

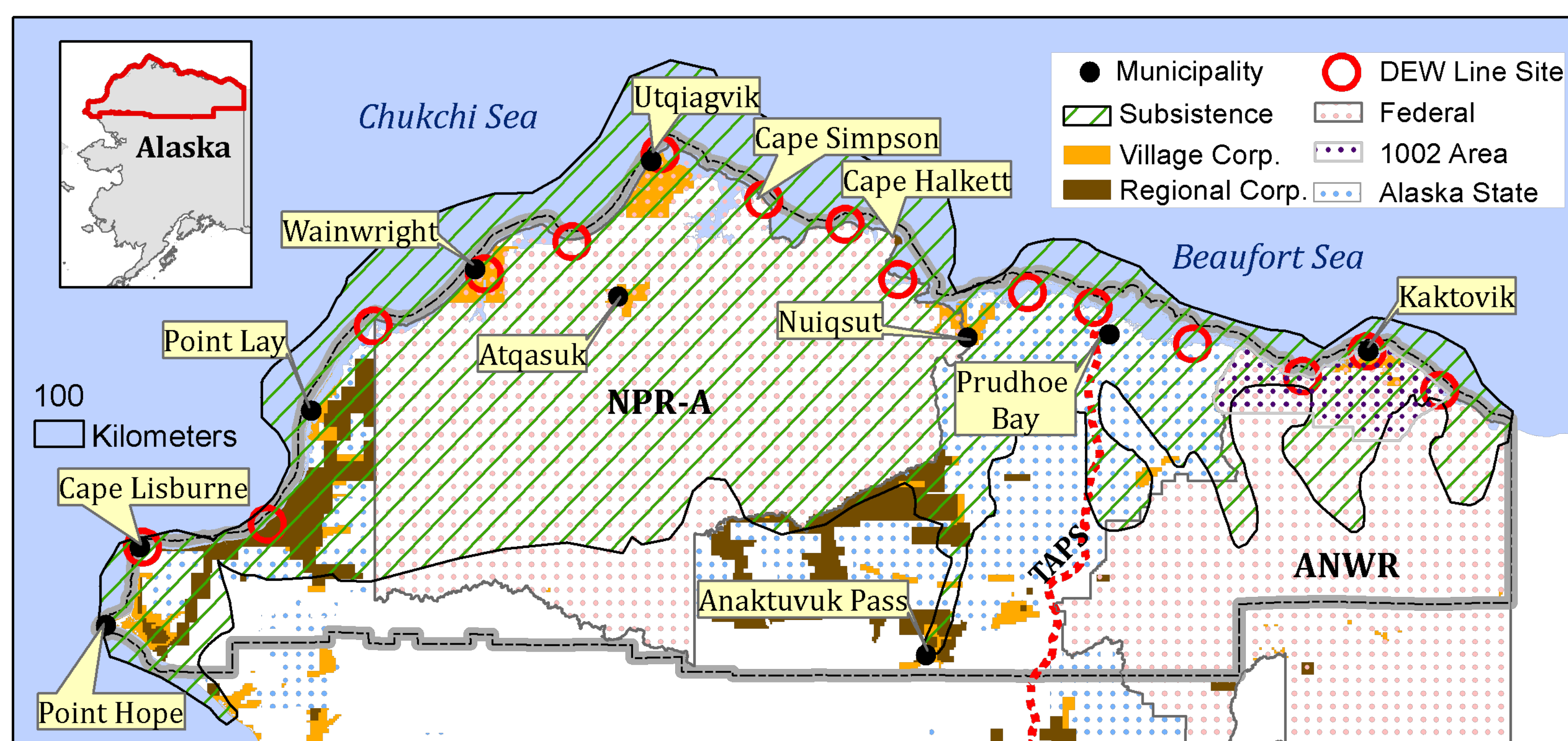
Eroding Arctic coastlines impact Alaska Native land and ocean uses beyond the local municipalities



