

Flight 370 search shifts after new look at data

29 March 2014, by Gillian Wong



Royal Australia Air Force C-17 lands at RAAF Base Pearce to deliver a Sea Hawk helicopter to help with the search for the missing Malaysia Airlines Flight MH370, in Perth, Australia, Friday, March 28, 2014. Australian officials moved the search area for the lost Malaysian jetliner 1,100 kilometers (680 miles) to the northeast Friday, following a new analysis of radar data, and a plane quickly found objects that a ship set out to investigate. (AP Photo/Rob Griffith)

Three weeks into the mystery of Flight 370, investigators relying on newly analyzed satellite data shifted the search zone yet again, focusing on a swath of Indian Ocean where better conditions could help speed a hunt that is now concentrated thousands of miles from where it began.

Planes combing the newly targeted area off the west coast of Australia spotted several objects Friday, including two rectangular items that were blue and gray, the Australian Maritime Safety Authority said. Although those are part of the colors of the missing Malaysia Airlines jet, it was not clear if they were from the plane.

The newly targeted zone is nearly 700 miles northeast of sites the searchers have crisscrossed for the past week. The redeployment came after

analysts determined that the jet may have been traveling faster than earlier estimates and would therefore have run out of fuel sooner, officials said.

"This is a credible new lead and will be thoroughly investigated," Australian Prime Minister Tony Abbott said.

The Australian maritime agency will analyze photos of the objects seen in the area, and a Chinese patrol ship will try to locate them Saturday, officials said.

During the search, hundreds of objects have been seen in the water by satellites, but so far not a single one has been confirmed as being from missing Boeing 777.

New Zealand Air Vice-Marshal Kevin Short said a search plane had spotted 11 objects Friday clustered in a small area about 1,600 kilometers (1,000 miles) west of Perth.

One appeared to be a fishing buoy but the others were white, rectangular in shape and floating just below the surface, he said Saturday. Each was no larger than a meter (3 feet) in length.

"Our crew couldn't identify anything that would say it was definitely from the Malaysian aircraft," Short said. "I think the main issue is that those objects will have to be picked up by a ship so they can physically examine them."

The shift to the new zone could be a break for searchers because it is a shorter flight from land and has much calmer weather than the remote stretch previously targeted.

"It is a different ballpark," said Erik van Sebille, an oceanographer at New South Wales University. "Where they are searching now is more like a subtropical ocean. It is not nearly as bad as the southern Indian Ocean, which should make the

search easier."

But in Malaysia, Defense Minister Hishammuddin Hussein cautioned that while the conditions had improved, they remained challenging and the area "although more focused than before, remains considerable."

The new search area is about 80 percent smaller than the old one, but still spans about 123,000 square miles, (319,000 square kilometers), roughly the size of New Mexico (Poland). In most places, depths range from about 6,560 feet (2,000 meters) to 13,120 feet (4,000 meters), although the much deeper Diamantina trench edges the search area.

Flight 370 disappeared March 8 while bound from Kuala Lumpur to Beijing. The hunt focused first on the Gulf of Thailand, along the plane's planned path. But when radar data showed it had veered sharply west, the search moved to the Andaman Sea, off the western coast of Malaysia, before pivoting to the southern Indian Ocean, southwest of Australia.



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That change was based on analysis of satellite data. But officials said a reexamination and refinement of that analysis indicated the aircraft was traveling faster than previously estimated, resulting in increased fuel use and reducing the possible distance it could have flown before going down. Just as a car loses gas efficiency when driving at high speeds, a plane will get less out of a tank of fuel when it flies faster.

Malaysia's civil aviation chief, Azharuddin Abdul Rahman, said personnel at Boeing Co. in Seattle had helped with the analysis.

"This is our best estimate of the area in which the aircraft is likely to have crashed into the ocean," Martin Dolan, chief commissioner of the Australian Transport Safety Bureau, said at a news conference in Canberra.

He said a wide range of scenarios went into the calculation.

"We're looking at the data from the so-called pinging of the satellite, the polling of the satellites, and that gives a distance from a satellite to the aircraft to within a reasonable approximation," he said. He said that information was coupled with various projections of aircraft performance and the plane's distance from the satellites at given times.

