

as very low (3m altitude) terrain following control for colour photographic survey in less extreme conditions. Another major objective was to test the AUV to as deep a depth as possible, given the constraints of the terrain on the cruise track.

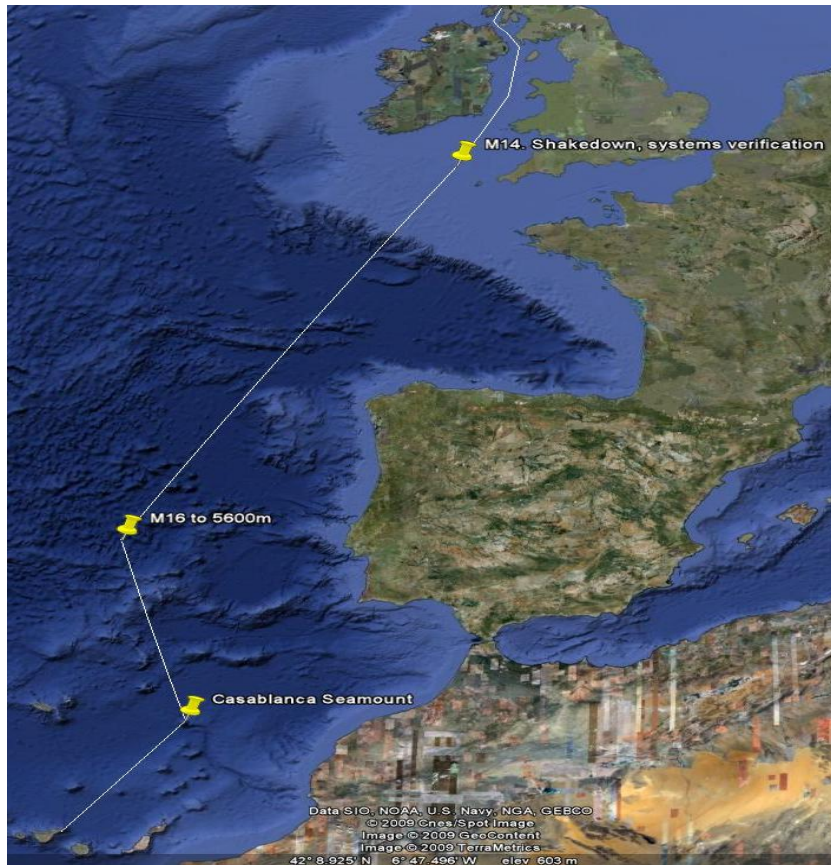


Figure 1. Google map showing Discovery Trials Cruise D343 from Glasgow to Tenerife

Figure 1 shows the general track of the cruise. A preliminary shakedown and systems check mission (Mission 14) was carried out in the area of the Celtic deep, with a water depth of approximately 150 m. During this mission the first data from the recently fitted Tritech Seaking scanning Sonar system was obtained, giving us valuable information on that system’s performance, which we later used for optimising the operating parameters and seabed detection algorithms.

Following this successful mission, we decided to head south west to the deep test area on the Iberian abyssal plain. The two day passage giving us valuable time to reconfigure the system and sensors (particularly the Tritech Seaking). Also the weather in the NE Atlantic was deteriorating, and we considered it best policy to head south. Also for this reason we decided to give up on the option of going further west to the Peak Deep, which would have given us water depth of up to 6000 m, but at the cost of at least 1.5 days of cruise time.

The next Autosub mission was in the Iberian Abyssal plain, on 3th October (Mission 14). The first attempt failed. The abort system operated after a total power failure in the vehicle. Later investigation revealed a fault in the on/off switch for the AUV. After repairs, missions 15 was completed successfully on 4th October, with the AUV diving to a depth of 5600m.