DEPARTMENT OF ANTHROPOLOGY PRESENTS

Archaeological Records Provide Key Information for the Management of Pacific Island Marine Ecosystems

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Archaeology offers a unique and important perspective on human-environmental history particularly due to the long temporal view that only archaeological records can provide. Archaeological data also have relevance for modern efforts to conserve biological diversity and inform on a suite of contemporary global problems. This presentation describes two interdisciplinary projects from Aitutaki, Cook Islands that highlight research between paleoclimatologists, archaeologists, and marine fisheries scientists. Specifically, archaeological information, agent-based model simulations, and paleoclimate data are used to address how various marine organism life-history characteristics, such as age at reproductive maturity, reproductive output, and community structure, affect prey resilience and susceptibility to human foraging and climate change. The archaeological and simulation results provide management agencies and conservation biologists more information on the outcomes of competing policies related to marine foraging restrictions, habitat access, and the potential effects of future climate change scenarios on marine environments. These results are compared with a variety of Pacific Island archaeological sequences that demonstrate millennia of marine resource use and help explain why some marine organisms were susceptible to human exploitation and environmental change while others were resilient. The presentation concludes by describing the role of applied archaeological research and collaborative community engagement for marine conservation in the Hawaiian Islands.

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