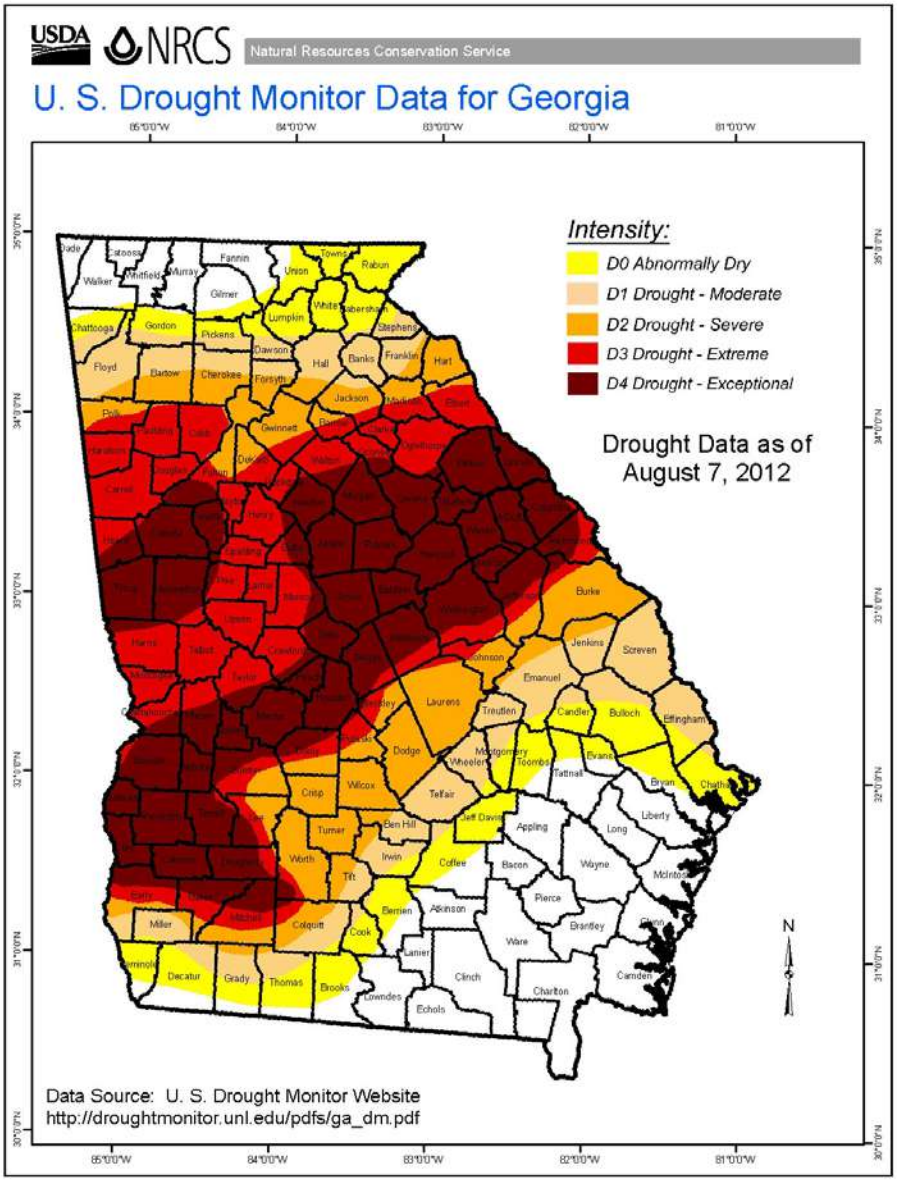
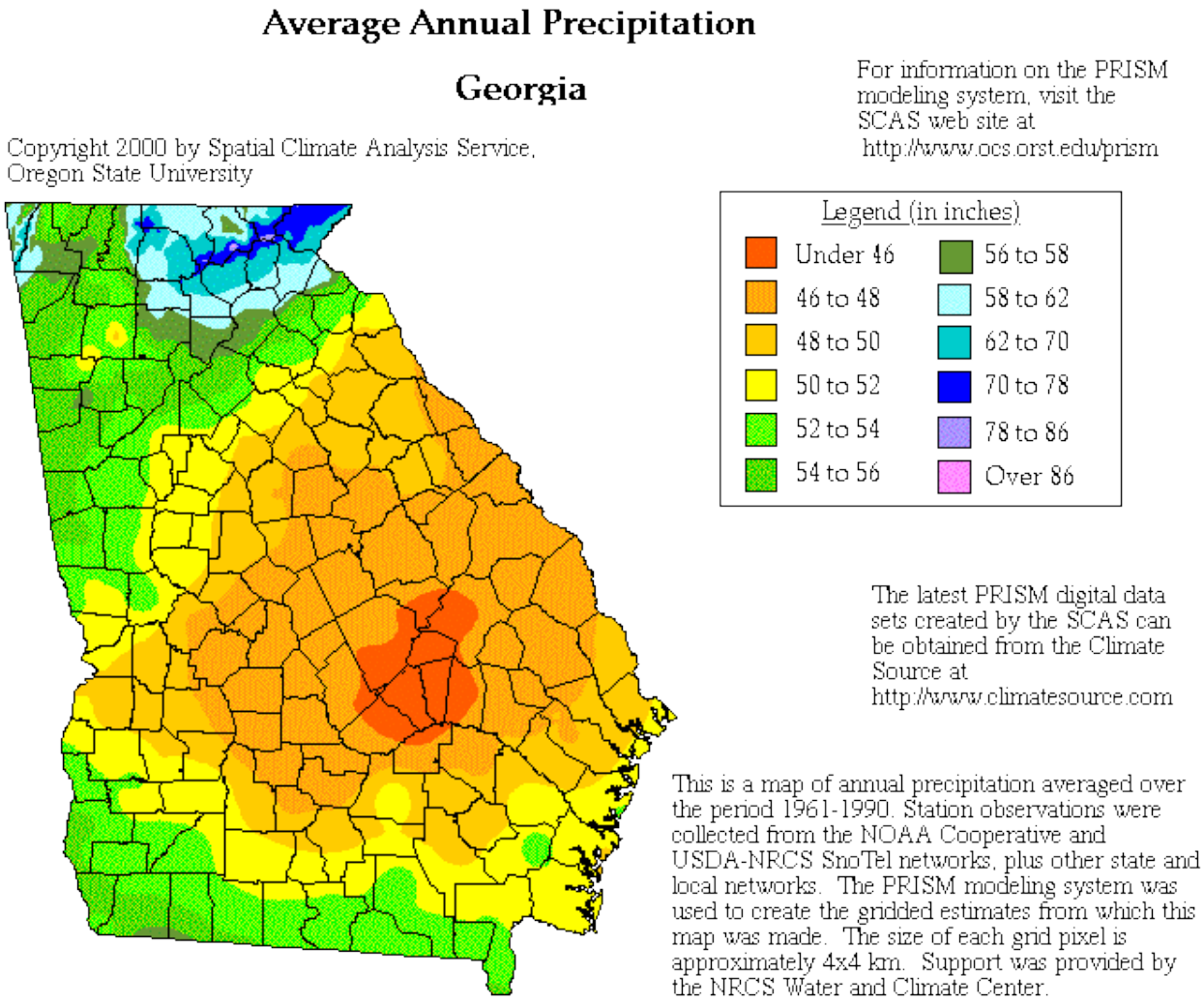
**Artifact A**




http://www.nrcs.usda.gov/Internet/FSE_MEDIA/nrcs144p2_021183.jpg

1. According to the rainfall index, which region of Georgia in 2012 experienced exceptional drought? **SS8G1d**
2. Which regions of Georgia did not have any recorded drought levels in 2012? **SS8G1d**
3. How can you characterize the drought levels for most of the Metro Atlanta area in 2012 according to the map? **SS8G1d**

