



Australian Government

## Joint Agency Coordination Centre

### MH370 Operational Search Update

22 October 2014

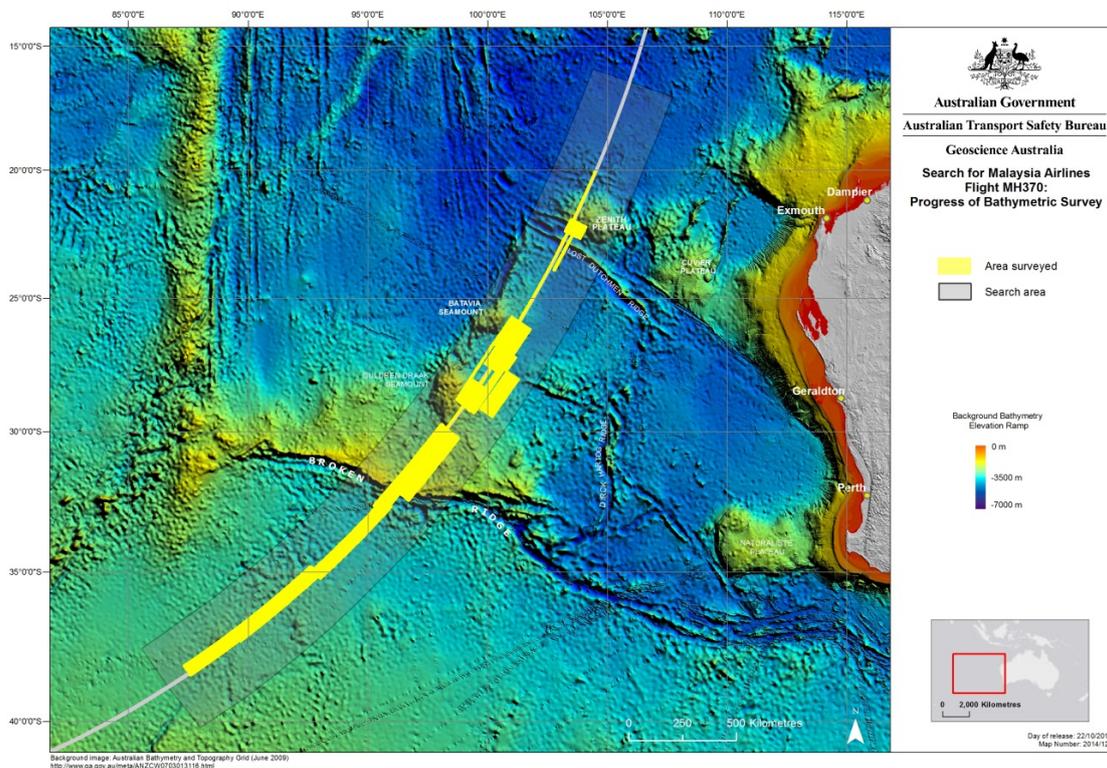
This operational report has been developed to provide regular updates on the progress of the search effort for MH370. Our work will continue to be thorough and methodical, so sometimes weekly progress may seem slow. Please be assured that work is continuing and is aimed at finding MH370 as quickly as possible.

#### Bathymetric survey

The seafloor in the search area has never been mapped in detail. Before the sidescan sonar work to locate MH370 could begin, it was necessary to conduct a bathymetric survey to ensure that the equipment could be operated safely. The survey vessel *Fugro Equator* and the Chinese survey vessel *Zhu Khezhen* collaborated on survey operations, until *Zhu Khezhen* completed her assignment on 30 September and returned to China.

Survey vessels use multibeam sonar to gather data from the seafloor. That data is analysed and mapped by experts at Geoscience Australia, providing knowledge of the terrain that is essential to begin the underwater search.

To date, over 140,000 square kilometres of the wide search area have been analysed and mapped.



The priorities for the search will continue to be reviewed and will change over time.

## Ship movements

*Fugro Equator* continues bathymetric survey operations. Poor sea conditions over the weekend have slowed progress, but with weather and sea conditions improving slightly, good progress is expected over the ship's remaining four days in the survey area. Bathymetric survey operations are projected to continue until around 24 October, when the vessel will depart for Fremantle. It is expected to arrive in Fremantle around 29 October, whereupon it will be mobilised as the third underwater search vessel when it is fitted with a towed sidescan sonar vehicle, similar to that of *Fugro Discovery*.

## Weather

A cold front is projected to cross the area assigned to *Fugro Equator*, and a trough will be approaching from the west. Over the next four days, sea states in the area are expected to range from 1 to 5.

## Underwater search

Vessels involved in the search are being jointly funded by Malaysia and Australia. *Fugro Discovery* and *Fugro Equator* (which is currently being used to survey the search area) are Fugro Survey Pty Ltd vessels, and *GO Phoenix* has equipment and experts provided by Phoenix International.

Over 1,200 square kilometres of the seafloor have been searched so far.

## Ship movements

*GO Phoenix* ceased underwater search operations on 16 October and commenced transit to Fremantle for resupply. The vessel arrived on 21 October, with an expected departure date of 23 October.

