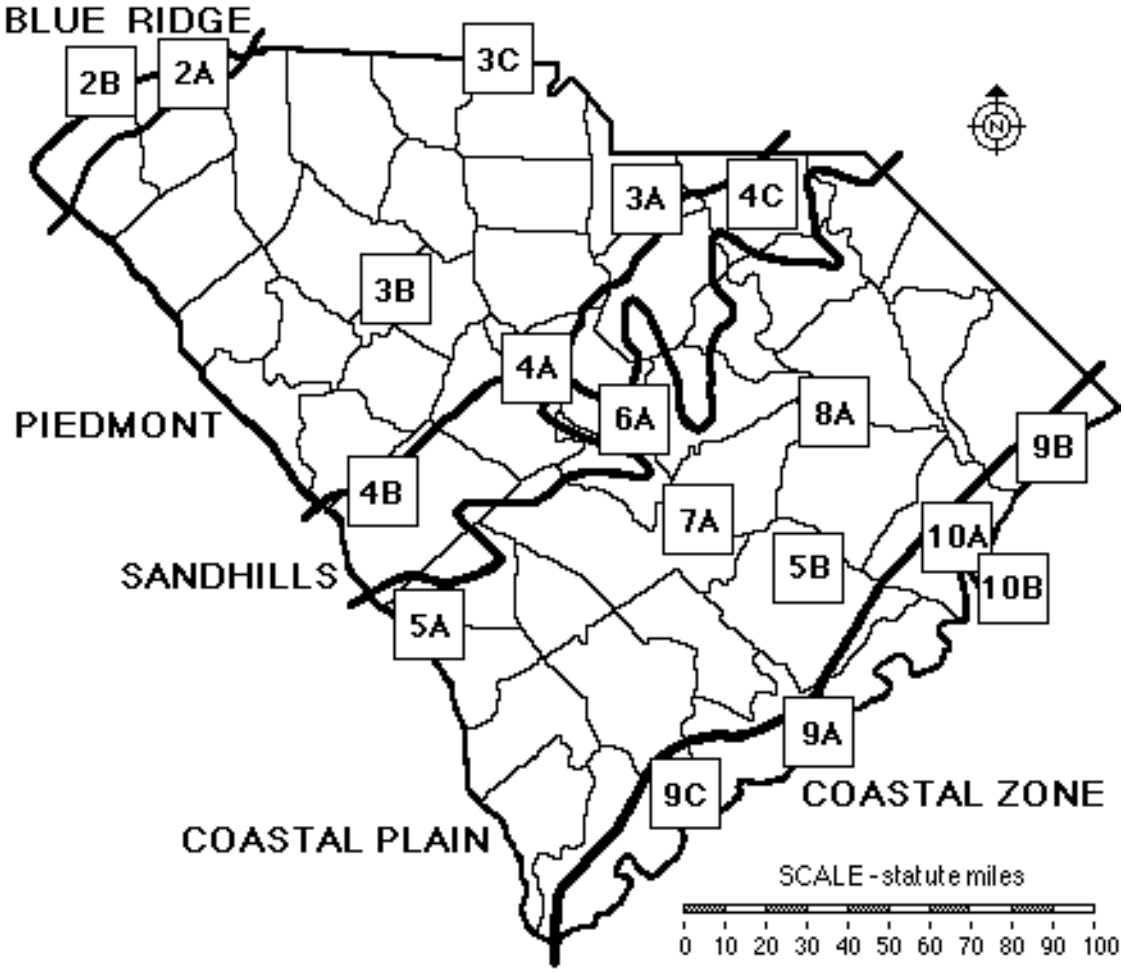
SECTION 1

SOUTH CAROLINA'S INTRIGUING LANDSCAPE (STATEWIDE OVERVIEW)



Index Map to Study Sites

2A	Table Rock (Mountains)	5B	Santee Cooper Project (Engineering & Canals)
2B	Lake Jocassee Region (Energy Production)	6A	Congaree Swamp (Pristine Forest)
3A	Forty Acre Rock (Granite Outcropping)	7A	Lake Marion (Limestone Outcropping)
3B	Silverstreet (Agriculture)	8A	Woods Bay (Preserved Carolina Bay)
3C	Kings Mountain (Historical Battleground)	9A	Charleston (Historic Port)
4A	Columbia (Metropolitan Area)	9B	Myrtle Beach (Tourist Area)
4B	Graniteville (Mining Area)	9C	The ACE Basin (Wildlife & Sea Island Culture)
4C	Sugarloaf Mountain (Wildlife Refuge)	10A	Winyah Bay (Rice Culture)
5A	Savannah River Site (Habitat Restoration)	10B	North Inlet (Hurricanes)

TABLE OF CONTENTS FOR SECTION 1

SOUTH CAROLINA'S INTRIGUING LANDSCAPE (STATEWIDE OVERVIEW)

SECTION 1

SOUTH CAROLINA'S INTRIGUING LANDSCAPE (STATEWIDE OVERVIEW)

POWER THINKING ACTIVITY - "The Hydrophobic Horse"

You are an explorer arriving in the Carolina Colony in the summer of 1730. Your mission is to travel from the coast, the lowest point in the colony, to Sassafras Mountain, the highest point, in what will one day be the state of South Carolina. Use the STATE BASE MAP #1, SHADED RELIEF, and a wipe-off pen to trace your path. (Sassafras Mountain is located in the northwestern section of this map.) You may land your ship anywhere you wish along the coastline; however you have discovered that your horse, whom you have brought with you across the ocean, has developed an absolute hatred of water and will not cross water again under any circumstances. Find at least one route by which you can travel all the way from the coast to Sassafras Mountain without crossing water. You may however cross swamps because a summertime drought has left most swampland temporarily dry.

PERFORMANCE OBJECTIVES

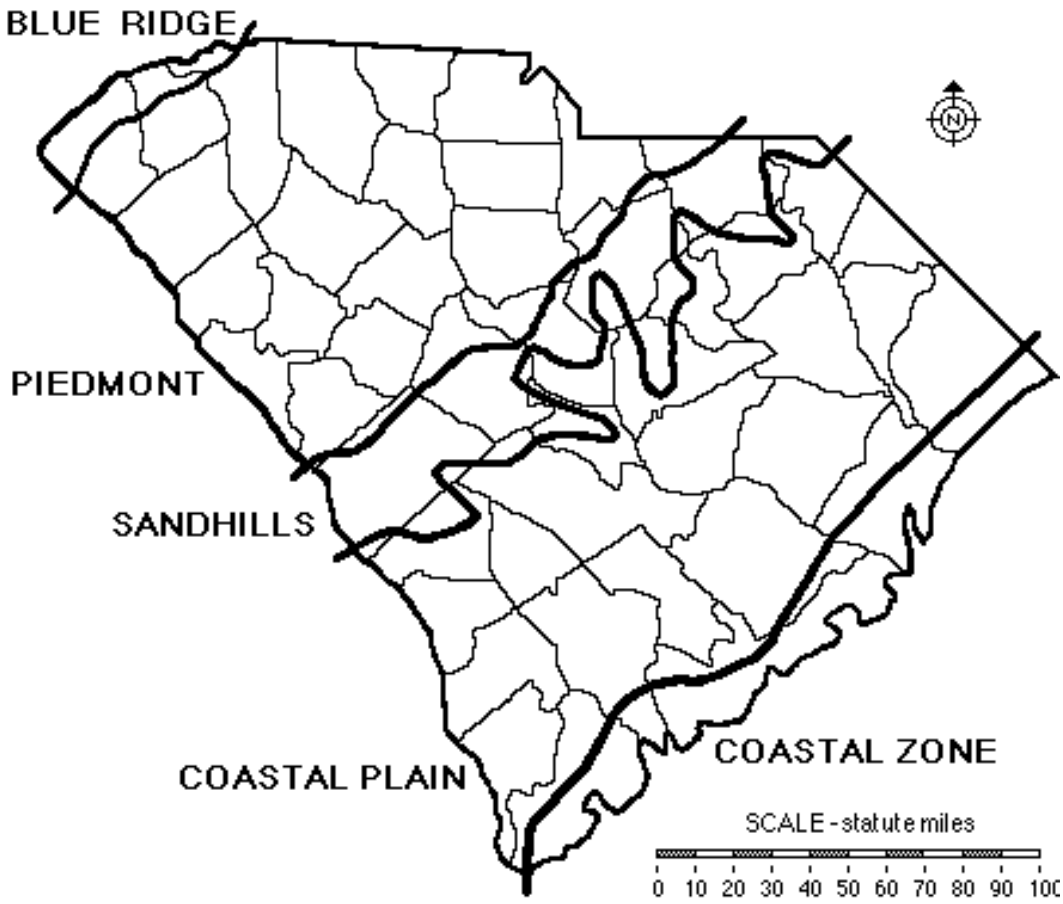
1. Recognize and interpret evidence of geological events that shaped the state's five landform regions.
2. Examine the impact of the state's river systems, watershed areas, and drainage patterns on early settlements as well as on today's economy.
3. Identify and retell stories about origins of South Carolina place names.
4. Relate the topography of the state to historical events and economic growth.
5. Use diaries to compare and contrast early customs, modes of travel, political concerns, descriptions of landforms, and location of towns with those of today.
6. Compare early transportation systems and their role in the development of towns with modern interstate highways and their economic impact on major cities of today.
7. Analyze the impact of manufacturing, agriculture, and tourism on the state's natural resources.
8. Use real world situations to illustrate concepts of measuring area, perimeter, and length.
9. Recognize, examine, and interpret the meaning of state base map and topographic map symbols.

Description of Landforms, Drainage Patterns, and Geological Processes

South Carolina's Five Landform Regions

South Carolina literally stretches from the mountains to the sea. Along the way it incorporates many distinctive regions, landscapes, cultures, and histories, each of which has its own fascinating story to tell. Yet each of these stories is related in some way to the underlying geology which provides the framework for understanding past and current economic trends, population distribution, agricultural choices, and land use patterns. South Carolina is known neither as a very large nor a very small state. It is not particularly famous nor unusually commonplace among other states. In terms of geographic, cultural, and historical diversity, however, South Carolina definitely qualifies as a special place, extremely interesting, intriguing, and unique to both residents and visitors alike. Each unique **landform** region has had a lasting impact on the state, not only in terms of its physical geography, but also on its human and biologic communities.

Figure 1-1: Landform Regions of South Carolina



There are many possible ways to subdivide South Carolina into geographic landform regions. Geologists tend to use rock type as the defining characteristic, while geographers look more towards common economic and cultural ties to define a region. Political scientists, historians, soil scientists, and linguistic experts all have their own criteria for establishing regional boundaries. Some approaches recognize as few as three regions in South Carolina while others assign six or more categories to the same area. The SC MAPS curriculum has selected landscape characteristics and land use patterns as the most important basic criteria for subdividing the state and has used this standard to establish five distinct landform regions for South Carolina:

Blue Ridge - characterized by mountains and recreational land use
Piedmont - characterized by low rolling hills, industry, agriculture, and forests
Sandhills/Midlands - characterized by sandy hills and poor soils
Coastal Plain - characterized by flat land, forests, and agriculture
Coastal Zone - characterized by active coastal processes and tourism

These regions essentially run in broad bands parallel to the Atlantic Ocean coastline. Likewise, maps showing the distribution of geologic formations, vegetation, climate zones, and soils project this same banded pattern. Elevations decrease steadily from over 3000 feet in the Blue Ridge Mountains to sea level at the coast. Consequently, most major rivers run from northwest to southeast, crossing several landform regions on their way to the ocean. Boundaries between regions are quite clear and easy to distinguish in some parts of the state, but are very arbitrary in others. For all statewide maps, the lines shown represent the best approximations of regional boundaries at the given scale of the map.

Differences Between Piedmont and Coastal Rivers

All stream sediment is formed originally from the disintegration of solid rock by both chemical and physical **weathering** processes. Physical processes, such as the freezing of water and the growth of plant roots into cracks, tend to break rocks into smaller and smaller fragments. Chemical processes, such as **oxidation** and **hydrolysis** (chemical reactions involving water), alter the original minerals and produce soluble products which are carried off in solution. Runoff from rainfall carries these products (rock fragments, sand, clay, and dissolved ions) into streams where water currents are able to transport the material for great distances.

The largest sediment grain sizes are normally found in the mountains where stream energy is the highest. As grains move downstream, they are progressively rounded, sorted and made smaller until they reach silt or clay size. Larger grains roll or slide along the stream bottom while finer sediment is carried in suspension. The dissolved materials eventually are carried to the ocean where they add to the total salt content of the ocean. In areas of extensive erosion, such as the **Blue Ridge** and **Piedmont** regions, every rainstorm adds more silt and mud to the stream system to be carried farther towards the ocean. Rivers in these regions have enough energy to erode and downcut the landscape and therefore occupy relatively narrow valleys with small **floodplains** and fairly straight channel paths. Stream courses are fairly constant through time and are usually underlain by solid rock.

In contrast, streams which originate in the **Coastal Plain**, below the **Fall Line Zone**, generally have much lower energy and flow more slowly. As a result, they are able to carry much less sediment. Rainfall also runs off the land very slowly because land slopes are low, a fact which limits the amount of local erosion which can occur. Any sediment which is introduced into these streams usually gets deposited very rapidly into sandbars or mudflats associated with very wide, **swampy floodplains**. River courses are usually **meandering** and tend to change position frequently within the floodplain. It is very unusual to find rocks along the river bank or anywhere else on the floodplain. Such rivers are often stained a dark color by tannic acid derived from the decomposition of organic materials along the river course.

Drainage Patterns and Watersheds

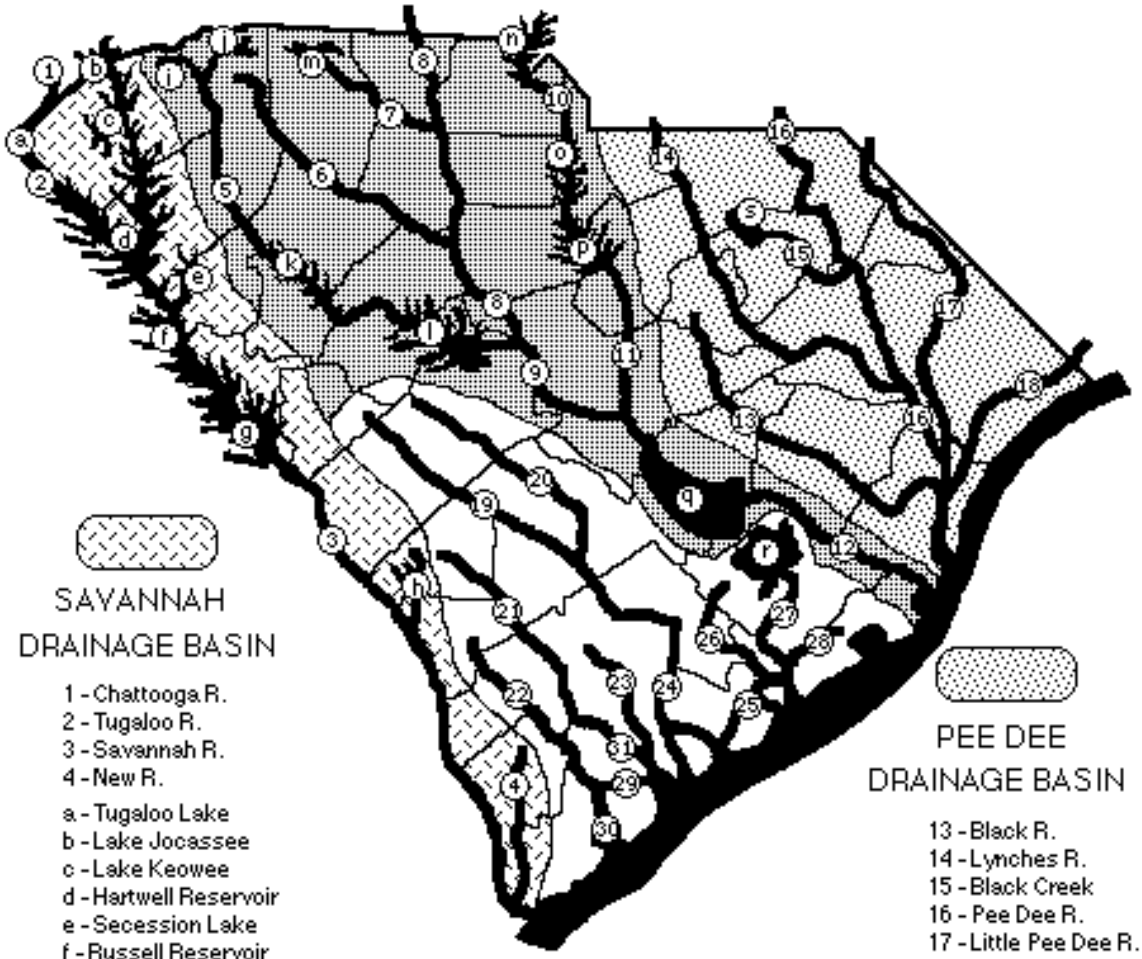
All land areas which drain into a particular river system are said to be part of that river's drainage basin, or **watershed**. Each watershed is separated from other surrounding watersheds by higher elevation ridgelines called drainage divides. Every stream, no matter how small, has its own drainage basin from which it gathers water from runoff and sediment from erosion. Several small tributary watersheds, when taken together, serve as the combined watershed area for larger streams. In general, larger streams tend to have larger total watersheds. For example, the Santee River, the largest in the state, has by far the biggest watershed area in South Carolina.

South Carolina rivers, in contrast to those in other parts of the country, often undergo name changes as they travel from the mountains towards the sea. In the Santee River drainage system, for example, the Broad and Saluda rivers join to form the Congaree River, while the Catawba River changes its name to the Wateree River. The Congaree and Wateree rivers then join downstream to form the Santee River. In actuality, this river is the longest on the east coast, but this fact is relatively unknown outside of South Carolina because of the many name changes the river experiences.

Three major river systems, the Savannah, Santee, and Pee Dee, cross the entire state, carrying sediment eroded from the Appalachian Mountains to be deposited on the beaches and barrier islands along the coast. Together these three river systems drain about 80% of the state and are characterized by having large quantities of suspended silt and red clay carried in the water flow. These rivers undergo a dramatic shift in flow behavior and erosional and depositional dynamics as they pass through the Fall Line Zone from the Piedmont into the Coastal Plain.

Many smaller river systems, such as the Edisto, Ashley, and Coosawhatchie rivers, which originate in the Coastal Plain, are associated with comparatively small watersheds which tend to drain into the ocean rather than into other rivers. A few of these rivers in the **Coastal Zone** Region may be quite wide, but also very short. These are essentially glorified tidal channels which have no significant drainage basin other than the surrounding **marsh** and tidal flat areas. For the purposes of the SC MAPS activities, the watersheds of all Coastal Plain rivers are lumped together into a single category and are referred to as the Coastal Plain Drainage Basin.

Figure 1-2: State Map of Major Drainage Basins



SAVANNAH
DRAINAGE BASIN

1 - Chattooga R.
2 - Tugaloo R.
3 - Savannah R.
4 - New R.

a - Tugaloo Lake
b - Lake Jocassee
c - Lake Keowee
d - Hartwell Reservoir
e - Secession Lake
f - Russell Reservoir
g - Clark Hill (Thurmond) Res.
h - Par Pond

PEE DEE
DRAINAGE BASIN

13 - Black R.
14 - Lynches R.
15 - Black Creek
16 - Pee Dee R.
17 - Little Pee Dee R.
18 - Waccamaw R.

s - Lake Robinson

SANTEE
DRAINAGE BASIN

5 - Saluda R.
6 - Enoree R.
7 - Pacolet R.
8 - Broad R.
9 - Congaree R.
10 - Catawba R.
11 - Wateree R.
12 - Santee R.

i - Table Rock Reservoir
j - Poinsett Reservoir
k - Lake Greenwood
l - Lake Murray
m - Lake William C. Bowen
n - Lake Wylie
o - Fishing Creek Reservoir
p - Wateree Lake
q - Lake Marion

COASTAL PLAIN
DRAINAGE BASIN

19 - South Fork Edisto R.
20 - North Fork Edisto R.
21 - Salkehatchie R.
22 - Coosawhatchie R.
23 - Ashepoo R.
24 - Edisto R.
25 - Stono R.
26 - Ashley R.
27 - Cooper R.
28 - Wando R.
29 - Coosaw R.
30 - Broad R.
31 - Combahee R.

r - Lake Moultrie

Figure 1-3: Average Annual Precipitation

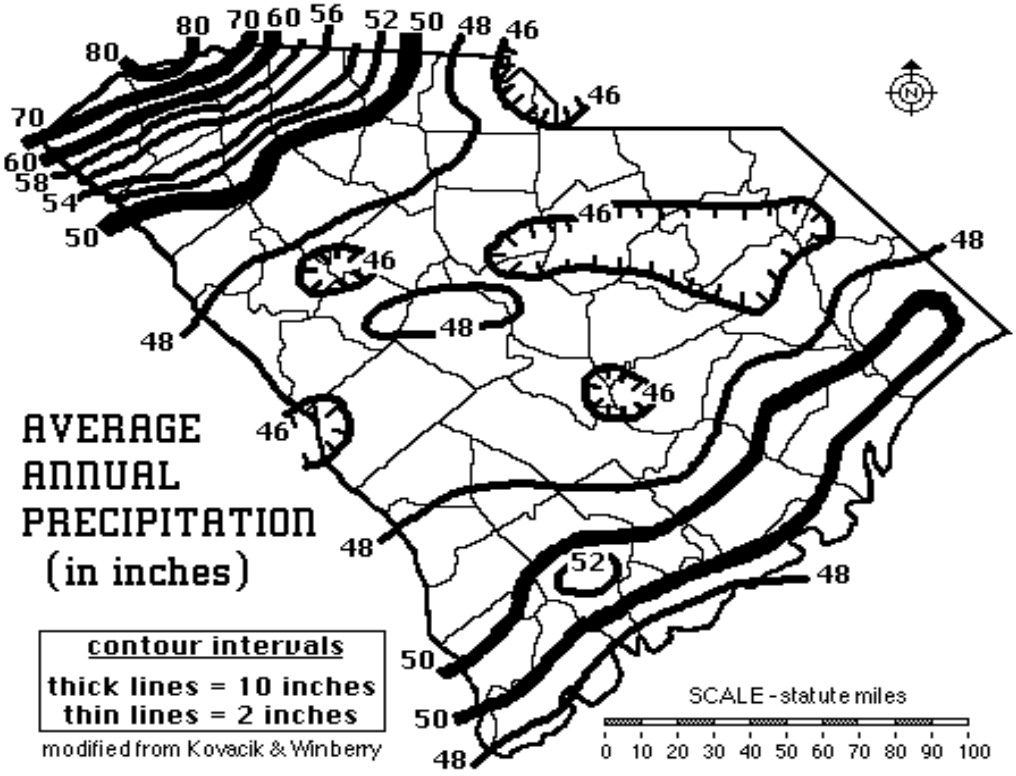
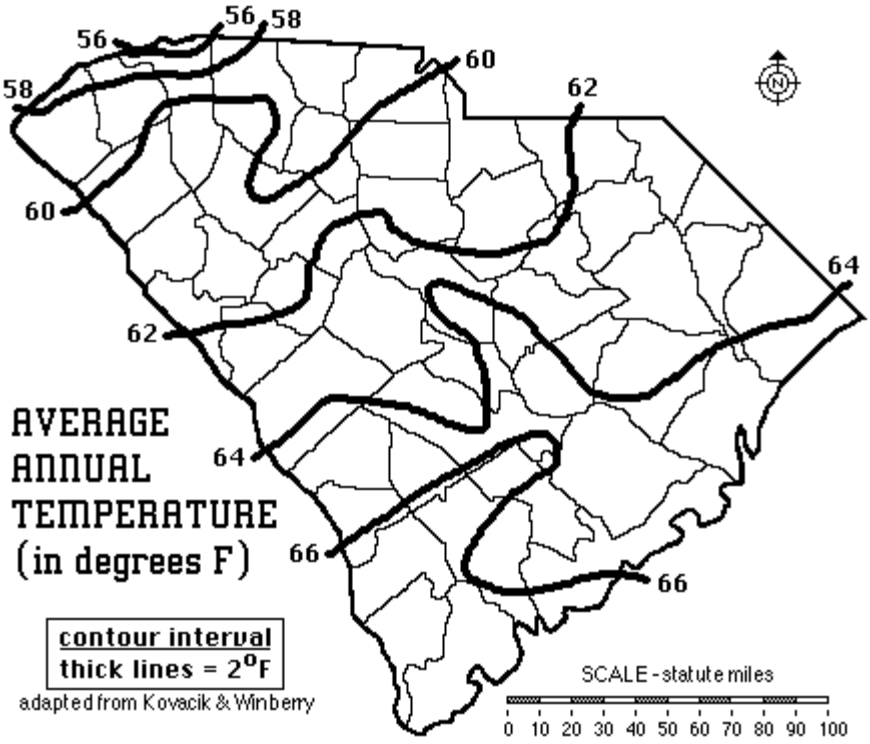


Figure 1-4: Average Annual Temperature



With the exception of **oxbow lakes**, **sinkhole** lakes, and **Carolina Bay** lakes, all of which are small in area, all lakes in South Carolina are actually man-made **reservoirs**. Of the three largest river systems in South Carolina, only the Pee Dee has remained a free-flowing river throughout the 20th century. Major dams and reservoirs can be found all along the other systems in all parts of the state. They provide hydroelectric power, municipal water supplies, and opportunities for recreation and tourism. Dams can also have adverse effects on a region and may cause an increase in water loss due to evaporation, change local climates, and act as sediment traps which greatly reduce the flow of sand to coastal regions. As a result, parts of the South Carolina coast are literally starved for sand and are experiencing severe beach erosion.