**Artifact B**

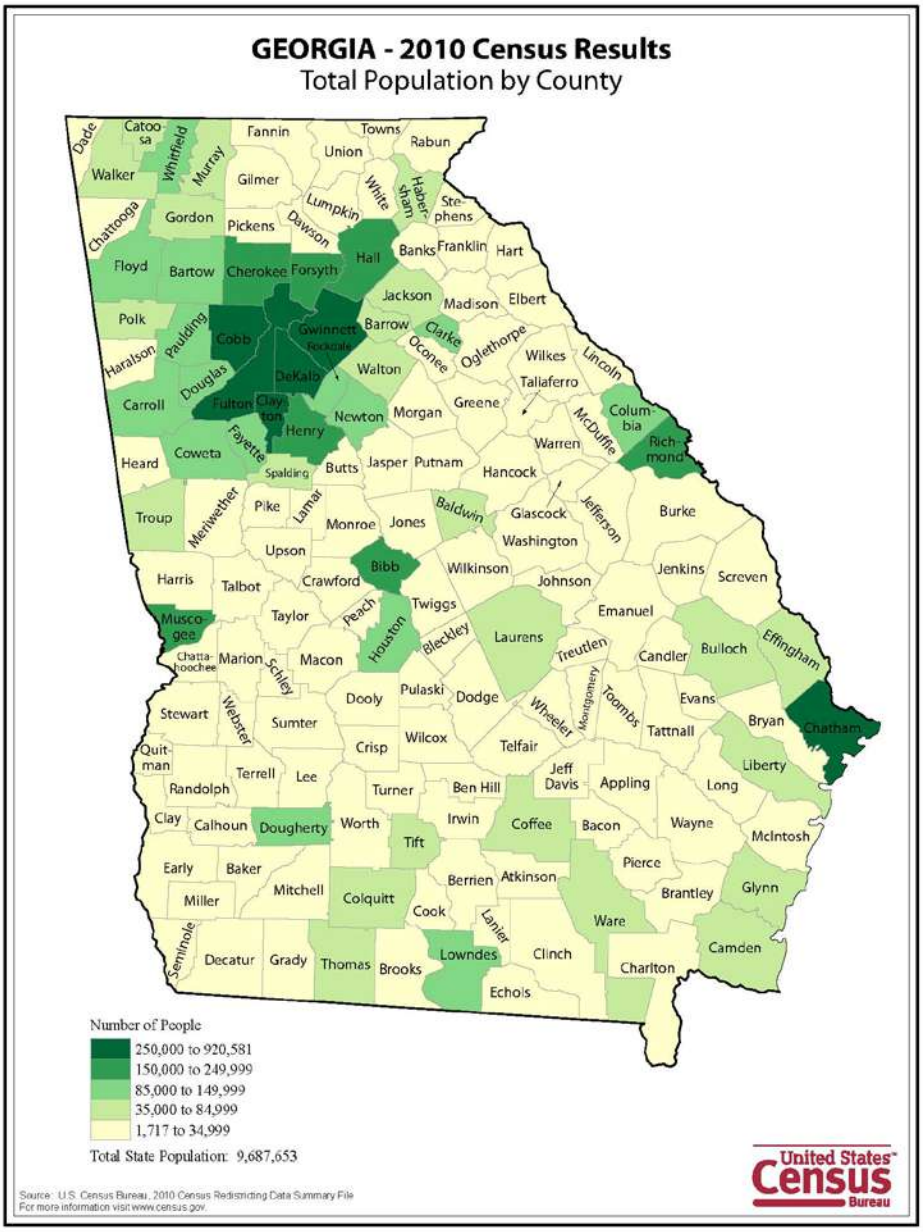



http://www.worldatlas.com/webimage/countrys/namerica/usstates/weathermaps/ga.gif

4. According to the annual precipitation map, between 1961-1990, which region of Georgia had the highest rainfall totals? **SS8G1d**

5. According to the annual precipitation map, what was the average range of precipitation for the majority of Georgia between 1961-1990? **SS8G1d**

**Artifact C**




http://www.towndesktop.com/images/states/georgia-pop-total.jpg

6. According to the Census map, in 2010 what was the total population for the State of Georgia? **SS8G1d**
7. What counties posted populations between 250,000-920,581 residents in 2010? **SS8G1d**
8. In comparison with the rainfall map in Artifacts A and B, what is the connection between where people live the most and rainfall amounts? **SS8G1d**

**Artifact D**

**Okefenokee National Wildlife Refuge**

**About the Refuge**

Okefenokee National Wildlife Refuge conserves the unique qualities of the Okefenokee Swamp for future generations to enjoy. The swamp is considered the headwaters of the Suwannee and St. Marys Rivers. Habitats provide for threatened and endangered species, such as red-cockaded woodpecker, wood storks, indigo snakes, and a wide variety of other wildlife species. It is world renowned for its amphibian populations that are bio-indicators of global health. More than 600 plant species have been identified on refuge lands. The Okefenokee National Wildlife Refuge has 353,981 acres of National Wilderness Area within the refuge boundaries. In addition, the refuge is a Wetland of International Importance (RAMSAR Convention – 1971) because it is one of the world's largest intact freshwater ecosystems.

http://www.fws.gov/refuge/Okefenokee/about.html

9. According to the article, why is the Okefenokee National Wildlife Refuge important to Georgia? **SS8G1c**

10. What types of marine wildlife are protected in the refuge? **SS8G1c**

11. Why is the amphibian population of the Okefenokee National Wildlife Refuge important? **SS8G1c**

12. How much of Georgia is taken up by the size of the Okefenokee National Wildlife Refuge? **SS8G1c**

13. What significant about the fact that the Okefenokee National Wildlife Refuge is one of the world's largest intact freshwater ecosystems? **SS8G1c**

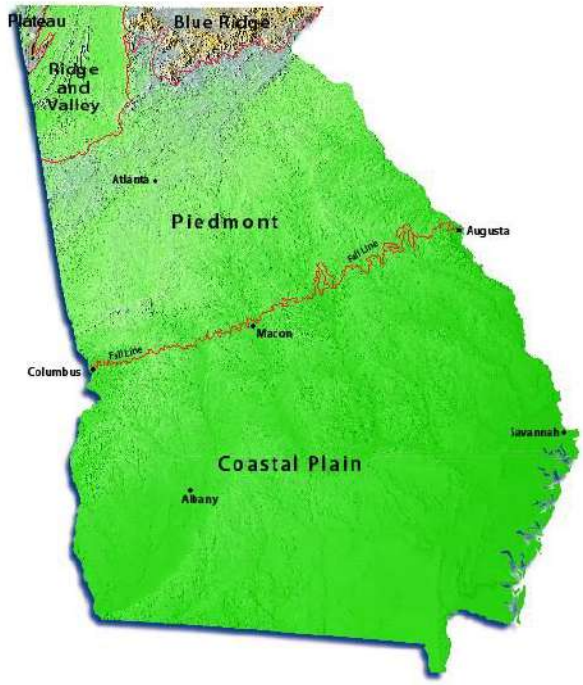
**Artifact E**

**Georgia Fall Line**

In prehistoric time, as much as sixty percent of the land that is now Georgia was covered by ocean. When the ocean receded, it left a mostly flat land that we now call the Coastal Plain. The area where the prehistoric ocean's shoreline lay - a region about twenty miles across - is called the Fall Line. It separates Georgia's Coastal Plain from its Piedmont region. Piedmont land is higher in elevation than that of the Coastal Plain, causing rivers that begin in the Piedmont to to gather speed - or "fall" - as they pass through the Fall Line into the Coastal Plain.

The Fall Line was very important in the historical growth of Georgia. Rivers in the Coastal Plain tend to be larger and slow moving - making them navigable by large boats. But when the boats reached the Fall Line, they could go no further, so trading posts developed along the Fall Line, where materials brought up from Coastal Plain rivers could be traded for material from the Piedmont region. Four important cities grew from this development - Augusta (at the Fall Line of the Savannah River), Milledgeville (at the Fall Line of the Oconee River), Macon (at the Fall Line of the Ocmulgee River), and Columbus (at the Fall Line of the Chattahoochee River). Later, as industrialization progressed, the same cities had the advantage of water power from the "Falls" where they were established.

