WHOI technology tapped for search for Air France Flight 447

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The Woods Hole Oceanographic Institution (WHOI) is part of an international sea search operation formed to locate the deep-sea wreck site of Air France Flight 447 and to retrieve the flight recorders from the Airbus A 330.

Susan Avery, president and director of WHOI, said that the Institution "is honored to be part of this mission." A private, independent organization dedicated to marine research, engineering and higher education, "WHOI brings to the undersea search operation the necessary technologies, the required talent and the familiarity with working in these types of seafloor terrains to help bring this search to a successful close," Avery added.

The search is expected to last for approximately one month.

The new recovery mission will include the use of three autonomous underwater vehicles (AUVs), the REMUS 6000s, vehicles designed and operated by WHOI. Two of the vehicles are owned by the Waitt Institute for Discovery; the third is owned by IFM-GEOMAR of Germany.

These autonomous undersea vehicles are designed to operate in depths up to 6,000 meters (19,685 feet or 3.73 miles). As each vehicle covers an area in a "mowing" type pattern, it employs side-scan sonar to survey up to 600 meters to its left and right. Capable of staying underwater for up to 20 hours at a time, REMUS then returns to the ship, where scientists immediately download its data. If the data contains evidence of

any debris or other items of interest undersea, a REMUS 6000 will be dispatched to gather more detailed, up-close images using high-resolution cameras located on the bottom of the vehicle.

The AUVs will be operated from the Norwegian ship, the M/V Seabed Worker, which will also be equipped with the Triton XLX remotely operated vehicle (ROV). The mission will also employ the M/V Anne Candies, out of New Orleans, which will carry the towed side-scan sonar Orion and the CURV21 ROV, both operated for the US Navy by Phoenix International.

David Gallo, WHOI director of special projects and WHOI project leader, said he is confident, "given the necessary time and resources" that the aircraft will be found. He estimates the investigators, using the AUVs in tandem, will be able to search about 30 square miles a day.

WHOI researchers are experienced in conducting deep-sea forensic investigations. In 1997, a team from WHOI responded to a request from the British government and European Commission to assist in solving the circumstances surrounding the loss of the British bulk ore carrier, Derbyshire. Following the successful conclusion of that investigation, Britain's Prime Minister Tony Blair sent a thank-you note to Bill Clinton that praised the WHOI team and stated that without their participation, the mystery would not have been solved.

And in 1985, a WHOI-led team located the wreck of the RMS Titanic.

"Few institutions are as well equipped as WHOI for this mission," said Gallo. "The Mid-Ocean Ridge is a feature that we have been exploring for more than 30 years. The terrain will be extremely rugged and the search will be difficult, but this is something that we have been doing as a part of our mission to explore and understand the global oceans."

The Bureau d'Enquêtes et d'Analyses, BEA, the French Bureau of investigation and analysis for civil aviation safety is leading the safety investigation and is responsible for all phases of the operation.

Provided by Woods Hole Oceanographic Institution