Geological Events that Shaped South Carolina's Landscape

The primary factor determining landscape features in South Carolina is the underlying geology. Differences in rock types and rock structures are responsible for many of the differences we see in the five major landform regions. The "Geologic Cross-Section of South Carolina," Figure 1-5, relates the landform regions to the occurrence of specific underlying rock belts. Figure 1-6, "The Geologic Time Scale and South Carolina," relates periods and epochs of geologic time to South Carolina events.

Most of the Blue Ridge Region, certainly the portion northwest of the Brevard Fault Zone in Oconee County, was the site of marine deposition of sandstones and shales along the shoreline of a much smaller North American continent during the Precambrian Eon over 600 million years ago. The Piedmont Region at 600 million years ago was a separate landmass, a smaller continental fragment, which had no connection with the North American continent. The Sand Hills and Coastal Plain sediments did not even exist at that time. Roughly 450 million years ago, during the Ordovician Period, the Piedmont landmass collided with the continental margin producing **folds**, **faults**, **igneous intrusions** (plutons), and extensive **metamorphism**, significantly changing the textures of the original sediments. About 300 million years ago in the Pennsylvanian Period, the continent of Africa collided with the Piedmont producing similar effects only on a much larger scale. Large segments of the Piedmont and Blue Ridge were overthrust westward onto themselves and the adjacent North American continent.

As a result of these collisions, most of the rocks in the Piedmont and Blue Ridge are **metamorphic**. The original sandstones and shales have been converted into gneisses and schists. Iron-rich volcanic rocks have been changed to slate and amphibolite, a dark gneiss rich in the mineral amphibole. Igneous intrusions have produced many large areas of granite which are currently mined in several parts of the state. Small deposits of **limestone** have been turned into marble. Many of these rocks are fairly resistant to erosion but the iron-rich schists and amphibolites are more susceptible to chemical weathering. These rocks breakdown to form thick soils and a half rock/half soil substance referred to as **saprolite**. The red clay common to the Piedmont is a direct result of such chemical weathering, specifically the oxidation of iron minerals.

Approximately 150 million years ago, during the Jurassic Period, the supercontinent which formed from the collision of Africa and North America began to separate. Just prior to fragmentation, **tectonic** activity along the developing **rift zone** caused a series of **downfaulted basins** to form along a line from Georgia to New England. These basins filled with river and lake sediments of Triassic and Jurassic age as well as intrusive basaltic sills and **dikes** (layers of igneous rock contained within other rock types). A few of these so-called Triassic Basins can still be found in South Carolina; exposed at the surface in Chesterfield County, and buried beneath Coastal Plain sediments in Barnwell County.

Figure 1-5: Geologic Cross-Section of South Carolina

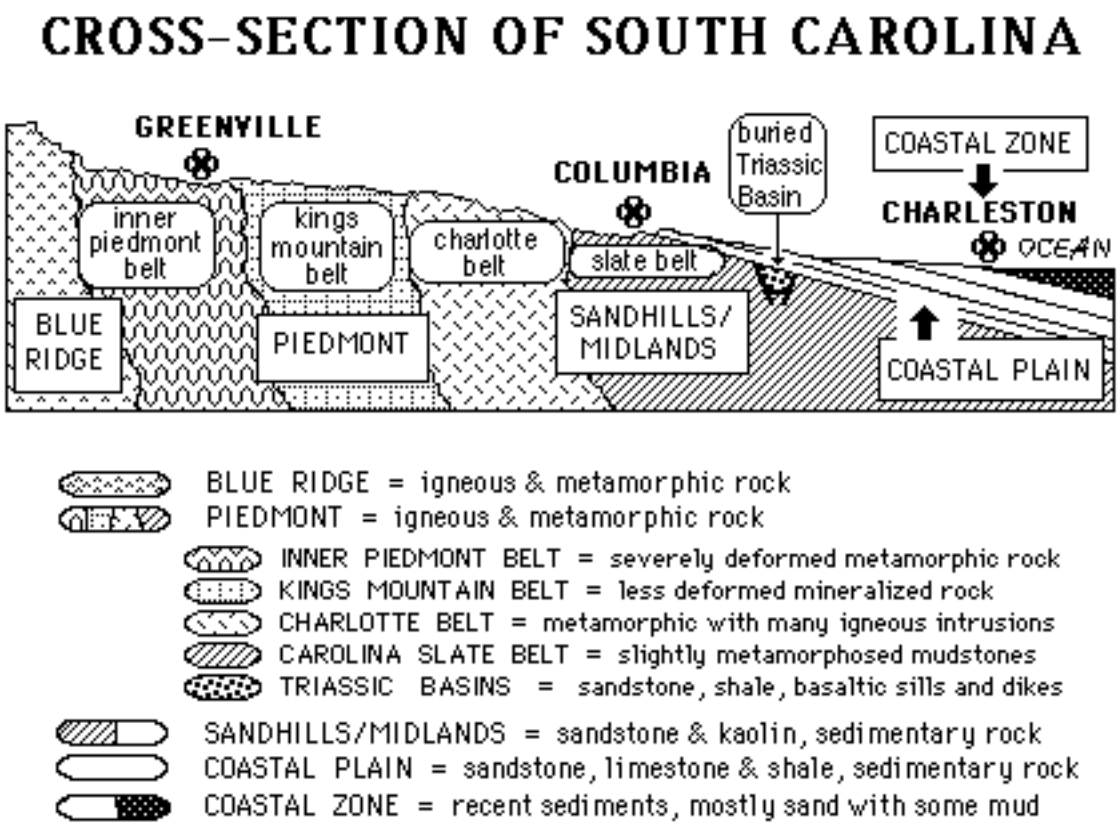


Figure 1-6: The Geologic Time Scale and South Carolina

AGE	ERA	PERIOD	EPOCH	SOUTH CAROLINA EVENTS
.01	CENOZOIC	QUATERNARY	Holocene	barrier islands form along modern coastline; Charleston earthquake of 1886 occurs
1.6			Pleistocene	alternating rise and fall of sea level (due to ice ages) produces beach ridges along coastal zone
5.3		TERTIARY	Pliocene	sea levels rise temporarily to form Orangeburg Scarp, Carolina Bays develop in Coastal Plain
22.7			Miocene	renewed uplift of Appalachian Mountains produces large amounts of terrestrial stream sediment
36.8			Oligocene	falling sea level (due to formation of Antarctic ice cap) exposes parts of South Carolina to extensive erosion
57.8			Eocene	rising sea level deposits marine sediments over most of state - Santee Limestone forms in Coastal Plain
66.4			Paleocene	Cape Fear Arch is center of tectonic uplift along NC border; tectonic subsidence occurs along GA border
144	MESOZOIC	CRETACEOUS		long-term stable shoreline under higher sea level conditions produces sandhills; kaolin deposits form
208		JURASSIC		Atlantic Ocean opens as North America and Africa drift apart, first Coastal Plain sediments, diabase dikes form
245		TRIASSIC		tectonic rifting of supercontinent Pangea produces fault basins, which fill with stream and lake deposits
286	PALEOZOIC	PERMIAN		Allegheny Orogeny ends as Blue Ridge region is pushed westward in a series of thrust faults
320		PENNSYLVANIAN		Allegheny Orogeny begins as African continent collides with North America, extensive metamorphism
360		MISSISSIPPIAN		African continent approaches North America, volcanic activity and igneous intrusions continue
408		DEVONIAN		uplift of land in response to tectonic activity farther north, igneous intrusions and metamorphism occur
438		SILURIAN		extensive erosion of uplifted land with deposition into early ocean covering parts of Piedmont
505		ORDOVICIAN		Piedmont terrane collides with North American continent, volcanic activity and metamorphism occur
570		CAMBRIAN		Blue Ridge area is at edge of continent, Piedmont is small separate landmass, marine deposition occurs
PRECAMBRIAN				several mountain building episodes produce igneous, metamorphic, and sedimentary rocks of Blue Ridge

* ages in millions of years * based on chart in Carolina Rocks, by Carolyn Murphy, Sandlapper Publications

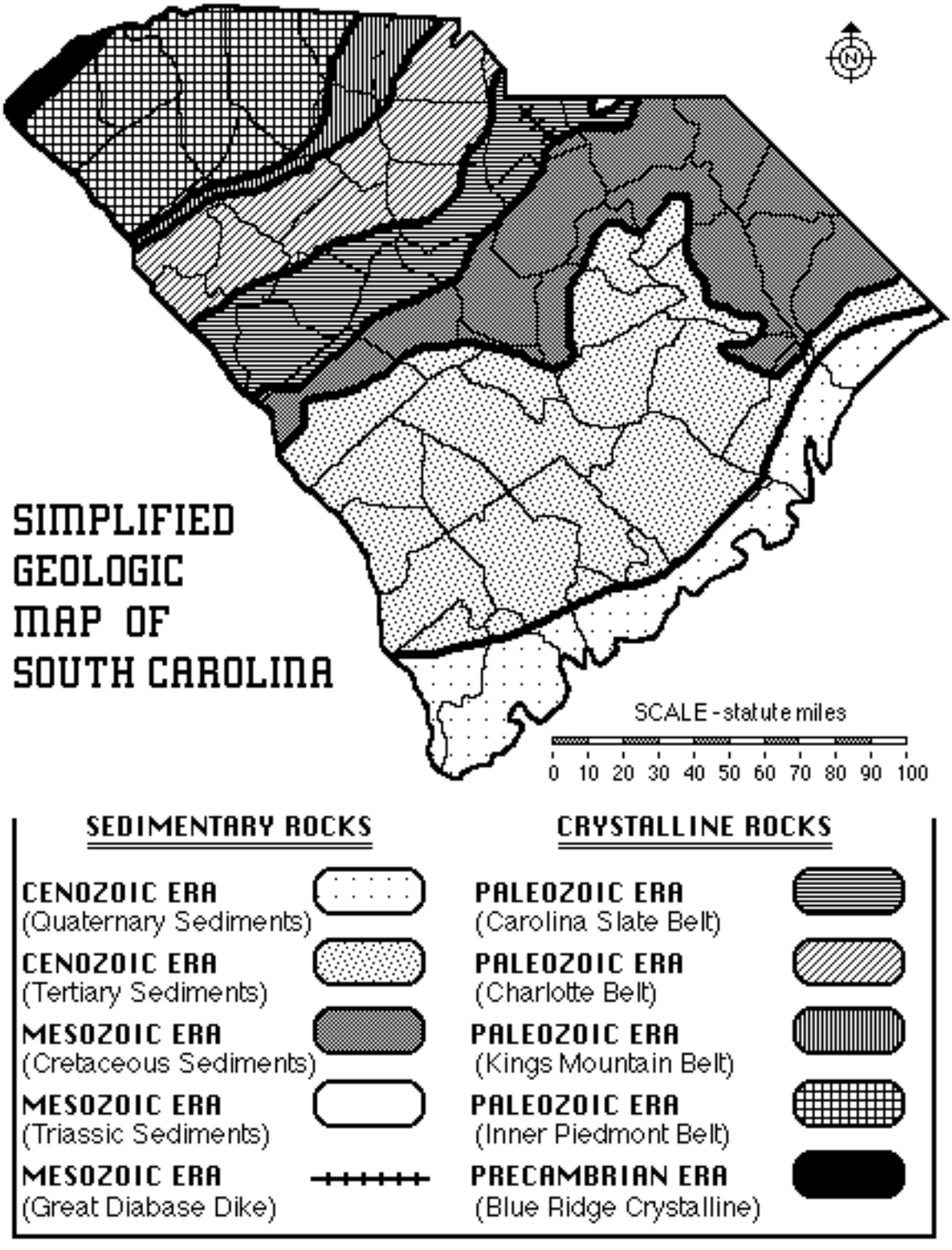
As the Atlantic Ocean formed and grew wider, Africa and North America continued to move apart from each other. The break was not a clean one, as part of the African crust remained attached to the Piedmont region. This African crust was soon covered over by sediments derived from the mountains to the west. The Atlantic shoreline during the Cretaceous Period, about 100 million years ago, went through the middle of the state and is probably responsible for the sand deposited in what we now call the **Sandhills**. Offshore, marine deposits were laid down over the exposed African crust. These deposits were the beginning of the Coastal Plain sediments which are now visible between Columbia and the coast. As the Blue Ridge Mountains continued to erode, more and more sediment was deposited on the Coastal Plain. Sea level was dropping as this deposition occured, causing the shoreline position to retreat to the vicinity of its present location. In addition to beach sand deposits, the Coastal Plain also contains shallow-water limestone deposits and offshore sandstones and shales.

The retreat of the shoreline to its present position occurred in gradual stages marked by **terraces** or **escarpments** carved out of Coastal Plain sediments by waves. The most noticeable of these is the Orangeburg Scarp (Citronelle Escarpment) which formed sometime between the Oligocene and Pliocene Epochs of geologic time. From that escarpment to the present shoreline, Coastal Plain sediments are extremely flat and only slightly modified by subsequent erosion. North-westward of the Orangeburg Scarp, modern erosion by streams has created a more rolling **topography** and wide floodplains with meander belts and other features of river migration.

The final geologic episode to affect the state was the ice age of the Pleistocene Epoch. Although glacial ice did not advance as far south as South Carolina, the alternating advances and retreats of the continental ice mass caused massive fluctuations in sea level which left many former beach ridges exposed along the Coastal Zone. Some of these ridges were significant enough to cause the diversion of rivers and **tidal inlets**. Sharp bends, such as seen along the Black River not far from its mouth, are easily identified on maps and photographs and are probably a result of blocked drainage due to sand ridges. Other interesting enigmas, such as the **Carolina Bays**, which are elongated depressions partially encircled by sandy ridges, can be found in the Coastal Plain region and probably date to Pliocene or Pleistocene time.

The geological events which shaped South Carolina's land area have also influenced the topography and structure of the continental shelf off the coast. Erosion, sedimentation, and other physical and biological interactions have resulted in an offshore ocean environment which is increasingly important to the economy of South Carolina.

Figure 1-7: Geologic Map of South Carolina

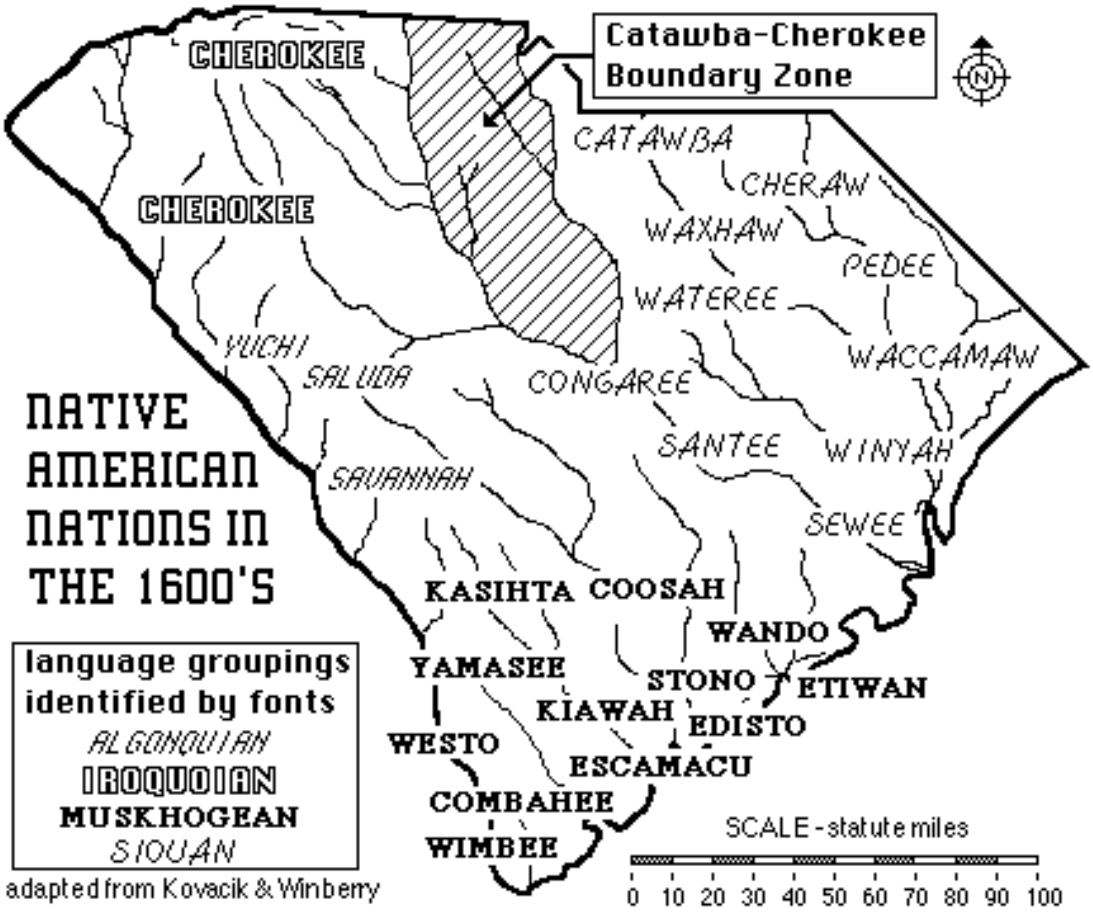


Native Americans

The history of South Carolina is as diverse as its geography. The state's first inhabitants, mistakenly called Indians by European explorers, did not function as a single cultural group, but instead practiced a wide variety of customs and traditions. Twenty-eight different nations (formerly called tribes) lived in the area identified today as South Carolina: nations with names like Edisto, Catawba, Yamassee, Kiawah, and Cherokee. These people learned to utilize the seasonal diversity of their environment. They planted corn, squash, beans, pumpkins, and tobacco in the spring. They practiced intensive food gathering in the fall, collecting nuts and berries. Hunting and fishing served to supplement their agricultural and food gathering activities.

The arrival of the Europeans in the 16th century had a dramatic impact upon these Native American peoples and their cultures. Wars and the introduction of new diseases greatly reduced their numbers. However, many places in the state still carry the names and perpetuate the memories of these long vanished communities.

Figure 1-8: Map of Native American Nations



Early Explorers

Beginning in the 16th century, Europeans came to explore and colonize Carolina. Lucas Vasquez de Allyon attempted to colonize Carolina in 1526; he died and his colony was abandoned in 1527. In 1540 Hernando De Soto traveled throughout the Upper Coastal Plain of western South Carolina near the Savannah River, and noticed glimmering flecks of what he believed was silver. This shiny material was later found to be mica. However, during the time, De Soto gave the name Silver Bluff to this hilly section of what is now Aiken County. Today, in Aiken County, Silver Bluff High School carries this 16th century name proudly into the 21st century.

In 1562 French Huguenots tried but failed to establish a colony on Parris Island. Later, Menendez de Aviles successfully established a Spanish colony on Parris Island in 1566 known as Santa Elena. This settlement was considered to be part of Spanish Florida. However, after approximately twenty years, Spain withdrew from Santa Elena, pulling her forces back to St. Augustine, Florida. It would be 83 years before Europeans again came to Carolina to colonize.

The English Influence

In 1670, the first English settlers arrived under a charter granted by King Charles II of England to what is now the Charleston area. The colony was named "Carolina" in honor of the King (Charles's name in Latin was *Carolus*). In the mid-1700's, the trade in deer skins and native slaves was a major business of the colony. Originally, control of Carolina was granted to the Eight Lords Proprietors. Colonial dissatisfaction with proprietary rule led to a revolt against the proprietors in 1719. In 1729, after ten years of negotiation with the proprietors, Carolina became a Royal Colony and was divided into separate North and South Carolina colonies.

The colonial prosperity of Carolina was eventually built upon the cultivation of rice and **indigo** by slave labor. Rice cultivation was confined to the freshwater swamps along the coastal rivers. Indigo was first successfully produced in similar environments by Eliza Lucas Pinckney who shared her knowledge with other planters. Both crops were labor intensive and led to increased reliance on African slavery in the colony. These black Carolinians enriched the state with their language (Gullah), crafts, music, and folk stories, as well as their physical labor which produced the rice and indigo.

Natural Features as Effective State and County Boundaries

For as long as people have been creating political divisions among themselves, for governmental or other purposes, a major point of controversy has always been where to place the boundary lines for the town, county, state, or nation. For centuries, countries have argued and even gone to war over disputed territory and border lines. Within the United States of America, states have occasionally taken each other to court over questions of political jurisdiction. Even South Carolina has had its share of boundary disputes, the most recent one being with the state of Georgia over an island in the Savannah River not far from the city of Savannah, Georgia. That dispute was not finally settled until the 1980's, with South Carolina winning most of its claim.

