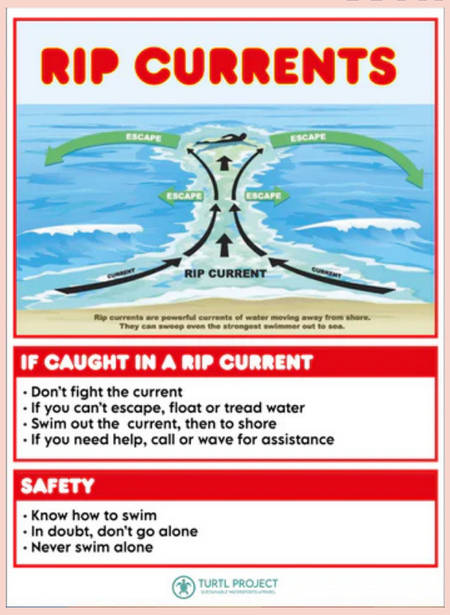
RIP CURRENTS AND BEACH EROSION

LAVALLETTE, NJ

LAUREN KOLFENBACH, INTRO TO GEOLOGY, KOLFENLA@SHU.EDU, 12/11/2024

WHAT ARE RIP CURRENTS



powerful, narrow channels of fast-moving water that are prevalent along the East, Gulf, and West Coasts of the US.

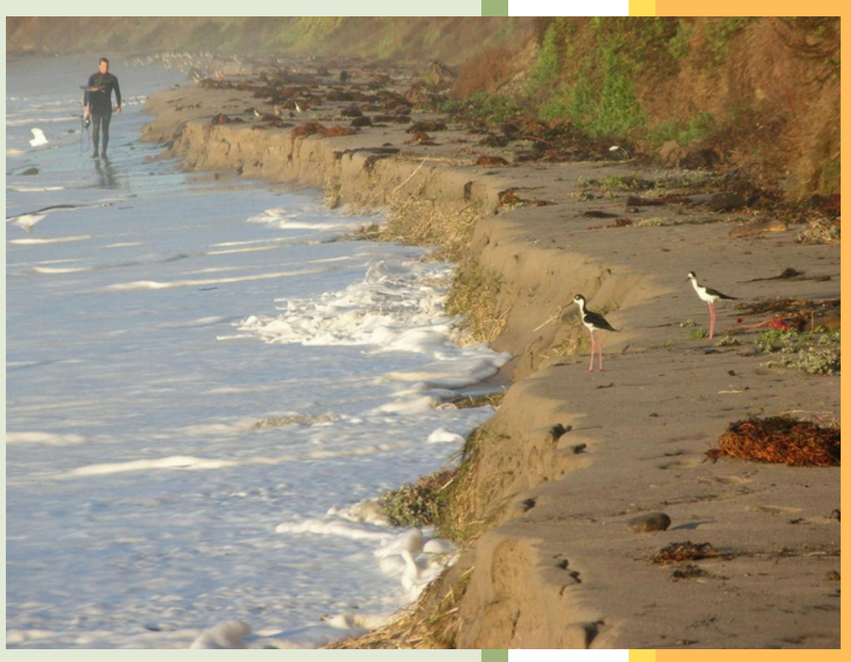
Rip currents: What are they & how can you keep yourself safe while. Turtl Project. (n.d.). https://turtlproject.com/blogs/waterman-tips/do-you-know-what-rip-currents-are

WHAT IS BEACH EROSION

the loss of beach sand, usually from a combination of wind and water movement. Sand is picked up off the beach, and transferred to deeper water, or to another coastal spot.

CAUSES

Beach erosion in the area is caused by storm activity, particularly from hurricanes or coastal storms. These storms bring huge/ powerful waves, and high winds, and change the shoreline such as moving sand offshore.



