

This Is How an Ocean Robot is Deployed on an Ocean Robot



The Caravela AutoNaut, manufactured by UK-based firm AutoNaut, is part of a major international experiment to track the formation of clouds and their role in the climate system in the Atlantic Ocean, off the coast of Barbados. The researchers will use combined AutoNaut and glider measurements to understand how the ocean temperatures affect the layer of air above, and how the winds and sunshine affect the top tens of metres of the ocean. One of the AutoNauts has been specially adapted in conjunction with the UK's University of East Anglia (UEA) to carry and release an underwater Seaglider in remote and inaccessible ocean locations.

Seagliders are the same size as a small human diver, but can reach depths of 1,000 metres and travel the ocean by themselves for months, covering thousands of kilometres.

However, they are difficult to launch inshore and usually have to be deployed from ships, which can make timing the release of the glider tricky. It can also take a long time, and a lot of battery life, to reach remote study sites. Other locations can be dangerous to access because of piracy or political tensions. According to the company, the 5m-long AutoNaut can be easily deployed from a beach or a ship and can wait in position until the Seaglider is ready to be released by remote pilots.

Motion of the Waves

The USV is propelled by the motion of the waves and carries a range of sensors for meteorology and/or oceanography, including atmospheric pressure, air temperature and humidity, wind speed and sea surface temperature. Furthermore, its systems and sensors are powered by solar panels and it is designed to withstand heavy seas, is self-righting (i.e. it can right itself if capsized) and piloted using satellite communication.

Pete Bromley, AutoNaut's managing director, said: "It's been a fantastic and rewarding challenge working with the world-class team at UEA. Deploying an ocean robot on an ocean robot is groundbreaking science." AutoNaut designs and builds wave-propelled USVs and offers solutions based on marine autonomous systems. The company has manufacturing and operation facilities in Sussex and Devon (UK), with headquarters in the Chichester marina (UK).

Read more on www.autonautusv.com.