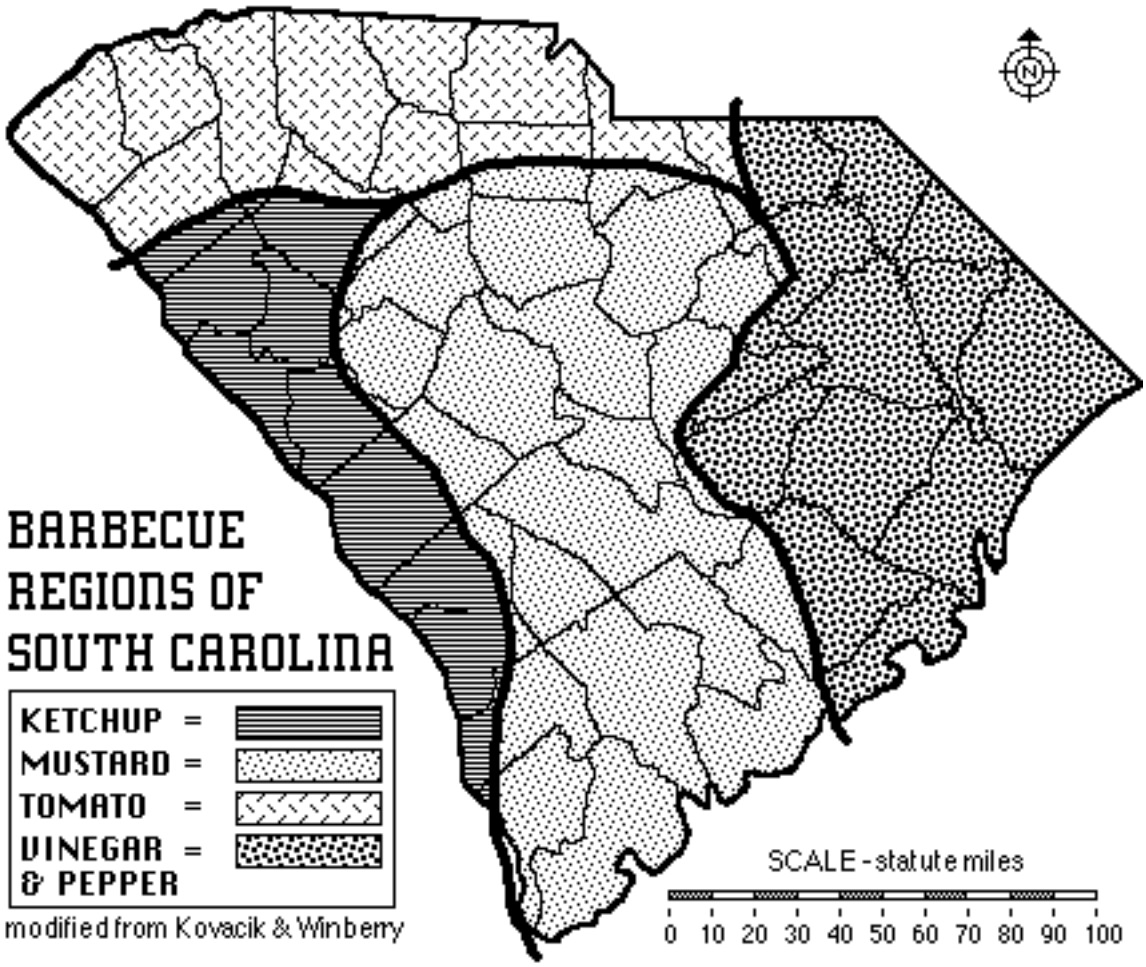
Rivers have long been used as boundaries between counties, states, countries or even individual land holdings. Where rivers are primarily erosional, such as in the Blue Ridge and Piedmont regions, channels and riverbanks tend to stay in one place and form easily recognizable boundaries. An obvious advantage is that everyone knows where the boundary is located without having to hire a surveyor. A disadvantage is that a town might have no control over what another political unit did on the other side of the river, a situation that could cause major pollution problems. Coastal rivers present a variety of special boundary problems because their channels don't remain in one place, but rather meander continually over wide floodplains. There are several examples of land now located on the South Carolina side of the Savannah River which once belonged to Georgia. After a few more shifts of the river channel, those landowners might even find themselves back on the Georgia side of the river.

Oceans and lakes at first seem like perfect boundary lines, but even here some problems may arise. Although nobody disputes where the ocean begins, most beaches tend to shift position as sand is gradually eroded and re-distributed along the shoreline. **Tidal inlets** also tend to migrate through time. Hurricanes and other major storms can cause rapid changes in shoreline configurations. Lakes are temporary features which gradually fill up with sediment. When new land is produced, it is not always clear to whom it belongs or to whom the tax bill should be sent.

The final type of natural feature commonly used as a political boundary line is the drainage divide. This high ridgeline separating two or more major watersheds is relatively easy to locate, although not always clearly visible to the untrained observer. The advantage of a drainage divide is that it is a topographic barrier and that all water stays on the same side as it originally fell. There is no possibility of water pollution crossing the border. However, when drainage divides are used as boundaries one problem arises; their irregular shape and rugged topography makes surveying boundary lines very difficult in places.

Drainage divides can also serve as effective cultural boundaries. Because of easy transportation up and down the state's river systems, local customs tended to spread within drainage basins much more quickly than across them. A good example of landform control of cultural traits is the regional distribution of barbecue sauce recipes seen in the Figure 1-9, "Barbecue Regions of South Carolina", found in the Background Information.

Figure 1-9: Barbecue Regions of South Carolina



Historical Reasons for Placement of State and County Boundaries

The original borders of South Carolina actually encompassed a much larger area than the state occupies today. The 1665 land grant given by King Charles II to the eight Lords Proprietors, noblemen in the King's court, included all the land in North America between twenty-nine degrees north latitude and thirty-six and one half degrees north latitude. It also stretched all the way from the Atlantic Ocean to the Pacific Ocean. By 1729, however, the Carolina colony had been split into northern and southern halves and in 1732, the colony of Georgia was established.

The Savannah River was designated as the western boundary of South Carolina, but a dispute soon arose with Georgia over land located in present day Oconee County. Several tributaries of about equal size enter the Savannah River in this region and there was serious controversy over which branch should be used as the border. That dispute was eventually settled in 1787 when the Chattooga River was designated the permanent boundary.

The present day boundary with North Carolina is so irregular because of a series of surveying errors and later corrections. According to the agreement in 1735, the boundary was to start at a point thirty miles southwest of the mouth of the Cape Fear River and was to extend diagonally northwest until it reached the thirty-five degree latitude line. At that point the boundary would follow the latitude line westward to the Pacific Ocean. Unfortunately for South Carolina, the surveyors missed their mark by about eleven miles and the boundary was run incorrectly all the way to the Catawba River. During the later westward extension of this boundary, surveyors tried to compensate South Carolina by running the line about seventeen miles north of the thirty-five degree latitude line. Although this line was straight, it was not perfectly parallel to the latitude line. The final surveying of the extreme northwestern boundary of the state was completed in 1815 when Andrew Ellicott ran a straight line from the ridgeline near Sassafrass Mountain to the point where the Chattooga River crosses the thirty-five degree latitude line.

How Places Get Their Names

In most cases, cities, counties, towns, and other such places are named after famous people, local or otherwise. For example, Charleston was originally named for King Charles of England, who gave out land grants in the Carolina colony; Columbia was named for Christopher Columbus, the discoverer of America; and Laurens was named for Henry Laurens, a Colonel in the Revolutionary War who was a local hero. Occasionally, people will be remembered by their titles instead of their names. For example, Camden was named for Charles Pratt, a British legislator who had the hereditary title "Lord Camden." Sometimes the spelling of a town's name will change through time, such as with Paris Mountain, which was originally named for Richard Pearis. Many towns are named by simply adding "ville," "burg," "boro," or "town" to a person's name. Examples are Bennettsville, Blacksburg, Walterboro, and Georgetown.

Many towns in South Carolina are named for local features or buildings, such as Cowpens (a corral for cattle), Boiling Springs (a water source), Windy Hill (where George Washington's hat blew away), and St. Matthews (a local church). Others are named for far away places, such as York (a town in Pennsylvania and in England), Rimini (an Italian seaport), and Abbeville (a town in France). Still others represent foreign names or phrases, such as Pomaria (Latin for "plants"), and Walhalla (German for "garden of the gods"). The most commonly used "foreign" words are actually Native American in origin, either purely descriptive terms like Pocataligo ("gathering place") and Cheraw ("fire town"), or commemorating national names or heroes like Cherokee (named for the nation) and Jocassee (a famous heroine).

Perhaps the most interesting names belong to places with unique local legends. Mount Willing in Saluda County was named for a revolutionary war gathering at a tavern where a leader called the townspeople to battle by yelling "Let's mount" and another answered in response "Willing." Round O in Colleton County was named for a blue circle of paint marked on the chest of a well liked native warrior. Almost every place in South Carolina that has a name also has an interesting story to go with it. And occasionally, names change. Townspeople successfully petitioned the state legislature to change Polecat to Montmorenci, Seigler to Eureka, and Frog Level to Prosperity.

How Kingstree Got Its Name

Taken from History of Williamsburg by William Willis Boddie

*Some explorer, whose name has been lost long before 1780, laboriously rowed his **pettiagua** from Winyaw Bay up the sinuous channel of Black River to a large white pine tree on the north bank, which he marked and called the "King's Tree". This explorer went no further westward up the river but returned to Charleston and reported to the Colonial Governor that he had worked his way up the Wee Nee River for more than a hundred miles to a place where he found a white pine tree, one like those growing on the New England hills, and that he had chopped into the sap of this "King's Tree" a broad arrow just as the King's trees in New England had been marked. This explorer told wonderful tales about the King's Tree, and the "King's Tree" became a basal point in the "back country".*

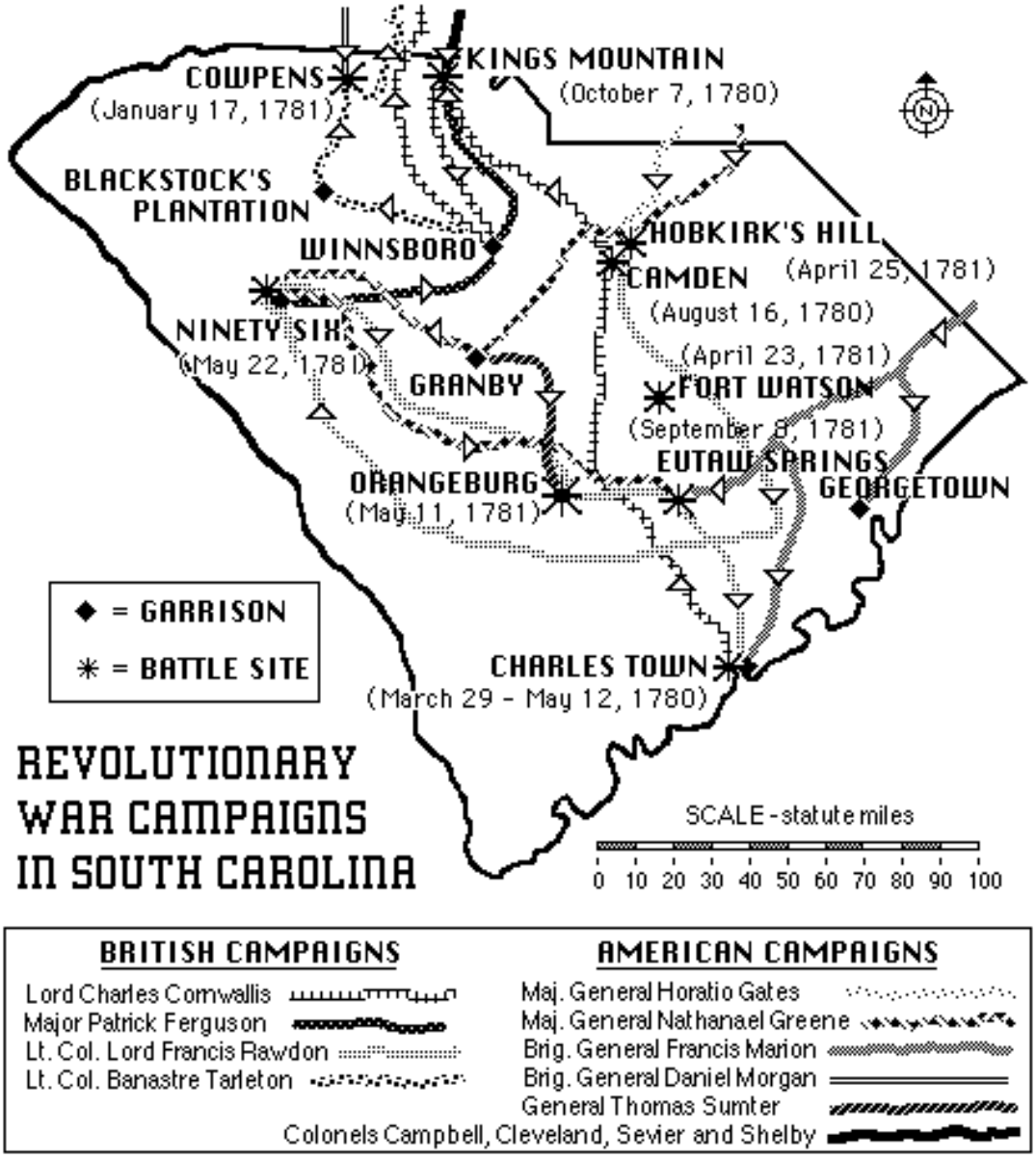
White pine trees grow normally only on highlands in Northern latitudes. It was purely by chance that this white pine tree, christened by that nameless explorer the "King's Tree", grew in Williamsburg. Only to the poet's mind can its history be known. Possibly some Indian brave, coming southward from the Great Lakes, camped on this bluff on the Wee Nee River and unwittingly dropped the seed that grew into the King's Tree. Or did some old bald eagle, bloody from his battle in the mountains, rest a while on this spot, and in a cooling shower, have washed from his matted feathers the little bit of life that grew into the King's Tree?

This white pine tree on the Wee Nee River possibly caused King George to reserve in every grant of land in these parts all white pine trees forever as the sole property of the King. In those days of sailing ships, white pine made the best masts available and the King kept them for his own. Few of these white pines trees had ever grown in Williamsburg and none of them ever went into a ship flying a Royal Banner.

The American Revolution and South Carolina

The American Revolution brought new challenges to South Carolina. Charles Towne's defenders successfully defeated an invading British fleet in June of 1776 at the battle of Fort Moultrie, but in May of 1780 the city surrendered to another British invasion force after a siege by English General Sir Henry Clinton. The state was the scene of several violent struggles between Patriots (like the Partisans Thomas Sumter, Francis Marion and Andrew Pickens) and Loyalists (like Tories William Wragg and other South Carolina citizens who supported the British). During the American Revolution the Patriots gradually gained the upper hand. With peace in 1783, South Carolina became part of a new country.

Figure 1-10: Revolutionary War Campaigns in South Carolina



Colonial Prosperity Through Rice, Indigo, and Cotton

After the Revolutionary War South, Carolinians moved quickly to rebuild their economy. But first, the planters needed a new staple crop. Because of the war, England would no longer purchase indigo, and rice cultivation was limited to the coastal region. Eli Whitney's invention of the cotton gin in 1794 led to the spread of the cotton culture throughout the state. Like rice, cotton cultivation was labor intensive and based upon slave labor. As a result of this expansion of commerce throughout the state, it became obvious that the State Capitol could not remain permanently in Charleston. Finally, in 1786, in response to political pressure from **Up Country** settlers, a more central location, at the confluence of the Saluda and Broad rivers (banks of the Congaree River) was chosen, and the building of the City of Columbia began.

President George Washington's Southern Tour

"Nothing would give me more pleasure than to visit all the Southern States" was the reply President George Washington made to the invitation extended to him by Governor Charles Pinckney of South Carolina. George Washington had just been inaugurated as the first president of the United States in 1789, but he had never been south of his home state of Virginia. Before he headed south, he outlined his specific goals for his southern tour. He wanted to:

- See how much support there was for a *General Government,*
- Determine the growth and extent of agriculture,
- See the land,
- Find out if the Country had recovered from the ravages of the Revolutionary War, and
- Confront the Up Country farmers in the southern states about the bill he had just signed, The Duties on Distilled Spirits Act, often referred to as the "Whiskey Tax."

The "Whiskey Tax" had just been passed by both houses of Congress and signed by Washington into law. Alexander Hamilton, the Secretary of Treasury, had recommended the bill calling for an excise tax (duty) on distilled spirits (whisky) as it entered the country. The revenue generated was designed to retire the Revolutionary War debts. Washington was afraid that taxation of this nature would cause a "whiskey rebellion." It was thought by Capitol leaders that this tax would be hard to collect in the **Back Country** of the south. With this in mind, he wanted to see if this type of taxation could be enforced. In addition, Washington wanted to promote the new federal union and hoped that his personal popularity would help to unite the newly formed country.

President Washington traveled in a cream colored coach pulled by four horses. He was accompanied by a two-horse baggage wagon, four horses for his outriders, and a white riding horse for himself. Years later he was remembered for his "white chariot." He had originally planned to compensate tavern keepers for food and lodging, but even then southern hospitality was the custom. He accepted many invitations to dine and lodge with plantation owners primarily because there were few lodging houses along his route. Washington kept a journal describing the people he met on his journey, the landscape, time, and distance he traveled. Many of the people he visited are remembered today because of their role in shaping the destiny of South Carolina.

Washington liked to get up early and be on his way by sunrise. He would usually travel about 10-20 miles before stopping for breakfast. About noon on April 27, 1791, President George Washington entered South Carolina from North Carolina near Calabash. The following account of Washington's southern tour is excerpted from his diary.

Diary of the First Presidential Visit to the Palmetto State
Washington's Southern Tour Through Coastal Zone

Excerpted from a pamphlet prepared by A.S. Salley,
a former South Carolina State Historian

[ ] Indicates editorial notes inserted by SC MAPS authors
( ) Indicates editorial notes inserted by A.S. Salley

Highway numbers given in the editorial notes are included for reference only. There were no numbered highways in the 1700's. What we now know as US Hwy. 17 was originally called the King's Highway and followed approximately the same route as the modern road.

Entry for Wednesday, April 27, 1791

. . . *crossed the boundary line between Nor. & South Carolina abt. half after 12 o'clock . . . dined at a private house (one Cochran's) about 2 miles farther--and lodged at Mr. Vareen's 14 miles more and 2 miles short of the long bay.--To this house we were directed as a Tavern, but the proprietor of it either did not keep one, or would not acknowledge it--we therefore were entertained (& very kindly) without being able to make compensation.*

Editorial Notes

[On his coastal tour, Washington and his entourage entered South Carolina on what is now US Hwy. 118 just east of US Hwy. 17. After dining at Cochran's house, Little River, he left riding along what is now US Hwy. 17 to Jeremiah Vareen's house two miles north of Singleton's Swash. A swash is a narrow channel through which tidewater flows making it dangerous to cross at high tide. Singleton's Swash marks the beginning of Long Bay or Myrtle Beach as we call it today. Mr. Vareen's house was near the intersection of Hwy. 17 and Lake Arrowhead Road. Both James Cochran and Jeremiah Vareen were Revolutionary War veterans.]

Entry for Thursday, April 28, 1791

Mr. Vareen piloted us across the Swash (which at high water is impassable, & at times, by the shifting of the Sands is dangerous) on the long Beach of the Ocean; and it being at a proper time of the tide we passed along it with ease and celerity to the place of quitting it, which is estimated 16 miles,--five miles farther we got dinner and fed our horses at a Mr. Pawley's private house, no public one being on the Road;--and being met on the Road, & kindly invited by a Doctor Flagg to his house, we lodged there; it being about 10 miles from Pawley's & 33 from Vareen's.

Editorial Notes

[From Singleton's Swash, Washington traveled 16 miles along US Hwy. 17, Kings Hwy., which was 50 paces or walking steps from the Atlantic Ocean. He stopped to rest his horses and eat dinner with George Pawley at his house located at Garden City. From there, he continued on US Hwy. 17, which parallels the Waccamaw River. Inland, facing the river, were several rice plantations. Dr. Henry Collins Flagg met Washington's party at the small road leading to Brookgreen Plantation. The Flagg family produced a line of medical doctors including Dr. J. Ward Flagg who wrote an account of "The Hurricane of 1893" which is included in SC MAPS Section 10B. Alligator Pool fountain at Brookgreen Gardens marks the site of the house where George Washington spent the night.]

Entry for Friday, April 29, 1791

We left Doctr. Flagg's about 6 o'clock, and arrived at Captn. Wm. Alston's on the Waggamau [Waccamaw River] *to Breakfast. Captn. Alston is a Gentleman of large fortune and esteemed one of the neatest Rice planters in the State of So. Carolina and a proprietor of the most valuable ground for the culture of this article.--His house which is large, new, and elegantly furnished stands on a sand hill, high for the Country, with his Rice Fields below; the contrast of which with the lands back of it, and the Sand & piney barrens through which we had passed is scarcely to be conceived.*

At Captn. Alston's we were met by General Moultree, Col. Washington & Mr. Rutledge (son of the present Chief Justice of So. Carolina) who had come out that far to escort me to town.--We dined and lodged at this Gentlemans and Boats being provided we the next mornin . . .

Editorial Notes

[Also living in the Waccamaw Neck was William Alston, who owned Clifton Plantation, located just off of US Hwy. 17. Washington ate breakfast with Alston, who served as a captain in the South Carolina Militia during the Revolutionary War. The Charleston reception committee greeting Washington included Major-General William Moultrie, Revolutionary War hero and former governor; Colonel William Washington, cousin of the president and also a Revolutionary War hero; and John Rutledge, Jr., son of the Revolutionary War governor and former Justice of the United States Supreme Court.]

Entry for Saturday, April 30, 1791

Crossed the Waggamau [Waccamaw River] *to Georgetown by descending the River three miles--at this place we were recd. under a Salute of Cannon, & by a Company of Infantry handsomely uniformed.--I dined with the Citizens in public; and in the afternoon, was introduced to upwards of 50 ladies who had assembled (at a Tea party) on the occasion.*

Editorial Notes

[George Washington was rowed across the Waccamaw River to Georgetown by seven captains of vessels, dressed in round hats trimmed with gold lace, blue coats, and white jackets riding in an elegantly painted boat. He stayed at the Stewart-Parker house, which is still standing today in the historic district of Georgetown. At Prince George's Lodge, he addressed the Masonic Order and attended a party given to him by more that 50 Georgetown ladies.]

Entry for Sunday, May 1, 1791

Left Georgetown about 6 o'clock and crossing the Santee Creek at the town, *and the Santee River 12 miles from it, at Lynch's Island, we breakfasted and dined at Mrs. Horry's about 15 miles from Georgetown & lodged at the Plantation of Mr. Manigold about 19 miles farther.*

Editorial Notes

[Washington left Georgetown on US Hwy. 17 crossing the Sampit River. He continued on this road crossing the North Santee and South Santee rivers on the Santee Delta and arriving for breakfast at Hampton Plantation, now Hampton State Park, just west of US Hwy. 17. Greeting him were Mrs. (Daniel) Harriott Pinckney Horry and her mother Eliza Lucas Pinckney. Colonel Daniel Horry had been a rice planter, sportsman, and Revolutionary War cavalryman until his death in 1785. Eliza Lucas Pinckney is credited with becoming a successful lady planter and introducing indigo as a new cash crop to the **Low Country**. George

Washington voluntarily served as a pallbearer at her funeral when she died in Philadelphia in 1793. See SC MAPS Section 9: Coastal Zone Overview, to find out more about Eliza Lucas Pinckney's contribution to the state. That night he lodged with Joseph Manigault at his plantation on Awendaw Creek just off of US Hwy. 17. Salt Hope Plantation is now part of the Cape Romain National Wildlife Refuge.]

Entry for Monday, May 2, 1791

Breakfasted at the Country Seat of Govr. Pinckney (Snee Farm) *about 18 miles from our lodging place, & then came to the ferry at Haddrel's point* [Mt. Pleasant]*, 6 miles further where I was met by the Recorder of the City, Genl. Pinckney & Edward Rutledge, Esqr. in a 12 oared barge rowed by 12 American Captains of Ships, most elegantly dressed.--There were a great number of other Boats with Gentlemen and ladies in them;--and two Boats with Music; all of whom attended me across, and on the passage were met by a number of others.--As we approached the town a salute with artillery commenced, and at the Wharf I was met by the Governor, and Lt. Governor . . . two Senators of the State, Wardens of the City . . . conducted to the Exchange where they passed by in procession . . .*

It may as well in this as in any other place, he observed, that the Country from Wilmington through which the Road passes, is, except in very small spots, much the same as what has already been described; that is to say, sand & pine barrens---with very few inhabitants---we were indeed informed that at some distance from the Road on both sides the land was of a better quality, & thicker settled, but this could only be on the Rivers & larger waters---for a perfect sameness seems to run through all the rest of the Country--on these---especially the swamps and low lands on the Rivers, the Soil is very rich; and productive when reclaimed; but to do this is both laborious and expensive.---The Rice planters have two modes of watering their fields---the first by the tide---the other by resurvoirs drawn from the adjacent lands.---The former is best because most certain.