The Fall Line remains a distinctive feature of Georgia's geography to this day. The four cities (three of which have served as Georgia's capital at various times) are still vibrant and active centers of Georgia commerce. The unique features of the Fall Line are also an attraction to outdoor enthusiasts; state parks such as High Falls State Park have been established along the Fall Line.



http://georgiainfo.galileo.usg.edu/topics/geography/article/geographic-regions-of-georgia/fall-line

14. What is the significance of the Georgia Fall Line according to the article? **SS8G1c**

15. How was the Fall Line significant in Georgia's growth over the course of history? **SS8G1c**

16. What cities' growth was directly tied to the Georgia Fall Line? **SS8G1c**

17. How can people still visit the Georgia Fall Line today? **SS8G1c**

**Artifact E**

**Appalachian Mountain Range**

**Appalachians**

The Appalachian Mountain Range extends from the island of Newfoundland at the northeast end of the mountain range through most of America's Northeast states and North Georgia to central Alabama at the southwestern end. The Appalachians are subdivided into a series of mountain ranges and the south end of the Blue Ridge Mountains is in North Georgia. The highest point in the Appalachians and also the highest elevation east of the Mississippi River is Mount Mitchell in North Carolina at 6,684 ft. Throughout North Georgia, many Blue Ridge Mountains exceed 4,000 ft. in height and Brasstown Bald has the highest elevation in Georgia at 4,784 ft.

Extending from the cities of Dillard and Clayton through Hiawassee, Blairsville and Young Harris all the way to Ellijay, the Appalachian Blue Ridge Mountains contain much of North Georgia's prime vacation land. The rugged geology in North Georgia's Appalachian Mountain region is characterized by heavily forested mountains interspersed with verdant valleys containing rivers, lakes, waterfalls and streams. The abundance of natural resources and wildlife offers a corresponding abundance of recreational opportunities that have been well developed in North Georgia by the various city and county governments.

Because the Appalachian Mountain region in North Georgia contains prime vacation land, resorts offering both recreational activities and relaxing spa treatments have become very popular. Resorts in North Georgia's Appalachian Mountains feature championship golf courses designed by famous golf professionals, gourmet restaurants serving creative cuisines prepared by well known chefs and luxurious lodging accommodations. Affordable and enjoyable vacation experiences can also be found throughout the region at campgrounds, mountain lodges, or via rentals of private cabins and cottages.

**Real estate in North Georgia's Appalachian Mountains**

Homes and properties are highly valued in North Georgia's Appalachian Mountain vacation areas because the cost of living is relatively low and the quality of living is relatively high. Charming yet modern log cabin style homes, ranch style homes and custom built mansions with breathtaking mountain views are available throughout North Georgia's Appalachian Mountains and some of the most prized properties are in the area surrounding Lake Chatuge in the Enchanted Valley. Multi-million dollar estate homes, upscale condominium and townhouse developments, and residential communities with commercial centers have been tastefully integrated into the beautiful environment in the Enchanted Valley so as to preserve the region's natural resources.

Modern homes without spectacular mountain views deep within beautiful Appalachian Mountain forests are often priced between $160,000 and $200,000. These properties are typically 3 bedroom, 2 bathroom homes on ½ acre to 1 acre of land. Residents of North Georgia's Appalachian Mountains are

fortunate to be able to enjoy natural scenery with beautiful foliage all year round, hiking trails leading to waterfalls and streams filled with trout.

**Lodging, shopping, dining and entertainment**

Blairsville is famous for its many romantic bed and breakfast inns, rustic private cabins and cottages that can be rented by the week or by the month. Vacation resorts in North Georgia's Appalachian Mountains such as the 503-acre Brasstown Valley Resort and the Ridges Resort & Club have championship golf courses designed by famous golf professionals, gourmet restaurants, heated swimming pools, full service spas and tennis courts. These resorts also provide recreational sports activities for guests such as waterskiing, fishing, canoeing and kayaking.

The entire Appalachian region is an antique shopper's dream because the mountainous area is so beautiful to drive through and there are many intriguing stores to visit. In the North Georgia Appalachian Mountains, serious antique shoppers can spend several days browsing through an increasing number of unique specialty shops and antique malls. Art stores throughout the area display the work of many well known painters, potters and sculptors along with a colorful array of Appalachian folk art.

Gourmet dining is available in the Appalachian Mountains at the Brasstown Valley Resort's Dining Room featuring New Mountain cuisine prepared with the freshest ingredients by Chef Sid Kurrimbukus. Three different fine dining experiences are offered at The Ridges Resort & Club. The Sequoyah room serves exquisite entrees complemented by an exceptional wine list and dessert menu, the Old Hiawassee Grille features local and traditional Georgia cuisine, and the Cherokee Grill has bountiful sandwiches, mouthwatering appetizers and fresh salads.

Lake Chatuge and the Blue Ridge Mountains are famous for year round trout fishing in numerous streams and rivers. Other recreational activities in North Georgia's Appalachian Mountain region include swimming, boating, hiking and backpacking. Many different hiking trails in the Blue Ridge Mountains lead to the famous Appalachian Trail, and a portion of the Coosawattee River near Carters Lake is renowned for being the best location in Georgia for whitewater rafting.

http://www.northgeorgia.com/mountains/appalachians

18. How is the Appalachian Mountain Range connected to Georgia's tourism industry? **SS8G1c**

19. How is the Appalachian Mountain Range connected to Georgia's housing industry? **SS8G1c**

20. What are some of the significant natural features of the Appalachian Mountain Range in Georgia? **SS8G1c**

21. How does the Appalachian Mountain Ranger impact Georgia's retail and food industries? **SS8G1c**

22. How does the Appalachian Mountain Ranger impact Georgia's entertainment industry? **SS8G1c**

**Artifact F**

**Savannah River**

The Savannah River, which originates in Hart County at the confluence of the Seneca and Tugaloo rivers, flows for 313 miles to the Atlantic Ocean. The river has played in important role in the state's human history and forms the basis for one of the most diverse ecosystems in the world.

**Savannah River**

Savannah River, one of Georgia's longest and largest waterways, defines most of the boundary between Georgia and South Carolina. The river originates at the confluence of the Seneca and Tugaloo rivers in Hart County in eastern Georgia. The confluence also forms Lake Hartwell, a large reservoir built by the U.S. Army Corps of Engineers.

Though the Savannah itself begins in the Piedmont geologic province, its tributary headwaters originate on the southwestern slopes of the rugged Blue Ridge geologic province of Georgia, North Carolina, and South Carolina. Only about 6 percent of the Savannah's entire drainage basin, however, lies within the Blue Ridge. The rest lies in the Piedmont and in the Upper and Lower Coastal Plain provinces.

On a map, the basin roughly resembles an arrowhead. It encompasses 10,577 square miles, of which 175 square miles are in southwestern North Carolina, 4,581 square miles are in western South Carolina, and 5,821 square miles are in eastern Georgia. In Georgia, the basin drains portions of twenty-seven counties.

From Lake Hartwell, the Savannah River flows southeasterly for 313 miles across the Piedmont and the Upper Coastal Plain until it empties into the Atlantic Ocean approximately 15 miles downstream from the city of Savannah. As such, the Savannah is an alluvial stream, meaning that its waters originate in the mountains and the Piedmont and flow across the Coastal Plain to the ocean. The alluvial rivers transport large amounts of sediments, which contribute to the sand deposits on coastal islands, and of nutrients that nourish life in the river.

At the U.S. Geological Survey river gauge near Clyo, in Effingham County, the Savannah's average annual flow is 12,040 cubic feet per second, one of the largest discharges of freshwater from any river in the Southeast. (One cubic foot equals about 7.4 gallons.) The gauge at Clyo, approximately sixty-one miles upstream of the mouth of the Savannah, is the most downstream gauge that records river discharges. Below this point, the Savannah is tidally influenced, and conventional river-flow measurement is unreliable.

On its journey to the sea, the Savannah flows through forests, agricultural lands, large hydroelectric reservoirs, and extensive swamps. It is known for its high bluffs, some of which were the locations of prehistoric Native American villages.

The river provides drinking water to two of Georgia's major metropolitan areas, Augusta and Savannah, and assimilates their treated wastewater. It is also a source of drinking water for the cities of Beaufort

and Hilton Head in South Carolina and for many smaller municipalities in the basin. In addition, the Savannah supplies water for the Savannah River Site, which includes the Savannah River Ecology Laboratory, in South Carolina, as well as for the two nuclear reactors of Plant Vogtle, a major electricity-generating facility operated by Georgia Power Company in Burke County.

