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Exchange and Interaction in Western Aleutian Prehistory: The Efficacy of Geochemical Analysis of Lithic Raw Material Procurement on Amchikta Island

Abstract: Archaeological studies of prehistoric exchange generally focus on long-distance sourcing of exotic materials where distance between peoples is hundreds of miles. Common tracing techniques in material exchange studies include stylistic, geochemical, mineralogical, and petrographic comparisons of artifact specimens and geological sources to aid in identifying the spatial distribution of the lithic materials. From this identification, archaeologists apply exchange models to infer possible trade networks that best describe the observed spatial patterns. In contrast, this thesis is designed to examine the nature of local exchange and interaction in prehistoric island societies. The western Aleutians are a circumscribed chain geologically consisting of volcanic tuffs, andesite, basalts, and diorites. All of these lithic raw materials were locally accessible and frequently used to make stone tools in the Aleutians. This study will establish the efficacy of geochemical and visual techniques for the identification of lithic raw materials commonly found in the Aleutian Islands. The second purpose is to use the data sets acquired from these analytical methods to explore prehistoric exchange and interaction on Amchitka Island. If I am able to chemically discriminate between local basalt sources, then I will test different exchange and direct procurement models to identify which are most appropriate in explaining the observed spatial patterns found on Amchitka. In addition, I will create local exchange and interaction models using previous ethnographic and archaeological studies for a frame of reference. The goals of this study are to provide prospective models of prehistoric human behavior and establish a geochemical database of basalt material for future exchange studies in the Aleutian Islands.