REPORT ON RAPID-WAVE CRUISE TO THE BAY OF BISCAY FOR THE RECOVERY AND DEPLOYMENT OF RAPID LANDERS OFF CABO MAYOR, BAY OF BISCAY, 22-07-2011

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INTRODUCTION. This was the third RAPID-WAVE cruise to the Northeast Atlantic, with the mission of recovering two RAPID landers deployed in 2010 (see report for RADPROF0910) and to deploy two new landers in approximately the same locations. This work is done in collaboration with the Instituto Español de Oceanografía (IEO), as part of their hydrographic monitoring programs in Finisterre and the Bay of Biscay. 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 two new ones. 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. Hargreaves and Maqueda arrived in Santander on Monday 18 July 2010 with the expectation of going out to sea on the following Tuesday or Wednesday. However, 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 can therefore only be used under rather benign weather conditions and sea states. In addition, a relatively calm sea is needed in order to have a good chance of spotting our small RAPID landers from a ship as low as the Rioja (the bridge is at about 2.5 m above the water surface). Waves were too high in the Bay of Biscay for the best part of the week and so we were able to go out on Friday 22nd July, when the significant wave height off Santander had dropped to about 1 m. We only managed to recover one of the RAPID landers, as it was not possible to communicate with the other one. Two fully refurbished landers were deployed in locations very close to those of the 2010 deployments.

RECOVERY DETAILS.

SITE	LATITUDE (N)	LONGITUDE (W)	DATE & TIME DEPLOYED (Z)	DEPTH (m)	INSTRUMENT TYPE & S.N.
Mareógrafo #1	43 43.405	03 45.555	01-09-2010, 20:07	1120 (unc.)	BPR/RL22 DQ 43513
Mareógrafo #2	43 45.558	03 45.644	01-09-2010, 19:28	1748 (unc.)	BPR/RL06 DQ 91146

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.

Of the two BPRs deployed in 2010, only the one called “Mareógrafo #2” in the table above was recovered in 2011. “Mareógrafo #1” did not respond to our pings, and after about an hour of repeated trials to recover the instrument we abandoned the station.

SITE	LATITUDE (N)	LONGITUDE (W)	DATE & TIME RECOVERED (Z)	DEPTH (m)	INSTRUMENT TYPE & S.N.
Mareógrafo #1	43 43.405	03 45.555	Lost	1120 (unc.)	BPR/RL22 DQ 43513
Mareógrafo #2	43 45.558	03 45.644	22-07-2011, 07:49	1748 (unc.)	BPR/RL06 DQ 91146

Table 2. **2010 BPR lander recovery summary**. The recovery times are the times when the instrument was released from the seabed. No time on board recorded.

DEPLOYMENT 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

Table 3. **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.