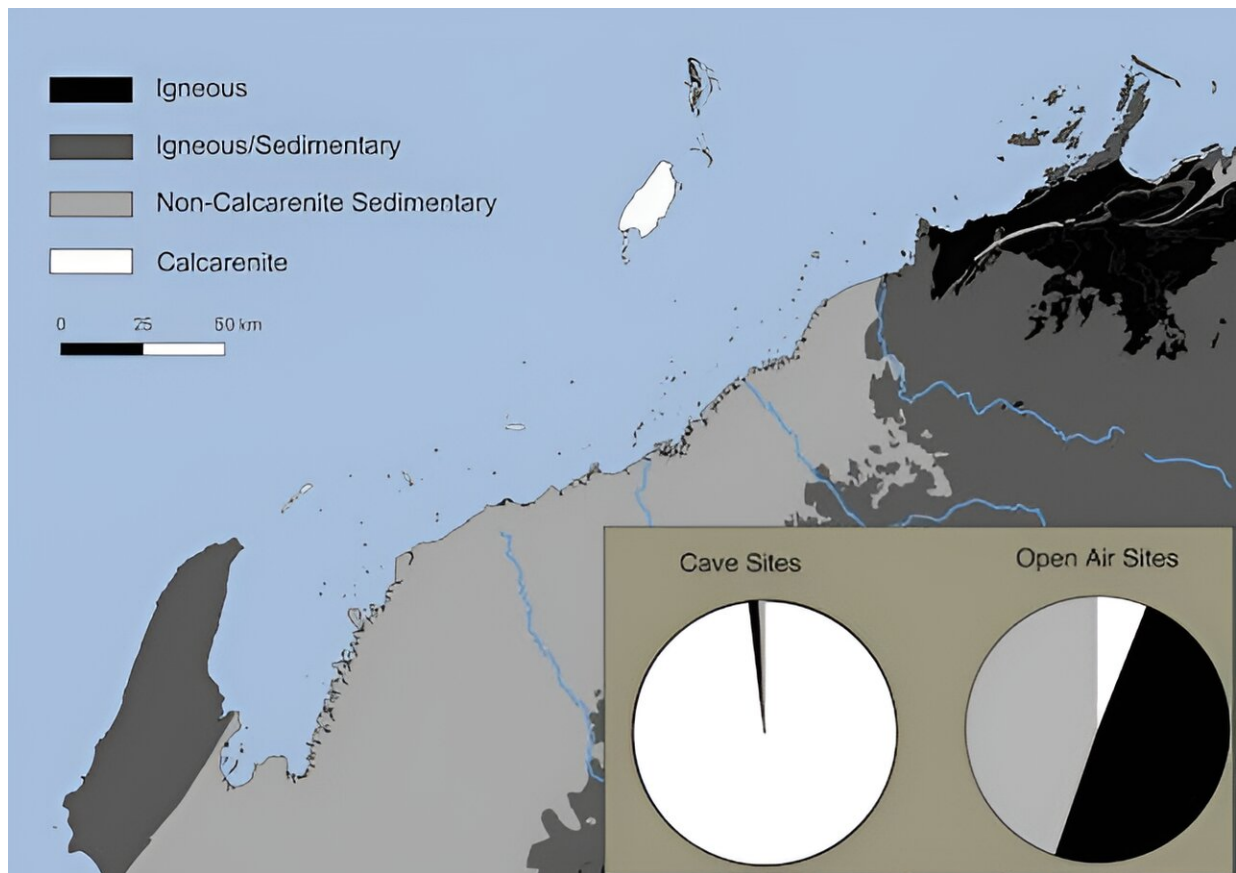


We have revealed a unique time capsule of Australia's first coastal people from 50,000 years ago

March 25 2024, by Peter Veth, David W. Zeanah, Fiona Hook, Kane Ditchfield and Peter Kendrick



Barrow Island has a different rock composition from the mainland. Most artefacts from Boodie Cave were made from limestone, while most found in the open air were similar to materials from the mainland. Credit: Compiled from data in Zeanah et al. 2024

Barrow Island, located 60 kilometers off the Pilbara in Western Australia, was once a hill overlooking an expansive coast. This was the northwestern shelf of the Australian continent, now permanently submerged by the ocean.

