

Kakadu food scraps provide ancient rainfall clues

January 26 2021



Credit: Pixabay/CC0 Public Domain

Archaeologists are generating a 65,000-year-old rainfall record from ancient food scraps found at Australia's earliest-known site of human occupation.

University of Queensland researcher Dr. Anna Florin said the research was giving a glimpse into the Kakadu region's environment from the time when people first entered the continent from the north.

"Using the scraps from meals eaten tens of thousands of years ago, we can tell a localized story of climate change and explore its effects on communities living in the Kakadu region through time," said Dr. Florin, who also works with ARC Centre of Excellence for Australian Biodiversity and Heritage.

Using the nutshell of anyakngarra—also known as pandanus—a team of researchers led by Dr. Florin worked alongside Mirarr Traditional Owners to develop a new method to investigate past rainfall at the site called Madjedbebe.

"The nutshells hold evidence in their composition for the amount of water available to them when they were growing and can be used to understand past rainfall," Dr. Florin said.

Excavation director Professor Chris Clarkson from UQ's School of Social Science said the research was a huge leap forward.

"We're now able to read the changing rainfall record through time and match this to the amazing strategies that were developed by Aboriginal people to cope with a dramatically changing landscape," Professor Clarkson said.

The nutshells—discovered during excavations at Madjedbebe on Mirarr Country in the Alligator Rivers region in 2012—are the leftovers of meals eaten up to 65,000 years ago.

Coupled with other [archaeological evidence](#) from Madjedbebe, the research showed the region was likely a good place to be even during

[glacial periods](#), Dr. Florin said.

"It allowed people to thrive during the driest spells in Australia's history.

"This included during the Last Glacial Maximum—a period of global aridity occurring between about 25,000 and 18,000 years ago—in which Australia's arid zone dramatically expanded.

"We can now see the region would have allowed early Australians to thrive during long dry spells, perhaps also attracting communities from surrounding areas," Dr. Florin said.

Another significant finding of the study was that the driest time in this long record of human use of the site was not during the Last Glacial Maximum, she said, but today.

"Kakadu is experiencing the driest time since humans first arrived in the country," Dr. Florin said.

"The region's plants and animals are experiencing extreme hardships.

"Feral animals, loss of biodiversity and disruptions to cultural landscape management, including vegetation burning, all pose increased threats to the health and wellbeing of the landscape and its Traditional Owners."

Gundjehmi Aboriginal Corporation chief executive officer Justin O'Brien said an "extraordinary depth of knowledge" was being gained at the Madjedbebe site.

"This research reaffirms the importance of its long-term protection," Mr O'Brien said.

More information: S. Anna Florin et al. Pandanus nutshell generates a

palaeoprecipitation record for human occupation at Madjedbebe, northern Australia, *Nature Ecology & Evolution* (2021). [DOI: 10.1038/s41559-020-01379-8](https://doi.org/10.1038/s41559-020-01379-8)

Provided by University of Queensland

Citation: Kakadu food scraps provide ancient rainfall clues (2021, January 26) retrieved 17 July 2024 from <https://phys.org/news/2021-01-kakadu-food-scraps-ancient-rainfall.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.