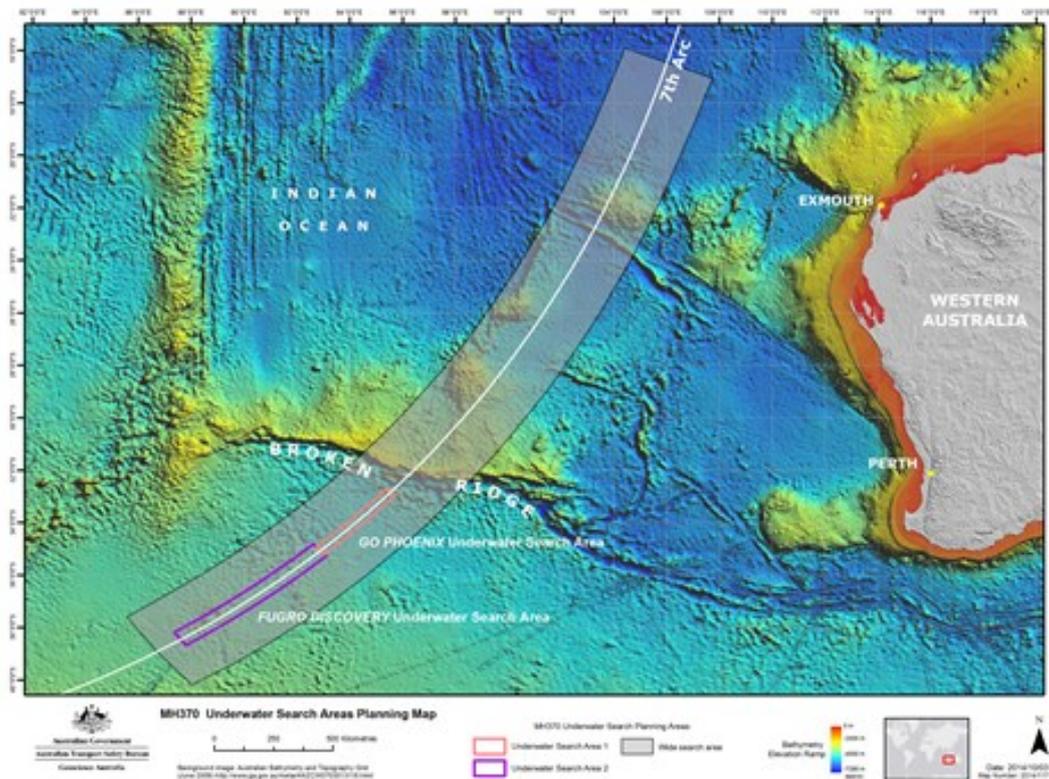
*Fugro Discovery* departed Fremantle early on 15 October to conduct sea trials, following which it began its transit to the search area. Underwater search operations are estimated to commence on 22 October.

## Weather

Over the next four days, sea states in the area assigned to *Fugro Discovery* are expected to range from 1 to 4, providing good conditions for the search.

## Planning

The ATSB, in consultation with the contracted search experts, completed the initial plan for the underwater search, to be followed and referred to by all parties involved. The plan includes search timings, methods, procedures, safety precautions and search areas. The initial search areas have been allocated to the different vessels.



The first area to be searched has been assigned to *GO Phoenix*. It has already been surveyed to ensure an accurate understanding of the sea floor topography. The second area, assigned to the Fugro vessels, is currently in the process of being surveyed.

## Search priorities

The complexities surrounding the search are immense. It involves vast areas of the Indian Ocean with only limited known data and aircraft flight information. While it is impossible to determine with certainty where the aircraft may have entered the water, all the available data and analysis indicates that the most highly probable search area lies close to a long but narrow arc of the southern Indian Ocean (where the aircraft last communicated with a ground station through a satellite). This is where the aircraft is assessed to have run out of fuel.

It has taken months of intense work by the Search Strategy Working Group to identify the current priority areas. This complex, ground-breaking technical analysis of the limited communications data and aircraft flight information has been developed and refined by experts. That work has concentrated on determining the area on the seventh arc that the aircraft was most likely to have reached, enabling a prioritised search effort in areas along the seventh arc.

Among other insights, refinement to the analysis gave greater certainty about when the aircraft turned south into the Indian Ocean and has produced a better understanding of the parameters within which the satellite ground station was operating during the last flight of MH370. The latest analysis has indicated that the underwater search should be prioritised further south within the wide search area. The ATSB has published *MH370 – Flight Path Analysis Update* to supplement the previously released report, *MH370 – Definition of Underwater Search Areas*, which describes the continuing work.

Even after all this time and labour, work continues with refinements to the analysis of the satellite communication system messages. This ongoing effort may result in changes to the prioritisation and location of search activity within the current search area along the seventh arc.

The ATSB continues to receive messages from members of the public who have found material washed up on the Australian coastline and think it may be wreckage or debris from MH370. The ATSB reviews all of this correspondence carefully, but drift modelling undertaken by the Australian Maritime Safety Authority has suggested that if there were any floating debris, it is far more likely to have travelled west, away from the coastline of Australia. It is possible that some materials may have drifted to the coastline of Indonesia, and an alert has been issued in that country, requesting that the authorities be alerted to any possible debris from the aircraft.

Joint Agency Coordination Centre  
[www.jacc.gov.au](http://www.jacc.gov.au)