

The Dynamic Biogeography and Historical Patterns of Distribution and Abundance in Aleutian Birds of the Late Holocene.

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The Aleutian Island archipelago has been occupied by humans for the past six thousand years. The early Aleut people utilized marine animals as a major food resource, and left behind hundreds of early occupation sites dominated by midden deposits of fish, bird, and mammal bones. Quantitative temporal and spatial analysis of this material reveals that there are strong dynamic and static patterns in the reconstructed biotic environment. Temporal patterns of biodiversity are stable at the largest geographic scales, but can be quite dynamic at the smallest scales, as is found near breeding colonies. Immigration of new species into the Aleutian Island system in the past has perturbed local diversities and guild composition throughout the archipelago. Spatial patterns are quite dynamic through time, but significant biogeographic breaks seem to be localized around oceanographic passes near Unalaska Island and Amchitka Island. The Near Islands in the far western Aleutian Islands have the most distinct fauna over all temporal and spatial scales, and show the greatest patterns of change. The analysis reveals a close association of past and present distributions to prevailing oceanography.