

## **Views from Shores Past: Palaeogeographic Reconstructions as an Aid for Interpreting the Movement of Early Modern Humans on and between the Islands of Wallacea**

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**Abstract :** The island archipelago that stretches between the continents of Sunda (Southeast Asia) and Sahul (Australia - New Guinea) and comprising much of modern-day Indonesia as well as Timor-Leste, represents the biogeographic region of Wallacea. The islands of Wallacea are significant archaeologically as they have never been connected to the mainlands of either Sunda or Sahul, and thus the colonization by early modern humans of these islands and subsequently Australia and New Guinea, would have necessitated some form of water crossings. Accurate palaeogeographic reconstructions of the Wallacean Archipelago for this time are important not only for modeling likely routes of colonization but also for reconstructing likely landscapes and hence resources available to the first colonists. Here we present five digital reconstructions of coastal outlines of Wallacea and Sahul (Australia and New Guinea) for the periods 65, 60, 55, 50, and 45,000 years ago using the latest bathymetric chart and a sea-level model that is adjusted to account for the average uplift rate known from Wallacea. This data was also used to reconstruct island areal extent as well as topography for each time period. These reconstructions allowed us to determine the distance from the coast and relative elevation of the earliest archaeological sites for each island where such records exist. This enabled us to approximate how much effort exploitation of coastal resources would have taken for early colonists, and how important such resources were. These reconstructions also allowed us to estimate visibility for each island in the archipelago, and to model how intervisible each island was during the period of likely human colonisation. We demonstrate how these models provide archaeologists with an important basis for visualising this ancient landscape and interpreting how it was originally viewed, traversed and exploited by its earliest modern human inhabitants.

**Keywords :** Wallacea, palaeogeographic reconstructions, islands, intervisibility

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