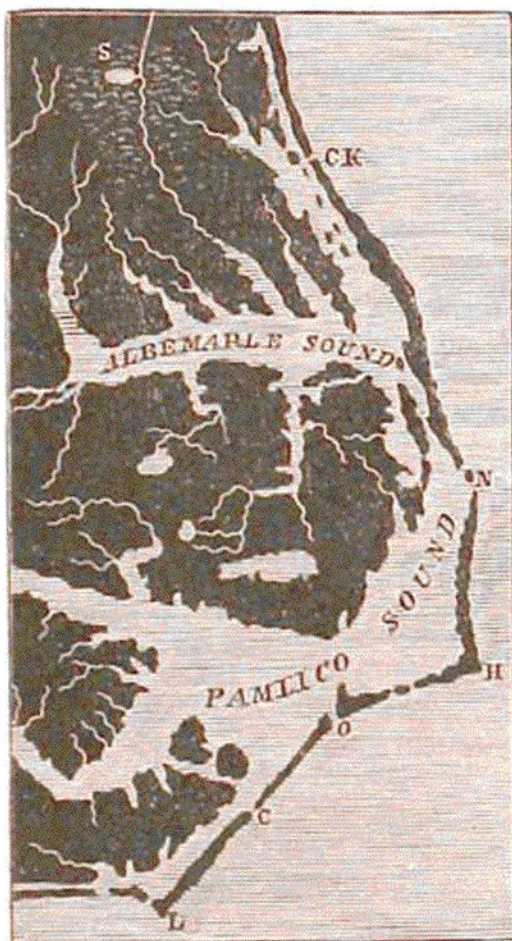


The map, page 211, affords illustrations of these barriers. Montauk Point has its beach, and also its bluffs of sand and coarse gravel. Westward, the beach is continued on in a series of barriers, outside of a series of shallow bays, which extend all the way to Coney Island and New York Bay. The barrier is seldom over 600 yards in width, and is almost wholly bare, yet has stumps at places on the inner side. Moreover, the westward drift of the sands has shallowed the waters south of the western part of Long Island. The zigzags here in the 10-fathom bathymetric line show the direction of the wave-and-current movement.

Part of the drifted sands of these beaches were supplied from the bluffs to the eastward, but part are the gatherings of the waves from the sea-bottom below the beach and barrier, and a small part are from the feeble streams of southern Long Island.

Along the New Jersey coast and farther south the beaches are usually half a mile to a mile in breadth, and many have an inner forest-covered belt. Sandy Hook—5 miles

drifting of the sands, and an accompanying inside current, continued through both the ebb and flow of the tide, as long since explained by Bache. The drift of the Atlantic coast is here carried to the very margin of the deepest ship channel out of New York Bay. The hook-like shape of the extremity may be due to drift in the Long Island direction where that of the New Jersey direction is forced to stop.



tuck Inlet (to Currituck Sound): N, New Inlet; H, Cape Hatteras; O, Ocracoke Inlet; C, Cove Inlet; L, Cape Lookout.

Fig. 196 is a map of the coast-region either side of Cape Hatteras (H). Along the coast south of New York the rivers carry out a large amount of detritus, which is widely distributed, but the coarser is gathered up by the waves to make the barriers. The position of the cape was probably determined by a cape of rocky ridges which is now submerged. Off the great Middle Bay of the Atlantic coast the storm-winds have their greatest velocity when blowing from the eastward—as they do at the Bermudas; and hence the course of the wave-and-current movement is toward New York Bay, both along southern Long Island westward and from Cape Hatteras northward. South of Cape Hatteras (H) the drifting is, for a similar reason, southwestward.

Examples of remarkable driftings of beach materials along the Atlantic coast are on record. A vessel, the "Sylph," was wrecked in 1814-1815 on the south side of Long Island, and materials from the wreck were drifted *westward* beyond Fire Island; and 7 years afterward her rudder was found 20 miles west of where she was lost. In another case, coal from the cargo of a vessel wrecked on the south side of Nantucket was carried eastward and then northward, and the keeper of the lighthouse of the north cape, called Great Point, supplied himself from it with fuel for the winter; and brick from another