of their hydrographic monitoring program “IEO Radiales”. In 2009 two RAPID moorings were deployed off Finisterre and two RAPID landers were deployed of Cabo Mayor (see cruise report for RADPROF0809). In 2010, the mini-mooring line off Finisterre was abandoned, but the BPRs of Cabo Mayor were recovered and replaced with two new ones. In 2011 a recovery and redeployment of the Cabo Mayor line took place. This work was made possible by the kind collaboration and support of our Spanish colleagues Alicia Lavín Montero, Carmen Rodríguez Puente and Angel Merino Jiménez. Many thanks are also due to the Master and crew of the B/O Rioja for their excellent support at sea.

BRIEF NARRATIVE. Mack and Maqueda arrived in Santander on Tuesday 7th August 2012. A first attempt at recovering the RAPID equipment was made on Wednesday 8th August, starting at 6 a.m. GMT, but the wind coming out of Santander Bay into the Bay of Biscay was too fresh (due to easterlies that develop in the morning as the sea-land temperature contrasts grows due to differential heating) and the sea containing significant swell, partly a remnant from previous strong wind episodes the previous day. The IEO's research vessel, the B/O José Rioja, is a small ship (15.8 m x 4.1 m x 1.1 m) and is not ideal to operate under such weather conditions. Given that the weather forecast for Thursday was more favourable, the master suggested to return to port and try again the next day.

We sailed out again on Thursday 9th August at 4 a.m. GMT. The idea behind this very early start being to reach the mooring sites ahead of the development of the longshore easterly breeze which gradually grow in intensity from sunrise onwards. Dense to thick fog was ubiquitous from the coast to the mooring sites, though, and upon reaching the shallow mooring site, we decided to carry out a CTD cast (the IEO had planned four shallow CTD casts during the cruise). According to the Rioja's master, this was the first time in months that they had fog in this part of the Bay of Biscay. The CTD to 200 m was made between 6:30 and 7:00 GMT, and afterwards we proceeded to the mooring site labelled Mareógrafo #1. The mooring was released and recovered without incidents at 7:49 GMT. We had an accurate deployment position and indeed the mooring reached the surface at scarcely 250 m away from the boat. We were at the second mooring site, Mareógrafo #2, at 8:11 GMT and repeatedly sent the release command until 09:00. The BPR did always acknowledge receipt of the release command but, similarly to our failed recovery of RL22 in 2010, it never did actually release. At 09:13 GMT we were at the location of RL22, which we failed to recover in 2011. The BPR was still in place and responding to our pings. However, it also failed to release and we abandoned the station at 09:45. We proceeded to complete three more shallow CTDs and two plankton samplings before returning to Santander.

RECOVERY DETAILS.

SITE	LATITUDE (N)	LONGITUDE (W)	DATE & TIME DEPLOYED (Z)	DEPTH (m)	INSTRUMENT TYPE & S.N.
Mareógrafo #1	43 43.756	03 45.470	22-07-2011, 11:27	1332 (unc.)	BPR/RL14 DQ 93170

Mareógrafo #2	43 45.513	03 45.638	22-07-2011, 10:20	1748 (unc.)	BPR/RL09 DQ 93160
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Table 1. 2010 BPR lander deployment summary. The deployment times are the times when the instrument was launched into the water. No time at seabed were recorded. The instrument type entry also includes the serial number of the DigiQuartz sensor used. The depths were recorded by Angel Merino during the RADPROF cruise in August of the same year, as the Rioja's echo sounder is not powerful enough to reach seabed deeper than 1000 m.

SITE	LATITUDE (N)	LONGITUDE (W)	DATE & TIME DEPLOYED (Z)	DEPTH (m)	INSTRUMENT TYPE & S.N.
Mareógrafo #1	43 43.756	03 45.470	09-08-2012, 11:27	1332 (unc.)	BPR/RL14 DQ 93170
Mareógrafo #2	43 45.513	03 45.638	Lost	1748 (unc.)	BPR/RL09 DQ 93160

Table 2. 2011 BPR lander recovery summary. The recovery times are the times when the instrument was released from the sea floor. The instrument type entry also includes the serial number of the DigiQuartz sensor used.