Editorial Notes

[Governor Pinckney's County Seat was a small estate in Christ Church Parish called Snee Farm just north of Mt. Pleasant on US Hwy. 17. This farm is currently under the jurisdiction of the National Park Service. Washington later wrote that he thought the road from Georgetown to Charleston was the most beautiful in the United States. Washington's entrance to Charleston was a gala event with the **flotilla** leaving Haddrel's Point at Mt. Pleasant. A group of dignitaries escorted Washington across the bay in an elegant twelve-oared barge. Accompanying him was St. Philip's Church Choir singing and playing instruments from two other boats. East Bay Street was lined with spectators, while others watched from windows and balconies. The Charleston Artillery Battalion fired a 15 gun federal salute and the bells at St. Michael's Church rang. The clock tower of St. Philip's Church indicated the time as 2 p.m. It was Monday, May 2, 1791. The Exchange building where Washington was entertained is located at East Bay and Broad Streets. Today, it is a museum operated by the Daughters of the American Revolution and is called The Old Exchange and Provost Dungeon.

President George Washington was elegantly entertained in Charleston where he spent the week of May 2-9, 1791. While there, several balls were held in his honor. He took special note to mention the *"elegantly dressed and handsome*

ladies." He dined with citizens at a public dinner and was entertained by the elite Society of the Cincinnati, visited Fort Johnson and Fort Moultrie by boat, ate breakfast with orphans, and attended services at both St. Philip's and St. Michael's Episcopal Churches. On Monday May 9, he crossed over the Ashley River on Hampton's Bridge, US Hwy. 17, and headed to Savannah.]

Entry for Monday, May 9, 1791

At six o'clock I recommenced my journey for Savanna; attended by a Corps of the Cincinnati and most of the principal Gentlemen of the city as far as the bridge over Ashley River, where we breakfasted, and proceeded to Col. W. Washington at Sandy-hill with a select party of particular friends--distance from Charleston 28 miles.

Editorial Notes

[Washington stayed at Sandy Hill Plantation just south of US Hwy. 17 with his cousin Col. William Washington, who had married an heiress of a rice plantation. Even though William had only lived in South Carolina a short time, he had become a very successful rice planter.]

Entry for Tuesday, May 10, 1791

. . . breakfasting at Judge Bee's 12 miles from Sandy Hill, lodged at Mr. Obrain Smith's Duharra plantation 18 or 20 miles further on.

Editorial Notes

[Judge Thomas Bee's plantation was on the road to Jacksonboro now US Hwy. 17. From there, Washington left present day US Hwy. 17 and turned onto what would become Hwy. 64 heading northwestward. About midway to Walterboro, he turned left on Hwy. 41 and went through Ritter then south to Duharra Plantation.]

Entry for Wednesday, May 11, 1791

After an early breakfast at Mr. [O'Brien] *Smiths* [Duharra Plantation] *we rode 20 miles to a place called Pokitellieo where dinner was provided by the Parishoners of Prince William . . . . After dinner we proceeded 16 miles farther to Judge Hayward's where we lodged* [White Hall Plantation] *. . . there being no public houses on the Road and my distance to get to these private ones increased at least 10 or 12 miles between Charleston and Savanna.*

Editorial Notes

[Washington spent the night at Duharra Plantation owned by O'Brien Smith. He went back to Hwy. 41 and turned south on US Hwy. 17 Alt. He passed through Yemassee and then Pocotaligo, where US Hwy. 17 and US Hwy. 17 Alt. merge and follow present day I-95. Originally, Pocotaligo was a trading post for the Yemassee. It is located at the intersection of US Hwy. 17 and the Beaufort highway. From there, Washington followed present day I-95 to Coosawhatchie, where he took Hwy. 462 to White Hall Plantation. George Washington stayed at two of Judge Thomas Hayward's homes, a town house located on Church Street in Charleston and White Hall Plantation on Euhaw Creek in Jasper County. Thomas Hayward is one of the two signers of the Declaration of Independence from South Carolina.]

Entry for Thursday, May 12, 1791

By five o'clock we set out from Judge Hayward's, and the road to Purisburgh 22 miles to breakfast.

At that place I was met by . . . from the city of Savanna to conduct me thither.

Editorial Notes

[Leaving White Hall Plantation, Washington took Hwy. 278 to Grahamville turning on Hwy. 13 and then taking Hwy. 169 to Purryburg on the Savannah River. He left South Carolina between ten and eleven o'clock, and was escorted across the Savannah River in a handsome eight-oared presidential barge followed by a flotilla carrying his coach and baggage wagon. He landed at Mulberry Grove plantation and dined with Catherine Greene, widow of General Nathanael Greene, Revolutionary War general.

From May 12-21, 1791, George Washington toured Georgia, visiting Savannah, Waynesboro, and Augusta, before returning to South Carolina on May 21, 1791.]

Diary of the First Presidential Visit to the Palmetto State
Washington's Southern Tour Through the Sandhills

[ ] Indicates editorial notes inserted by SC MAPS authors
( ) Indicates editorial notes inserted by A.S. Salley

Entry for Saturday, May 21, 1791

Left Augusta about 6 o'clock, and takg. leave of the Governor & principal Gentlemen of the place at the bridge over Savanna River, where they had assembled for the purpose, I proceeded in Company with Col. Hampton & Taylor, & Mr. Lithgow a committee from Columbia, (who had come on to meet & conduct me to that place) & a Mr. Jameson from the Village of Granby on my Rout.

Editorial Notes

[A three gun salute was fired as George Washington reentered South Carolina from Augusta over Hampton's Bridge, spanning the Savannah River. He was escorted by a four member delegation: Colonel Wade Hampton, Colonel Thomas Taylor, Robert Lithgow from Columbia, and Archibold Jamison from Granby. Wade Hampton was a business man, Revolutionary War Colonel, planter, and owner of Hampton's Bridge and the Congaree River Ferry. His family had settled on the Tyger River in Spartanburg County when he was a child. After his parents were murdered by a Cherokee war party, he moved to the fork between the Congaree and Wateree rivers. Later, Hampton served as a major general in the United States Army during the War of 1812. Hampton's Bridge, 800 feet long and 16 feet wide, opened in 1790 but was later swept away by a flood in 1796. Colonel Thomas Taylor, planter and business man, often called the "Father of Columbia" sold his plantation to the state as the site for the new Capitol when it was moved from Charleston to Columbia. He served as a colonel in the militia during the Revolutionary War. Mr. Robert Lithgow was the newly elected Richland County Judge; and Archibald Jamieson had the contract to build a bridge over a creek south of Granby, thereby upgrading the Charleston-Orangeburg-Columbia road.

Washington's party left North Augusta on US Hwy. 25 and dined at Pine House Tavern just west of Trenton. Like at all of his stops, a crowd of local citizens gathered to shake hands and speak with him. He knew that there would be opposition to the excise tax, which had just been passed by Congress. Prior to his arrival, the Edgefield County Grand Jury had drafted this statement, "We are of the opinion that all Excise Laws . . . are repugnant to the Conditions &

Liberties of a free people. . . . Excise will bear very & unequally hard on the Inhabitants of the Southern States." About the same time, an Abbeville County Grand Jury had argued that the law would favor northern commercial distilleries and breweries. As Washington continued on his goodwill tour, he was quoted in the "Independent Gazetteer and Agricultural Repository," Philadelphia, PA, 11 June 1791, as saying, "*The discontent which it was supposed the last Revenue Act would create, . . . subside as fast as the law is explained.*" He felt that the "Whiskey Tax" could be enforced and that his mission had been successful.

From Trenton, Washington followed Hwy. 75 to Ridge Spring and Hwy. 23 to Batesburg. At a crossroads between Batesburg and Leesville near present-day Hwy. 41, Washington spoke to a group of people. From Leesville, he followed present day Hwy. 330 and Hwy. 261 to Gilbert, where he may have eaten breakfast. He than traveled Hwy. 60 to Hwy. 70 and took US Hwy. 1 on into West Columbia.]

Entry for Sunday, May 22, 1791

Rode about 21 miles to breakfast, and passing through the village to Granby just below the falls in the Congaree (which was passed in a flat bottomed boat at a Rope Ferry,) I lodged at Columbia, the newly adopted Seat of the Government of South Carolina about 3 miles from it, on the No. side of the river, and 27 miles from my breakfasting stage.

The whole Road from Augusta to Columbia is a pine barren of the worst sort, being hilly as well as poor.--This circumstance added to the distance, length of the stages, want of water and heat of the day, foundered one of my horses very badly.

Beyond Granby 4 miles I was met by sevl. Gentlemen of that place & Wynnsborough [Winnsboro]*; and on the banks of the River on the No. side by a number of others, who escorted me to Columbia.*

Editorial Notes

[Washington's diary is not clear where he lodged for the night or ate breakfast. Four miles east of Lexington, where he reached what is now US Hwy. 1, stands a Sycamore tree marking the place where many historians believe Washington talked with local residents while resting his foundering horse. When US Hwy. 1 was widened in 1972, a roadside park was created and a cutting from a descendent of the original tree was planted marking the site.

Washington left US Hwy. 1 at Leaphart Road and passed through the town of Granby. At sunset, Washington crossed the Congaree River at Fridig's Landing located south of Granby. Wade Hampton and his brothers had acquired the franchise for the ferry crossing and named it Hampton's Ferry. They had equipped it with a rope and three flat-bottomed boats enabling Washington and his entourage to have a safe and speedy trip across the river to Columbia. Records indicate that crowds lined the Congaree River on both sides anxiously awaiting the President's arrival.

A procession formed as President George Washington mounted his white charger followed by his cream-colored coach drawn by four bay horses. The coachman and footmen were all formally dressed in blanket coats, white and orange liveries, jockey caps, buckskins, and boots. The baggage wagon followed this procession to the State House. From there Washington was taken to a house prepared for his arrival.]

Entry for Monday, May 23, 1791

Dined at a public dinner in the State house with a number of Gentlemen & ladies of the Town of Columbia, & Country round about to the amt. of more than 150, of which 50 or 60 were of the latter.

Editorial Notes

[Washington dressed in black-velvet formal wear to greet the guests. Sixteen after-dinner toasts were made identifying hopes for the future and concerns of the times. Topics of some of these toasts were:

- "A speedy establishment of a central federal city;"
- "The federal legislature--may their virtues and abilities be as much admired abroad, as they are respected at home;"
- "Sufficient means and speedy measures for opening the inland navigation of America;"
- "Increase to our exports, and decrease to our imports;" and
- "An increase of well established seminaries of learning.]"

Entry for Tuesday, May 24, 1791

The condition of my foundered horse obliged me to remain at this place, contrary to my intention, this day also.

Columbia is laid out upon a large scale; but in my opinion, had better been placed on the River below the falls.--It is now an uncleared wood, with very few houses in it, and those all wooden ones--The State House (which is also of wood) is a large and commodious building, but unfinished--The Town is on dry, but cannot be called high ground, and though surrounded by Piney & Sandy land is, itself, good--The State House is near two miles from the River at the confluence of the Broad & Saluda. From Granby the River is navigable for Craft which will, when the River is a little swelled, carry 3000 bushels of Grain--when at its usual heighth less, and always some.--The River from hence to the Wateree below which it takes the name of the Santee is very crooked; it being, according to the computed distance near 400 miles--Columbia from Charleston is 130 miles.

Editorial Notes

[The original State House was a wooden structure located with the west front facing Assembly Street and the east front facing Richardson Street (Main Street). It was burned during the Civil War. Major John R. Niernsee designed the blue-granite State House which now stands on this site.]

Entry for Wednesday, May 25, 1791

Set out at 4 o'clock for Camden--(the foundered horse being led slowly on)--breakfasted at an indifferent house 22 miles from the town, (the first we came to) and reached Camden about two o'clock, 14 miles further, when an address was recd. & answered.--Dined (late with a number of Gentlemen & Ladies at a public dinner.--The Road from Columbia to Camden, excepting a mile or two at each place, goes over the most miserable pine barren I ever saw, being quite a white sand & very hilly.--On the Wateree within a mile & half of which the town stands and lands are very good,--they Culture corn, Tobacco & Indigo.--Vessels carrying 50 or 60 Hhds. of Tobo. come up to the Ferry at this place at which there is a Tobacco Whare-house.

Editorial Notes

[Washington left Columbia on the Old Camden Road, US Hwy. 12, which went through Forest Acres and Fort Jackson. It now feeds into I-20. He entered Camden on current US Hwy. 521. A dinner was held in his honor and he toasted the memory of General Nathanael Greene and Baron de Kalb who were local heroes of the Revolutionary War.]

Entry for Thursday, May 26, 1791

After viewing the british works about Camden I set out for Charlotte--on my way--two miles from Town--I examined the ground on wch. Genl. Green & Lord Rawdon had their action.--The ground had but just been taken by the former--was well chosen--but he not well established in it before he was attacked; which by capturing a Videt was, in some measure by surprise--Six miles further on I came to the ground where Genl. Gates & Lord Cronwallis had their Engagement wch. terminated so unfavourably for the former.

Camden is a small place with appearances of some new buildings.--It was much injured by the British Whilst in their possession.

After halting at one Sutton's 14 m from Camden I lodged at James Ingrams 12 miles farther.

Editorial Notes

[Washington toured Revolutionary War battlefields evaluating the tactical performance of Generals Horatio Gates, Nathanael Greene, Lord Cornwallis, and Lord Francis Rawdon. Leaving Camden, he followed US Hwy. 521 to Hwy. 58. Between Kershaw and Heath Springs in Lancaster County and just off of Hwy. 58 is the Hanging Rock Battlefield. It was the site of a fortified British post where General Thomas Sumter destroyed a regiment. Washington stayed with James and Margaret Ingram on their 2000 acre plantation near the Hanging Rock Battlefield. No doubt Washington toured this site.

Just past Heath Springs, Washington took present day Hwy. 36, not shown on the state base map, to Hwy. 9, where he turned left going to Lancaster. From there, he followed US Hwy. 521 to Charlotte, North Carolina.]

Entry for Friday, May 27, 1791

Left Ingrams about 4 o'clock, and breakfasting at one Barr's 18 miles distant lodged at Majr. Crawford's 8 miles farther--About 2 miles this place I came to the corner where the No. Carolina line comes to the Rd.--from whence the Road is the boundary for 12 miles more.--At Majr. Crawford's I was met by some of the chiefs of the Catawba nation who seemed to be under apprehension that some attempts were making, or would be made to deprive them of part of the 40,000 Acres wch. was secured to them by Treaty and wch. is bounded by this Road.

Editorial Notes

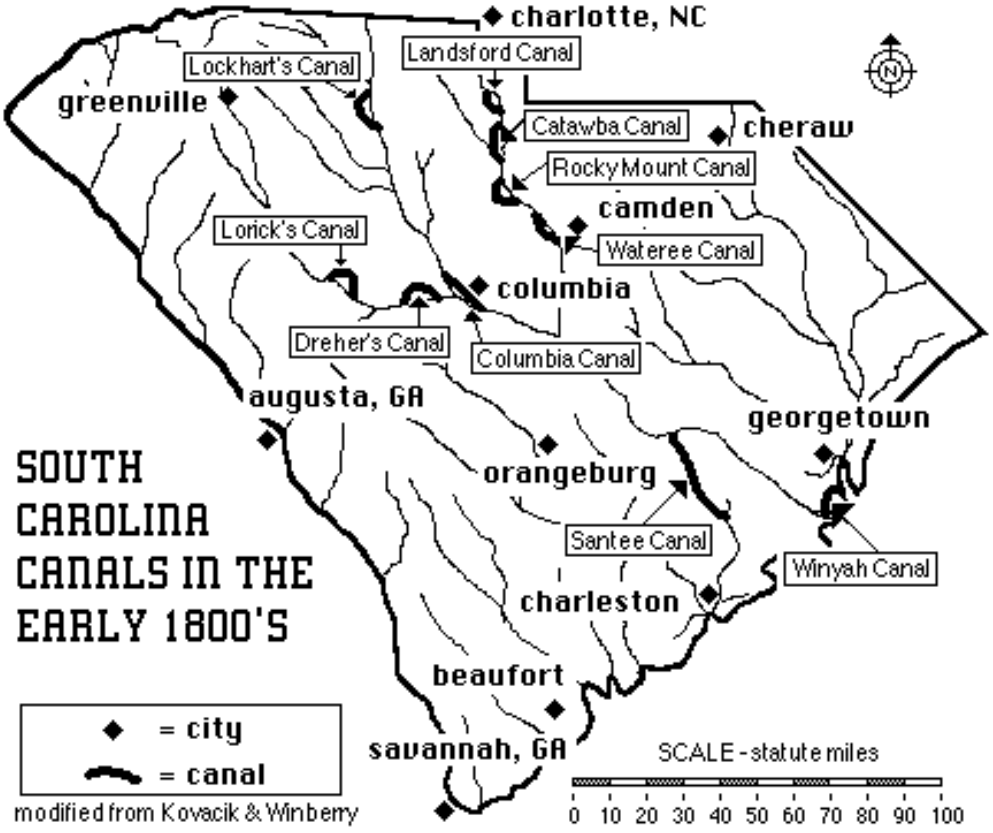
[Washington listened to the Catawba Chiefs' grievances, however, he did not act on them. It is thought that Washington knew the matter had already been placed in the hands of the state of South Carolina by Congress.

On Saturday, May 27, 1791, Washington said good-bye to Major Crawford and left South Carolina on US Hwy. 521. As his cavalcade crossed the boundary line, Washington was again riding his white charger. A party of militiamen from Salisbury was there to greet him. From there he went to Charlotte, where hundreds had camped in wagons and tents to catch a glimpse of the first President of the United States of America, General George Washington.]

1818 Internal Improvement Act and the Building of Canals

George Washington's diary left an interesting picture of the state's landform regions and transportation as he traveled across the state. In order to continue the growth of successful plantations, a means of transportation had to be available for planters to get produce to the market in Charleston. Early transportation within the state had followed many of the rivers and streams. In an effort to take further advantage of these natural waterways, a system of canals was proposed. The first attempt was the construction of the Santee Canal in the 1790's.

Figure 1-11: Map of South Carolina Canals



This was followed in 1818 by a full scale appropriation of funds from the South Carolina General Assembly, which passed the Internal Improvement Act that provided for a state-supported system of internal improvements in transportation. One significant result of this act was the construction of a number of canals throughout the state, which included the Columbia Canal, Wateree Canal, Catawba Canal, Landsford Canal, Dreher's Canal, and Lockhart's Canal. A portion of the 1818 Act is reprinted here to provide an insight into the measures that early South Carolinians were taking to improve navigation so they could transport their produce across various natural barriers to the port of Charleston.

Excerpt From 1818 Internal Improvement Act

. . . And be it further enacted, that from and after the passing of this Act, it shall be the duty of the board of public works, as soon as circumstances will permit, to lay off, open and make, upon the most approved plan, a great road from Charleston to Columbia, and thence along the ridge between Broad and Saluda Rivers, and across the Saluda mountain, to the North Carolina boundary; and also, to devise and adopt all such means as they may deem expedient, to render navigable Great Pedee, as far as the North Carolina boundary, together with all such tributary streams of the said river, as they may judge expedient--and in like manner to devise and adopt all such means as they may judge expedient, to render navigable Santee, Wateree, Catawba, Broad and Saluda rivers, as well as their tributary streams--and in like manner to proceed, in conjunction with the commissioners appointed by the State of Georgia, to devise and adopt all such means as they deem expedient, to render navigable Savannah river, from Augusta to the confluence of Toogooloo and Keowee, and the Keowee as far as they may deem expedient; and to adopt all such measures as may be necessary to ascertain the practicability of opening a communication by canal or canals between the Savannah and the waters of Broad river, and between the Edisto and the waters of Ashley river--and in like manner to devise and adopt all such means as they shall deem expedient, to render Keowee navigable--and in like manner to proceed in devising and adopting all such means as they may deem expedient, to render navigable, the Waccamaw, Little Pedee, Black River, Edisto, and the tributary streams of the last mentioned river, and both branches thereof--and likewise the Combahee, the Great and Little Saltketcher rivers--and generally, to render navigable such other streams and water courses, and to improve and construct all such cuts, as may facilitate the navigation of the State.

One of the few remaining functional canals is the Columbia Canal on the Broad and Congaree rivers which is now used for hydroelectric power. Another one is Landsford's Canal, which has been partially restored and is maintained as part of the South Carolina State Park System. Most of the canals were built to bypass a rocky section or shoal of a river. In a number of instances, the rivers did not always have enough water for navigation, and the canal system was never very successful. With the advent of the railroads, the canal system became obsolete. Transportation in the state has undergone many stages of development over the years from the early canals to railroads, hard surface "farm to market roads" to interstate highways all leading up to today's fine modern transportation system.

The Coming of the Railroads

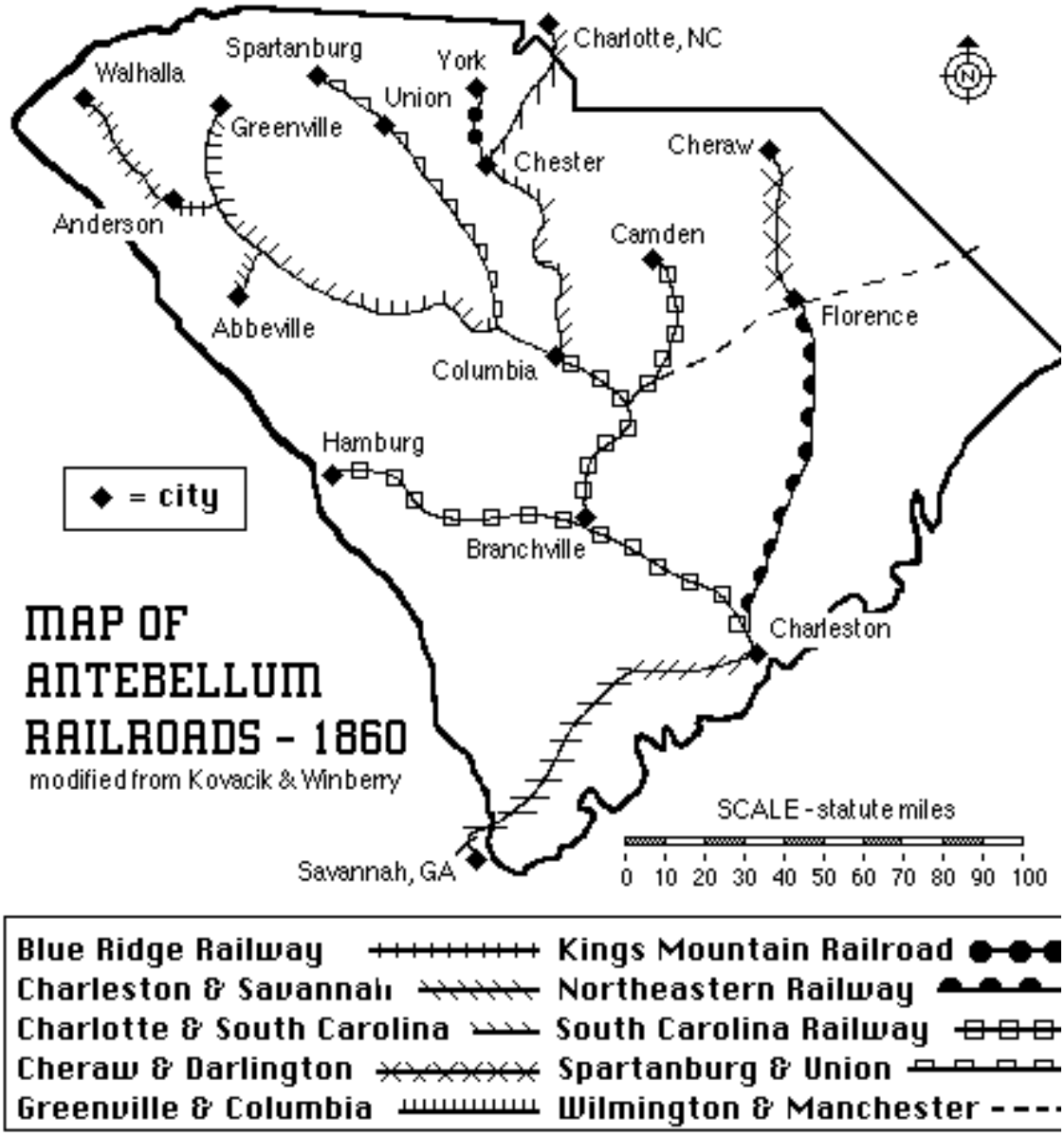
Before the coming of the railroads South Carolinians used rivers, linked by canals, as their major transportation system. However, as the Up Country developed and grew more cotton, Charlestonians realized the need for a more efficient system, essentially one that would bring more crops through their South Carolina port. The South Carolina railroad from Charleston to Hamburg was the first step in achieving that goal. Completed in 1833, the 136 mile track to the Savannah River attempted to draw crops from the Up Country through the port at Charleston instead of the port at Savannah, Georgia.