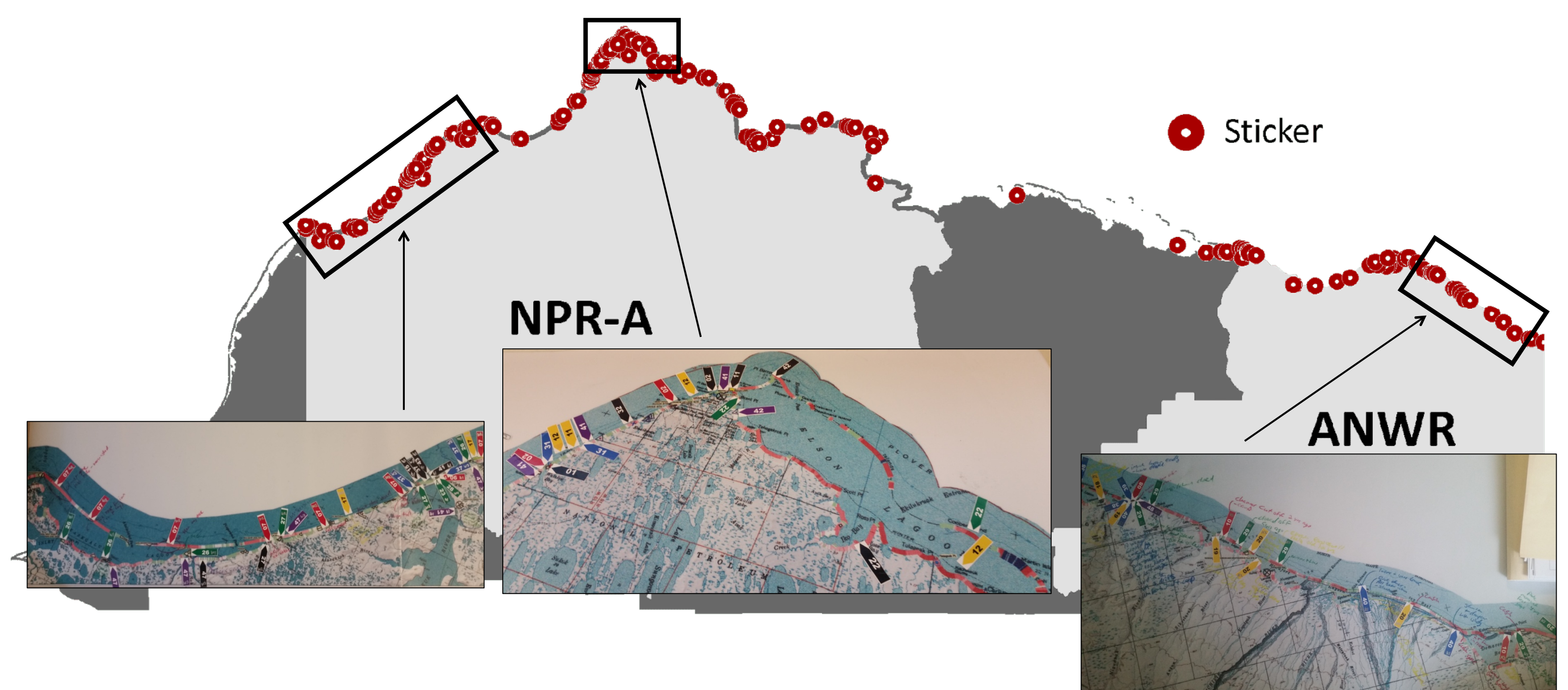
Rapid shoreline change along permafrost-rich coastlines. Source: U.S. Geological Survey



Community mapping workshop in Utqiagvik, Alaska. Source: Michael Brady; Iñupiat Heritage Center, 2016



Prominent North Slope land and ocean uses. North Slope's eight municipalities; the subsistence area digitized from Pedersen (1979); regional and village native corporation lands; Distant Early Warning (DEW) Line sites; two prominent federal land units: the National Petroleum Reserve – Alaska (NPR-A) and the Arctic National Wildlife Refuge (ANWR) including the Section 1002 Area that may be developed for oil and gas; state lands; the Trans-Alaska Pipeline System (TAPS); and the North Slope Borough boundary (gray line).



Digitized coastal erosion impact geo-narrative coded sticker locations. This map shows the locations of all 297 digitized stickers placed by participants to document coastal erosion impacts. The inset maps show select areas of hard copy maps used to collect the local knowledge. This sticker map shows that the fifty participants in the three local communities have collective local knowledge of coastal erosion impacts extending across the coastlines of the National Petroleum Reserve – Alaska (NPR-A) and the Arctic National Wildlife Refuge (ANWR). Metadata are provided on the Arctic Data Center: <https://arcticdata.io/catalog/view/doi:10.18739/A2BR30>

Community mapping workshops in Alaska's North Slope documented collective local knowledge of coastal erosion impacts on access to subsistence hunting grounds and hydrocarbon industrial development on Alaska Native corporation lands. This local knowledge compliments the already well-documented erosion land use impacts occurring within local municipalities and reinforces the importance of including local and indigenous voices in Arctic climate impact assessments.

Michael Brady, Ph.D.
Rutgers, The State
University of New Jersey



Affiliation after completion of this research is National Geospatial-Intelligence Agency



NSF Grant # 1523191