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Holocene Vegetation, Savanna Origins and Human Settlement of Guam

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ABSTRACT. Palaeoenvironmental investigations not only provide information about past climate, geomorphological changes, and vegetation, but also can give a unique and complementary perspective to archaeological studies relating to the history of human settlement. The IARII Laguas core on the west coast of Guam yielded 28 meters of sedimentary deposition dating back 9,300 years from the present. Pollen analysis indicates that forested conditions dominated the upland and coastal landscape of southern Guam during the early part of the Holocene. At 4,300 cal. B.P. the earliest charcoal particles appear, suggesting human colonization. By about 3,900 cal. B.P. *Lycopodium* and *Gleichenia* ferns first become noticeable in the core record, probably indicative of gardening and resource collecting activities by small human populations. At 2,900 cal. B.P. these and other disturbance indicators (e.g., grasses, charcoal particles) become continuously present in quantity, signalling the demise of the upland forests in southern Guam and development of the degraded savanna landscape seen today. By 2,300 cal. B.P. there are only remnant patches of native forest in evidence. The sedimentary record of the Laguas core and another nearby sampling location suggest increased hillslope erosion along the coastal margins after about 1,700 cal. B.P., which is accompanied by higher charcoal particle concentrations. Although the exact date of major coastal deposition remains unresolved by the Laguas evidence—it could have been much later than 1,700 cal. B.P.—other studies of erosion and coastal deposition on Guam suggest a time frame sometime between the early first millennium B.P. and late second millennium B.P.

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Three related issues common in Oceanic archaeology studies are examined in a palaeoenvironmental study conducted on Guam, the southern-most island of the Mariana archipelago (Fig. 1). The first is the date of the earliest human colonizers, the second concerns the nature and intensity of prehistoric human impact on the natural environment, and the third, actually one aspect of the second issue, concerns the origin of the interior savannas of southern Guam, whether human or natural.

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