

AN INTEGRATION OF ECONOMIC AND GEOPHYSICAL DATA TO ASSESS THE CHALLENGES OF
MANAGING PUBLIC BEACH ACCESSIBILITY UNDER A REGIME OF COASTAL EROSION AND
SEA LEVEL RISE

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We use a hedonic market model to produce empirical estimates of the economic value of recreational beach access stemming from beach nourishment along the Outer Banks of North Carolina, under varying environmental states of the beach; focusing on recreation benefits, homeowner benefits, and environmental effects. The Outer Banks are predominately located in Dare County, N.C., and are a unique island system - comprised of over 200 miles of narrow barrier islands, dunes, and mud flats, backed by a large and shallow estuarine system. Determining how to distribute and maintain quality beach accessibility is a continual struggle for coastal management in this region, further exasperated by two major effects; (1) increasing coastal population/development and (2) the erosional consequences of climate change. The purpose of this research is to better understand how the value of coastal property is sensitive to changes in local environmental quality – focusing on the role of varying levels of recreational resources and accessibility. Integrating annual aerial photography with residential housing sales data from 1996-2011, a utility-theoretic revealed preference model is estimated. Results produced from this research aim to contribute to a broader understanding of a highly demanded - yet limited - resource that is of growing concern for coastal managers and the land-use decision-making process.