On the coast, the Savannah River is the shipping channel for the Port of Savannah, the nation's tenth-busiest port for oceangoing container ships, which is operated by the Georgia Ports Authority. Before emptying into the Atlantic, the Savannah forms a braided network of tidal creeks, salt marshes, and freshwater marshes, much of which constitutes the Savannah National Wildlife Refuge, one of Georgia's prime bird-watching spots.

http://www.georgiaencyclopedia.org/articles/geography-environment/savannah-river

23. What is the geographical importance of the Savannah River in Georgia? **SS8G1c**

24. In which regions of Georgia is the Savannah River located? **SS8G1c**

25. How many counties in Georgia are impacted by the Savannah River? **SS8G1c**

26. How does the Savannah River impact natural resources and agricultural lands as it flows? **SS8G1c**

27. In what ways are metropolitan areas in Georgia dependent on the Savannah River? **SS8G1c**

28. How does the Savannah River impact the effectiveness and operations of the Port of Savannah? **SS8G1c**

## Artifact G

### Savannah River

### Quick Facts about the River

- The Savannah River Basin is located in eastern Georgia and western South Carolina and defines the state boundary between Georgia and South Carolina.
- The Chattooga and Tallulah Rivers join in the Savannah River headwaters to form the Tugaloo River. Further downstream near Hartwell, the Tugaloo River joins with the Seneca River from South Carolina to form the Savannah River. From here, the Savannah River flows southeasterly to the Atlantic Ocean.
- The Chattooga River is one of the longest and largest free-flowing mountain streams in the Southeast, and on May 10, 1974, Congress designated the Chattooga River a Wild and Scenic River.
- The Savanna River Basin is 10,577 square miles: 5,821 square miles in eastern Georgia, 4,581 square miles in western South Carolina and 175 square miles in southwestern North Carolina.
- The Nature Conservancy of Georgia describes the Savannah River Basin's abundant diversity of life as rivaling that of a South American rain forest.

### Biological Resources

- The Savannah River Basin is home to more than 75 species of rare plants and animals, including the majestic swallow-tailed kite, the rocky shoals spider lily, and the wild cocoa tree. On river bluffs near Augusta, such rare plants as bottle-brush buckeye, false rue anemone, and relict trillium can be found.
- There are 108 fish species representing 36 families. The Georgia Department of Natural Resources stocks approximately 203,200 catchable trout in 14 streams in the basin.
- There are 18 federally-listed species in the Savannah River Basin - five are federally threatened and 13 are federally-endangered. In addition, there are 55 species that are either state-listed or of special concern.

### River Uses

- Drinking Water Uses
    - The Savannah River supplies drinking water to Augusta and Savannah, Georgia, and Hilton Head, and Beaufort, SC, and many smaller municipalities in the basin. As salt water intrudes into the aquifers near the coast, the freshwater of the Savannah River becomes even more important as a source of drinking water.
    - The river supplies drinking water to more than 1.5 million people.
- Energy Uses
    - Georgia Power Company operates its fossil-fueled Plants Kraft and McIntosh by withdrawing water from the Savannah River in the Savannah River Basin.

  - Southern Nuclear Operating Company operates its nuclear Plant Vogtle by withdrawing water from the Savannah River in the Savannah River Basin.
- Municipal and Industrial Uses
  - The Savannah River also supplies water for the Savannah River Site, which includes the Savannah River Ecology Laboratory, in South Carolina.
  - On the coast, the Savannah River is the shipping channel for the Port of Savannah, the nation's tenth-busiest port for oceangoing container ships. The harbor and ship channel will be dredged so ships can use the harbor regardless of high/low tide cycles.
  - The Middle Savannah River supplies outfalls for chemical plants and other facilities that discharge treated wastes into the river.
- Land Uses
  - Forestry represents a major part of the economy in the Savannah River Basin, with approximately 2.4 million acres of commercial forest land.
  - Agricultural practices in the basin include animal operations and commodity production.
  - Generally, animal operations are concentrated north of the Fall Line and commodity production is concentrated south of the Fall Line.

http://garivers.org/other-georgia-rivers/savannah-river.html

29. What other bodies of water flow into the Savannah River? **SS8G1c**

30. What body of water globally has a similar biodiversity rating as the Savannah River? **SS8G1c**

31. Where does the Savannah River ultimately end? **SS8G1c**

32. How is the Savannah River important to the drinking water supply of cities in Georgia and South Carolina? **SS8G1c**

33. Why is the Savannah River important to Georgia Power as a source of energy? **SS8G1c**

34. Why is the Savannah River important to businesses? **SS8G1c**

35. How is land used along the Savannah River in terms of industry and agriculture? **SS8G1c**

**Artifact H**

**Chattahoochee River**

The Chattahoochee River rises high in the Blue Ridge Mountains of Georgia and flows southwesterly toward the Alabama state line. From there the river tumbles for twenty miles over the fall line—the region of transition between the foothills of the Piedmont and the lower and flatter Coastal Plain. Below the fall line in Columbus, the river slows to ramble south toward Florida, where it is known as the Apalachicola.

**Civil War and Postwar Development**

By the late 1830s the towns located at the fall line along the Chattahoochee also used the river as an industrial power source for textile mills and gristmills. By the time the Civil War began in 1861, Columbus was known as "the Lowell of the South," after the home of industrial revolution, Lowell, Massachusetts. Its mills were vitally important to the Confederacy, and defense of the river was crucial, because it represented the easiest route to the fall line mills from the Gulf of Mexico, especially after Union naval forces took possession of Apalachicola in April 1862.

The Confederate government created the Chattahoochee-Flint-Apalachicola military district, commanded by General Howell Cobb, in November 1862. Cobb directed the obstruction of the river, which was effective in keeping out the enemy by water. However, Union land forces did invade the river valley in 1864, when General William T. Sherman's army crossed over the Chattahoochee just north of Atlanta and sacked the city before moving on toward Savannah in the March to the Sea. As the war was ending in April 1865, General James H. Wilson's forces crossed the Chattahoochee River to destroy the factories and mills of Columbus and West Point.

The golden age of steamboating on the Chattahoochee dawned once the area recovered from the war's destruction. Opulent new passenger boats replaced the workhorse freighters of the antebellum period. Innovations in service made river travel more reliable, and technological breakthroughs made it safer. Freight became more diversified, with lumber products, fertilizer, and honey crowding the ubiquitous cotton bales. During this period poet Sidney Lanier composed "The Song of the Chattahoochee" (1877), in which the river narrates its journey through Habersham and Hall counties.

Instead of calling on every homestead or business along the river, by 1900 steamboats stopped at only twenty-eight major communities or railroad junctions. Sixteen years later, the steamers made only five stops as the river trade shifted to the lower river (south of Eufaula, Alabama), where navigation was unimpeded by seasonal low water and natural obstructions.

**Power, Dams, and Controls**

In the post–World War I era, rail lines and improved roads proved to be the most direct and dependable form of transportation.

Dams at different points along the Chattahoochee River help maintain river water levels and provide hydroelectric power.

**Chattahoochee River**

The river was relied on less as a transportation conduit than as a hydroelectric power provider. Using the rushing water of the fall line, citizens built the first large-scale hydroelectric dams between 1899 and 1924 at North Highlands, Goat Rock, and Bartlett's Ferry. After these early modern dams were in place, the public began to see the need for other dams for flood control. At West Point especially, residents were so accustomed to high waters that the town raised the wooden sidewalks five feet above street level.

In 1953 Congress authorized the Apalachicola-Chattahoochee-Flint Project, which set out to construct four dams for flood control, power generation, and navigation. The Jim Woodruff Dam (backing up the waters of the Chattahoochee and Flint rivers to create Lake Seminole); the George W. Andrews Lock and Dam at Columbia, Alabama; the Walter F. George Lock and Dam near Eufaula, Alabama; and the Buford Dam near Gainesville were all completed by 1963. The Georgia Power Company built a final hydroelectric dam, known as Oliver Dam, near Columbus in 1959. After a particularly devastating flood in 1961, Congress finally authorized a dam for West Point in 1962, which was completed in 1975.

