

## National Parks Beaches and Coastal Landforms (NPS)



Drakes Estero estuary outlet and Pacific coast, Point Reyes National Seashore, California



Assateague Island National Seashore (MD & VA)

In general, the coastal environment can be defined as that area lying at the interface between land and oceans (or other large body of water). It includes both the zone of shallow water within which waves are able to move sediment, and the area landward of this zone, including beaches, cliffs, and coastal dunes, which is affected to some degree by the direct or indirect effects of waves, tides, and currents. The coastal environment itself may extend inland for many miles.

A variety of factors—including wave energy, tidal range, sediment supply, **beach materials**, continental-shelf slope and width, and past geologic history (e.g., glaciation, volcanism, and plate movement)—characterize coastal environments.

## Coastal Erosion and Deposition

Coastal processes create many erosional or depositional features we see when visiting the National Parks such as:

**Beach Ridges** - Beach ridges are wave-deposited sand ridges running parallel to the shoreline.

**Wave-Cut Scarps** - A wave-cut scarp is a steep bank created by wave erosion.

**Marine Terraces** - A marine terrace is a raised beach or 'perched coastline' that has been raised out of the reach of wave activity.

## Coastal Landform Types

Over time, the interaction of coastal processes and an area's geologic setting leads to the development of characteristic and dramatic coastal landforms.

### Delta Landform



Red River and mountains near the coast Lake Clark National Park and Preserve, Alaska



## **Estuary Landforms**



San Francisco Bay salt marshes

## **Lakeshore Landforms**



several small islands off the shore of Isle Royale National Park, Michigan

### **Rocky Coast Landforms**



a wave crashes into the rocks at Ship Harbor in Acadia National Park, Maine

### **Sandy Coast Landforms**



Windswept beach, Fire Island National Seashore, New York



## Tropical Coast Landforms



Pu'uuhonua o Honaunau National Historic Park - Hawaii

## More Coastal Features



sea arch - Volcanoes National Park, Hawaii



Cumberland Island National Seashore, Georgia



Kenai Fjords National Park, Alaska



Acadia National Park, Maine



Sleeping Bear Dunes National Lakeshore, Michigan



Olympic National Park, Washington





Cape Cod National Seashore, Massachusetts



Golden Gate National Recreation Area, California



Padre Island National Seashore, Texas



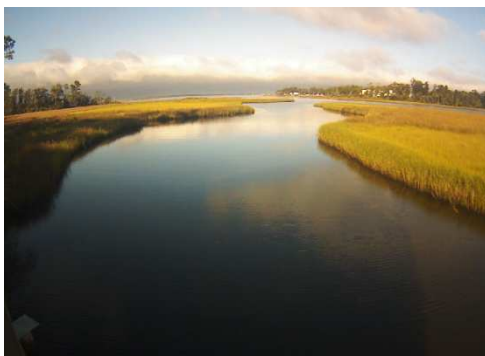
Pictured Rocks National Lakeshore, Michigan



Cape Lookout National Seashore, North Carolina



Apostle Islands National Lakeshore, Wisconsin



Gulf Islands National Seashore - Davis Bayou, Mississippi & Fort Pickens Area