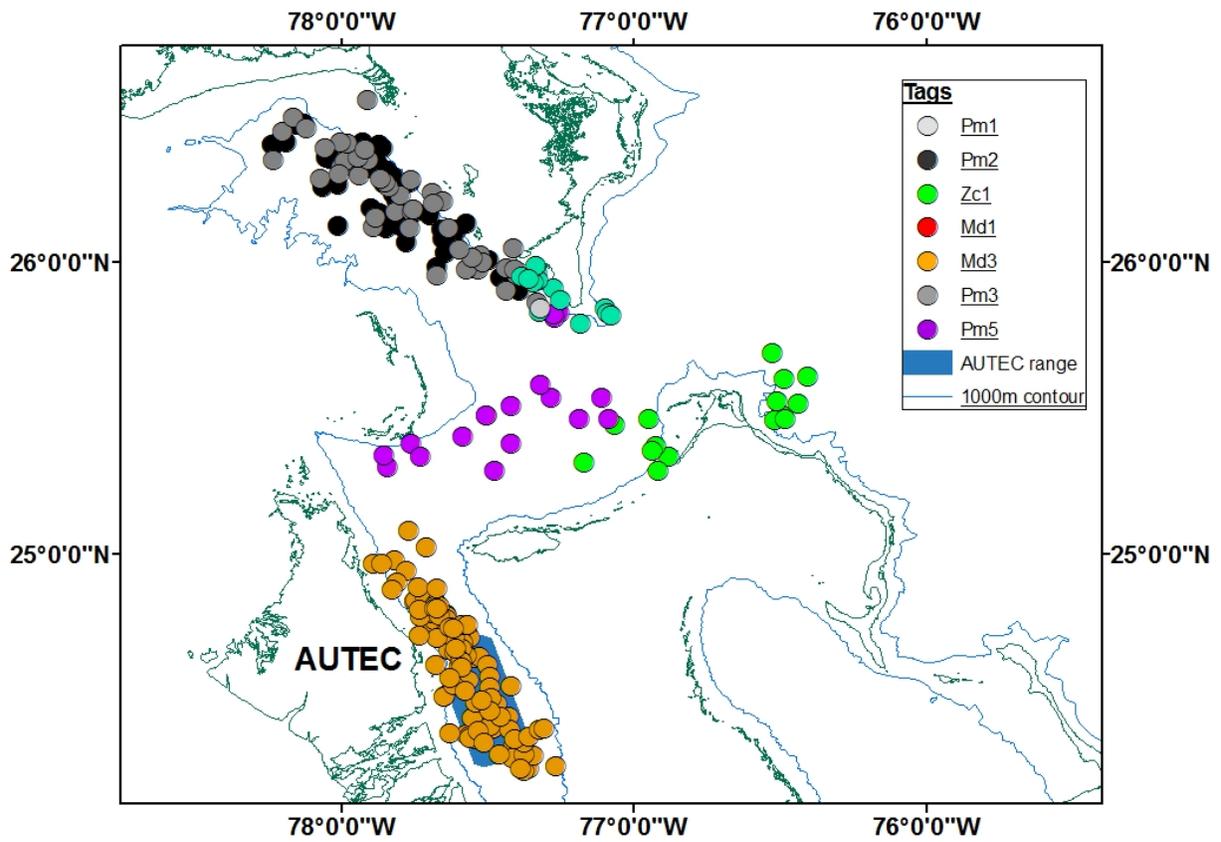


## Tracking the movements of beaked whales around an active sonar range in the Bahamas

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In April and May 2009 PRD began a new collaborative project to deploy satellite tags on odontocete cetaceans on and around the US Navy's Atlantic Undersea Test and Evaluation Center (AUTEK) in the northern Bahamas. This project specifically aims to monitor the movements of beaked whales in relation to active sonar exercises on the AUTEK weapons range. This is a collaboration with the Bahamas Marine Mammal Research Organisation (<http://bahamaswhales.org/>) and the US Naval Undersea Warfare Center (<http://www.nuwc.navy.mil/>), with funding from the Office of Naval Research and the NOAA Ocean Acoustics Program (<http://www.nmfs.noaa.gov/pr/acoustics/>). John Durban and Bob Pitman have been leading this effort for PRD.

This first field effort was based from the R/V *Walton Smith*, operated by the University of Miami, and was a notable success. Nine small satellite dart-tags were deployed on three species: Blainville's beaked whales (*Mesoplodon densirostris*,  $n = 3$ ); Cuvier's beaked whales (*Ziphius cavirostris*,  $n = 1$ ); and sperm whales (*Physeter macrocephalus*,  $n = 5$ ). Transmissions were received from seven of the tags, which transmitted for an average of 11 days (and up to 25 days), and locations were calculated from receptions by the ARGOS satellite system (<http://www.argos-system.org/>). These data provide valuable baseline information on the scale of movements for these species in this area (Figure 1), including 25 days of movement data for an adult male Blainville's beaked whale (Figure 2) that was tracked in the area of the AUTEK range before, during and after an active sonar exercise (Md3, Figure 1).



**Figure 1:** Locations from satellite dart-tags deployed on sperm whales (Pm 1,2,3,5), a Cuvier's beaked whale (Zc1) and Blainville's beaked whales (Md 1,3) in the Great Bahama Canyon, May 5<sup>th</sup> – May 31<sup>st</sup> 2009.



**Figure 2:** Adult male Blainville's beaked whale (*Mesoplodon densirostris*; Md3 in Fig. 1) with a satellite dart-tag attached at the base of the dorsal fin. *Photograph by Olivia Patterson, Bahamas Marine Mammal Research Organisation.*