Today the Chattahoochee River is valued more as a source of drinking water and recreation than as a transportation artery. The water it supplies underpins the regional economies of today and tomorrow. While Georgia, Alabama, and Florida squabble over the unrestricted right to use the river, the Chattahoochee continues to follow its ancient route to the sea. Though it is used little as a highway today, it remains the valley's most important ecological and economic asset.

http://www.georgiaencyclopedia.org/articles/geography-environment/chattahoochee-river

36. What is the geographic location of the Chattahoochee River? **SS8G1c**

37. What was the historical significance of the Chattahoochee River in Georgia? **SS8G1c**

38. How was the Chattahoochee River used to boost the energy economy of Georgia? **SS8G1c**

39. What are the commercial uses of the Chattahoochee River today in Georgia? **SS8G1c**

40. What countries continue to argue about the rights to the water in the Chattahoochee River today? Why would each state want to lay claim to the waters in the river? **SS8G1c**

## Artifact I

**Barrier Islands**

The modern (Holocene) Georgia coast is bordered by a series of relatively short, wide barrier islands separated by relatively deep tidal inlets, or sounds. Extensive sand shoal systems are present seaward of the inlets and central portions of the island.

Eight major islands and island groups comprise the 100 miles of coast between the Savannah and St. Marys rivers. These are Cumberland/Little Cumberland, Jekyll, St. Simons/Sea Island/Little St. Simons, Sapelo/Blackbeard, St. Catherines, Ossabaw, Wassaw, and Tybee/Little Tybee. Tybee, St. Simons/Sea Island, and Jekyll are accessible by roadway and are the only developed barrier islands.

Popularly known as the Golden Isles, the barrier islands are composed of dune and beach ridge sands formed by the interaction of wind, waves, currents, sand supply, and a slowly rising or stable sea level. The availability of sand largely determines whether the shoreline will erode or build. In addition to providing natural habitat for numerous plant and animal communities, as well as recreational destinations for nearby human populations, the barrier islands protect the mainland from the brunt of major storms and hurricanes. The developed barrier islands have no such outer defense.

Six of the eight largest islands are composite barriers consisting of a core of beach and dune deposits formed during the previous, and slightly higher, worldwide sea level of the Pleistocene Silver Bluff, approximately 40,000 to 50,000 years ago. Most of the islands are closely fronted by similar deposits formed during the present, or Holocene, sea-level rise that began 15,000 years ago. At that time the shoreline was located along the edge of the continental shelf some seventy-five miles east of Brunswick, and the exposed sea bottom became an extension of the Coastal Plain with forests, plants, and animals. As the sea level began to slowly rise, animal communities were able to retreat from the rising sea, but forestlands were inundated.

http://www.georgiaencyclopedia.org/articles/science-medicine/geology-georgia-coast

41. What is the geographic composition of the Barrier Island? **SS8G1c**

42. How were the Barrier Islands formed historically? **SS8G1c**

43. Why are the Barrier Islands important to the mainland of Georgia? **SS8G1c**

## Artifact J

**Barrier Islands**

The islands off the Georgia coast are called barrier islands because they form a barrier, or wall, blocking ocean waves and wind from directly hitting the mainland. Georgia has fourteen primary barrier islands - from north to south they are Tybee Island, Little Tybee Island, Wassaw Island, Ossabaw Island, St. Catherine's Island, Blackbeard Island, Sapelo Island, Wolf Island, Little St. Simons Island, Sea Island, St. Simons Island, Jekyll Island, and Cumberland Island (the largest of Georgia's barrier Islands). Most of Georgia's barrier islands are protected by the state or federal governments. Some have been reserved as national wildlife refuges and wildernesses, and one - Cumberland Island - is a national seashore. These designations help protect the islands and their plant and animal life from human injury and destruction.

Large areas of Georgia's barrier islands barely rise above sea level and thus exist as saltwater marshes (as mentioned above). Most of the islands are crisscrossed with rivers and streams, making them appear to be several small connected islands.

Georgia's beaches are found on the seaward side of the barrier islands. The most visited beaches by tourists are on Tybee, St. Simons, and Jekyll Islands. Bridges and elevated highways connect these three islands to the mainland, allowing visits by motor vehicles. Access to the other barrier islands is by boat or helicopter only. Crossing onto the barrier islands one will see boats on the waterway separating the islands from the mainland. This is part of the famous Atlantic Intracoastal Waterway, which stretches over one thousand miles from Miami to New York. This waterway is another important geographical aspect of the Georgia coast; it allows fishing boats, pleasure craft, and ships to travel along the coast protected from direct ocean winds, waves, and current.

http://georgiainfo.galileo.usg.edu/topics/geography/article/georgia-coast

44. What is the largest of the Barrier Islands according to the article? **SS8G1c**

45. What happens to the geography of the Barrier Islands because of their low height in comparison to the sea level? **SS8G1c**

46. Why do the Barrier Islands appear to be interconnected? **SS8G1c**

47. Where are the major beach destinations located in the Barrier Islands? **SS8G1c**

48. Why is the Atlantic Intracoastal Waterway which includes the Barrier Islands important? **SS8G1c**

**Artifact K**

**GEORGIA CLIMATE**

The climate in Georgia is a major reason so many people continue to move to the state. While climate varies among the state's six land regions, all areas of the state are colored by four well-defined seasons:

- A warm summer brings an average temperature of 82 degrees and the added benefit of "Indian summer" stretching into October
- Autumn is brisk, with brilliant fall foliage throughout the state, particularly in the mountains
- Winters are brief, with average temperatures in the low 40s and light snowfall several times a year in the north
- Springtime is glorious, as Georgia is famous for its dogwoods, azaleas and other flora

What makes the Georgia climate so variable is the changing nature of the landscape. Topography begins at sea level and climbs to nearly 5,000 feet above sea level; in between the beaches and mountains are coastal plains, lush forests and rolling foothills.

For as long as records have been kept, Georgia has benefitted from ample rainfall and ranks high among contiguous states in annual precipitation, typically between 40 and 50 inches, according to the National Climatic Data Center. The blend of sunshine and rainfall has helped Georgia become a national leader in agriculture, energy and other businesses that rely on clean, safe water.

**More about water.**

Georgia is the only state with a complete inventory of water systems. The state's Environmental Protection Division (EPD) has drafted baseline water resource assessments; forecasts of agricultural irrigation water demand; and new ways to forecast future municipal and industrial water demand.

In the Georgia Water Supply Act of 2008, 10 additional regional water planning councils were formed. The councils joined the Metro Atlanta Water Council, created in 2000, and they provide water planning for all 159 Georgia counties. The act also created new loan programs to fund new reservoirs and the interconnection of water and wastewater systems.

http://www.georgia.org/competitive-advantages/lifestyle/georgia-climate/

49. How does the article best describe the climate of Georgia? **SS8G1d**
50. What are some of the weather and geography features that define Georgia's climate? **SS8G1d**
51. How significant is rainfall in Georgia? **SS8G1d**
52. How has the abundant rain and sunshine in Georgia impact its economy? **SS8G1d**
53. How has Georgia recently made governmental efforts to protect its water supply? **SS8G1d**

**Artifact L**

**Georgia Climate**

The Georgia climate varies from the humid, marshy, low-lying coastal plains to the cooler inland foothills and the Appalachian Mountains. The entire state experiences all four seasons, with summer temperatures rising above 90 degrees F for at least 15 days each year (70 days for the southern parts of the state). The northern parts of the state experience low winter temperatures below freezing and receive 2-6 days of snow each year. The southern marshlands have more mild winter temperatures in the 40s and 50s and rarely receive any snow. Thunderstorms are common across the entire state in the spring and summer months; severe weather phenomena such as hail and tornadoes are also common (Georgia State Climate Office; National Weather Service Forecast Office). Hurricanes also regularly occur in Georgia during the summer and fall (Georgia State Climate Office).