Nine years elapsed before another rail route was developed, this one from Branchville to Columbia. By 1848, the line had been extended to Camden. The 1850's saw the greatest activity with the completion of 739 more miles of track. Private companies were responsible for this construction, but the state aided the railroads by buying stock or guaranteeing bonds. Although railroads spurred the economic growth of the state by making it easier to get the cotton crops to market, the rail system also made importing food and manufactured items simpler. Consequently, the state neglected to diversify itself agriculturally and industrially.

The only truly disastrous railroad enterprise was the Blue Ridge Railroad on which the state risked millions of dollars. The Blue Ridge Railroad was a multi-state project to connect Charleston with Cincinnati, Ohio. Rather than run the rails over the mountains in the northwest corner of the state, the engineers planned to run the trains through three tunnels to Rabun Gap in northeastern Georgia. The first tunnel was called Saddle Tunnel and was to have been 616 feet long. Workers, mostly Irish immigrants, began cutting through hard blue granite with sledge hammers from both ends in 1856. They were within 200 feet of each other when the work was halted. The second, the 385 foot Middle Tunnel, was completed. Stumphouse Tunnel, the third and longest at 5,863 feet, was not far from completion when lack of money halted work in 1859. The Civil War broke out before additional funds could be raised, and following the war the state was in no position to resume work; the dream of connecting Cincinnati to Wilmington, Charleston, and Savannah died. The northern end of Stumphouse Tunnel is now under water in Crystal Lake, while the southern end is accessible to the public although actual entry into the tunnel is no longer permitted. For many years Clemson University successfully used the tunnel to age blue cheese since the temperature and humidity inside the tunnel matches that found in French caves where the famous Roquefort cheese is produced.

The growth of Columbia exemplifies the importance of railroads to the development of the state. Although four major roads, together with the Columbia Canal and the Congaree River, provided the capital with transportation links to other parts of the state, the town did not really begin to expand until the 1850's. In 1840, Columbia's population totaled 4,340. By 1860, the town had almost doubled in size and had 8,052 inhabitants. One direct cause of this expansion was the arrival of the first railroad line in 1842. This line, with a station on the corner of Gervais and Gadsden Streets, linked Columbia to Charleston. One decade later, two more lines linked the capital to Greenville and Charlotte. The Greenville line used the station at Gervais, while the Charlotte line, with its station at Blanding and Barnwell Streets, followed Laurens Street south until it merged with the South Carolina Railroad just beyond the town limits.

Figure 1-12: Map of Antebellum Railroads - 1860



Following the Civil War, the railroad system was left in poor condition. Engines and cars were worn out, and miles of track and trestle had been destroyed. Rebuilding the railroads proved costly, and several corporations went bankrupt. Finally between 1873 and 1880, new railroad regulations permitted companies to reorganize and refinance. This reorganization produced marked improvements in rails, bridges, station accommodations, and the speed and frequency of trains. By 1880, one could travel form Charleston to Columbia in three hours and forty minutes. Two years later 1,600 miles of railroad track criss-crossed the state and transported 961,313 passengers and carried 1,323,364 tons of freight. This growth continued so that, by 1910, trains made it possible for The State newspaper, printed in Columbia, to be in most South Carolina towns before breakfast.

Charleston Businessman's Trips Across South Carolina in 1860

Samuel Edward Burges kept a diary of his trips across South Carolina. It is an excellent travel log documenting the variety of transportation systems available to the public in the period just before the Civil War. He entered in his diary the distance traveled, mode of transportation, names of railroad lines, creeks, and rivers, and final destination. He also entered his financial success with collections for the day. Samuel Edward Burges had no idea 150 years later that his diary would provide a useful tool for students to visualize traveling across South Carolina in the 1860's. Thomas W. Chadwick edited Burges' diary in 1947, which was printed in the South Carolina Historical and Genealogical Magazine, a Quarterly publication of the South Carolina Historical Society, Charleston, SC. The following excerpts are taken from this account.

The Diary of Samuel Edward Burges, 1860-1862

Edited by Thomas W. Chadwick

[ ] Indicates editorial notes inserted by SC MAPS authors

( ) Indicates editorial notes inserted by Chadwick

(Samuel Edward Burges, the author of the following diary, was born in Charleston on August 20, 1832, a son of James Smith Burges, a printer and bookseller whose imprint appears on a number of Charleston publications of the second quarter of the nineteenth century, and his wife, Margaret Eliza Seyle. Young Burges attended a private school, but at the age of nineteen, when he began the writing of the earliest extant volume of his diary, he was dividing his time between the duties of a traveling collector for certain Charleston newspapers and the management of a farm near the town of Cheraw, in Marlborough District. By 1859 his services as a collector appear to have been claimed entirely by the Charleston *Mercury*, which he continued to represent until its publication was abandoned in 1868.

It was Burges' practice to enter in the space provided in one of the standard pocket diaries of his time a few lines describing his activities during the day and recording, if he happened to be on the road, the mode of travel and the distance covered. To this he added, likewise in the allotted space, a record of his personal expenditures. The regularity with which these entries are made would seem to indicate that a diary was kept for every year, but only those of the years 1852, 1859, 1860, 1861, and a part of 1862 are now to be found.

During his trips, he crossed a number of creeks and rivers as well as several landform regions. Burges describes a variety of transportation modes available to South Carolinians in the mid 1800's.)

Tuesday, February 7, 1860: Rained most of the day and fearing the weather would prevent the steamer leaving [Georgetown] in the morning I tried to get passage on the stage but all the seats were already engaged . . . At night went on board Steamer Charleston to leave in morning.

Wednesday, February 8, 1860: Rained and blew so hard last night that the steamer did not leave, so I went to stage agent and engaged passage, . . . I left on stage at 5 P.M. (3 miles south of Lane on NERR)

Thursday, February 9, 1860: We reached Gourdin's Turn Out a little before 2 A.M. Preferring railroad to stopping here I took the up train to Kingstree, where I spent an hour and took the down train about 4:30 A.M. Reached Charleston at 8 A.M. Stage 42 miles; NERR 78 miles.

Wednesday, August 29, 1860: Left [York in buggy] at 7:40 A.M. Took Pinckney road, pretty rough last 5 miles to Broad River which I crossed at Pinckney ferry. Then took Spartanburg road as far as Jonesville following Spartanburg and Union Railroad about 3 miles. Then took off to Glenn Springs [crossed Fair Forest Creek] where I arrived at 7:45 P.M. 43 miles.

Saturday, September 1, 1860: Left [Glenn Springs] about 7:40 A.M. Took a rough road a piece. Crossed North and South Tyger and Ennoree Rivers. Got into Spartanburg and Greenville road. Reached Greenville about 6:45 P.M. Put up at Goodlett House, where I found several friends. 41 miles.

Wednesday, September 5, 1860: Stirred up at 3 A.M. Took Greenville and Columbia Railroad at 4 A.M. Breakfasted at Belton, then took the branch to Anderson, then the Blue Ridge Railroad to Pendleton where I arrived about 8 A.M. Put up at Blue Ridge House [managed] by J.W. Cobb and went about my collections. Greenville and Columbia Railroad 36 miles, Blue Ridge Railroad 14 miles.

Thursday, September 6, 1860: Left at 1 P.M. on Blue Ridge Railroad to Anderson. Put up at Benson House [managed] by C.C. Langston . 14 miles.

Friday, September 7, 1860: Finished my business and left on Greenville and Columbia Railroad Branch. At a creek the bridge being down, had to foot it across to another train, which whirled us down to Belton, when after an hour's delay, took main trunk to Williamston . Greenville and Columbia Railroad 18 miles.

Monday, November 5, 1860: Left Charleston at 11 last night on NERR. got off at Kingstree. Put up at Wards new house over the branch. Retired to bed a while. Court opened, Judge Whitner. Sale day very good attendance. Collected pretty well. Grand jury found true bills against Cain Allen for Negro stealing, General Coffee Cheeler for killing his Negro boy, Henry Franks for killing Simson Cougleton. Left on NERR about 5 P.M. Got off at Florence. Put up at Gambles. NERR 102 miles.

Tuesday, November 6, 1860: Left on W&MRR after 2 A.M. Got off at Sumter. Put up at Sumter Hotel now kept by Clark. Court in session, Judge Glover. Not many in attendance, so finding I could do very little, left on W&MRR about 1:10 P.M. to Kingsville where I took the SCRR to Columbia. Put up at Hunts. Legislature was convened in extra session yesterday and today. Voted for Electors to vote for J.C. Breckenridge for President and Jas. Lane for Vice Pr. At night a party out serenading. Called out several gentlemen. Hon. W.W. Boyce, Gen. W.E. Martin and others. Kept it up till 12 o'clock. W&MRR miles, SCRR 25 miles.

Wednesday, November 7, 1860: Attended session of legislature. In consequence of news arrived that Lincoln is election [sic], several bills for call of convention were introduced and notice given of bills to arm the state. All made special orders for tomorrow. At night serenading. Hon. Edmund Rufin spoke, cast his vote in Va. and came in to share our fate. W.S. Mullins, F.W. Fickling, Senior and others spoke, all for immediate separate secession.

Thursday, November 8, 1860: Attended legislative sessions. Bills were made special orders, were referred to Com. on Federal Relations. More serenading at

night and speaking by W. D. Porter, I. W. Hayne, O. M. Dantzier and others until after 11.

<u>Friday, November 9, 1860:</u> Rained all morning until about 1 P.M. Attended session of Legislature until about 1 P.M. when I returned to Hotel dined and then to SCRR. Some 20 minutes behind time starting which threw us out of schedule and in lost time meeting up train as we reached Kingsville. Too late for W&MRR train. For want of something better practiced with my Colt revolver. SCRR 25 miles.

<u>Saturday, November 10, 1860:</u> Blew pretty hard during night and turned cool. Got up about 3 A.M. Left about 4 on W&MRR. Got off at Sumter. Put up at Clark's. Collected what bills I had about town. W&MRR.

<u>Sunday, November 11, 1860:</u> Walked, read and wrote. Weather pleasant.

<u>Monday, November 12, 1860:</u> Started in buggy with Webb Clark. In good time reaching Manning, put up at Stukes. Found crowd disappointed as the Judge (Glover) is too sick to attend court. Collected tolerable. A meeting was held on the Secession question. Several speeches. Buggy 21 miles.

<u>Tuesday, November 13, 1860:</u> Returned to Sumter. Dined at Clarks. Left on W&MRR at 1:30. Such a crowd I had to stand on the platform to Kingsville where I took SCRR to Columbia. Cars crowded. Went to Bedell and [illegible] room. Columbia crowds serenaded Col. Ashmore. Several others spoke. W&MRR, SCRR 25.

<u>Wednesday, November 14, 1860:</u> Walked to fair grounds. Fine exhibition and a very large attendance. Estimated at 10,000. Walked to Hunts to dinner. Again visited Fair in afternoon. At night crowd serenaded Col. O.W., who said if he was a member of the convention, tomorrow he would vote for secession. A drunken fellow asked if he was for separate state action. He replied he was making the argument but that he could not make brains for him to understand. Col. Kiett and others addressed the crowd. A large torch light procession paraded previous to the speaking. A drunken fellow tried for half an hour to make himself heard amid the most uproarious shouts.

<u>Thursday, November 15, 1860:</u> Walked to Fair grounds, remaining until 3 P.M. At night several gentlemen were to speak, but the crowd brought out some drunken men which killed it off.

<u>Friday, November 16, 1860:</u> Walked to Fair grounds. Premiums distributed. I got one for Miss A.E.B. for a collar and one for Mrs. M.S.S.I. for knitted shawl. Got a late dinner at Hunts. At night some more drunken fellows tried to speak.

<u>Saturday, November 17, 1860:</u> Left on SCRR in heavy rain at 5 A.M. Breakfasted in Kingsville. About this time the rain cleared off. T.A.G.C. told E.P.C. he would have to take him back to the Asylum. A gent nearby asked if he knew a certain gent there. E.P.C. denied having been there and told T.A.G.C. to stop it. E.P.C. bought a 10ct paper from newsboy and gave him a common umbrella saying he had no change. We made newsboy believe he was crazy, and after dunning until he was tired he finally grabbed the paper, threw down the umbrella and eloped. A woman weighing 600 was our fellow passenger from Columbia to Branchville, where E.P.C. handed her out our train and to the train

for Augusta. We had quite a jolly time to Charleston where we arrived about 1 P.M. SCRR 130.

<u>Friday, December 21, 1860:</u> Went over to Woodlands (near Cheraw) in buggy and brought over some seedling Peach trees which set out, also Catawba grapevines. Walked to Col. P's. After tea we heard firing in Cheraw. Concluded they had the news of the secession of So Ca, so we loaded up 13 barrels and gave a salute, then fired 2 more to make the 15.

<u>Saturday, December 22, 1860:</u> Walked to my place where I fired a salute of 15 guns. Cole fired some. Worked until dinner, then went in buggy with Cole to Cheraw. After some business left on C&DRR at 3:30 P.M. Got off at Florence and put up at the Hotel. Buggy 5 miles, C&DRR 40 miles.

<u>Sunday, December 23, 1860:</u> The W&MRR train considerable behind time which detained us until after 3 A.M. when left on NERR. Reached Charleston safely about 9 A.M. NERR 102 miles.

<u>Saturday, January 5, 1861:</u> Left at 2 P.M. on NERR. Passed train with company from Marion. At Gourdin took stage for Georgetown. NERR.

<u>Sunday, January 6, 1861:</u> Staging very rough, roads bad. Reached Georgetown about 2 P.M. Put up at Donill house. Went to roost for a few hours. Knocked about. Met a few acquaintances. Stage [illegible] miles.

<u>Monday, January 7, 1861:</u> Sale day. Not much sold. Collected some accounts. Did better than expected. In evening Mr. [illegible], collector for the port was arrested. A letter having been found in which he informed the President of what was going on. His deputy [illegible] both in a tight fix. At night visited Hall to see the Rifle Co. drill. A la zouave.

<u>Tuesday, January 8, 1861:</u> Stirred around. Collected all in town that was collectable. At night the Rifle Co. Drilled in the bayonet. Was a la zouave. About 10 P.M. came aboard St. Ch(arlesto)n to go to Charleston.

<u>Wednesday, January 9, 1861:</u> Storm started about 5 A.M. Detained a short time by fog. Detained again at Charleston bar. Got off at Ch(arlest)n about 3:30 P.M. Found city in state of excitement from the Star of the West having appeared with 250 troops to reinforce Fort Sumter, but she was driven off by some shots from Fts. Morris and Moultrie. St. Chn. 85 miles.

<u>Saturday, March 2, 1861:</u> Left (Charleston) on SCRR at 2:30 P.M. Got off at Graham, T.O. (Branchville) went to friend Cooper. SCRR 81 miles.

<u>Sunday, March 3, 1861:</u> Amused ourselves looking over the plantation and talking on matters and things in general. Left on SCRR about 7:30 P.M. Got out at Augusta. Put up at Augusta Hotel. SCRR 56 miles.

<u>Monday, March 4, 1861:</u> Left on Edgefield stage a little after 8 A.M. through Hamburg, for about 9 miles over an infernal plank road. When we left it some rain. Over the hills to Edgefield. Put up at Ryan's. Court in session, Judge Whitner. State 24 miles.

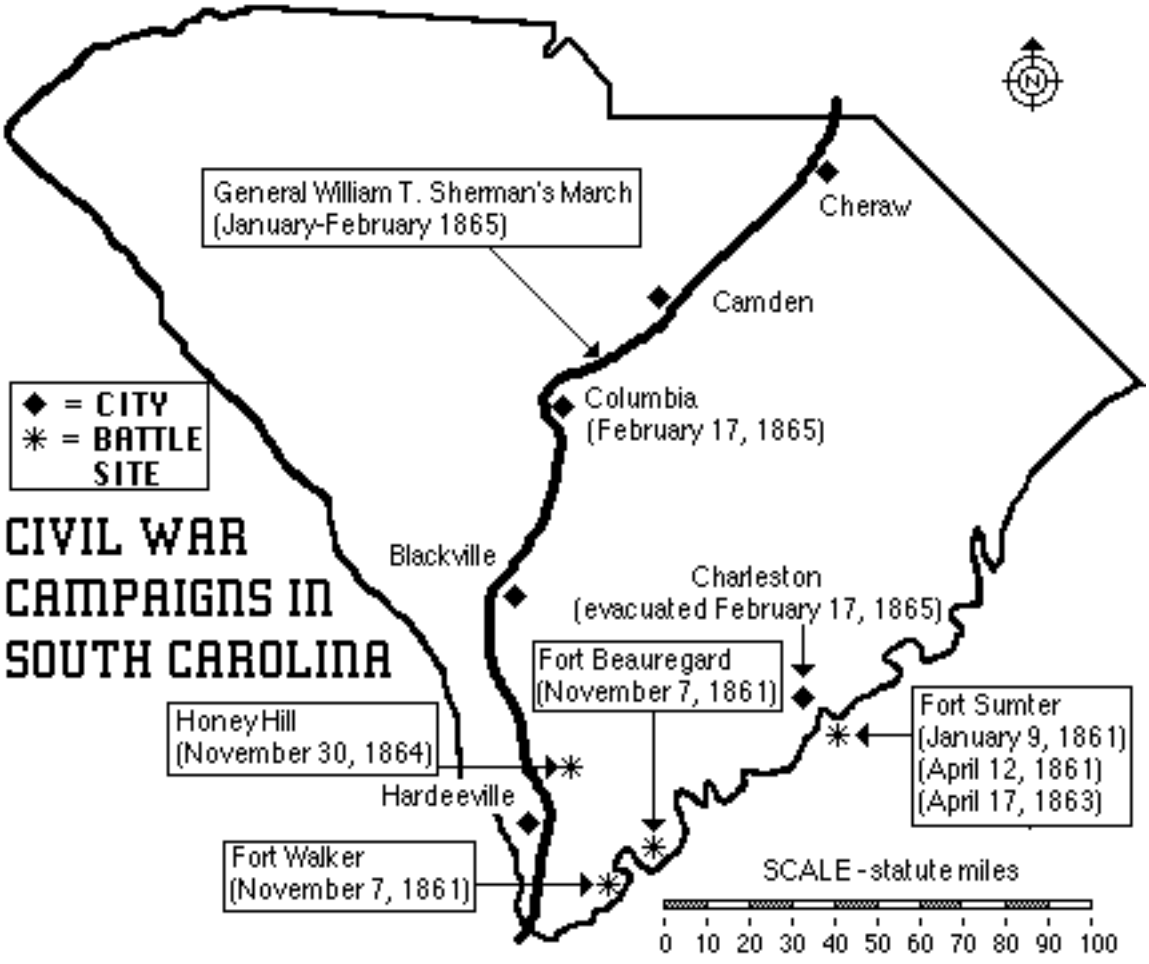
<u>Tuesday, March 5, 1861:</u> Wind blew hard all day. Turned cold. Pretty fair collection. Left on stage about 6 P.M. to Augusta. Chilled and jolted nearly to death. Put up at Augusta Hotel. Stage 24 miles

<u>Wednesday, March 6, 1861:</u> Attended to some collections in town and at Hamburg which looks used up and nearly deserted.

<u>Thursday, March 7, 1861:</u> Left at 8 A.M. on SCRR. Got off at Aiken about 9. Stopped with friend Raulett and attended to collections about town. Left at 8:30 P.M. for Charleston. SCRR 17 miles.

<u>Friday, March 8, 1861:</u> Reached Charleston about 4:15 A.M. Walked home. SCRR 120 miles.

Figure 1-13: Map of Civil War Campaigns in South Carolina



The American Civil War and South Carolina

The American Civil War destroyed South Carolina's plantation dominated world. South Carolina had been the first state to secede from the Union to form, with ten other southern states, the Confederate States of America. Charleston suffered the longest siege of the war and was eventually occupied by the Union Army. An invasion by General Sherman resulted in the destruction of Columbia. On Sherman's march through South Carolina, his 60,079 officers and enlisted men burned houses, hotels, public buildings, churches, and fields leaving columns of smoke and burned out chimneys. The Civil War proved to be an economic, political, and social turning point in South Carolina history.

Legacy of the Civil War

In 1865, South Carolina ranked third in per capita income in the nation, but by 1929 had dropped to last. While the institution of slavery was destroyed, the struggle over the place the freedmen (ex-slaves) would play in South Carolina society had just begun. Reconstruction was another tumultuous era in the state's history. It ended with the overthrow of the state's Republican dominated Reconstruction government in 1877.

Benjamin Tillman and a New Era for South Carolina

A new era of South Carolina history started with the victory of Benjamin Tillman's Farmer's Association in the election of 1890. This association promised more political power to poor whites. In 1895, the newly adopted state constitution disenfranchised black citizens by placing so-called Jim Crow restrictions into the laws of the state. These new laws established official segregation under the banner of "separate but equal," although facilities such as schools and restaurants, and even municipal services, were seldom of equal quality. During this period, railroad construction dramatically increased and textile mills spread throughout the Piedmont and **Midlands**. In the 1930's, the New Deal placed an emphasis on land conservation and diversification of agriculture. Manufacturing continued to grow and became an increasingly important part of the state's economy. Today South Carolina has a diversified industrial and agricultural base which includes a thriving tourist industry. South Carolina seeks to preserve the best of its past while it prepares to face the 21st century.

