

Benthic Event Detection System

2015 Status Report

M B A R I



Program Number: 901006
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The Benthic Event Detector project is officially coming to a close at the end of 2015. Based on the results of our experiences in 2013/14 the density was set to 2.1 for the CCE experiment. There was also the addition of a galvanically timed dropweight system and Desert Start Argos satellite locator added to the instrument to allow for potential recovery.

Coordinated Canyon Experiment

A total of 5 BEDs were deployed on scheduled as part of the Coordinated Canyon Experiment (CCE) this October. 4 were put on the sea floor while one was affixed to the STED frame.

Following deployment, the Waveglider was used to check in on health and found that one of the BEDs (#5) had taken on some water. This was presumably due to a one way safety valve that did not fully seat until it was underwater. The instrument was recovered and re-deployed in the same location one week later.



Figure 2 –A BED shortly after deployment.



Figure 1 –BEDs with new dropweight system just prior to deployment.

On 12/17 following a second round of Waveglider communications it was found that BED #5 had reported an event on 12/1. Time was limited for data download and while communications to/from the waveglider were excellent for normal health and status, transferring data via z/modem did not work properly. A boat trip is planned to attempt the download via hyperterm and further engineering is being requested to assist with debugging the issues with the protocol over a slow acoustic link.

BED #4 Search

On December 1, 2015 we began receiving Argos transmission from ID 149704 (BED #4). The first transmission was approximately 10 minutes after the recorded start time of the event in BED #5. It's unclear if the event is related in the unexpected surfacing of the BED. To date, 5 searches have been conducted including those from air and land. While we believe we were very close to the instrument, it has not been found to date and has stopped transmitting. It's clear that if specific localization of these satellite beacons is desired that a better DF system will need to be purchased. The team is considering the addition of a VHF tag for above water localization. For more details on the search, please refer to:

[\\atlas.shore.mbari.org/ProjectLibrary/901006.BEDS/update docs/BED_4_search_12_2015](http://atlas.shore.mbari.org/ProjectLibrary/901006.BEDS/update%20docs/BED_4_search_12_2015)