**ECONOMIC IMPACTS**

**Infrastructure**

Georgia contains large and complex transportation, shipping and energy infrastructures, many parts of which are located on the state's 100-mile coastline. Changes to the climate in which they operate, such as higher temperatures, heavier precipitation, and sea level rise, could impose severe economic costs on Georgia. Four major interstates traverse Georgia: I-95, I-85, I-75, and I-20. 6,800 registered interstate trucking carriers operate in the state. The manufacturing industry, which comprises 12 percent of the Georgia state GDP ($46 billion 2007 dollars), relies heavily on the highway infrastructure to transport goods (The Chemical Industry in Georgia; BEA 2008). Georgia spent $1.7 billion in 2007 on construction and maintenance of its highways and local roads. Its expenditures on transportation in maintenance alone accounted for 9.5 percent of the state budget in 2007 (OPB 2008). A 1 percent increase in the cost of maintenance from more intense storm activity due to climate change would cost the transportation sector $17 million in additional costs, which would trigger $12 million in economic losses for other sectors (RESI 2008). Most of the stretch of I-95 in Georgia lies within five miles of the coastline. This is advantageous for the shipping industry for distributing goods to freight trucks, but it creates a higher risk of storm damage to the interstate. For example, reconstruction of highways and bridges along the Gulf Coast after Hurricane Katrina cost $2.1 billion (2005 dollars) (US Government Accountability Office 2006). Georgia has an extensive rail system with 4700 miles of tracks. More than 80 freight trains pass through Atlanta each day (The Chemical Industry in Georgia). Increasingly, frequent damage to the railways due to increased precipitation, more frequent hurricanes, or more extreme temperatures could impact the annual cost of maintaining and operating the system. Climate change could impact both the physical rail infrastructure and the ontime frequency of trains.

Atlanta Hartsfield-Jackson International Airport is the busiest passenger airport in the country. Over 38 million passengers passed through its terminals in 2007 (BTS 2008b).

Air travel and freight are important components of Georgia's transportation infrastructure: Georgia contributes 8 percent of the US GDP from air transportation (BEA 2008). Inclement weather is the top cause of airline delays (BTS 2008a), and as severe weather becomes a more frequent occurrence because of climate change, delays could become even more crippling to the faltering air transportation industry.

Ports Brunswick and Savannah facilitated the trade of over 24 million short tons of goods in 2007 representing a 58 percent growth in trade volume over the past five years (Georgia Ports Authority 2008). Port Savannah is the fastest growing container port in the eastern United States, and Port Brunswick is the fourth largest auto port in the eastern US (The Chemical Industry in Georgia). Near Port Savannah is the Elba Island liquefied natural gas (LNG) terminal, one of only five in the nation (EIA 2008). Both ports are valuable conduits of goods to the southeastern United States because of their proximity to I-95, the easternmost north-south highway corridor in the United States. Hurricanes also pose a real threat to shipping ports in the Southeast US. For example, after Hurricane Katrina, the Port of New Orleans suffered $435 million in damage, and damages to the Port of Gulfport were estimated to be between $300 and $400 million (US Government Accountability Office 2006). The Georgia Ports Authority needs to take measures to harden its facilities against climate change effects such as sea level rise and a possible increase in the intensity of hurricanes (Anthes et al. 2006). Most of the electricity generated in Georgia comes from coal and nuclear power (Figure 3) (EIA 2008). The impacts of climate change on the energy sector will be heaviest on water use in thermoelectric plants. As sea level rises and associated freshwater salination occurs, thermoelectric power plants (those that burn fossil fuels or carry out nuclear reactions and therefore need large amounts of water for cooling) will increasingly compete with the residential sector for a limited supply of freshwater. In 2000, fossil fuel and nuclear power plants accounted for more than half of the total surface water used in Georgia (Barczak and Carroll 2007). Moreover, two proposed nuclear reactors would more than double the nuclear power generation capacity in Georgia and also increase the water consumption of the electricity sector substantially (Barczk and Carroll 2007; NRC 2008).& The increased scarcity of water for cooling could add to the costs of electricity generation. Georgia ranks ninth among states in total industrial electricity consumption (EIA 2005). This is mostly because Georgia is a leader in the energy-intensive pulp and paper processing industry (EIA 2008). A second-order effect of an increase in the cost of electricity due to climate change will be higher operations costs for the pulp and paper industry.

**Industry**

Paper and wood product manufacturing contributed $3.3 billion and $1.9 billion respectively to the state GDP in 2005 (the total state GDP was $358 billion) (all 2007 dollars) (BEA 2008). These industries will feel both positive and negative effects of climate change. The raw materials needed for wood product and paper manufacturing will likely grow in abundance in Georgia due to climate change: the productivity of pine forests is predicted to increase by 11 percent by 2040 and that of hardwood forests is predicted to increase by 25 percent by 2090, both compared to regional productivity across the southeastern US (Burkett et al. 2000). An 11 percent increase in productivity in the wood manufacturing industry by 2040 would create 6,531 direct and indirect new jobs and also contribute nearly $350 million to the economy

(RESI, 2008). However, other inputs to the manufacturing process, including electricity and water, could increase in cost as freshwater becomes scarcer and industry has to compete with the power, residential, and agricultural sectors for water use.

Hurricanes can have devastating effects on the timber industry, as well. For example, the USDA estimated that Hurricane Katrina destroyed or damaged over 19 billion board feet of timber in Mississippi, Alabama, and Louisiana. This loss translated to over $5 billion in damage (Sheikh 2005). The Georgia Forestry Commission recorded losses of 51 million board feet of pine and 1.6 million cords of hardwood during 30 major reported storms in the state (Price 2005). The state is vulnerable to many types of storms. Tornadoes in the state inflict damages of nearly $300,000 per occurrence, and ice storms cost the economy an estimated $6.5 million (Price 2005). If the frequency or the intensity of inclement weather events increases, the economic impact will likely rise as well. Although it is difficult to predict the immediate and long term affects of climate change on the wood and paper manufacturing sectors, any changes in productivity will have secondary affects in the transportation and shipping sectors. In Port Savannah, wood pulp and paper products account for 30 percent of annual tonnage throughput (Georgia Ports Authority 2008). Other sectors involved in the transportation of wood and paper products (trucking, rail, air), will also feel the affects of any change in production volume of these industries. The agriculture sector contributed $2.6 billion to the Georgia economy in 2005 (2007 dollars) (BEA 2008). Because agriculture depends heavily and directly on the climate and day to day weather, crop yields are vulnerable to climate change.

http://cier.umd.edu/climateadaptation/Georgia%20Economic%20Impacts%20of%20Climate%20Change.pdf

54. What are some of the temperature and climate extremes that can occur in Georgia? **SS8G1d**

55. How would costs be passed onto customers if Georgia experiences significant weather events? **SS8G1d**

56. How are Georgia's booming shipping and transportation industries susceptible to its extreme weather climate? **SS8G1d**

57. Why are the Ports of Savannah and Brunswick susceptible to economic impacts of a hurricane? **SS8G1d**

58. Why is a potential rise in the sea level a major factor that the Georgia Ports of Authority has to consider? **SS8G1d**

59. What are some of the positive and negative effects of the climate of Georgia for its paper and wood manufacturing industries? **SS8G1d**

60. How and why is Georgia's agricultural economy impacted by Georgia's extreme weather? **SS8G1d**

## Artifact M

**Report: Climate Change Threatens Georgia's Economy and Environment**

July 23, 2008

(Washington, DC – July 23, 2008) –A new report released today details the devastating effects climate change will have on Georgia's economy and environment. The study was produced by the National Conference of State Legislatures (NCSL) and the Center for Integrative Environmental Research (CIER) at the University of Maryland. Environmental Defense Fund helped to finance the research and production of the report.

The report found that climate change will have wide-spread consequences across Georgia, including:

- Drought. Last year, Georgia experienced an extreme drought costing $1.3 billion in economic damage, much of that stemming from agriculture losses. Researchers predict that if climate change triggers an additional crop shortage of 5%, the economic impacts could cost nearly $110 million annually.
- Infrastructure. Georgia's expansive road, rail, and air transportation system is vulnerable to increasing disruptions and damage from extreme weather events brought about by climate change.
- Coastal Areas: Scientists warn climate change could bring more powerful hurricanes. In 2004, Hurricane Ivan caused $68.8 million in property damage in Georgia, and it is projected that the cumulative cost of sand for protecting Georgia's coastline from another hurricane could cost as much $1.3 billion by 2100.

The study was part of the report , State Economic and Environmental Costs of Climate Change, which examined the impacts of global warming on 12 states around the country. NCSL released the report today during an energy conference at the group's Legislative Summit in New Orleans. In addition to Georgia, the report looked at how climate change will impact the economy and environment of Colorado, Illinois, Kansas, Michigan, New Jersey, Nevada, North Carolina, North Dakota, Ohio, Pennsylvania and Tennessee.

Individual states have already begun to address the issue of climate change: Six states enacted mandatory greenhouse gas reduction laws; 13 states have set voluntary targets; and 26 states have passed renewable energy portfolio standards.