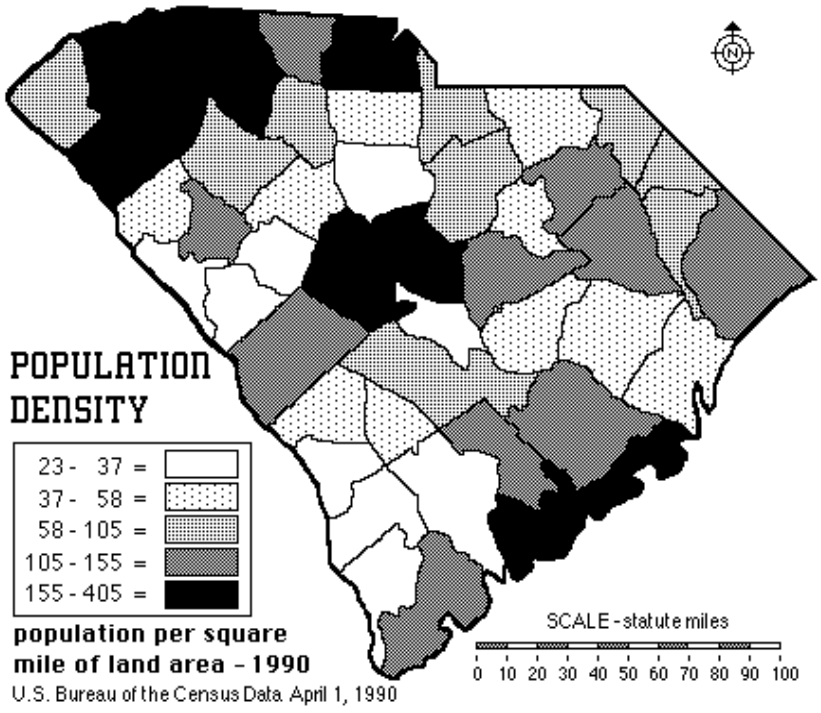
The Civil Rights Movement in South Carolina

South Carolina played several important roles during the Civil Rights Movement of the 1950's and 1960's. Penn Center, located on St. Helena near Beaufort, served as a frequent meeting site for many famous black leaders. Dr. Martin Luther King Jr. and his staff used the Penn Center facility as a haven where they could plan strategies for the nonviolent Civil Rights movement. The social pressure produced by this movement resulted in the passage of the Civil Rights Act of 1964 which ordered restaurants, hotels, and other businesses to serve all people without regard to race, color, religion, or national origin. This was followed by the Civil Rights Act of 1968 ending discrimination in the sale or rental of housing. These new laws received a mixed response from South Carolinians. Some felt the civil rights laws were an unnecessary federal intrusion into issues which should be handled by the states. Others argued that the laws did not go far enough in addressing the evils of racism. But passage of these laws nevertheless

started the process of integrating black South Carolinians into many social and governmental institutions which had formerly kept them out.

For example, in the 1960's and 1970's, federal civil rights laws brought significant changes to South Carolina's public education system. It was here that the famous Clarendon County desegregation case originated in 1949. Along with four similar cases, it was consolidated into the historic Brown v. Board of Education of Topeka school desegregation decision in 1954 which outlawed segregation everywhere in the country. Thurgood Marshall, serving as chief legal council for the National Association for the Advancement of Colored People, argued the case before the United States Supreme Court. The court held that "in the field of public education the doctrine of 'separate but equal' has no place. Separate educational facilities are inherently unequal." In 1969, the court ordered public school districts to desegregate. Initially, South Carolina opposed federally mandated desegregation and the state did experience incidents of violent opposition. Eventually, however, white businessmen, civic, and political leaders worked with leaders in the black community to bring about relatively peaceful desegregation statewide. The landmark enrollment of Harvey Gantt as the first black student at Clemson College in 1963 was the culmination of this process and was typical of the way desegregation was handled throughout the state. As a result of Thurgood Marshall's leadership and understanding of constitutional law, as demonstrated in the 1954 court case, President Lyndon Baines Johnson appointed Marshall the first black associate justice of the United States Supreme Court.

Figure 1-14: Population Density Map (1990)



Soils and Land Use

When a soil scientist looks at a soil, he or she is not just considering the near surface, but a series of layers called *horizons* that can extend six feet or more below the surface. The presence or absence of these horizons and their physical and chemical characteristics are used to classify soils in terms of land use capability, for both agricultural and urban uses. Different environmental conditions can produce very different soils, even from the same original material. The factors most responsible for these differences are:

1. *Parent Material* - original material which was there before soil formation began (can be mud deposited by a river, sand deposited by the ocean, rock that weathers and breaks down, etc.)
2. *Organisms* (mostly vegetation, microorganisms)
3. *Climate* (on both large and small scales).
4. *Slope*, or landscape position.
5. *Time*.

The list above is referred to by soil scientists as *The Five Factors of Soil Formation,* and was first postulated in 1941 by soil scientist extraordinaire Hans Jenny. About 15,000 different soils have been identified in the United States, approximately 300 of which exist in South Carolina. Altering one or more of these factors will result in a different soil profile with different properties, which can make the soils behave quite differently. These factors are not always independent of each other. Landscape position can affect soil organisms and local climate. Both climate and parent material can affect organisms, etc. Jenny's model of soil formation is still a good way of understanding the variation of soils found across a landscape.

Water Pollution

Water pollution is one of the most pressing ongoing natural resource issues facing South Carolina. The state's high growth rate, coupled with increasing pressures on rural lands for food and fiber, have elevated these issues to the forefront of priorities set forth by natural resource managers.

Water pollution can be categorized as either "point source" or "non-point source," depending on its origin. The easiest way to explain non-point source pollution is to first describe point source pollution. If a river is being contaminated by waste discharged from a sewage treatment plant, factory or oil refinery, and the contamination can be traced back to a discrete source, such as a discharge pipe or drainage way, this is called point source pollution (because the *source* of the pollution can be traced back to a single *point*). On the other hand, when contaminants have no single source, such as exhaust from automobile engines, or water pollution from the over-use of lawn chemicals, it is referred to as non-point source pollution. Point source pollution is generally easier to fix than non-point source. If only one easily identifiable culprit is responsible for contaminating a waterway, steps can usually be taken quickly to reduce or eliminate the problem.

Non-point source pollution is somewhat more difficult to deal with because there are usually many sources, each responsible for relatively small amounts of contamination. For example, the lawn care industry has for many years recommended very high rates of nitrogen fertilizer to homeowners. Much of that fertilizer is not taken up by the grass, but instead leaches through the soil into the groundwater and into streams and rivers. If only a few people did this, the pollution would be dilute enough so that it would not be much of a problem. Since many people do this it is a problem.

In order to do something about non-point source pollution, many individuals must unite to change their practices or habits. To achieve a reduction in air pollution from automobile exhaust, both the auto industry and the oil industry had to alter their products. (Even more difficult is the task of getting individuals to alter their driving habits.) Common causes of non-point source pollution include:

Non-Point Source Pollutant	What is Affected
Gasoline, oils, antifreeze from cars	water, land
car exhaust	air, water
septic system effluent	water
agricultural chemicals	water, air
eroding soil, sediment	water
natural gas leaks	air
refrigerator/air conditioner leaks	air
lawn chemicals	water
storage tank deterioration	water, land

By observing land use patterns we can predict the type of non-point source contaminants that might be found in a waterway. When a significant portion of land is used to grow row crops (corn, soybeans, tobacco, etc.) eroded soil, sediments, and agricultural chemicals may become a possible problem. Forest clearcuts also lay soil bare to erosion and create sedimentation problems. In more populated areas, runoff from roads and parking lots can introduce chemicals used by and for automobiles. Residential areas with significant amounts of land dedicated to lawns and gardens, and especially the presence of golf courses, can indicate the possible existence of excess fertilizers, herbicides and insecticides in local waterways.

Certain landscape conditions can help reduce the problem of non-point source pollution. The presence of undisturbed vegetated land immediately adjacent to waterways creates a buffer zone that can remove these contaminants from both surface runoff and groundwater. Eroded sediment is also trapped through physical filtration. In addition, when vegetation slows the flow of surface runoff water, the water loses its capacity to hold and carry sediment. The live plants in these buffer zones can also take up excess fertilizers, pesticides and other chemicals through their roots. (Trees have been found to do this even better than grass.) **Wetland** ecosystems have a unique ability to remove certain non-point source pollutants, especially hydrocarbons, due to the active chemical nature of the organic matter that is usually present.

Habitat Alteration

Habitat alteration is the other major ongoing natural resource issue facing South Carolina. Most plant and animal species have evolved as part of ecosystems with little human influence. These species have adapted to a particular **niche** within the ecosystem, whether it be a mountain cove, a **salt marsh**, a pine forest, or a Carolina Bay. People, over the past 300 years, have greatly changed much of the natural landscape - parts being altered through management or conversion of use. Some habitats were eliminated altogether. Natural ecosystems have been cleared for farming or put into pine trees, rivers have been dammed, and urbanization has consumed large portions of natural habitat.

Habitat alteration can be defined as the result of both vegetative community change, and the effects of stresses such as pollution and natural disasters. Some plants and animals are very adaptable to habitat change, where others, especially those with a limited range or niche, are very suseptible to changes in their environment. Listed below are several wildlife species whose long term survival is threatened due to habitat alteration.

Peregrine Falcon *Falco peregrinus*

Adult peregrines are 15 to 17 inches in length, with a wing span of about 40 inches. They are grouped into 19 races or subspecies world wide. The arctic peregrine, which breeds in Greenland and other remote northern locations, migrates along the South Carolina coast in the fall, and its breeding numbers appear stable and perhaps are even increasing without human intervention. Peregrines choose high places with sheer cliffs and prominent ledges as nesting sites. Peregrine falcons completely disappeared east of the Mississippi by the mid 1960's. Reintroduction efforts in the east began in 1974. As of 1993, there are an estimated 97 pairs nesting in the entire eastern half of the country, mostly in the Northeast. South Carolina has one pair that first produced young in 1990, and successfully fledged young each year through 1994.

One of the fastest animals in the world, the peregrine falcon is thought to be capable of diving at speeds ranging from 165 to 200 miles per hour, striking smaller prey like bluejays, towhees, woodpeckers, waterfowl and shorebirds. Females usually lay three to four eggs in late March or early April, and the young are fledged by late May to early June. DDT and related pesticides have contributed to the decline of adults as it has many other top level predatory birds, as a result of their feeding on contaminated prey. The principal effect has been damage to the reproductive system. Peregrines have full protection under the federal and state endangered species act.

Black Bear *Ursus americanus*

Most of South Carolina’s bears are found in either the mountainous northwestern corner of the state, or in and around Horry County’s 12,000 acre Lewis Ocean Bay Wildlife Management Area. Bears are also occasionally sighted within remote swamps of the Midlands and Coastal Plain. Black bears are omnivores, feeding on insects, tender green vegetation, fleshy berries, and acorns, depending on availability. They eat very little animal matter, although they sometimes scavenge on carrion.

These animals do not become sexually mature until their third year of life. Breeding peaks in late June and July. Cubs are born in late January or February with a

gestation period of 7 months. Litters usually consists of 2 or 3 hairless cubs weighing between 6 and 10 ounces. The presence of the black bear adds a wilderness character to our swamps and mountains. Bear habitats are threatened because these animals need an expansive range. Large, undeveloped, un-urbanized land tracts are becoming more rare in a rapidly growing state.

Gopher Tortoise *Gopherus polyphemus*

The gopher tortoise, or gopher, is a fairly large, land-dwelling turtle. Adults may reach 15 inches in length and weigh more than 10 pounds. They inhabit the Coastal Plain of the southeastern United States from southern South Carolina to western Louisiana to southern Florida. In South Carolina, only Jasper, Aiken, and Hampton counties are known to have gopher tortoises. Available habitat in these areas comprises about 3,000 acres.

Gopher tortoises are associated with the dry sand ridges and Sandhills of the southeastern Coastal Plain. These habitats include longleaf pine/scrub oak, live oak/red oak hammocks, and sand pine/scrub oak/wiregrass flatwoods communities. In South Carolina, longleaf pine, turkey oak, wiregrass, and a variety of other herbaceous plants make up the gopher tortoise's habitat. Scattered openings in the canopy are important for its sunning activities, nesting, and production of its food. Most of its burrows are in these openings. These habitats depend on another element—fire. Fire management programs are needed to increase the number of ground plants, which are used for food, and to ensure that pines remain the dominant tree species. Fire is an important management tool for these forests.

Some populations of gopher tortoises have been reduced significantly. South Carolina probably has less than 2,000 individuals, so any population decreases are cause for concern. Unfortunately, some declines in habitat quality have occurred through the conversion of cut-over land to pastures and intensive site preparation for pine replanting. Gopher tortoise numbers in our state seem to be decreasing. Changes in man's use of gopher habitat and fire suppression programs are the major factors responsible for this decrease.

Red Cockaded Woodpecker *Picoides borealis*

This small black and white bird is about seven inches long, and was originally found in open, mature pinewoods in the south from Virginia through Texas and Oklahoma. Most red-cockadeds now live in North Carolina, South Carolina, and Florida. The species is nonmigratory, and spends most of its life within a few hundred acres around its nesting site. Most of the birds in South Carolina occur in the Francis Marion National Forest, Sandhills National Wildlife Refuge, and various other state-owned lands. Red-cockadeds also occur on privately owned quail plantations within the Coastal Plain. There are remnant populations on smaller wooded lots. A rough estimate in 1979 placed the total population between 3,000 and 10,000. Probably 2,000 to 3,000 birds live in South Carolina, according to wildlife biologists. Based on trends in habitat destruction, a gradual decrease in the population is expected.
The Endangered Wildlife Program's recent survey results reflect a loss of red-cockadeds in 10 of 28 counties previously occupied. However, populations on state and federal lands are becoming stable.

The red-cockaded woodpecker has highly specialized habitat requirements, which account for its endangered status at both the federal level and the state level in all states where it occurs, including South Carolina. Its cavity trees are found only in mature pine forests containing trees greater than about 60 years of age, which are fairly open and free of hardwood understory. Such sites were maintained historically by wildfires and by fires set by Native Americans. At one time, these pine forests covered millions of acres in the southern Coastal Plain. The species has probably always been uncommon in the Piedmont and more mountainous regions of the south because of the absence of these well developed pine forests.

The red cockaded woodpecker is unique because it is the only woodpecker that excavates a cavity in a living tree. Their diet consists of spiders, wood roaches, centipedes and other arthropods. Adults also occasionally feed on wax myrtle, blueberry, poison ivy, corn ear worms and sweet bay berries. The red-cockaded spends much of its waking time excavating a cavity - it may take up to a year or more to do so. Most old pines selected for excavation have fungal heartwood rot, called red heart disease, which probably allows for easier excavation. The red-cockaded also pecks holes around the cavity in the sapwood. The holes are called resin wells. This causes large quantities of sap to coat much of the tree, giving it a candle-like appearance. The sap is thought to aid in deterring predators such as raccoons and rat snakes, which are adept at climbing trees.

Modern forestry practices seldom allow pine stands to reach the age necessary for woodpecker use. Other threats include demographic isolation, clearcutting, and developing of entire colony areas. Even when protected from logging, certain wildlife management practices are still required. Red-cockadeds need open, park-like stand free of hardwood understory. This habitat is best achieved through the use of controlled fires which kill the hardwoods but not the pines. The Francis Marion National Forest in Berkeley and Charleston counties had one of the densest concentrations found anywhere. About 500 colonies of red cockadeds lived there before Hurricane Hugo destroyed many of the mature trees suitable for nesting. Lack of cavity trees has been a limiting factor in survival of this species. Through the installation of artificial cavities, biologists throughout the state have been able to augment populations on state and federal lands.

Bald Eagle *Haliaeetus leucocephalus*

The bald or American eagle is one of 59 species of eagles in the world. It is the only representative of the group of eagles known as fish or sea eagles found in the New World and is the largest bird of prey found in the state. South Carolina eagles have wingspans of 6 to 7 feet, and weigh 7 to 10 pounds. Eagles from more northern nesting populations which winter in South Carolina are noticeably larger. The eyes, bill, and feet are yellow. It may be identified by its broad, long wings and large, heavy bill. The bird has heavy, powerful wing beats in flight and holds its extended wings flat when soaring. Bald eagles can attain speeds in excess of 60 mph.

The bald eagle can be seen in every state of the union except Hawaii. South Carolina supports over 100 nesting pairs of eagles and reaches a peak number of just over 300 eagles in mid-January. This number represents resident adults and immature young as well as a small number of migrants from northern breeding areas. Most nests in South Carolina are located along the major river drainages of the lower Coastal Plain, and are usually adjacent to large areas of impounded marshes intentionally managed to attract waterfowl by providing suitable shallow-water feeding habitat. This has allowed the establishment of nesting territories in sites further inland than the historical range. Eagles usually lay eggs in late December and early January in South Carolina, and as a result, the best opportunity to see eagles in South Carolina is by boat during January along river bottomland. They can also be seen adjacent to the dams on inland reservoirs, particularly below hydroelectric power plants.

The bald eagle is a fish eagle and true to its name - the majority of its diet consists of fish. While fishing, they snatch a variety of fish species from the top six inches of water. Coots gallinules, and injured ducks supplement the diet during much of the winter, and they occasionally take rabbits or other small mammals. The bald eagle is also a scavenger, regularly feeding on dead fish and sometimes animals killed along the highway. Like most predators, the bald eagle is opportunistic and utilizes whatever is most attainable as prey. Food availability is most important during the period of nesting and raising young. Nesting during the winter months enhances feeding because water birds are abundant and reduced aquatic vegetation makes fish easier to capture.

In South Carolina, eagles usually construct their nests in large live pine trees. The canopy of the nest tree is typically higher than the surrounding forests and within one mile of open water. Nests are typically six feet across the top, six to eight feet from top to bottom, and an average of 100 feet from the ground. Nests are often used year after year with more materials added each season. In one extraordinary case, a nest weighed nearly 4,000 pounds. The adults continue to feed the young eagles for four to six weeks after the young have fledged from the nest. This enables the inexperienced fledglings to strengthen their muscles and sharpen their flying and hunting skills until they can sustain themselves independently. The young adults move north in spring and summer. Eagles banded in South Carolina have been reported as far away as Canada. Adults are at nesting territories from September through June. Juveniles and adults from other breeding populations are customarily in the state throughout the year.

Pesticides, indiscriminate shooting, and habitat alterations have been the primary factors reducing the bald eagle population from colonial times to the present, as man and eagle competed for some of the same habitat. Historically, in excess of 100 pairs of eagles nested in South Carolina. During the late 1960's, our state’s breeding population was reduced to about a dozen pairs. The wholesale use of persistent pesticides, such as DDT, contributed to this precipitous decline in the eagle population by causing almost total reproductive failure. Regulating the use of persistent pesticides has led to recent increases in reproductive success in eagles. Education and heightened public awareness have resulted in reduced shooting mortality. Habitat protection for the eagle also helped stabilize the eagle population during the 1970's, and substantial increases have been monitored by the South Carolina Department of Natural Resources. Bald eagles are protected under the Eagle Protection Act, the Migratory Bird Treaty Act and the Endangered Species Act.

Loggerhead Turtle *Caretta caretta*

The loggerhead is one of only seven recognized species of marine turtles still in existence today. Adult female loggerheads can weigh as much as 300 pounds, and males may grow even larger. In coastal waters, the loggerhead feeds mainly on whelks (large marine snails), crabs, fishes and benthic organisms (organisms living on the bottom of the sea), such as sponges and algae. The loggerhead's name refers to the size of its head, which is larger in proportion to its body than that of other marine turtles. One of this species' major nesting concentrations is in the southeastern United States, from North Carolina to Florida. In South Carolina, the primary nesting beaches are between North Inlet and Prices Inlet, but other beaches in the southern part of the state also have moderate nesting densities. These are mainly undeveloped beaches between Kiawah Island and Hilton Head Island.

Adult females come ashore at night to nest from mid-May to mid-August. They may lay several clutches of eggs a season at approximately two week intervals. Turtle tagging studies have shown that females return to nest at a preferred beach on a two year or three year cycle. The female crawls ashore after dark to lay her eggs in the best site, usually a well drained dune with clean sand and scattered vegetation. After depositing the eggs in the nest cavity, the female then replaces the sand over the eggs and disguises the location by throwing sand over the spot with her front flippers. Most hatchlings leave the nest as a group within three minutes of each other, to begin their crawl to the ocean, an important part of their survival.

After hatchlings enter the ocean, human contact with them is lost. It is not known how many years it takes for a hatchling to reach adult size, but some researchers estimate it could be as long as 20 to 25 years. Evidence from tag returns, epifauna (organisms that are attached or grow on the shell), and now from mitochondrial DNA show the adult loggerheads in South Carolina and Georgia are the same stock and they are genetically different from Florida loggerheads. This had important implications for management. If we lose our loggerheads, we will not have recruitment from Florida, even though ten times as many nesting females are there.

The loggerhead was added to both the U.S. and South Carolina List of Endangered and Threatened Species in 1978. It is in the threatened category on both lists. Since the listing, state wildlife biologists have conducted research to learn more about our loggerheads. They have initiated active management to mitigate those factors which negatively impact the turtles and are conducting statewide monitoring of the nesting population to determine if these efforts are successful.

Turtles are primarily impacted by changes in habitat. For example, some coastal beaches were being lined with **seawalls** or rock revetments to protect property. This was destroying large segments of loggerhead nesting habitat. Since passage of the Beachfront Management Act, hard erosion control structures are no longer permitted and beach renourishment is used instead. This provides dry sand beaches that are beneficial to coastal residents, tourists, and loggerheads. Another danger to loggerheads was the high loss of nests on beaches due to natural erosion, predators such as raccoons and ghost crabs, and some human poachers. Now, thanks to the efforts of many volunteers, nests are moved to safer locations and are screened to keep out predators; poaching is also much reduced over past years.

Developed beaches pose yet another problem for hatchlings. Light from beach facilities will disorient them and cause hatchlings to wander away from the ocean until

they die from the sun's heat, or get crushed on roadways. A final contributor to turtle mortality is the drowning of large numbers of subadults and adults in commercial shrimp trawl nets. South Carolina was the first state to require Turtle Excluder Devices in shrimp trawls. South Carolina was also instrumental in prohibiting the use of hopper dredges when sea turtles are present. Due to high mortality rates caused by hopper dredges, dredging of ship channels is now done during winter when sea turtles are absent.

Summary

South Carolina has five distinct landform regions: Blue Ridge, Piedmont, Sandhills, Coastal Plain, and Coastal Zone. Each of these regions has unique landscape features, drainage patterns, soils, vegetation, rocks and land use. The diversity of each of the **landforms** has greatly influenced the development of trade, industry, agriculture, and transportation across South Carolina. Indeed, the history of South Carolina is woven into the distinctions and relationships among these landform regions. All of these distinct features are economically valuable to the state and all must be used wisely to provide for a secure economic future for South Carolina.

The diversity of the state landforms may be generalized into a rather flat topography we refer to as the Low Country and rolling hills called the Up Country. Historically, this distinction has been marked by differences in the way people have made their living. The Low Country was characterized by large port cities like Charleston (a major trade and shipping center), an aristocratic society with large plantations, and an extensive slave population. In contrast, the Up Country or Upstate was settled by frontiersmen and small farmers of mostly Scotch-Irish background, who had fewer slaves. There was less dependence on large-scale agriculture, and the people were more receptive to a manufacturing-based economy. Recently, tourism has become one of the few economic activities shared by both areas.

PLACES TO VISIT ☎

Man-made lakes both large and small are located over most of South Carolina. Plan to visit the one nearest your school. Identify the sources of water, type of dam, and means of flood control. How is this lake used?

Many farms, factories, and businesses located near your school depend directly on land resources. Plan a visit to one of these places to determine which resources are used and how disposal of waste products is accomplished.

Ask a geologist in your area, perhaps at a nearby college or university, to lead a field trip explaining the geology of your area.

Visit a farm which practices forest and wildlife management or uses soil and water conservation practices. To make arrangements for a visit to a farm or forest contact your local Soil and Water Conservation District Office. The phone number is in your local telephone directory.

REFERENCES AND RESOURCES 🗁

Adams, Lark Emerson, ed. (1979). Journals of the House of Representatives, 1785-1786. Columbia, SC: University of South Carolina Press.

Berlin, Ira, et.al., eds. (1992). Free at Last. A Documentary History of Slavery, Freedom, and the Civil War. New York: The New Press.

Botsch, Carol Sears, et al. (1994). African-Americans and the Palmetto State. Columbia, SC: South Carolina State Department of Education.

Chadwick, Thomas W. (April & July 1947). "The Diary of Samuel Edward Burges, 1860-1862", South Carolina Historical and Genealogical Magazine. Vol. 48. Baltimore, MD: Waverly Press Inc.

Easterby, J.H. (1951). Illustrated Topics of South Carolina History: Transportation in the Antebellum Period. Columbia, SC: Historical Commission of South Carolina.

