

# Coastal Engineers

## Design Structures to Prevent Erosion

Erosion is a natural force that formed and continues to shape Lake Erie.

Erosion has impacted all of the shore at some point in time.

Since development of Ohio's Lake Erie coast began in the mid-1800s, shore structures have been built to try and prevent erosion.

Over time, coastal engineers have learned which types of erosion control measures function best along the various environments along Ohio's coast.

Coastal engineers use site-specific information about natural forces including wave height, water depth and shore geology to help design structures.

It's critical to know the site-specific forces impacting the shore because the energy from wind and waves is transferred to the materials along the shore.

When enough energy is transferred, materials along the shore move.

How much the materials move depends on numerous factors including:

- Size of material
- Location of material
- Shape of material
- Amount of energy transferred
- Direction of energy transfer

*“Erosion is the wearing away of land or a lakebed by the action of natural forces. The most noticeable and dynamic processes that lead to erosion include wave induced erosion and mass wasting.”*

- Lake Erie Shore Erosion Management Plan