"This report shows that climate change poses a great risk to Georgia's infrastructure," said Jerry Karnas, former Regional Outreach Coordinator for National Wildlife Federation in Georgia and now Florida Climate Project Director at EDF. "If severe weather impacts Georgia's transportation system, the entire U.S. would feel the consequences."

https://www.edf.org/news/report-climate-change-threatens-georgias-economy-and-environment

61. According to the article, what were some of the impacts of the 2007 drought in Georgia? **SS8G1d**

62. How could Georgia's infrastructure in roads, air, and travel improvements be impacted by its climate? **SS8G1d**

63. In what ways could a hurricane impact the Coastal Areas including the vacation and residential properties along the Barrier Islands? **SS8G1d**

64. How many states were involved in the report referenced in the article? **SS8G1d**

65. How have other surrounding states begun to address their concerns about the impact of climate change on their state economies? **SS8G1d**

66. What are the potential long-reaching impacts of an extreme weather event in Georgia? **SS8G1d**

**Artifact N**

**A Look at Georgia Agriculture**

**Climate & Soil**

- A humid subtropical climate with mild winters and hot moist summers is characteristic of most of Georgia. This, combined with a variety of soil types from the coast to the mountains, makes it an ideal place to produce a diverse variety of crops and livestock.
- Monthly average temperatures range from a high of 92.2°F to a low of 32.6°F.
- The average annual rainfall varies from 40" in central Georgia to more than 75" in northeast Georgia.
- Geographically, Georgia can be divided into eight soil provinces or major land resource areas.
- They are Southern Appalachian, Sand Mountain, Blue Ridge, Southern Coastal Plain, Black Lands, Southern Piedmont, Sand Hill, and Atlantic Coast Flatwoods.
- Georgia is the leading kaolin clay-producing state in the U.S. Georgia is also a leader in the production of marble, barite, and bauxite.

**Crops & Livestock**

- Georgia produces almost half of the peanuts produced in the U.S. each year. Their value was more than $401 million in 2009.
- Georgia was the first colony to produce cotton commercially, first planting it near Savannah in 1734. Georgia ranks third nationally in cotton production. Its value was more than $700 million in 2009.
- Although Georgia is called the Peach State, it actually ranks third in United States peach production behind California and South Carolina. In 2009, the Georgia peach crop sales totaled $60 million.
- In 1986, Georgia passed legislation giving Vidalia onions, known by many as the sweetest onion in the world, legal status and defining the 20-county production area. The Vidalia onion was named Georgia's official state vegetable in 1990.
- Vegetable production has increased significantly in Georgia. Georgia's top five vegetables are onions, watermelon, tomatoes, sweet corn and bell peppers.
- Georgia leads the nation in broilers and value of egg production. In 2009, broilers were valued at $4 billion dollars and eggs at more than $570 million dollars.
- Beef cattle are raised in all of the counties in Georgia.

**General**

- One of out of seven Georgians works in agriculture, forestry or a related sector.
- Agriculture contributes more than $67 billion, or about 12%, annually to Georgia's $787 billion dollar economic output.

- More than 65% of Georgia is in forestland. Forestry is a $16.7 billion per year industry in Georgia.
- Georgia's top ten commodities in order of their rank are broilers, cotton, eggs, timber, peanuts, horses, beef, greenhouse products for ornamental horticulture, dairy, and container plants from nurseries.
- Georgia ranks first in the U.S. in the production of peanuts, pecans, rye, eggs and broilers.
- Coca-Cola was invented in May 1886 by Dr. John S. Pemberton in Atlanta, Georgia.
- Plains is the home of Jimmy Carter, the 39th President and a Nobel Peace Prize Winner in 2002.
- Georgia was the first state to charter a state university, The University of Georgia, was founded in 1785.

https://www.agclassroom.org/kids/stats/georgia.pdf

67. How does the article define the climate and soil of Georgia in relationship to its agricultural outlook? **SS8G1**

68. How does Georgia's climate impact its peanut economy sector? **SS8G1d**

69. What other agricultural products have been increasingly produced in Georgia because of its climate? **SS8G1d**

70. What is the state's ranking nationally in the production of peaches? **SS8G1d**

71. How has Georgia's poultry industry grown nationally? **SS8G1d**

72. What is the impact of Georgia's climate on its overall production of jobs? **SS8G1d**

73. What is the connection between Georgia's climate and its overall agricultural production? **SS8G1d**

74. How has Georgia's climate boosted its land dedicated to forestry? **SS8G1d**

## Artifact O

**Climate Change Threatens Georgia Industries, Report Says**

Climate change doesn't just threaten Georgia's people and environment, it also threatens the economy, according to a recent study. The report was released by a group called Risky Business, which focuses on climate change and the economy.

Sea levels will go up, and so will the number of hot summer days. That's research that's already out there. This new report highlights sectors of the economy that it says should pay attention.

“Over the next 20-30 years, we're going to see devastating increases in heat, and for Georgia, not so much Atlanta, increasing impact of sea level rise, storm damages,” said Al Sommer, a professor at Johns Hopkins University who contributed to the report.

Companies need to think about how more heat will affect them, he said. Utilities will have to handle higher demand for electricity. Companies will have to pay more for air conditioning and consider how more hot days will affect outdoor workers. Farms will have to deal with the hot days, too.

On the coast, the Savannah Port could be threatened by sea level rise and storm surges.

Sommer said he looks at the looming impacts from climate change on two different levels. There’s adaptation, and there’s mitigation.

“There are certain things that need to be done now to take care of what is already baked into the system,” he said, because we’re already locked into a certain amount of sea level rise and increased heat.

But to keep the impacts from getting any worse in the long term, he said, companies and politicians will have to take more action to cut emissions.

Earlier this week, a group of companies, including Atlanta-based Coca-Cola and UPS, signed a pledge with the White House to decrease their greenhouse gas emissions in the next decade.

http://news.wabe.org/post/climate-change-threatens-georgia-industries-report-says

75. How does climate change potentially impact Georgia’s economy according to the article? **SS8G1d**

76. What are some examples that the article gives of how will climate change raise costs for companies? **SS8G1d**

77. What are 2 examples the article gives of how climate change has already begun to occur in Georgia? **SS8G1d**

**Artifact P**

**Coastal Plain**

Georgia's largest geographical region is the Coastal Plain; it covers approximately 60 percent of the state, from the Atlantic Ocean to the Fall Line. In prehistoric times, this area of what is now Georgia was covered by ocean. Ocean waves slowly wore down hills and other land formations as they advanced inland. As time passed, countless numbers of seashells and other remains of ocean life sank to the ocean floor. Tightly packed, they eventually became beds of soft rock called limestone. Over time, rivers and streams deposited large amounts of soil, clay, and rock that had eroded from the hills and mountains to the north into the ocean. This eventually caused thousands of feet of sediment - or settled deposits - to cover the ocean floor.

When the ocean retreated, it left a vast area of limestone, clay, sand, and other sedimentary deposits - the region now known as the Coastal Plain. Nationally, the Coastal Plain extends along the Atlantic and Gulf coasts from Massachusetts to Mexico, and up to 200 miles to the interior.

Along the eastern states - like Georgia - the Coastal Plain's interior boundary is marked by the Fall Line. The Fall Line is actually a region several miles across. It marks the area reached by the prehistoric ocean's shoreline. Land north of the line is higher in elevation than land to the south, causing rivers to pick up speed as they travel - or fall - through this zone. South of the Fall Line - in the Coastal Plain - the ground is soft and sandy. Rivers become wider, deeper, and move more slowly, making navigation by large boats possible. This was very important to Georgia history, as major settlements - later cities - grew along the Fall Line, like Augusta, Milledgeville, Macon, and Columbus.

Because of the effect of the prehistoric ocean, the Coastal Plain is relatively flat, with low relief and flat to gentle slopes. Rivers entering the Coastal Plain from the north flow slowly, develop wide banks, and tend to take a winding path. By the time they reach the coasts, many of these rivers - such as the Altamaha and Savannah - have become much wider than when they entered the Coastal Plain.

