The Coastal Plain forms the eastern edge of North Carolina, making up about 45 percent of the state’s total land area. It is bounded on the east by the Atlantic Ocean and on the west by the Fall Line, a broad zone where the soft rocks of the Coastal Plain meet the hard crystalline rocks of the Piedmont. The Coastal Plain varies in width from 100 to 140 miles. It rises gently in elevation to the west, from about sea level at the coast to as much as 500 feet in the Sand Hills district.

Wetlands are a dominant feature of the North Carolina Coastal Plain. Wetlands are defined as “…those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” That is, the descriptive characteristics of wetlands are their hydrology, hydric soils and wetland plants. The fact is, however, that they are creations of topography that causes land areas to drain poorly, whether because of terraces left along ancient shorelines or due to flat lying deposits on flood plains.

Originally North Carolina had about 10.3 million acres of wetlands. As Figure 4 shows, the vast majority of this acreage lies on the Coastal Plain. Wetlands on the Piedmont or in the Mountains tend to lie along streams whereas those near...
The coastal margin north of Cape Lookout is a “drowned coast,” in which the sea level rise associated with the end of the last Ice Age and the continual melting of the ice caps has caused the ocean to invade the lower reaches of river valleys. This drowning has produced large embayments such as Albemarle and Pamlico Sounds. Associated with these embayments is a string of barrier islands that are separated from the mainland by as much as 20 miles, the Outer Banks.
These linear islands apparently were formed as sea level rose over old beach ridges and sand dunes. Continued rises in sea level, accompanied by wave and wind action, cause these islands and their lagoons to slowly move inland. This steady inland migration, known as barrier island rollover, plus the exposure to hurricanes and other storms, makes the many developments along these attractive shores highly vulnerable to damage and destruction. The most famous example of this is the historic Cape Hatteras lighthouse. This lighthouse has been moved farther inland to protect it from erosion.

Figure 5 - Major coastline features of the Outer Banks

The lagoons and sea marshes along the coast near the Outer Banks are vital parts of the coastal ecosystem. The shallow shoals and sand bars that are associated with barrier islands are constantly shifting in location. They have presented sailors with very hazardous waters in which to navigate and this stretch of the Atlantic coast is so littered with shipwrecks that it is known as "The Graveyard of the Atlantic". These dangerous waters also made it difficult for early explorers and settlers to land on the northeast coast of North Carolina.

South of Cape Lookout is the Cape Fear Uplift, where the coast was gently folded upwards. Instead of drowning the river valleys, the uplift exposed an even coastline, along which have formed long stretches of broad beaches. The deep embayments found to the north are not present, nor are extensive barrier islands. Historically, this length of coast was somewhat more accessible, despite the Frying Pan Shoals that make the mouth of the Cape Fear River dangerous and which requires dredging to maintain a navigable channel. Today this region is known for its miles of wide, sandy beaches that extend southward through the Grand Strand of South Carolina.

Image sources:


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