

Physical Characteristics

South Carolina is divided into five separate geographic land regions: the Mountains, the Piedmont, the Sandhills, the Coastal Plain and the Coast. Each region has unique physical characteristics.

The Mountain region, part of the Blue Ridge Mountains, forms the northwestern corner of the state and is the southward continuation of the Appalachian Mountains. Underlain by metamorphic and igneous rocks, the topography is rugged with sharp relief. Elevation ranges from 1,400 to 3,500 feet above sea level. Soils tend to be high in organic content. High altitudes, relative to the rest of the state, cause cooler temperatures and considerable rainfall. Average annual rainfall in the Mountains ranges between 60 and 80 inches. Because of the sharp elevation differences, rainwater runoff forms waterfalls and fast-flowing streams. The average temperature in January is between 38 and 40 degrees Fahrenheit. The average temperature in July is between 71 and 74 degrees Fahrenheit.

The Piedmont region is found between the Mountains and the mid-line of the state near Columbia. Like the Mountains, it is also underlain by metamorphic and igneous rocks. Lower in elevation than the Blue Ridge, its topography is characterized by rolling hills and valleys with moderate slopes. Elevation ranges from 300 feet to 1400 feet and descends closer to the coast. Soils consist primarily of red and yellow clays. The streams of the Mountains, as well as rainwater runoff on the impermeable clay of the Piedmont, join together to form large rivers in the Piedmont. Average annual rainfall ranges between 46 and 54 inches. The average temperature in January is between 40 and 44 degrees Fahrenheit. The average temperature in July is between 74 and 81 degrees Fahrenheit.

The Sandhills constitute a unique region formed by the remains of an ancient coastline. The underlying rock is composed of sedimentary rock. The Sandhills also mark an approximate boundary between the Piedmont and Coastal Plain. The topography consists of rolling hills with gentle slopes. The Sandhills range in elevation from 300 to 725 feet above sea level. Soil texture is mostly sandy with some areas of loam, and internal drainage is rapid and even excessive. Sandhills soils are generally low in plant nutrients, moisture and organic material because the soil texture allows rapid leaching. The area receives an average annual rainfall of about 45 inches. The average temperature in January is between 42 and 46 degrees Fahrenheit. The average temperature in July is between 79 and 81 degrees Fahrenheit.

The Coastal Plain may be divided into inner and outer subregions because of topographic differences. The Inner Coastal Plain is gently rolling, whereas the Outer Coastal Plain is flatter. Both are underlain by unconsolidated sedimentary rocks. Rivers meander through broad floodplains characterized by cut-off lakes and swamp vegetation. Elevation differences range from 300 feet at the border of the Sandhills to sea level at the border of the Coast. Soils consist of a mixture of sand, clay and organic materials. The area receives an average annual rainfall of about 46 to 52 inches. The average temperature in January is between 42 and 48 degrees Fahrenheit. The average temperature in July is between 79 and 81 degrees Fahrenheit.

The Coast is a dynamic merger of land and water and is characterized by wide beaches, barrier islands and marshes. The coast mainly consists of underlying limestone, a sedimentary rock. Tides, currents and storms are constantly remolding its morphology, and it is a diverse region. The topography is flat and elevation ranges from sea level to a few feet above sea level. Soils consist of sand and organic material. The area receives an average annual rainfall of about 48 to 50 inches. The average temperature in January is between 46 and 50 degrees Fahrenheit. The average temperature in July is between 80 and 81 degrees Fahrenheit.

Wildlife Communities

Because of the unique physical characteristics of each region of South Carolina, each region also contains its own unique wildlife community.

The high elevation of the Mountains causes cooler temperatures and high rainfalls. These support a forest vegetation, such as white pine and hemlock, not found in the rest of South Carolina and characteristic of more northerly latitudes. The high rainfalls support a lush vegetation. Cooler temperatures lead to a predominance of warm-blooded mammals over cold-blooded reptiles in the community. The sharp relief forms fast-moving, shallow and chilly streams. Fish such as trout and darters, adapted to this type of aquatic habitat, thrive in these streams where other fish cannot.

The mild climate of the Piedmont leads to a variety of plant life in this region. Because it is warmer and more humid than the Mountains, hardwood and pine trees predominate. The rolling, forested hills provide habitat for a variety of mammals, reptiles and birds. The large rivers provide habitat for fish adapted to fast water, such as darters, as well as those adapted to slow-moving water such as sunfish. The construction of dams in these regions to create man-made reservoirs has resulted in habitats in which only fish adapted to slow-moving water can survive.

The Sandhills receive less rainfall than other regions of the state. This along with the sandy soils found in this region, which drain rainwater rapidly and cannot hold water well, leads to plants in the community that must be adapted to dry soils. The distinctive vegetation is dominated by long leaf pines and turkey oaks, which can survive in dry soils. Most animals in this region are not permanent residents, but migrate in from the moister Piedmont and Coastal Plain regions. Certain types of reptiles, though, such as the box turtle, are well-adapted to surviving in arid conditions and are lifelong residents.

The Coastal Plain is warm and humid and receives a good deal of rain. This leads to lush vegetation where pine trees and hardwood trees predominate. Because of the flat terrain, the Coastal Plain is the only region in which swamps can occur. Large areas of flat land provide places for standing water. Animals such as alligators and plants such as cypress trees that are adapted to this type of habitat thrive here.

Because of its proximity to the ocean, the animals and plants in the wildlife community of the Coast must be adapted to the effects of salt and saltwater. In areas that are immersed by the tides, only certain plants able to withstand being flooded by saltwater can survive, such as Spartina grass. Areas above the tides, such as the maritime forest of barrier islands, have to have plants that are resistant to salt spray picked up off the ocean by the wind. Many trees have waxy leaves to protect them from this, such as live oaks and wax myrtles. The coast is a place where three different environments (land, freshwater and saltwater) meet. Because of this, animals and plants from each of these environments may be found in the Coast at different times. Animals and plants that are adapted to the constantly changing conditions, such as periwinkles and Spartina grass, are permanent residents of the Coast.