AUV Finds Air France Flight 447 off Brazil

The team left the port of Suape, Brazil, aboard the vessel Alucia on March 22, arriving at the search site on March 25. After one week of searching, one of the mission's three autonomous underwater vehicles (AUVs), the REMUS 6000s, detected debris on the seafloor. A second vehicle was dispatched to the area for more detailed sonar mapping and photographic imaging. The images it brought back were relayed to BEA, French air safety investigation authority, which identified the wreckage as the Airbus A330. All three REMUS vehicles are currently mapping the area to get a comprehensive view of the accident site.

Flight 447, a scheduled commercial flight from Rio de Janeiro to Paris, crashed into the Atlantic Ocean on June 1, 2009, carrying 216 passengers and 12 crew members. WHOI led the search under the direction of the BEA, Bureau d'Enquêtes et d'Analyses.

The search mission was the fourth attempt to locate the aircraft. WHOI also participated in the third search effort. WHOI Senior Engineer Mike Purcell was the chief of sea search operations for the mission.

“We were confident from phase three [the last search attempt] that if we were searching in the right area, the vehicles’ sonar could pick out the aircraft,” said David Gallo, the project leader at WHOI.

That success came just one week into the latest mission “attests to the efficiency of the vehicles and the competence of this team,” said Purcell.

Images included photos of the fuselage, engine and landing gear and a sonar image of the crash area. Investigators plan to examine the wreckage in detail and to continue to search for the plane’s flight recorders.

The search was targeted in an area of about 3,900 square miles (10,000 square kilometers), several hundred miles off northeastern Brazil. The remains were found at about 6 miles from the last known location of the aircraft.

The REMUS 6000s are designed and operated by WHOI. Two of the vehicles are owned by the Waitt Institute for Discovery; the third is owned and operated by Leibniz Institute for Marine Sciences IFM-GEOMAR of Germany. These vehicles are designed to operate in depths up to 6,000 meters (19,685 feet or 3.73 miles). They were equipped with Edgetech 120kHz side-scan sonar and were able to take pictures, according to Hydroid CEO Christopher von Alt who confirmed this during Ocean Business in Southampton.

Image top: Landing gear from Air France Flight 447 photographed from a REMUS 6000 autonomous underwater vehicle (AUV).

Image below: The side-scan sonar image of the region, showing the fuselage in a 600 * 200m area.
The BEA did not show images of any bodies. French officials said identifiable bodies have been found, but would not say how many or further comment out of respect for the victims' families.

Fifty bodies were found during the first phase of the search in 2009, along with more than 600 pieces of the plane scattered on the sea. No bodies or debris have been found since, until now.

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