Edgar, Walter B. (1988) South Carolina: The WPA Guide to the Palmetto State. Columbia, SC: University of South Carolina Press.

Fairey, Daniel A. (1988) South Carolina's Land Resources: A Regional Overview. Columbia, SC: South Carolina Land Resources Commission.

Jones, Lewis P. (1985). South Carolina: One of the Fifty States. Orangeburg, SC: Sandlapper Publishing Co., Inc.

Kovacik, Charles F. and Winberry, John J. (1989). South Carolina: The Making of a Landscape. Columbia, SC: University of South Carolina Press.

Lipscomb, T.W. (1993). South Carolina in 1791: George Washington's Southern Tour. Columbia, SC: South Carolina Department of Archives & History.

Mancke, Rudy. ETV (Producer). (1979). Nature Scene. (Videotape Series). Lesson 1, "South Carolina: From the Mountains to the Sea." Columbia, SC: SC ETV.

Mills, Robert. (1972). Statistics of South Carolina, 1825. Reprint. Spartanburg, SC: The Reprint Company.

(1980). Mills Atlas of South Carolina, 1825. Reprint. Greenville, SC: Southern Historical Press, Inc.

Murphy, Carolyn Hanna. (1995). Carolina Rocks. Orangeburg, SC: Sandlapper Publishing Co., Inc.

Pipes, D. H. ETV (Producer). (1988). South Carolina Geography. (Videotape Series). Lesson 1, "South Carolina in the world." Columbia, SC: SC ETV.

Pipes, D. H. ETV (Producer). (1988). South Carolina Geography. (Videotape Series). Lesson 2, "Railroads, rivers, roads, highways, and regions." Columbia, SC: SC ETV.

Rogers, George C. & Taylor, C. James. (1993). A South Carolina Chronolgy: 1497-1992. 2nd Edition. Columbia, SC: University of South Carolina Press.

Salley, A.S. (1932). President Washington's Tour through South Carolina in 1791. Bulletins of the Historical Commission of South Carolina, #12. Columbia, SC: State Printing Co.

Sloan, Eugene B. (1971) Scenic South Carolina. 2nd ed., Columbia, SC: Lewis-Sloan Publishing Company.

South Carolina Wildlife. (1988). Silhouettes of Carolina: A Portfolio of Natural Areas. Columbia, SC: South Carolina Wildlife and Marine Resources Department's Division of Conservation Education and Communications.

State Board of Agriculture of South Carolina. (1883/1972). South Carolina: Resources and Population, Institutions, and Industries. Charleston, SC: Walker, Evans & Cogswell, Printers, 1883. Reprint. Spartanburg, SC: The Reprint Company, 1972.

Wallace, David Duncan. (1961). South Carolina: A Short History, 1520-1948. Columbia, SC: University of South Carolina Press.

Workman, W.D., Jr. "South Carolina History." The State. 2 & 9 Oct. 1980. Columbia, SC.

Activity 1-1: State Landform Regions

Materials		
6	STATE BASE MAP #1, SHADED RELIEF	1 : 500,000
6	STATE BASE MAP #2, WITH HIGHWAYS	1 : 500,000
6	GEOLOGIC AND MINERAL RESOURCE MAP	1:1,000,000
1	Landform Regions of South Carolina	Figure 1-1
1	Index Map of Study Sites	Section 1 Title Page
1	The Geologic Time Scale and South Carolina	Figure 1-6
1	Geologic Map of South Carolina	Figure 1-7
1	Geologic Cross-Section of South Carolina	Figure 1-5
1	Average Annual Temperature	Figure 1-4
1	Average Annual Precipitation	Figure 1-3
6	Transparent Grid Overlays	
6	Wipe-off Pens	

PERFORMANCE TASKS
(Icon Key) Overview = ✈; Science = ☼; Math = 💻; History = 🕮; Language Arts = ✍

1. **Investigate the five landform regions. ✈**
   Outline and name South Carolina's five landform regions on the STATE BASE MAP #1, SHADED RELIEF, with a wipe-off pen. Use Figure 1-1, "Landform Regions of South Carolina," as a guide. Note that the landform regions form a pattern of broad parallel bands. What is the direction of these bands? Note also that these regions are parallel to the present coastline. Consider whether you think this is just a coincidence. Suggest several reasons why these parallel bands should exist? Which region is most mountainous? Which is flattest? Which region is most irregular in shape? Which region can be described as having small rolling hills? Which region contains most of the swamps in South Carolina? In which landform region is your school located?

2. **Locate the 18 SC MAPS study sites. ✈**
   With a wipe-off pen, mark the approximate location of each study site with a small box on the STATE BASE MAP #2, WITH HIGHWAYS. Be as accurate as you can. Use the index map at the beginning of the section as a reference. Determine the approximate latitude and longitude of each study site by using the degree ticks in the margin of the state base map.

3. **Make a chart listing age, geologic era, and rock type. ☼ ✈**
   Use the GEOLOGIC AND MINERAL RESOURCE MAP and the geologic data presented in the Background Information (Figures 1-5, 1-6, and 1-7) as a resource to make a chart listing basic characteristics for each of the five landform regions. Identify the age, geological era, and major rock type in each region. Why are the rocks in the Blue Ridge and Piedmont mostly metamorphic? Why are the Coastal Plain rocks mostly sedimentary? Why are there so many igneous intrusions, plutons, in the Piedmont? Also determine the age, geologic era, and classification of the rocks underlying the area where your school is located.

GEOLOGIC REGIONAL DATA			
Region	**Age (years)**	**Geologic Era**	**Major Rock Type**
Blue Ridge			
Piedmont			
Sandhills			
Coastal Plain			
Coastal Zone			
My School			

On another chart, describe the geologic evolution of the five landform regions and note their differences in regard to surface and sub-surface characteristics such as weathering, tectonics, and erosional processes. Also note, in detail, differences in drainage, topography, elevation, soil types, and land usage.

4. **Estimate percentage of state in each landform region.** 💻

There are several methods by which the area of a geographic region can be calculated. Two of these methods are listed below. You may try some other methods as well. Divide into groups so that each method is tried by at least one group. First, with a wipe-off pen, mark the landform regions on the STATE BASE MAP #1, SHADED RELIEF. Then use your assigned procedure to fill in the table below with your numerical area data, then calculate the percentage of the state contained in each landform region. On a separate piece of paper, draw a pie chart (circle graph) depicting the relative percentage of land contained in each of the five landform regions. When all groups have finished, compare your answers with other groups and discuss which method is simplest to carry out, which is quickest, and which gives the most precise answers. Which method would you suggest to estimate the area of your school property?

Group I Estimation using transparent grid overlay

Use the transparent grid overlay to estimate the area of each landform region in square miles. Refer to the scale bar on the map to calculate the number of square miles in one square of the overlay. On the basis of this estimation, calculate the percentage of land in each region. Compare your estimate to the actual area of the state. (Note that the total area of South Carolina is 80,583 square kilometers or 31,113 square miles).

Group II Calculate using areas of geometric shapes

Using the coastline as the base for South Carolina's triangular shape, find the approximate area of South Carolina using the formula (area = 1/2 base x height) for the area of a triangle. Compare your findings with the actual area of South Carolina. Why are these numbers so different? Now find the approximate area of each landform region by approximating other geometric shapes and using mathematical formulas to calculate the area of each.

PERCENTAGE LANDFORM IN EACH REGION				
LANDFORM REGION	**AREA (sq. mi.)**	**AREA OF STATE mi^2**	**% OF STATE**	**DESCRIPTION OF LANDFORM**
		31,113		
		31,113		
		31,113		
		31,113		
		31,113		

5. **Determine types of state boundary lines.** ☼
   Use the STATE BASE MAP #1, SHADED RELIEF, to determine which South Carolina state boundaries follow natural geographic features and which do not. Identify each type of boundary. Explain why natural geographic features usually make excellent boundary lines. Which natural features do not serve as good boundary lines? Why are other types of boundary lines sometimes used? Identify the type(s) of boundary line(s) used for your county.

6. **Compare size of your county to entire state.** 💻
   With the STATE BASE MAP #1, SHADED RELIEF, in front of you, use a string to measure the perimeter of South Carolina. Use the scale bar on the map to convert this measurement to miles. Next, measure the perimeter of your county in the same way and convert this to miles. Just by observation, is your county a comparatively large, small, or medium sized county? Where is your county seat? How far are you from the capital of South Carolina, Columbia? Charleston? Greenville? Which region do you live in? Is measuring the perimeter a good way to compare the area of various counties? Explain your answer.

7. **Calculate slope from mountains to the sea.** 💻
   Find Sassafras Mountain on the STATE BASE MAP #1, SHADED RELIEF, along South Carolina's northern border. What is the elevation, in feet, of this mountain? What is the elevation difference in feet between this mountain and the sea? Using the scale of miles on the base map, measure the distance "as the crow flies" between the mountain and the sea (parallel to the Savannah River). Use these values to calculate the average slope of the land from the mountains to the sea using units of feet per mile. Is your answer best characterized as a steep slope or a gentle slope? Explain your reasoning.

8. **Estimate travel time to cross South Carolina.** 💻
   Starting at the North Carolina state line and traveling southward at 50 mph on Interstate 26, how long should it take to cross each landform region. What is the total time required to cross the entire state? What region, if any, did you miss? Use the scale bar on the STATE BASE MAP #2, WITH HIGHWAYS, to make your calculations. You may wish to use a string as a measuring devise.

9. **Determine distance between shorelines.** 💻
   During the Cretaceous Period of geologic time, the shoreline went through the midlands of South Carolina in what is now called the Sandhills region of the state. Use the STATE BASE MAP #1, SHADED RELIEF, to mark with a wipe-off pen the upper boundary of the Sandhills region of South Carolina. Determine the average

distance between the shoreline today and the shoreline of 100 million years ago. Use at least five measurements to arrive at your average distance. How many counties would have been completely under water at that time? Was your county one of these? Using your answers to Performance Task #4, estimate the percentage of the state which was under water during the Cretaceous Period.

10. **Determine coordinates of each study site.** 💻
    Use the STATE BASE MAP #2, WITH HIGHWAYS, and the Index Map to Study Sites found on the Title Page of Section 1, to mark the location of each of the eighteen study sites with a wipe-off pen. Set the transparent grid overlay with the city of Columbia (Capitol building) as the origin and determine the coordinates (ordered pairs) of each of the study sites. Use a standard cartesian coordinate system. Record your answer and compare your results with the other teams.

11. **Calculate straight line distance between study site pairs.** 💻
    Use the ordered pair data from Performance Task #10 and the formula below to calculate the straight line distance between the study site pairs listed in the table that follows. Next, use a ruler to measure the straight line distance ("as the crow flies") in map inches between the listed study site pairs on the STATE BASE MAP #2, WITH HIGHWAYS. Multiply your result by the scale factor (8 miles per map inch) to determine the actual straight line distance. Finally, mark the shortest road route between the two study sites on the map with a wipe off pen. Use the scale bar to measure total route mileage.

$$d = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

d = distance between study sites
(x_1,y_1) = ordered pair for study site 1
(x_2,y_2) = ordered pair for study site 2

    Enter your data into the table. Compare the straight line distance to the actual shortest road distance. How do you account for these differences? Did it make a difference if the study site pairs were separated by one or more landform regions? Why did you think these particular study site pairs were selected to be printed back-to-back (on the map and lithograph products for SC MAPS)?

STRAIGHT LINE DISTANCE BETWEEN STUDY SITE PAIRS

STUDY SITES	Straight Line Map Distance (inches)	Actual Straight Line Distance (miles)	Estimated Road Distance (Use scale bar)	Calculated Distance (from ordered pair formula)
Forty-Acre Rock - Myrtle Beach				
Columbia – Silverstreet				
Graniteville - Winyah Bay				
Table Rock - ACE Basin				
Congaree Swamp – North Inlet				
Woods Bay Charleston				

12. **Relate average rainfall and temperature data to elevation differences.** ☼
Use a wipe-off pen to trace and label the contour lines from Figure 1-3 "Average Annual Precipitation" onto the STATE BASE MAP #1, SHADED RELIEF. Also trace and label the contour lines from Figure 1-4 "Average Annual Temperature" onto the same map, using a different color wipe-off pen. Which of the following correlations best describes the relationship between the contour line values which represent these two climate variables?

- positive correlation = higher temperatures tend to occur around the same places as higher rainfall amounts and lower temperatures tend to occur around the same places as lower rainfall
- negative correlation = higher temperatures tend to occur around the same places as lower rainfall amounts and lower temperatures tend to occur around the same place as higher rainfall
- no correlation = there is no noticeable correlation between these two variables and higher temperatures occur around the same places as many different values for rainfall amounts

Which landform region has the highest average rainfall amount? Which region has the lowest? Which region has the highest average annual temperature? Which region has the lowest? Which landform region has the highest elevation? Which region has the lowest elevation? Combine your temperature and rainfall data with elevation data to hypothesize about the following relationships. How does a change in elevation affect the value of the average annual temperature? How does a change in elevation affect the value of the average annual rainfall? Locate Berkeley County and Cherokee County on the base map and use your hypothesis to predict answers to the following questions.

- Which will probably be hotter on average, Berkeley County or Cherokee County?
- Which will probably be wetter on average, Berkeley County or Cherokee County?

Propose a scientific explanation for why your hypothesis seems to be correct.

ENRICHMENT

1. **Compare SC landform regions with rest of USA.** ☼
Locate a physiographic (landform) map of the United States. Compare landform regions in South Carolina with those of the entire United States. Which other southern states have the same regions that are found in South Carolina?

2. **Research, predict population changes.** 💻 ☼
Research the changes in population of the five landform areas at 50 year intervals and project for the years 2000 and 2050.

3. **Research boundary line dispute between SC and GA.** 🕮
Research the dispute over an island in the Savannah River located close to where that river empties into the Atlantic Ocean. The island is also close to the city of Savannah, Georgia, and for years was claimed by both Georgia and South Carolina. Find out when the dispute first occurred, when it was resolved, and what legal issues were discussed in court. Which state finally got to claim the island in question?

Activity 1-2: State Drainage Patterns

Materials		
6	STATE BASE MAP #1, SHADED RELIEF	1 : 500,000
6	STATE BASE MAP #2, WITH HIGHWAYS	1 :500,000
6	LAND USE/LAND COVER MAP	1 : 500,000
1	Map of South Carolina Canals	Figure 1-11
1	Population Density Map (1990)	Figure 1-14
1	State Map of Major Drainage Basins	Figure 1-2
6	Transparent Grid Overlays	
6	Wipe-off Pens	

PERFORMANCE TASKS
(Icon Key) Overview = ✈; Science = ☼; Math = 💻; History = 🕮; Language Arts = ✍

1. **Trace three major river drainage basins. ✈**
   Use the STATE BASE MAP #1, SHADED RELIEF, Figure 1-2, "State Map of Major Drainage Basins," and a wipe-off pen to trace one of the following major river systems in South Carolina. Then use the wide-tip wipe-off pen to outline the entire drainage basin (watershed) of your selected river system. Name all counties drained by your river system. Identify any significant landmarks such as lakes, dams, and cities. Where are the headwaters formed? In which general direction does your river flow? Through which landform regions does your river flow? Name the specific bay, inlet, estuary, etc. where your river enters the ocean.

   Group I **Savannah River System**
   Group II **Santee River System**
   Group III **Pee Dee River System**

   After the tracings have been completed, compare and discuss the maps as a class, and answer the following questions. Which single drainage system is the largest in South Carolina? Which river has the most dams? Which empties into the largest bay? Which river forms a delta at its mouth? Which river system drains the area with the greatest population? Is your school in the watershed area of any of these rivers? Compare your conclusions to those from Performance Task #2.

2. **Trace three coastal river drainage basins. ✈**
   Parts of the state are drained by Coastal Plain rivers. Some examples are the Ashley-Cooper river system, the Coosawhatchie River, and ACE Basin river system (this acronym is derived from the first letters of Ashepoo, Combahee, and Edisto rivers). Use the STATE BASE MAP #1, SHADED RELIEF, Figure 1-2, "State Map of Major Drainage Basins," and a wipe-off pen, to trace one of these Coastal Plain river systems. Then use the wide-tip wipe-off pen to outline the entire drainage basin (watershed) of your selected river system. Name all counties drained by your river system. Identify any significant landmarks such as lakes, dams, and cities. Where are the headwaters formed? In which general direction does your river flow? Through which landform regions does your river flow? Name the specific bay, inlet, estuary, etc. where your river enters the ocean.

   Group I **Ashley-Cooper River System**
   Group II **Coosawatchie River System**
   Group III **ACE Basin River System**

After the tracings have been completed, compare and discuss the maps as a class, and answer the following questions. What is the general direction of flow for all of these rivers? Do any of these rivers drain a large populated area? Of these three river systems, which system drains the greatest amount of land? Is your school in the watershed area of any of these rivers? How can you account for sharp bends in these rivers? Compare your conclusions to those from Performance Task #1.

3. **Assess threats to habitat in different drainage basins.** ✈
Trace the major state drainage basin boundary lines onto the LAND USE/LAND COVER MAP. (These regions may be transferred from the STATE BASE MAP #1, SHADED RELIEF, as drawn in Performance Task #1-2.) Divide the class into four groups so that each group covers one of the major river drainage basins. Have each group determine the major types of land uses found in their particular watershed. How many are present? (Use the more general categories of Forest, Wetlands, Agricultural/Grassland, Urban/Built-up Land, and Beaches/Estuaries.) What types of plant and animal life will you likely find associated with each different land use? How have people altered the natural environment to accomplish these land uses? What sort of land management is occurring? List, in the chart below, some of the more obvious environmental concerns and dangers to habitat connected with these land uses or management styles within your watershed basin. Share your results with the rest of the class.

HABITAT DATA FOR _____ WATERSHED	
LAND MANAGEMENT	**THREATS TO HABITAT**
Forest	
Wetlands	
Agricultural/Grassland	
Urban/built-up Land	
Beaches/estuaries	

4. **Write a story about salamander's river journey.** ✍
Using the STATE BASE MAP #1, SHADED RELIEF, locate Sassafras Mountain (in Pickens County), the highest elevation in the state, and the Saluda River, which flows away from the mountain towards the southeast. Pretend you are a small salamander who was living in a soda bottle carelessly dropped into the river alongside Sassafras Mountain by a thoughtless hiker. During a heavy rainstorm, the bottle is pulled into the river's current and heads downstream toward the ocean. Using a wipe-off pen, trace your path to the ocean on the shaded relief map. From a "salamander's eye" point of view, write a story about your trip from the mountains to the sea. Be sure to mention any obstacles you encounter. Be sure to use plenty of descriptive terms (adjectives) to tell others about what you see along the way. Share your story with other groups.

5. **Write a story about opossum's after school journey.** ✍
   Use the STATE BASE MAP #1, SHADED RELIEF, to locate the stream or river closest to your school. Pretend you are an opossum being chased by a fox. To escape, you hop onto a log floating downstream. Describe your journey in detail, and locate on the map any obstacles you may encounter along the way as well as your final destination. How would you return home?

6. **Determine the percentage area of the state in each drainage basin.** 💻
   With a STATE BASE MAP #2, WITH HIGHWAYS, outline the four major drainage systems as shown in Figure 1-2 "State Map of Major Drainage Basins." Use the transparent grid overlay as a guide to determine what percentage of the state is contained in each of the drainage systems. First use the scale bar to determine how many square feet are contained in one square of the overlay. (Use 80,583 square kilometers or 31,113 square miles as the area of the state.) Use the chart below to record your answers. Also calculate gradients (slopes) of the major drainage basins by dividing total drop in elevation by distance to the ocean. Compare and explain your results based on landform differences as shown on the base map.

PERCENT AREA IN DRAINAGE BASIN

Drainage Basin or Watershed Area	Area ($miles^2$ / km^2)		% of State	Drop in elevation	Distance to Ocean	Slope (gradient)
Savannah						
Santee						
Pee Dee						
Coastal						

7. **Investigate reasons for building canals.** 🕮
   Use a wipe-off pen and Figure 1-11 "Map of South Carolina Canals" to mark the location of these canals on the STATE BASE MAP #1, SHADED RELIEF. South Carolina's four main river drainage systems are the Savannah, Santee, Pee Dee, and the Coastal. Match up these river systems with the location of the canals. Which river system had the most canals? What landform features dictated the need for canals? Why did South Carolinians pursue using water transportation and building canals in the early 1800's? In which landform region are most of these canals located? What was inefficient about using rivers as the main avenue for transportation? Why were these canals never very successful? What obstacles did the canal builders encounter? Of these nine canals, which one is closest to your school? Two of these canals are now part of the South Carolina State Park system (Landsford Canal and Santee Canal). One other is now a city park (Columbia Canal). Why would an old canal make a good location for a park?

8. **Trace pathway of an industrial pollutant.** ☼
   If a chemical pollutant were introduced into the Pacolet River in Spartanburg County, which South Carolina cities and towns would be concerned about it affecting their water supply? Trace the pathway of the pollutant on the STATE BASE MAP #2, WITH HIGHWAYS. Which high density population areas would be most affected? Use Figure 1-14 "Population Density Map (1990)", or the LAND USE/LAND COVER MAP as a resource. How far away from the source do you think the effect would be noticed? Explain your answer. What would be the impact of this pollution on tourism and recreational facilities?

ENRICHMENT

1. **Research Scenic River Act.** 🕮
   South Carolina has a Scenic River Act identifying picturesque rivers. Research this act to see how a river can be added to this list.

2. **Compare Up Country and Low Country rivers.** ☼
   Write a paper comparing the rivers and tributaries in the Blue Ridge mountains and Piedmont with those of the Sandhills and Coastal Plain regions. Include in this paper a comparison of the sediment load, velocity, total discharge, salinity, and acidity of the water. What is meant by the phrase "water is constantly rearranging the landscape?"

Activity 1-3: Landforms Influence History & Culture

Materials		
6	STATE BASE MAP #1, SHADED RELIEF	1 :500,000
6	STATE BASE MAP #2, WITH HIGHWAYS	1 :500,000
6	LAND USE/LAND COVER MAP	1 :500,000
6	GENERAL SOIL MAP	1 :594,000
1	Revolutionary War Campaigns in S. Carolina	Figure 1-10
1	Population Density Map (1990)	Figure 1-14
1	Barbecue Regions of South Carolina	Figure 1-9
6	Transparent Grid Overlays	
6	Wipe-off Pens	

PERFORMANCE TASKS
(Icon Key) Overview = ✈; Science = ☼; Math = 💻; History = 🕮; Language Arts = ✍

1. **Trace President George Washington's South Carolina visit, 1791. ✈**

   Group I: Part I - President George Washington's Coastal Tour

   Using George Washington's diary, on pages 1-20 through 1-24, and a wipe-off pen, trace his Coastal Tour of South Carolina on the STATE BASE MAP #2, WITH HIGHWAYS. What were his objectives for making this southern tour? Describe Washington's party as they entered South Carolina. Why did Washington want to make compensation for his lodging and meals? Why did he dine and lodge with planters? What type of agricultural products did he find? How did the planters market their produce at that time? Why was Washington concerned about the feeling of these early settlers for the support of a federal government? How did he describe coastal South Carolina? Describe his entrance to Georgetown. Compare the events surrounding his entrance into Georgetown with later events in Charleston. Describe in detail the gala events held for President George Washington on his coastal tour.