In Beijing, some relatives of the 153 Chinese passengers on the plane said the shift in the search area added to their confusion and frustration.

"What on earth is the Malaysian government doing?" said Wang Chunjiang, whose brother was a passenger. "Is there anything more that they are hiding from us?"

Jason Middleton, aviation professor at the University of New South Wales in Sydney, said it's tough to judge the decision to shift the search because Malaysia has not released any of the actual data underlying its analysis.

"People can interpret the same set of data in different ways, sometimes, depending on how they look at it and how they analyze it," Middleton said. "And that's part of the problem here—we're only

being given the interpretation and not the actual data."

Investigators continued puzzling over what might have happened aboard the plane. A U.S. official, speaking on condition of anonymity because the official was not authorized to speak amid an ongoing investigation, said the FBI's searches of computer hard drives belonging to pilot and co-pilot, including a flight simulator with deleted files, have yielded "no significant information" about what happened to the plane or what role, if any, the crew might have played in its disappearance.

AMSA said a number of the objects seen Friday appeared white or light in color.

Hishammuddin said that because of ocean drifts, "this new search area could still be consistent with the potential objects identified by various satellite images over the past week."



Ground crew unload a Sea Hawk helicopter from a Royal Australia Air Force C-17 after it landed at RAAF Base Pearce to help with the search for the missing Malaysia Airlines Flight MH370 in Perth, Australia, Friday, March 28, 2014. Australian officials moved the search area for the lost Malaysian jetliner 1,100 kilometers (680 miles) to the northeast Friday, following a new analysis of radar data, and a plane quickly found objects that a ship set out to investigate. (AP Photo/Rob Griffith)

If investigators can determine the plane went down in the newly targeted zone, recovery of its flight

data and cockpit voice recorders could be complicated.

"There are a number of ridges, escarpments and fracture zones that run through this area, so it's a fairly complex area," said Rochelle Wigley, director of the Indian Ocean Mapping Project at the University of New Hampshire. Wigley said determining the ocean floor topography within the search zone depends on its exact coordinates. While investigators appear to be focusing on an area where much of the sea floor is about 6,600 feet (2,000 meters) below the surface, depths may reach a maximum of about 19,700 feet (6,000 meters) at its easternmost edge, she said.

The U.S. Navy is sending equipment that can detect pings from the recorders, or "black boxes," up to about 20,000 feet (6,100 meters) deep, and an unmanned underwater vehicle that operates at depths up to 14,800 feet (4,500 meters).

Joseph Kolly, director of research and engineering at the U.S. National Transportation Safety Board, said the flight data recorders have to be able withstand depths of up to 20,000 feet.

Australian officials said a change in search area is not unusual.

"This is the normal business of search-and-rescue operations—that new information comes to light, refined analyses take you to a different place," Young told reporters. "I don't count the original work as a waste of time."



An Royal Australian Air Force AP-3 Orion aircraft takes off from Pearce Airbase, north of Perth, Australia, Friday, March 28, 2014. Planes are searching a new area of the Indian Ocean for possible signs of the missing Malaysian airliner flight MH370 after a new analysis of radar data suggests the plane flew faster than thought, used up more fuel and cut the distance it traveled, Australian officials said Friday. (AP Photo/Greg Wood, Pool)

The new search zone's location about 435 miles (700 kilometers) closer to the Australian mainland makes it easier to reach. Planes used so much fuel getting to and from the previous zone that they were limited to only about two hours of search time.

The new area also has better weather conditions than the old one, where searches were regularly scrapped because of storms, high winds and low visibility.

"The search area has moved out of the 'roaring 40s,' which creates very adverse weather," Young said, referring to the latitude of the previous search area. "I'm not sure that we'll get perfect weather out there, but it's likely to be better than we saw in the past."

The Australian navy's HMAS Success was expected in the area Saturday, Young said. The Chinese Maritime Safety Administration patrol boat Haixun 01 was also on site, and several more Chinese ships were en route.

"This is an extraordinarily difficult search and an agonizing wait for family and friends of the passengers and crew," the Australian prime minister said. "We owe it to them to follow every credible lead."

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