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The role of tides in the Late Pleistocene human migration to Australia

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Palaeotidal modelling is helping archaeologists understand coastal and marine environments in the past. With coastlines playing an important role in the colonization of early humans out of Africa, an interdisciplinary approach to studying tides in deep time is providing insight into important questions regarding human origins.

This paper investigates the role of tides in the colonization of Australia around 65,000 years ago. At present, northern Australia is known for its high tidal range and strong current velocity. However, the Late Pleistocene is characterised by sea level fluctuations, which would have strongly affected the tides on the northern Australian continental shelf. Here, the effect of changes in sea level on tidal dynamics are explored using a barotropic hydrodynamic model of the Australian coast. This paper explores how tidal currents could have affected seafaring at the time Australia was colonised, and how past tidal dynamics could have caused variations in coastal environments north of Australia in which early seafarers settled.