

Seton Hall University
eRepository @ Seton Hall

Petersheim Academic Exposition

Petersheim Academic Exposition

2015

Beach Erosion

Linee Lopez

Sanah Gohar

Lauren Cox

Ryan-Lynn Smentkowski

Follow this and additional works at: <https://scholarship.shu.edu/petersheim-exposition>

Beach Erosion



Linese Lopez, Sanah Gohar, Lauren Cox, Ryan-lynn Smentkowski
Seton Hall University, South Orange, NJ 07079

Introduction-

Local Beach Erosion

Over the past two weeks the sand in front of your ocean front property has been scoured away by winter storms and the ocean is crashing onto your deck twice a day. When you built the house two years ago there was 100 feet of sand between the house and the Atlantic Ocean. Now the Ocean is threatening to take your home.

New Jersey Beaches

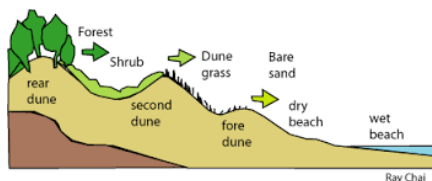
The New Jersey coastline is subject to winter storms called Nor'easters. Most are not severe and the sand that is eroded away. Sand deposited off shore may form sandbars and return to the beach over the summer months. When storms hit an already damaged shoreline even a moderate storm can cause great damage to the oceanfront property... Sand deposited over 20 feet off shore will not return to the beach under normal circumstances!

Beach Erosion & Coastal storms

Beach erosion and coastal storms are related in that coastal storms cause large waves and storm surges that erode the beach. This makes sense because beach erosion is defined as "Beach erosion occurs when waves and currents remove sand from the beach system. The narrowing of the beach threatens coastal properties and tourism revenue in coastal counties throughout the United States." The large waves and storm surges move the sand causing erosion.

Additional Information:

The collapse or subsidence of land along the shoreline due to undermining waves or currents exceeding anticipated cyclical levels cause unusually high water levels when accompanied by a severe storm result in tidal and flooding. In coastal areas as erosion occurs, flood hazards typically migrate inland. Base Flood Elevations (BFEs) may increase and additional inland areas may become subject to wave action



Beach Management:

- Maintain natural dune system
- Plant native plants to stabilize dunes
- Use storm fences and raised walkways
- Replenish depleted dunes and beachfronts
- Elevate properties

Sources:

- <http://www.nrdc.org/globalwarming/fcons/fcons1.asp>
- <https://www.fema.gov/floodplain-management/erosion>
- <http://www.epa.gov/climatechange/impacts-adaptation/transportation.html>
- <http://www.redcross.org/prepare/disaster/winter-storm>
- <http://www.ready.gov/floods>