## Modification of Constructed Storm Berm at Assateague Island National Seashore

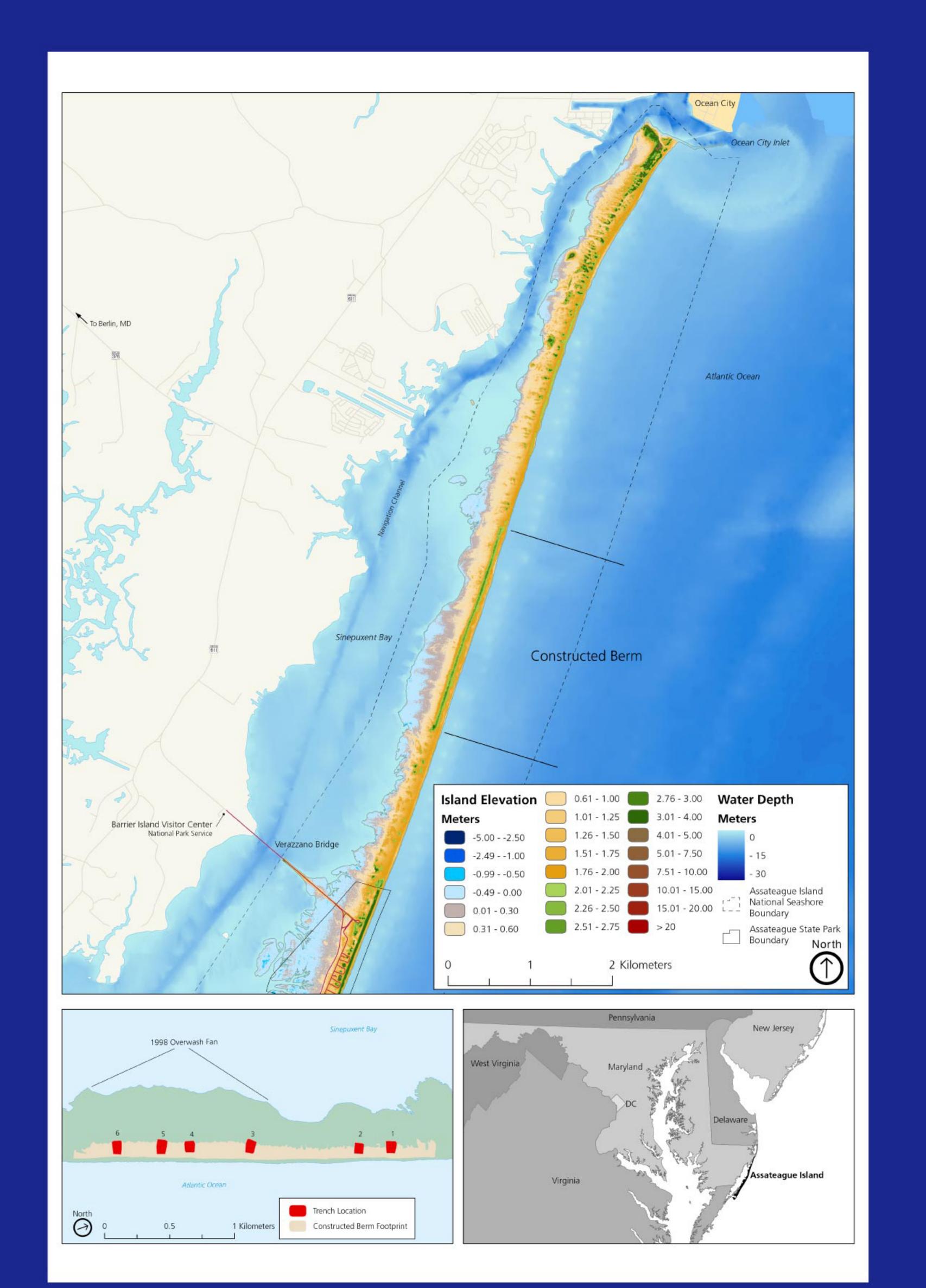
In 1998 a storm berm was constructed on the northern end of Assateague Island National Seashore after a significant overwash event. The constructed storm berm has altered natural overwash processes leading to increased vegetation in areas that had previously been subjected to periodic overwash. Increased vegetation is now leading to a decrease in habitat for threatened and endangered shorebirds. In 2005 six shallow trenches were dug through the constructed storm berm to facilitate natural overwash processes. The trench areas were surveyed pre- and post- construction with a Trimble 5700 GPS surveying system and digital surfaces were created in ArcMap. GPS enabled surveying facilitates rapid and precise data collection, thus allowing resource managers to monitor elevation and sand volume changes. Continuous monitoring the constructed berm and subsequent modifications allow resource managers to make time sensitive decisions, with a goal of restoring natural overwash processes.



