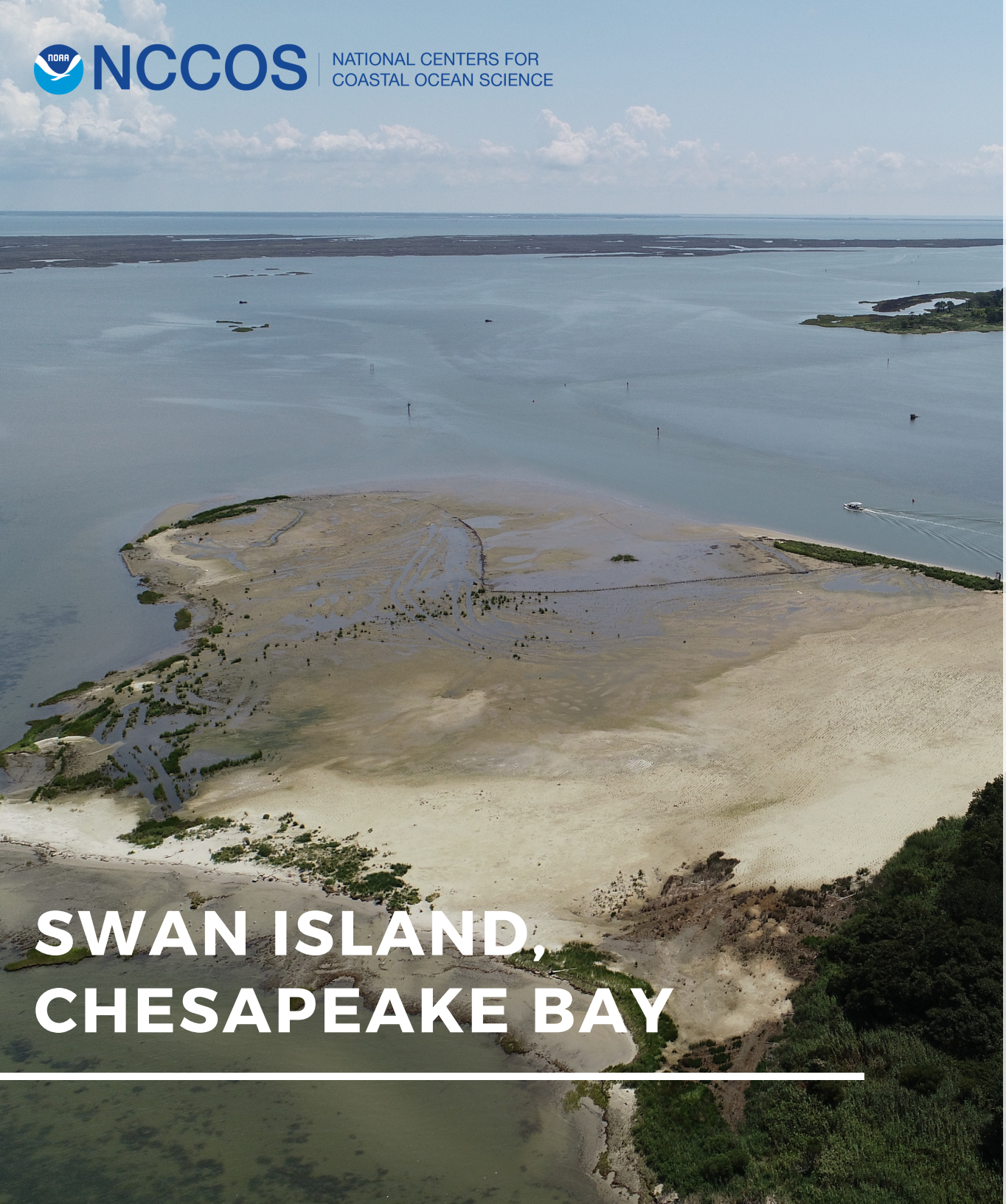
NCCOS | NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE



SWAN ISLAND, CHESAPEAKE BAY

IN PARTNERSHIP WITH

U.S. FISH & WILDLIFE SERVICE

EWN® Engineering With Nature

MARYLAND DEPARTMENT OF NATURAL RESOURCES

US Army Corps of Engineers.

GET IN TOUCH

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THE SWAN ISLAND RESTORATION

Coastal islands and marshes of the Chesapeake Bay are disappearing along with the critical ecosystem services and shoreline protection benefits they provide. At Swan Island, high rates of shoreline erosion and subsidence have deteriorated the island's natural habitat and its ability to shelter the nearby town of Ewell from wave energy. To counter such losses, in 2019 the USACE Baltimore District restored Swan Island with sediment dredged from the channel that provides access to towns on Smith Island.

SCIENCE TO SUPPORT ISLAND RESTORATION FOR COASTAL COMMUNITY PROTECTION

OUR GOAL

Navigation channels across the nation require routine dredging to remain passable. The use of these dredged sediments to restore features like Swan Island can enhance habitat quality and defend coastal communities against storms and sea level rise. However, the protective and ecosystem service benefits are not well-quantified and the current lack of data on restoration project performance is a barrier to implementation of future projects. NCCOS and our project partners are quantifying the benefits associated with sediment re-use strategies.

THE COLLABORATION

NCCOS and USACE scientists and engineers as part of a multi-agency partnership with support from USACE's Engineering With Nature® Program are collecting the hydrodynamic, ecological and topographic data necessary to evaluate the impacts and benefits of the Swan Island restoration. Our work includes development and evaluation of integrated hydrodynamic and ecological models to quantify island performance as well as potential impacts to nearby shorelines and habitats. The resulting robust data set will inform the management and design of future sediment-based, habitat restoration activities within the Chesapeake Bay and beyond.