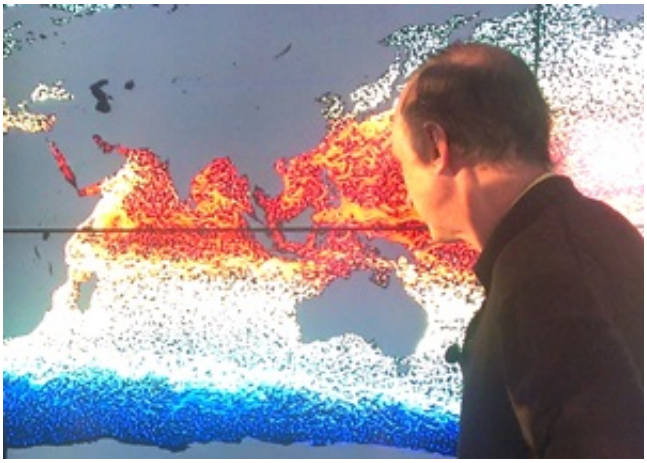
How could ocean currents affect search for missing Malaysian Airlines flight MH370?

March 21 2014



Expert reaction to Australian search for potential debris from the missing Malaysian Airlines aircraft in the Indian ocean.

Professor Keith Haines, an oceanographer at the University of Reading's Department of Meteorology, said:

"The area of current search for debris possibly from the Malaysian Airlines plane is in an area of the deep ocean far from land. Given the time period since a possible crash - almost two weeks - any debris found at the surface may not be located close to other debris that may have sunk to the sea floor at the time of a crash.

"In such deep ocean areas, tidal currents, of the type we are used to around the British Isles, are fairly small. However, the search is in a region near the northern edge of the Antarctic circumpolar current - a massive ocean current which flows from west to east around Antarctica, similar in strength to the Gulf Stream in the Atlantic. This current would transport surface objects in a general southeastwards direction from the possible crash site.

"Currents can be strong - as fast as one metre per second (about 2.2mph, or similar to a steady walking speed) which could move surface debris by up to 1,000km over two weeks.

"However, currents don't always travel in a straight line. They can meander, and surface debris can also be blown by the wind if they project out of the water.

"Ocean forecast models can be used to assess the likely degree of transport, just as they are used for assessing oil spill impacts, and for search and rescue operations nearer to shore. The Met Office in the UK run such global ocean models incorporating up-to-date measurements from satellites, although the Australian Bureau of Meteorology will likely have the capability to run higher-resolution computer models for the current search area."

Provided by University of Reading

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