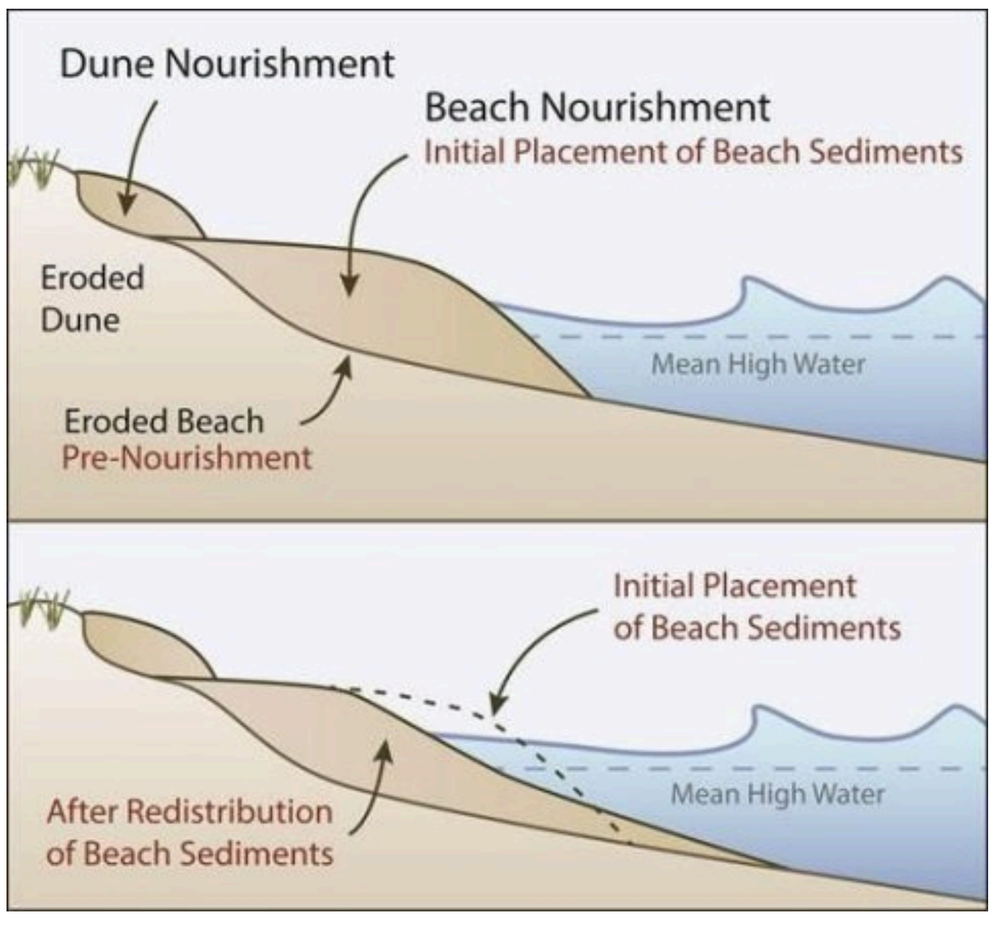
Explore Beachs Sand and Erosion. Explore beaches. (n.d.). https://explorebeaches.msi.ucsb.edu/climate-change/sand-and-erosion

EFFECTS

The major effects of rip currents and beach erosion are the increased risk of drowning for swimmers, loss of beach habitat, and disruption of costal ecosystems. Beach erosion is caused by rip currents wave action can lead to significant loss of beach land, impacting coastal property values.

POSSIBLE SOLUTIONS

Rebuilding and Elevating dunes will better withstand the impact of storm waves. Elevated dunes act like natural buffers and help prevent waves from reaching land areas. Adding structural projects, like seawalls and jetties, disrupts natural water currents and prevent sand from shifting along coastlines.



Massachusetts Wildlife Climate Action Tool. Restore natural coastal buffers: Beach and dune nourishment and restoration | Massachusetts Wildlife Climate Action Tool. (n.d.). https://climateactiontool.org/content/restore-natural-coastal-buffers-beach-and-dune-nourishment-and-restoration

Sources:

Massachusetts Wildlife Climate Action Tool. Restore natural coastal buffers: Beach and dune nourishment and restoration | Massachusetts Wildlife Climate Action Tool. (n.d.). https://climateactiontool.org/content/restore-natural-coastal-buffers-beach-and-dune-nourishment-and-restoration

Explore Beachs Sand and Erosion. Explore beaches. (n.d.). https://explorebeaches.msi.ucsb.edu/climate-change/sand-and-erosion

Study. (n.d.-d). https://study.com/academy/lesson/video/what-is-coastal-erosion-definition-causes.html

US Department of Commerce, N. O. and A. A. (2009, May 12). What is a rip current?. NOAA's National Ocean Service. https://oceanservice.noaa.gov/facts/ripcurrent.html

Coastal Erosion & sea level rise - nj.gov. (n.d.-a). https://www.nj.gov/njoem/mitigation/pdf/2019/mit2019_section5-2_Coastal_Erosion.pdf

U.S. Climate Resilience Toolkit. Coastal Erosion | U.S. Climate Resilience Toolkit. (n.d.). https://toolkit.climate.gov/topics/coastal-flood-risk/coastal-erosionLinks to an external site.

Rip currents: What are they & how can you keep yourself safe while. Turtl Project. (n.d.). https://turtlproject.com/blogs/waterman-tips/do-you-know-what-rip-currents-are