   Group II: Part II - President George Washington's Sandhills Tour

   Using George Washington's diary, on pages 1-24 through 1-28, and a wipe-off pen, trace his Sandhills Tour on the STATE BASE MAP #2, WITH HIGHWAYS. Describe Washington's reentrance into South Carolina from Georgia. Who met him in Augusta? What were the specific goals for his southern tour? Why was he concerned about the excise tax? After talking with the people along his trip, what was his conclusion about the opposition to the excise tax? Describe Washington's trip from Granby to the State House. Explain what was meant by each of the toasts given at the State House dinner. Is it the same state house building that we are using today? Explain. What did Washington think about the location of the State Capitol? Why was Washington so interested in Revolutionary War battle sites? Where on his Sandhills tour did he find extensive damage as a result of the Revolutionary War? Explain. What were the grievances of the Catawbas? How did Washington handle these grievances? Why were the Catawba grievances not settled until recently? Use George Washington's words to describe the Sandhills landscape.

2. **Analyze President George Washington's writing style.** ✍
   As you read Washington's diary, on pages 1-20 through 1-28, make a comparison between his writing style and that of modern journalists. Identify differences in sentence structure. List changes in spelling, punctuation, and common abbreviations. Compare his journal entry format with that of today. How has this type of literature changed over the last 200 years? Rewrite one or more days of his journal entries in your own words.

3. **Outline Washington's southern tour using modern day highways.** 🕮
   After tracing Washington's 1791 route (Performance Task #1 on page 1-58), use a different color wipe-off pen to outline his trip on modern day highways. Which primary highways or interstates would he follow today? Identify obstacles such as swamps, bays, sounds, and rivers that he had to overcome on his journey. Contrast the way he crossed these obstacles in 1791 versus the way they would be crossed on a modern day visit. Through which counties did Washington travel? Did he travel through your county? If so, is there a marker identifying his visit?

4. **Examine Washington's entries about agriculture and land cover.** 🕮
   Washington in his dairy, on pages 1-20 through 1-28, described two methods of cultivating rice. How did these two methods differ? Why did he think one was better than the other? Which method was used most often by South Carolina planters? How did Washington describe the soil? Where did he find the best soil? How did he describe the population density on his coastal tour? In 1791, where were most of the people living? Where is the population density the greatest in South Carolina today? Is it in the same area he traveled on his southern tour? He described the land in his diary by saying, "the sameness seems to run through all the rest of the Country." What did he mean by this statement? How did he describe the landscape on his coastal tour? On his Sandhills tour?

5. **Determine Washington's daily rate of travel.** 💻 🕮
   Measure with a string the distance Washington traveled, using the tracing of his tour route (Performance Task #1 on page 1-58) on the STATE BASE MAP #2, WITH HIGHWAYS. Take different measurements for his coastal and Sandhills trips. For each part of his tour, calculate the average number of miles he traveled each day. Did he travel at the same rate (average miles/day) for each trip? How can you account for these differences? Compare his rate of travel per day with a modern business trip. (You must stay within the speed limit.) What was his normal daily schedule while traveling?

6. **List influential people Washington mentioned in his diary.** 🕮 ☼
   Use George Washington's diary, on pages 1-20 through 1-28, to identify the influential people he met on his southern tour. Make connections between these people and their contribution to the early development of South Carolina. Use the STATE BASE MAP #2, WITH HIGHWAYS, to identify counties and towns named for these early colonists. Use a Columbia map to identify streets named for many of these early South Carolina citizens.

7. **Write a descriptive skit about George Washington's tour.** ✍
   Make up your own scenario or use one of the following suggested ideas to write a descriptive skit or short play based on some part of Washington's tour (pages 1-20 through 1-28) in which he had a conversation with:

   local officials about the Duties on Distilled Spirits Act he had just signed into law
   one of the planters while enjoying a fine dinner
   community members who came to meet him
   his white charger (his favorite horse)

8. **Plan a modern day tour of your county.** 🕮 ☼ ✍
   If the President of the United States or some group of famous world leaders were to visit your county today, where would you take them? What would they be interested in seeing in your county, town, or school? Plan a tour and identify the places that you would like for them to visit? Who would you like for them to meet? Why? Outline on a local map the route you plan to follow. Explain the significance of each stop.

9. **Trace Charleston Businessman's trip.** 🕮 ☼
   Use "The Diary of Samuel Edward Burges, 1860-1862" on pages 1-32 through 1-36 and a wipe-off pen, to trace his travels on the STATE BASE MAP #2, WITH HIGHWAYS. List all the modes of transportation Samuel E. Burges used to get around South Carolina. Why was he going to the county seats? Would he have had an easier time traveling to all the county seats later on in 1883? Why? Why did he use so many different railroads in his travels? Why did he have to use the stage and/or steamboat to reach some of his destinations? What momentous historical event does he specifically mention on January 9, 1861? What is the significance of this event for South Carolina? Keep a day-by-day diary of your own activities for one week. Share your journal with other students and compare your descriptions of similar events. Save your diary for several years and then re-read it. It may surprise you.

10. **Compare travel differences 1700's - 1900's.** 🕮💻
    Describe the different modes of transportation that George Washington and Samuel E. Burges used as they traveled through South Carolina (refer to pages 1-20 through 1-28 and pages 1-32 through 1-36 as needed). Following the same routes, which travel options could you use today? Compare George Washington's rate of travel across South Carolina, from Performance Task #5, with that of the Charleston Businessman. How fast could you make a similar trip today? Compare the purpose of these two trips, the obstacles each man encountered, and the number of people in their parties as they traveled across South Carolina during these two very different periods of early South Carolina history. What would be the difference in travel arrangements if our current President visited South Carolina? Consider method of travel, obstacles encountered, security arrangements, attendance at local events, and the total length of time spent in the state. How would the President's description of our landscape differ from that of George Washington?

11. **Speculate how town names reflect local landforms. ✈**
Choose any six of the following towns or cities listed below. Locate them on the STATE BASE MAP #2, WITH HIGHWAYS. Each city name is followed by the name of the county in which it is located. Identify the landform region in which each city is located. Suggest a reason as to how each city got its name. What local landform, if any, is referred to? Can you identify other places in South Carolina that have a name related to a local landform?

Branchville, Orangeburg	Little Rock, Dillon	Pineville, Berkeley
Britton's Neck, Marion	Mt. Pleasant, Charleston	Red Bank, Lexington
Four Holes, Orangeburg	Mountain Rest, Oconee	Ridgeland, Jasper
Graniteville, Aiken	Myrtle Beach, Horry	Rock Hill, York
Great Falls, Chester	Piedmont, Anderson	Ware Shoals, Greenwood

12. **Analyze census of Native American Nations. 💻**
A census is an official count of the population. Such a census of existing Native American Nations in the Carolina Colony was completed in the so-called Indian Census of 1715. Below is an excerpt of the statistical information compiled on eight Siouan Nations. What Nation was the largest, based on the table given below? Which Nation had the largest average village population? What was the average number of inhabitants in a typical Catapaw village? What percentage of this total were woman and children? Why do you think that the census collectors divided the count into two groups, men and women/children? How did Native Americans influence the history of South Carolina?

NATIVE AMERICAN CENSUS DATA 1715

NAME OF NATION	MILES & DIRECTION FROM CHARLES TOWNE	VILLAGES	MEN	WOMEN & CHILDREN	TOTAL
Catapaw	200 northwest	7	570	900	1470
Sarow	170 north	1	140	370	510
Waccomussu	100 northeast	4	210	400	610
Cape Fear	200 northeast	5	76	130	206
Santee	70 north	2	43	60	125
Congaree	120 north	1	22	70	106
Weneaw	80 northeast	1	36		57
Seawee	60 northeast	1			

Source: *South Carolina Records*, *British Public Record Office*, VII, 238-239 cited in Chapmen T. Milling, *Red Carolinians* (Columbia, SC: The University of South Carolina Press, (1969) p. 222. Incomplete data extrapolated for table.

13. **Locate Native American national territories.** 🕮 💻
Using wipe-off pens, the STATE BASE MAP #1, SHADED RELIEF, and the census information given in Performance Task #12, (miles and compass direction from Charles Towne), locate and label the specific territories in which the eight Siouan Nations once lived. Using wipe-off pens, circle any place names today that bear the name of any of these eight Siouan Nations. Note that the Nations are listed using the eighteenth century spelling as recorded in the Indian Census of 1715.

14. **Compare Native American census data to modern population density.** 🕮
Compare the locations of major Native American communities in 1715, as determined in Performance Task #13, to the locations of modern cities and other heavily populated areas. Refer to Figure 1-14 "Population Density Map (1990)" for the location of urbanized areas shown on the LAND USE/LAND COVER MAP. Which locations were highly populated both then and now? What landform features in those areas favored continued higher population density? Which locations were highly populated then but not now? What factors might have caused the decline in relative population density? Which locations were not highly populated then, but are now? What factors might have caused the upward trend in population density in these areas?

15. **Analyze effects of landforms on Revolutionary War campaigns.** 🕮
Each class group should work with a single battle from Figure 1-10 "Revolutionary War Campaigns in South Carolina." Locate and mark your assigned battle site with a wipe-off pen on the STATE BASE MAP #2, WITH HIGHWAYS, at your table and also on the map located at the front of the classroom. Each group should trace the assigned campaign routes on its base map with a wipe-off pen, answer the following questions for both the British forces and the American forces, and be prepared to report its answers to the rest of the class in the proper time-line sequence. Who commanded the forces at the Battle? From where did each army march to get to the battle? How far did they each have to march? Approximately how long did it take each army to travel that distance? What landform obstacles did they have to overcome to reach the battle site? Were there any landform features at the battle site which influenced the outcome of the battle? Explain your answer.

Group I	**Battle of Camden, August 16, 1780**
Group II	**Battle of Kings Mountain, October 7, 1780**
Group III	**Battle of Cowpens, January 17, 1781**
Group IV	**Battle of Hobkirk's Hill, April 25, 1781**
Group V	**Battle of Orangeburg, May 11, 1781**
Group VI	**Battle of Ninety Six, May 22, 1781**
Group VII	**Battle of Eutaw Springs, September 8, 1781**

16. **Explain geographic distribution of barbecue regions of South Carolina.** 🕮
Use Figure 1-9 "Barbecue Regions of South Carolina" to trace the approximate boundaries of each barbecue region onto the STATE BASE MAP #2, WITH HIGHWAYS, with a wipe-off pen. Do the barbecue regions line up more closely with the landform regions or with the major river system watersheds? Explain your answer. Develop a hypothesis about why that particular relationship might exist in South Carolina. Write down a list of reasons why you think your hypothesis is correct. Do you expect the boundaries of the barbecue regions to change in the

future, or would you expect those borders to be constant through time? Explain your answer.

17. **Analyze spelling of word "barbecue."** ✍
    How many different ways have you seen the word "barbecue" spelled? List each spelling along with your hypothesis as to why the advertisement used that spelling. Discuss your list with the rest of the class and speculate about why different spellings might exist. How can people recognize the word "barbecue" on signs even when it is purposely misspelled? Why would restaurant owners want to deliberately misspell the word? What meat is traditionally used to make South Carolina barbecue? Do you expect this to change? Why or why not? Explain your answer. Refer to Figure 1-9, "Barbecue Regions of South Carolina."

ENRICHMENT

1. **Research origins of selected city names.** 🕮 ✍
   Write to the Chambers of Commerce of several of the cities listed below. Ask how the town got its name. Compare these official explanations to your own given in Performance Task #11.

Branchville	Little Rock	Pineville
Britton's Neck	Mt. Pleasant	Red Bank
Four Holes	Mountain Rest	Ridgeland
Graniteville	Myrtle Beach	Rock Hill
Great Falls	Piedmont	Ware Shoals

2. **Research South Carolina place names.** ✍
   Have you ever poked fun at a name of a town, city, or river in South Carolina? The people in this state have given all sorts of names, taken from a variety of sources, to identify places they call home. In Nancy Coleman's S.C. Wildlife article "Nine Times to Pocotaligo," (Nov.-Dec., 1979), she relates the sources used for naming a variety of places in South Carolina. Dr. Claude H. Neuffer, Professor Emeritus of English at the University of South Carolina, has studied the origins of names and later wrote a book on the subject, Names in South Carolina. The study of the origins of names is called onomastics. Use these sources to research the names given to places, rivers, landforms, etc. in your county. Circle the appropriate names on the STATE BASE MAP #2, WITH HIGHWAYS, and list each name separately along with its source. Make up a story relating all of these place names.

3. **Research people Washington met on Southern Tour.** 🕮
   Select any two famous people Washington met on his Southern Tour in 1791 and explain their contribution to the early growth and development of South Carolina. Were any places in the state named for them?

4. **Choose a Native American Nation to research.** 🕮 ✍
   Over forty different Native American Nations lived in South Carolina in 1670. Pick one Nation and list at least two cultural characteristics of that Nation. You should utilize a wide range of reference materials.

Activity 1-4: Landforms and Land Use

Materials		
6	STATE BASE MAP #1, SHADED RELIEF	1 : 500,000
6	STATE BASE MAP #2, WITH HIGHWAYS	1 : 500,000
6	LAND USE/LAND COVER MAP	1 : 500,000
6	GENERAL SOIL MAP	1 : 594,000
1	Map of Antebellum Railroads -1860	Figure 1-14
6	Wipe-off Pens	

PERFORMANCE TASKS
(Icon Key) Overview = ✈; Science = ☼; Math = 💻; History = 🕮; Language Arts = ✍

1. **Determine city size and reason for location.** ✈
   Use the printed size of the letters in city names, *e.g.* (ANDERSON, Honea Path, Starr) on the STATE BASE MAP #2, WITH HIGHWAYS, as a guide to determine the relative size of the cities. Also note the city limit boundaries of the largest cities as shown on the map. Name the city with the largest population in each of the five landform regions. Why is each city located where it is? Give a unique characteristic of each city.

2. **Compare land use/land cover map with soils map.** ☼
   Compare the patterns on the LAND USE/LAND COVER MAP with the GENERAL SOIL MAP. What are the major divisions on the soils map? What are the major divisions on the land use/land cover map? How does each land use category relate to the major soil groups? Do these land uses follow geological and landform region patterns? Explain.

3. **Explain how water is used by various businesses.** ✈ ☼
   Large industries, plants, businesses, and agriculture in this state depend on our river systems and reservoirs for water in a variety of ways. Divide into groups and locate each industrial or other use listed below, as closely as possible, on the STATE BASE MAP #2, WITH HIGHWAYS. Identify the source of the water that is used. Explain how the water is used and whether or not it is returned to the river or reservoir. Speculate about what happens to the water afterwards and whether it is returned clean or polluted. Share your results with other groups and note similarities and differences.

   Group I **Hydro-electric plant near Columbia on the Saluda River.**
   Group II **Coal fired generating plant in Conway on the Waccamaw River.**
   Group III **Paper mill in Georgetown on the Sampit River.**
   Group IV **Soybean farm in Orangeburg County on the Edisto River.**
   Group V **Nuclear processing plant in Aiken on the Savannah River.**
   Group VI **Rock quarrying in Graniteville.**

4. **Explain obstacles to transportation in 1800's.** 🕮
   What was the major method of transporting goods in the 1700's? Using Washington's diary for reference, what were the major cities in South Carolina at that time? What was the major method of transporting goods in the 1800's? Using Burges' diary, what were the major cities in S.C. at that time? Use the STATE BASE MAP #1, SHADED RELIEF, to decide which pair of cities listed below would have been the most difficult to travel between. Explain why. Your answer should be

based on the transportation available in 1800. Which pair would have been easiest to travel between? Explain why. What method of transportation would have been the best choice for each pair at that time? What method would be best today?

- Beaufort and Georgetown
- Columbia and Greenville
- Greenville and Cheraw
- Columbia and Charleston

5. **Locate reservoirs and list uses.** ☼
Working in student teams with the STATE BASE MAP #2, WITH HIGHWAYS, locate and name five large man-made reservoirs in South Carolina. List all of the recreational and industrial uses of these reservoirs you can think of. Identify the positive and negative impacts of creating these reservoirs. Compare your list of impacts with lists of the other groups.

6. **Explain impact of railroads on economy.** 🕮
South Carolina's first locomotive, the *Best Friend of Charleston*, began running in 1833 from Charleston to Hamburg, which is located on the Savannah River near North Augusta. Trace with a wipe off pen the Charleston-Hamburg railroad track on the STATE BASE MAP #1, SHADED RELIEF. The South Carolina Canal and Railroad Company, chartered in 1827, was designed to improve the economy of Charleston by bringing goods to market. When finished, it was the longest railroad track, 136 miles, in the United States. Why did the geography of South Carolina hinder the development of Charleston as a major port city after the Revolutionary War? Identify at least ten major towns located on early railroad routes. Were many of these towns considered to be railroad towns? What is meant by saying a town is a "railroad town"? Are any of these towns still railroad towns today? Did the *Best Friend of Charleston* help Charleston's economy? Explain. Study the ridges and valleys on the shaded relief map. How did the early railroad engineers use South Carolina's landscape to their advantage in designing the location of railroad tracks? Note: The South Carolina State Museum has on display a replica of *The Best Friend of Charleston*.

7. **Compare railroad travel costs 1842 - 1883.** 💻
Compare the number of railroad routes listed in Figure 1-12 "Map of Antebellum Railroads - 1860", to the number of railroad routes shown on the STATE BASE MAP #1, SHADED RELIEF. Most of the modern railroads were constructed in the late 1800's and the early 1900's. In 1842 the cost of passenger travel in South Carolina was 6.5 cents a mile. In 1883 it only cost 3.42 cents a mile. Why do you think the cost had gone down so much? What do you expect would have happened to freight shipping costs? Was it usually cheaper to ship goods by water or on the railroads? Explain your answers. What are the most popular methods of passenger travel and cargo shipping today? Why?

8. **Relate early railroad lines to locations of county seats.** 🕮
Using Figure 1-12 "Map of Antebellum Railroads - 1860" as a reference, trace with a wipe-off pen the major railroad lines of 1860 on the STATE BASE MAP #1, SHADED RELIEF. Create your own symbols for each of the railroads. These railroad lines were built with private funding and designed to transport goods and produce to the market. Complete the chart which follows indicating major cities along the route and full names of railroad companies. How many of the towns along the early routes are present day county seats? List all the counties today that carry

the same name as their county seats, *e.g.,* Allendale County, Edgefield County, and Chesterfield County. How many of the present day county seats are located on active or formerly active railroad lines? Why did towns away from the railroad lines tend to remain small? Which railroad line is closest to your home town? Which one is closest to your school?

RELATIONSHIP OF RAILROAD LINES TO COUNTY SEATS		
RAILROAD SYSTEM	**FULL NAME OF RAILROAD**	**MAJOR CITIES ON THE ROUTE**
C&DRR		
W&MRR		
SCRR		
BRRR		
G&CRR		
S&URR		
C&SCRR		
C&SRR		

9. **Investigate nicknames for cities.** ✍
Nicknames are often given to cities. For example, one is called the "Port City," others are identified as the "Textile City," "Gamecock City," or "Capitol City." Which South Carolina cities do you think have these particular nicknames? Suggest nicknames for several other major cities in South Carolina. Give a unique characteristic of each city. Does the city nearest your school have a nickname? If so, what is it? How did it get that nickname? If it does not have a nickname, choose an appropriate one and explain your choice to the class.

10. **Trace flight path of Cessna.** 💻
You are joining a group of students flying across South Carolina in a Cessna. Your pilot is flying by dead reckoning (using only a compass and altimeter) across the state at a steady velocity of 120 miles per hour with no winds. Time of departure is 8 A.M. at the Charleston Airport located in North Charleston. It is a clear day with blue skies. Visibility is 100 miles. As the plane takes off your pilot turns northeastward heading up the coast following the shoreline to Myrtle Beach. You have before you the STATE BASE MAP #1, SHADED RELIEF, and a wipe-off pen to trace your flight path. Once you reach Myrtle Beach, look for the Seaboard Coast Line railroad track, which almost runs into the ocean. As you leave Myrtle Beach, turn at the railroad track on a heading of 300°. You will fly over the Intracoastal Waterway. After you have gone 60 miles, look for a major city that is due west of the Pee Dee River and north of Jeffries Creek. What city is this? How long have you been flying? Record your time.

Continue from Florence heading due west until you come to the Wateree River. Turn north following the Wateree River. Name the rivers you have crossed so far. While following the Wateree River identify the four major dams you pass over. Identify the city that is located 7 miles due south of Wylie Dam. Go west from Wylie Dam until you fly over the railroad track located on the crest of the drainage divide between the Wateree and Broad rivers. Which town are you now near? Follow this track southward. Oh, by-the-way, you will be following the railroad track all the way to the Capitol City, Columbia. Why was this railroad track built along the crest of the land between these two river watersheds?

Passing Columbia, follow a heading of 190° from the confluence of the two major rivers which meet at this city until you see a railroad track. Follow the Seaboard Coast Line railway all the way to the Savannah River. Count the number of towns you fly over along the way. Why are there so many towns along this railway? Describe the landform features followed by the track. Head northwestward up the Savannah River until you see a small urban area that is known for its abundance of golf courses. What city is this? Turn northeastward, and follow another railroad track. Follow this track until you come to a junction. Turn and follow the north fork of the track. Continue to follow this track until you come to a familiar metropolitan area. Where are you now? Why was the track laid along this type of terrain?

Passing over this large metropolitan area, head due west (a heading of 270°) until you reach the headwaters of Clark Hill Reservoir. What latitude line are you flying along? Why are there so few towns along this path? When you come to the Savannah River, you will see a dam, spillway, and reservoir (lake). Name these landscape features. What is the elevation of the spillway? Head north up the lake (take the right fork) until you see a small town housing a major land grant university. Name this place.

Be sure to increase your altitude to 4000 feet MSL. Why is this necessary? Continue to follow the same string of rivers and lakes until you come to the Jocassee Dam. Name the bodies of water that you have just flown over since leaving the Savannah River. Describe the landscape. Turn eastward on a heading of 100° and land at the Greenville-Spartanburg Airport.

How are airports marked on the STATE BASE MAP #1, SHADED RELIEF? How many total miles have you traveled since you left Charleston? List the counties that you flew over. How many landform regions have you crossed? Name and describe each region. List the major rivers that you have flown over. How long did it take you to make this entire flight? What time of day did you arrive at the Greenville-Spartanburg Airport?

And finally, the most important question - why did you take such a bizarre trip across South Carolina? Each person on your team should come up with a possible explanation. Share your reason with the other members of your team. Select one team member to tell the class your group's best reason or rationale for this incredible journey across South Carolina.

ENRICHMENT

1. **Research land use management programs.** ☼
   Select and research one of the state land use management programs from the list below.
   Forestry Management and Wildlife
   Agricultural Soil and Water Conservation
   Water Conservation and Management

2. **Monitor stream pollution near your school.** ☼
   Find a way to monitor the dissolved oxygen, acidity, and/or heavy metal contaminants over several months in the stream, river, or lake nearest your school. To facilitate this activity, water testing kits can be purchased at feed and seed stores or through scientific supply companies. Research how toxic or hazardous waste materials pollute our river systems. What happens when too much sewage is allowed to enter a stream? What effect do phosphates and nitrates have on the growth of algae? Why is dissolved oxygen an important component to monitor? What is eutrophication?

3. **Construct timeline of transportation.** ✈ 🕮
   Make a timeline of transportation across South Carolina using opening dates of the railroad companies, and other important events related to railroads or other transportation. Use as a reference The History of South Carolina in the Building of a Nation, by Archie Vernon Huff, Jr.

4. **Research information about the railroad closest to your school.** ☼ ✍
   Where is the closest railroad to your school? How often does it run? Is it mainly a freight or passenger line? What type of freight is carried on this line? Where are the passengers headed?

5. **Locate and research railroad tunnels.** ☼ 🕮
   Locate Rabun Gap in Georgia and Stumphouse Tunnel near Walhalla S.C. Consult a map of the Southeastern States to trace the possible routes from Cincinnati that would have connected it to the ports in the Carolinas and Georgia. Which mountain range would they have to tunnel under? Research Stumphouse Tunnel and find out how far below the top of the mountain the tunnel was located, why vertical shafts were needed, how many feet a month the workers tunneled, and how close the men came to finishing.