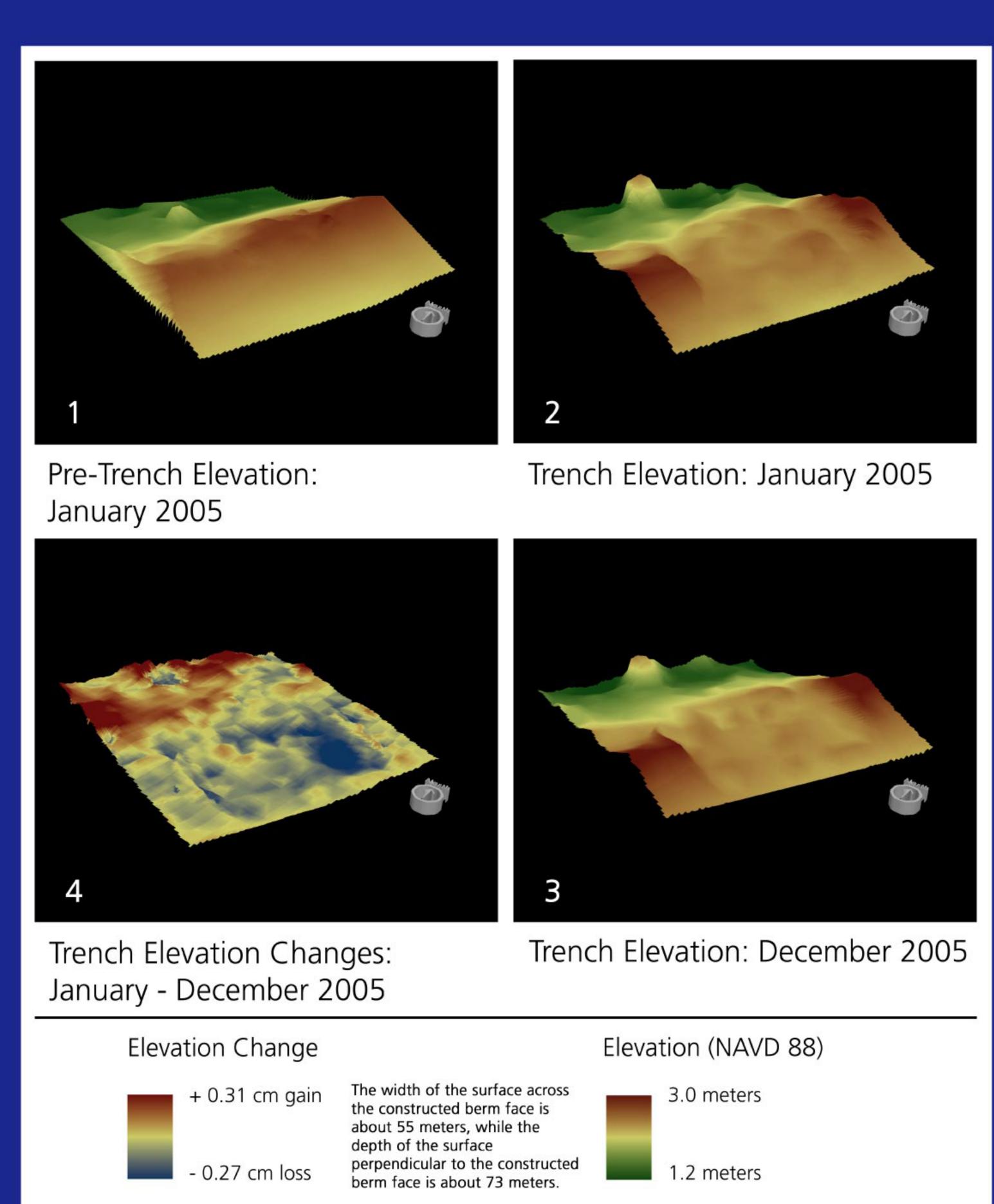
Trenches were dug 40 meters wide and were constructed to an elevation of either 2.42 m or 2.65 m. Pre- and post- dig elevation surveys allowed the quantification of displaced sand volume. The photograph above depicts trench I, looking south, before the trench was dug. (NPS Photo)

Six trenches were dug through the constructed berm on the northern end of Assateague Island National Seashore. These trenches were dug to allow natural overwash processes to occur at areas that have historically experienced overwash events. The constructed berm runs for 3 km along the Assateague Island shoreline, beginning 5 km south of the Ocean City Inlet. The elevation along the crest of the berm is about 2.5 m (NAVD88).(NPS Photo)





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Each trench is surveyed periodically by taking topographic points every four meters using a Trimble 5700 RTK GPS surveying system. A surface is then created and sand volume changes are calculated in ArcMap which guide the management of the constructed berm. Since the trenches were dug in January 2005 (I, 2) there have been no overwash events that have breached the constructed berm through the trenches (3) and all sand volume change has occurred through aeolian transport (4).

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