

## Deep Ocean Data Retrieval System

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Retrieval of important data from deep ocean moored instruments is challenging and expensive, historically involving many days at sea on dedicated research vessels. Engineers and scientists at AOML are developing technology for obtaining data from these moored instruments in near real time with less reliance on research ships. This prototype system, called the “Adaptable Bottom Instrument Information Shuttle System (ABIISS)”, has been under development at AOML for several years. This system is designed to allow scientific instruments anchored on the ocean bottom to send data back via expendable data pods that will release from the ocean floor on a programmable schedule. The buoyant pods will then surface and send the data from the ocean bottom instrument back to land stations via satellite. AOML engineers have successfully demonstrated several key aspects of the ABIISS via ocean trials in the Straits of Florida. A critical new trial of the ABIISS was started in October 2015 east of the Bahamas Islands; this represents the first test of the system in open ocean depths greater than 4000 meters. The first pod surfaced successfully in November 2015, and three additional pods are scheduled to surface throughout 2016 during this 18-month test. The ABIISS technology has the potential to save significant amounts of financial and personnel resources by reducing the amount of ship time needed to support and maintain ocean time series measurement sites.



*Prototype of the 4000+ m ABIISS system.*



*Deployment of the 4000+ m ABIISS system in October 2015*