

The Environmental Impacts of Artificial Shore Stabilization along the East Coast

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Abstract

Sea level rise is inevitable and is further stimulated by the melting of polar ice from a warmer world. The rising waters puts waterfront developments and coastal cities at risk of being lost to the sea. Thus, in order to prevent property loss along the coast, artificial shoreline stabilization, or coastal armoring, is used. This includes methods such as seawalls, jetties, breakwaters, and beach nourishment. While coastal armoring is economically beneficial to humans, it can have negative environmental impacts on the beach environment by destroying habitats, disrupting animal nesting patterns, and polluting the water with sediment. In addition, all of these methods are very expensive to set up and maintain. Case studies of artificial shore stabilization along the East Coast of the U.S. such as Fort Fisher and Virginia Beach show the environmental impacts and economic costs of using artificial structures to protect structures instead of the beaches. There are other alternatives to destructive shoreline stabilization such as engineered retreat of structures inland or island raising, it all begins whenever humans beginning valuing the environment over man-made structures.