

Modelling Uncertainty in the Search for HMAS Sydney

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ABSTRACT

The loss of the cruiser HMAS Sydney to the German raider HSK Kormoran is Australia's worst naval disaster. Since her loss on the 19th of November 1941 the location of Sydney's wreck has been a mystery. Many researchers have defined possible locations for Sydney and Kormoran. However, none have used the available evidence in a rigorous mathematical manner that considered the uncertainty in each of the items of evidence used to obtain the position. Few of them have considered all of the available evidence objectively and without ignoring evidence that contradicts their hypothesis. This project uses a least squares based approach to solve for the probable location of both ships. The search areas are defined using the associated area of confidence for each of the solutions. The network adjustments have been performed several times to accommodate different sets of data where various options exist for the use of the available information. The application of survey network theory to marine archaeology is shown to be sound, however additional information and modelling could provide a more definitive solution.

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