The land is low-lying Along Georgia's coast. The soil typically consists of sand and clay for approximately 75 miles inland, and is not very fertile. The land tends to be poorly drained, and swampy areas are common (the Okefenokee Swamp is in the Coastal Plain). Early settlers discovered that little would grow here except pine trees and brush, which led to the name "Pine Barrens" for this region. Even today, this part of the state is poorly suited for agriculture. The land is used primarily for pasture and growing pine trees for timber, pulp, turpentine, and other products.

Further inland from the "Pine Barrens," the Coastal Plain slowly slowly rises in elevation, but seldom does it rise more than 500 feet above sea level. The well-drained soil here consists of sand, clay, and other materials. This region is very fertile, and is famous for its peanuts, peaches, and pecans, and many other agricultural products.

http://georgiainfo.galileo.usg.edu/topics/geography/article/geographic-regions-of-georgia

78. What size is the Coastal Plain region of Georgia in relationship with the other regions? **SS8G1b**

79. How did natural movement of the ocean waves help shape the Coastal Plains of Georgia? **SS8G1b**

80. What marker helps define the boundary of the Coastal Plain? **SS8G1b**

81. What is the physical composition of the Coastal Plain? **SS8G1b**

82. Why is the ability of boats to navigate through the area south of the Fall Line in Coastal important in the development of cities in Georgia's history? **SS8G1b**

83. What is the description of the land in the Okefenokee Swamp? **SS8G1b**

84. What agricultural products are produced in the upper elevation areas of the Coastal Plain? **SS8G1b**

## Artifact Q

**Piedmont**

Georgia's second-largest geographical region is the Piedmont; while it is the second largest in size, it contains the highest population. This hilly region makes up approximately 30 percent of the state and lies between the mountainous regions of north Georgia and the Coastal Plain. Along the southern boundary, the Piedmont sits approximately 500 feet above sea level, but elevations can range up to 1700 feet at the southern edge of the Blue Ridge Mountains. This region consists primarily of rolling hills with many valleys. In some areas the hills are quite tall and almost appear to be mountains themselves.

Large areas of solid rock are found just beneath the earth's surface in the Piedmont. This is called bedrock; consists of such stone as granite, gneiss, and marble. Piedmont bedrock is usually very hard, not like the sedimentary rock of the Coastal Plain. Because of this, it is normal to see large areas of exposed bedrock - called outcrops - where the soil has been washed away. Other evidence of bedrock can be seen in river beds, along highways, and on some hillsides.

Numerous streams and rivers cross the Piedmont, usually flowing from north to south. Because of the bedrock, streams tend to have shallow beds, with narrow banks. Exposed rocks create rapids - which makes navigation impossible for large boats.

A common feature of Piedmont soil is its distinctive red color- the result of iron minerals found in granite and other rock. Erosion and weathering cause exposed rock in outcrops to break down into iron and other minerals. When Water is mixed in with the iron - it produces rusty red soil often called "Georgia red clay."

Except for the areas with frequent outcrops and bedrock near the surface, Piedmont land generally is well suited for agriculture. Cotton, soybeans, and wheat are some of the more commons crops. Beef cattle and dairy cattle are raised in large numbers here, but the most important part of the agricultural economy is chicken broilers - Georgia is often referred to as the "Poultry Capital of the World." Additionally, the land supports large forests, from which pine trees remain an important part of the timber industry.

http://georgiainfo.galileo.usg.edu/topics/geography/article/geographic-regions-of-georgia

85. What size is the Piedmont region of Georgia in relationship with the other regions? **SS8G1b**

86. Where is the Piedmont region located in Georgia? **SS8G1b**

87. What is the elevation of 30% of the hilly part of the Piedmont region? **SS8G1b**

88. Why is it impossible for boats to navigate through the Piedmont rivers? **SS8G1b**

89. Why is the soil a reddish color in the Piedmont region? **SS8G1b**

**Artifact R**

**Blue Ridge**

Georgia's most visually stunning geographical region is the Blue Ridge. The Blue Ridge Mountains are the highest in the Appalachian Highlands. This range reaches from northeast Georgia to southern Pennsylvania; it contains the highest elevations east of the Mississippi River. Georgia's highest mountain - Brasstown Bald (4784 feet above sea level) - is located in the Blue Ridge region. Springer Mountain (3782 feet) marks the beginning (of the southern end) of the famous Appalachian Trail.

The height of the Blue Ridge Mountains cools warm, moist air currents off the Gulf of Mexico, producing abundant rainfall in most years. As a result, numerous rivers - such as the Chattahoochee and Savannah - begin here and flow south into the Coastal Plain before reaching their destinations.

The Blue Ridge accounts for less than 1 percent of Georgia's best farmland. Because of the many mountains and valleys, farms tend to be small. Steep slopes and high rainfall also contribute to a highest erosion rate. The growing season varies from 210 days along the southern boundary with the Piedmont, to only 180 days in areas of the highest elevation. Apples (for which northeast Georgia is noted), corn, and other vegetables are suitable to the climate. Haywood timber, such as oak and hickory, grows well in the mountains. And because of the stunning scenery, tourism has become a large part of the region's economy.

http://georgiainfo.galileo.usg.edu/topics/geography/article/geographic-regions-of-georgia

90. What geological features are located in the Blue Ridge region of Georgia? **SS8G1b**

91. How does the climate of Georgia impact the Blue Ridge region? **SS8G1b**

92. Why is the Blue Ridge region not suitable for farming? **SS8G1b**

93. What agricultural products are produced in the Blue Ridge? **SS8G1b**

94. Why is tourism important for the Blue Ridge region? **SS8G1b**

**Artifact S**

**Ridge and Valley**

Located west of the Blue Ridge is the Ridge and Valley geographic region; nationally it stretches 1200 miles from northern New York to central Alabama - crossing a significant portion of northwest Georgia. The Ridge and Valley features long, parallel ridges overlooking wide, rolling valleys. From the valley floor, the ridges often appear to be mountains, but actually the highest is only approximately 700 feet tall. Elevations within this region range from 700 to 1600 feet above sea level.

The Ridge and Valley region sits among the Blue Ridge, Piedmont, and Plateau regions. Unlike the Piedmont and Blue Ridge, which consist of hard bedrock, the Ridge and Valley consists mainly of softer sedimentary rock. The ridges are composed of sandstone; the valley floors of limestone, shale, and other sedimentary deposits.

The sandstone ridges are generally covered with forests, while the valley floors are used for farming and pasture. The average growing season is 210 to 220 days, and a variety of crops can be grown here - corn, soybeans, wheat, and cotton. The soil is moderately suited for agriculture and makes up approximately 4 percent of Georgia's prime farmland. Land not used for agriculture is often used for pasture and harvesting hardwood and pine timber.

http://georgiainfo.galileo.usg.edu/topics/geography/article/geographic-regions-of-georgia

95. How large is the Ridge and Valley region of Georgia? **SS8G1b**

96. What are some of the natural features of the region? **SS8G1b**

97. What is the geological composition of the Ridge and Valley region? **SS8G1b**

98. What percentage of the land has been allocated for agriculture? **SS8G1b**

99. How is the Ridge and Valley land used regularly in Georgia? **SS8G1b**

**Artifact T**

**Plateau**

Georgia's smallest geographical region is the Appalachian Plateau, more commonly called simply the Plateau. A plateau is an area of flat or gently sloping land sitting over neighboring valleys or low-lying areas. Nationally, the Appalachian Plateau stretches from New York to Alabama in a series of plateaus along the western edge of the Appalachian Highlands. The southernmost of these - the Cumberland Plateau - includes approximately 300 square miles of the northwest corner of Georgia. Here you will find two flat-top features - Sand Mountain and the famous Lookout Mountain - separated by a deep, narrow valley. To the east of Lookout Mountain is Pigeon Mountain.

The Plateau region consists primarily of sedimentary rock - sandstone, shale, and limestone. Land here is generally used for hardwood forest and pasture, although a small amount of corn and soybeans are also grown. This area also marks the only known source of coal in Georgia.

The Georgia Natural History Museum has another excellent overview of Georgia's different geographic regions.

http://georgiainfo.galileo.usg.edu/topics/geography/article/geographic-regions-of-georgia

100. How large is the Plateau region of Georgia? **SS8G1b**

101. What is the geological composition of the Plateau region? **SS8G1b**

102. What is the geological composition of the Plateau region? **SS8G1b**

103. How is the land allocated for agriculture? **SS8G1b**