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## Understanding Cultural Resilience and Climate Change on the Bering Sea through Yup'ik Ecological Knowledge, Lifeways, Learning and Archaeology (ELLA)

Northern sea ice levels are at an historical and millennial low, and nowhere are the effects of contemporary climate change more pronounced and destructive than in the Arctic. The Western Arctic rim of North America is considered the climate change "miners canary", with temperatures increasing at twice the global average. In the Yukon-Kuskokwim Delta (Y-K Delta), Western Alaska, the indigenous Yup'ik Eskimos are facing life-altering decisions in an uncertain future, as rising temperatures, melting permafrost and coastal erosion threaten traditional subsistence lifeways, livelihoods and settlements - the Yup'ik face becoming "the world's first climate change refugees" (The Guardian 2008).

For the Yup'ik, however - whose relationship to the total environment is central to their worldview - coping with global climate change entails far more than adapting to new physical and ecological conditions. This is reflected in the holistic incorporation of both natural and social phenomena embodied in the use of the Yup'ik word ella, (variably translating as "weather", "world", "universe", "awareness"), which is understood in intensely social as well as physical terms. Ella reflects the relationship Yup'ik society has with the natural world. As changing environmental conditions jeopardise traditional subsistence practices in the Arctic, their deep-rooted dependency and social connection to the land is also threatened - further severing their ecological ties and compromising their cultural adaptive capacity that has defined Yup'ik community and identity for thousands of years.

Rapid climatic change is by no means a uniquely modern phenomenon and the indigenous cultures of this region have faced such life-changing situations before. In fact, Western Alaska has experienced pronounced climatic variations within the last millennia, with the forebears of the Yup'ik being similarly challenged by regime shifts that would have influenced the availability of important subsistence resources, much the same as their descendants face today.

The ELLA project will use both the products and processes of archaeological research to understand how Yup'ik Eskimos adapted to rapid climate change in the late prehistoric past (AD 1350-1700), and to inform and empower descendant Yup'ik communities struggling with contemporary global warming today. Taking full advantage of the spectacular but critically endangered archaeological resource now emerging from melting permafrost along the Bering Sea coast, this community-based project will illuminate the adaptive capacity of the precontact Yup'ik; build sustainable frameworks for the documenting of local sites under threat; and reinforce Yup'ik cultural resilience by providing new contexts for encountering and documenting their past.