

Development of an Integrated Coastal Erosion Assessment Program along the Coastline of Ghana

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Erosion is a chronic issue along the Ghanaian coastline, with high erosion rates affecting coastal infrastructure and valuable cultural resources. Coastal geomorphology is variable along this coast, ranging from rocky coastline with narrow beaches to river mouth with spits to a large deltaic system. Human intervention along the coastline has not been conducted in a systematic fashion, and attempts at erosion mitigation vary from small rock revetments scattered along the coast to a large engineering project (the Keta Sea Defense) in the eastern part of the country. The variable geomorphology and intermittent human modification result in unique challenges to undertaking a comprehensive monitoring program guided by sound science. Researchers from the University of Ghana, in collaboration with scientists from U.S. institutions, are developing a coastal monitoring program to address issues of coastal erosion in Ghana and to understand the processes driving coastal change and evolution. The project will include establishing baseline information on the long-term behavior of the coastal system, integrating historical data with field monitoring and mapping, and wave climate modeling. Data collected to date include historical shoreline change rates, and topographic and geophysical field data. The main program objectives are to provide regional information for systematic and sound management of coastal resources and contribute to the advancement of coastal science in Ghana.