Our new research, [published in *Quaternary Science Reviews*](#), shows that Aboriginal people repeatedly lived on portions of this coastal plateau. We have worked closely with coastal Thalanyji Traditional Owners on this island work and also on their sites from the mainland.

This use of the plain likely began 50,000 years ago, and the place remained habitable until rising sea levels cut the island off from the mainland 6,500 years ago.

A unique time capsule

The northwestern shelf and the submerged coastlines of Australia are immensely significant for understanding how and where [First Nations people](#) lived before and during the last ice age.

When the last ice age was at its coldest (24,000 to 19,000 years ago), sea levels worldwide were about 130 meters below current levels. As the ice melted, the sea rose rapidly, eventually flooding the connection between Barrow Island and the mainland.

Since Aboriginal people did not occupy the island after this time, the human archaeological record of Barrow Island is a time capsule, unique in Australia. Most other coastal occupation areas from this period are now beneath the sea, but these drowned landscapes were once vast and habitable.

The largest rock shelter on the island is [Boodie Cave](#), one of Western Australia's oldest [archaeological sites](#). Excavations here revealed evidence of Aboriginal occupation dating back at least 50,000 years.

As sea levels fluctuated through time, the distance from Boodie Cave to the seashore varied significantly. Aboriginal people brought shellfish back to Boodie Cave even when it was many kilometers from the coast.

As the sea rose, people's diets changed. The quantity of shellfish, crabs, turtles and fish consumed in the cave increased through time.

Aboriginal people here mainly used local, silica-rich limestone for crafting their [stone tools](#). While this material was readily accessible, it blunted easily. Instead, people used thick and hard shells from large Baler sea snails to make knives for butchering turtles and dugong.

43,000 years of exchange

In contrast to the cave deposits, the open-air archaeological sites present a different picture. Three years of systematic field surveys recorded over 4,400 flaked and ground stone artifacts from nearly 50 locations.

Excluding one limestone source, most of these stone tools represent geological sources not found on the island. This means they were made out of rocks more typical of the west Pilbara and Ashburton regions.

The artifacts we've found on Barrow Island show that Aboriginal people transported and exchanged stone materials from inland or places now under the sea for over 43,000 years.

We don't yet know why the artifacts in the cave are so different to the ones found in the open air.

The numerous open sites leave a record of how Aboriginal people adapted to [sea-level](#) changes. Both the surface and cave records suggest that Aboriginal people used more local limestone and shell tools as rising sea levels cut off access to the mainland or drowned sources.

Imported stone tools were precious and therefore conserved and heavily used for grinding seeds, working harder materials such as wood, and likely for cutting softer materials such as skins and plant fiber.

While early Aboriginal people continued to use coastal resources, they maintained social networks and exchanges with the mainland. The open sites from Barrow Island provide one line of evidence connecting contemporary Aboriginal people to the now-drowned coastal plains, coastlines and continental islands.

An ancestral connection for Thalanyji peoples

Despite the distance of Barrow Island from the mainland for most of the last 6,500 years, Thalanyji knowledge holders refer to the use of the island from both historic-era fishing activities and as forced laborers in the early pearling industry.

They know the Sea Country between the islands, and the songline connections linking the mainland to the islands. Traditional Owners involved in our project see the artifacts as evidence of their ancestral connection to the island, old coastlines and now drowned coastal plain.

The Barrow Island open-air sites are a significant time capsule, offering unique insights into coastal Aboriginal lifeways over tens of thousands of years.

These sites, combined with the cave records, provide scientists and Traditional Owners with invaluable opportunities to understand and

preserve Australia's rich and deep history.

More information: David W. Zeanah et al, Barrow Island lithic scatters: A unique record of occupation patterns on the North West Shelf before insularisation, *Quaternary Science Reviews* (2024). DOI: [10.1016/j.quascirev.2024.108547](https://doi.org/10.1016/j.quascirev.2024.108547)

This article is republished from [The Conversation](#) under a Creative Commons license. Read the [original article](#).

Provided by The Conversation

Citation: We have revealed a unique time capsule of Australia's first coastal people from 50,000 years ago (2024, March 25) retrieved 27 April 2024 from <https://phys.org/news/2024-03-revealed-unique-capsule-australia-coastal.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.