



Australian Government

## Joint Agency Coordination Centre

### MH370 Operational Search Update

**22 April 2015**

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.

#### Key developments this week

- *GO Phoenix* departed the port of Fremantle for the search area early on 18 April after conducting a routine resupply visit. Departure was delayed owing to a fault with a bridge computer system, which has now been rectified.
- *Fugro Discovery* continues to conduct search operations.
- *Fugro Equator* arrived back in the search area on 16 April and commenced operations.
- *Fugro Supporter* arrived back in the search area on 18 April. Foul weather delayed deployment of the AUV. The AUV was deployed on Sunday, 19 April.

#### Definition of the search area

Based on a careful analysis of all available evidence, search efforts remain focused on an area in the southern Indian Ocean defined by the Search Strategy Working Group. The group has worked with specialists from:

- Inmarsat (UK)
- Thales (UK)
- Boeing (USA)
- National Transportation Safety Board (USA)
- Air Accidents Investigation Branch (UK)
- Defence Science and Technology Organisation (Australia).

The Search Strategy Working Group continues its analysis of the satellite communication system messages and aircraft performance. This ongoing effort may result in refinements to the search area along the seventh arc.

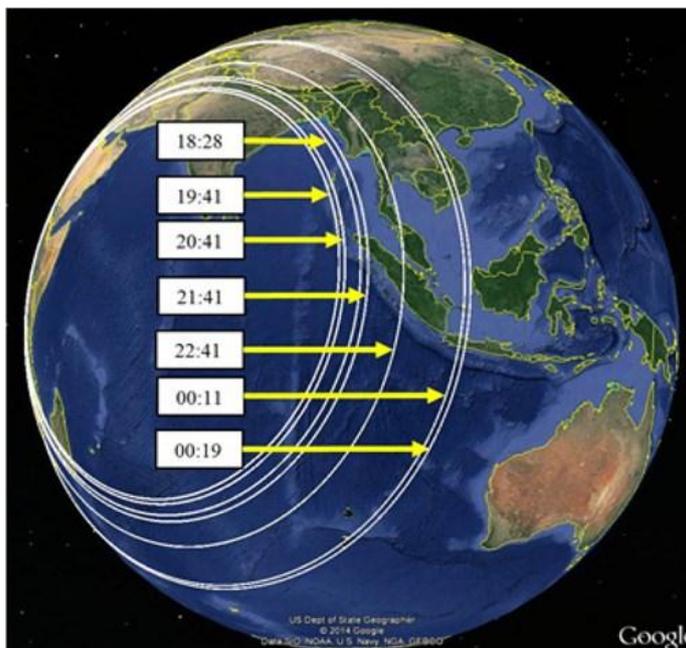
The path of MH370 was recorded by radar for the first hour and forty minutes of its flight. After that time there were seven instances of satellite communication or 'handshakes' between the aircraft and a satellite ground station. In addition, two unanswered satellite phone calls were made to the aircraft.

Analysis of data recorded at the ground station allowed two things:

- determination of the aircraft's distance from the satellite at the time of each handshake; and
- calculation of probable flight paths over a six-hour period.

The calculation of probable flight paths showed conclusively that the aircraft was travelling in a southerly direction across the Indian Ocean for the last hours of its flight.

The aircraft's distance from the satellite at each handshake is shown as an arc. Because there is an inherent level of uncertainty in the calculations, each arc is about thirty kilometres wide.



Source: Inmarsat/Boeing /Google

The range of most probable flight paths extends about 1100 kilometres along the final, seventh arc. This gives the northerly and southerly limits of the search area.

Analysis of the performance of a Boeing 777-200ER shows that the aircraft would have exhausted its fuel by the seventh arc. Given the predicted behaviour of the aircraft when its fuel was exhausted, MH370 is unlikely to have travelled more than 30 kilometres west or 50 kilometres east of the seventh arc. This gives the westerly and easterly limits of the search area.

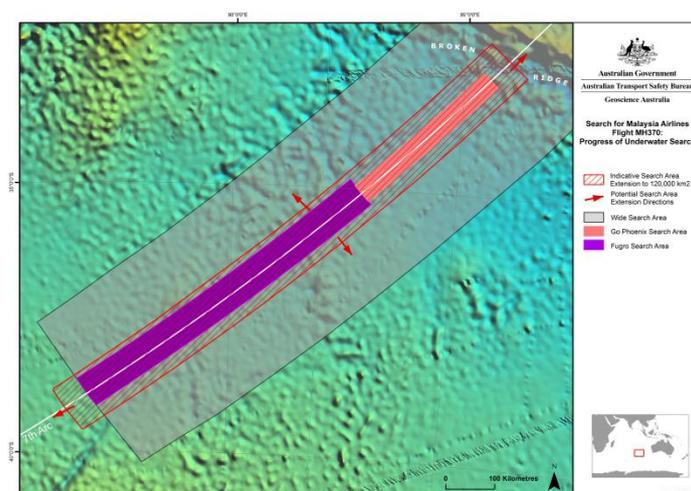
Theories suggesting the aircraft is located to the north or significantly to the west of Sumatra are not supported by known facts or careful analysis. It is for this reason the aircraft cannot be in Kazakhstan, Diego Garcia or the Maldives.

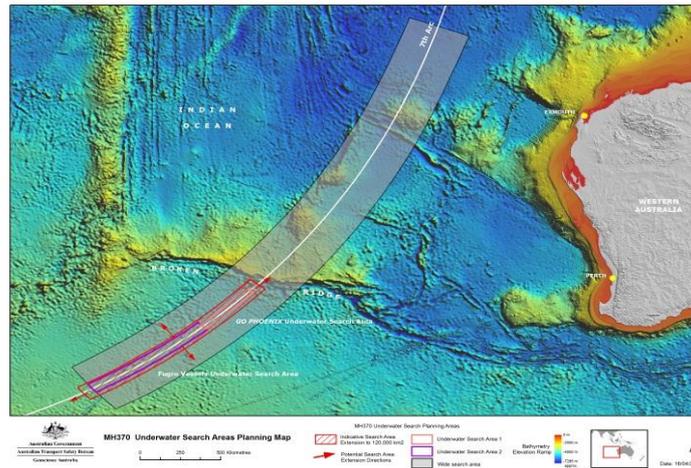
## Underwater search

At a meeting of Ministers from Australia, Malaysia and the People's Republic of China held in Kuala Lumpur on 16 April 2015, it was agreed that should the aircraft not be found within the current search area, the search will be extended by an additional 60,000 square kilometres to bring the search area to 120,000 square kilometres, thereby covering the entire highest probability area identified by expert analysis.

The communiqué from the Ministerial meeting is available at:  
<http://www.jacc.gov.au/media/communiqués/2015/april/com003.aspx>.

In the event the aircraft is found and accessible, Ministers agreed to plans for recovery activities including securing all the evidence necessary for the accident investigation.





It is anticipated that searching the additional area may take up to a year to complete, given the adverse weather conditions in the upcoming winter months. Upon completion of the additional 60,000 square kilometres, all high probability search areas will have been covered.

## Weather

Sea states in the search area are anticipated to range from 1 to 4 in the coming week. Localised weather conditions in the south of the search area may impact upon *Fugro Supporter's* operations, with progress expected to be slower this week.

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[www.jacc.gov.au](http://www.jacc.gov.au)