

Sample Final Reports for Geography 595

Internship with WSP USA — Eva James

Summer 2019 Internship with WSP USA Eva James, Planning & Environmental Intern

OVERVIEW

This summer I was granted the opportunity to work in Atlanta with WSP USA, an international engineering consulting firm that does contracts with everyone from the National Parks Service to the MTA of New York.



Me with the other summer interns

I set several goals coming into this internship, and then 3 days in had a formal goal setting lunch with my supervisors and Developing Professionals Network (DPN) mentor to write these goals down and talk about them. They included:

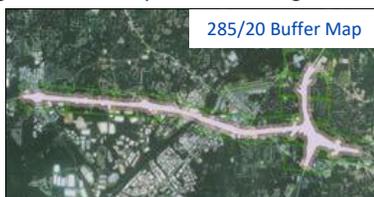
- ✓ Improving my technical skill set
- ✓ Building a strong network
- ✓ Working on a variety of projects
- ✓ Learn what I do and don't like about consulting
- ✓ Work on my professional development

I worked on a lot of projects over the past 4 months, broken down into 3 categories: Technical, Writing/Graphics/Research, and Public Outreach.

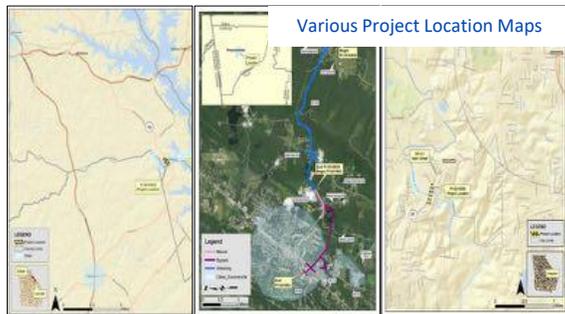
This experience taught me a lot about consulting, planning, and myself in general. I highly recommend the WSP internship program to any planning, geography, or engineering majors interested in a possible career in the private or public sector.

TECHNICAL

My GIS and excel skills were put to the test with a variety of mapping and data analysis tasks throughout the summer.



I had to make several Project Location/Limit maps and noise buffer maps, using many of the lessons I learned in GEOG 343 in the spring.

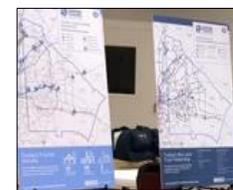


WRITING/GRAPHICS/RESEARCH

Four major projects fell into this subset of tasks: the GDOT STIP EJ Report (a project that also required lots of mapping), a set of project fact sheets for I-20ETOD and the SWTP/SSTP, a GCO Equity Analysis, and a GCO Commuter Feasibility Shuttle Guide (pictured to the right).

PUBLIC OUTREACH

One of my favorite parts of this internship was getting out into the public for feedback and outreach purposes. On several occasions, I traveled to different counties/cities near the City of Atlanta for these purposes. I went across DeKalb County for Transit Master Plan scenario public and stakeholder meetings (pictured above), and up to Alpharetta for a City Council meeting where my boss was presenting on GA 400 BRT projections.



DCTMP Meeting Posters

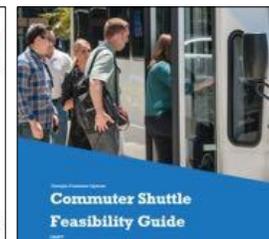
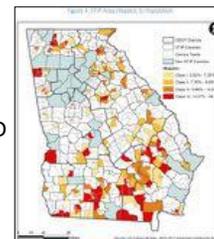
CAREER DEVELOPMENT & OUTSIDE OF THE OFFICE

WSP had countless mentoring, professional development, networking, and learning opportunities while I was here.

- ✓ Mentorship Program
- ✓ Project Manager Trainings
- ✓ WTS Lunch & Learn
- ✓ Career Path & Leadership Lecture

They also provided plenty of interaction opportunities outside of the office that helped me form lifelong connections and friends:

- ✓ DPN Happy Hours
- ✓ Pancake Breakfast
- ✓ Beltline Cleanup
- ✓ PATH400 Walking Tour
- ✓ Employee Club Activities
- ✓ Atlanta United Game



SC State Climatology Office Internship — Leah Moore

GEOG 595: SC State Climatology Office Internship

By: Leah Moore

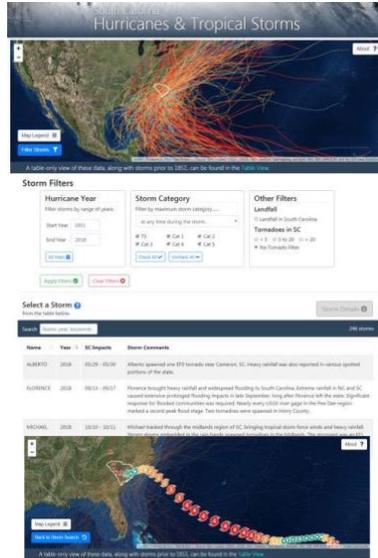


OVERVIEW & SCOPE

- Started at the SCO in May 2018
- Able to do the internship credit so that I could work more hours during the school semester
- Staff consists of Dr. Hope Mizzell, State Climatologist, Melissa Griffin, Assistant State Climatologist, and Mark Malsick, Severe Weather Liaison.
- Small staff enables a lot of independent, project-based work environment.
- Research projects have consisted of a range of topics, such as: hurricanes and tropical climatology, drought, precipitation extremes, heavy precipitation trends, county climatology, and more!
- The bulk of the poster details my hurricane work, which has been my favorite.

HURRICANES

SC Hurricanes Website



GIS credit: Tanner Arrington, SC DNR

This website serves as a comprehensive hurricane database for the entire state of South Carolina. It is incredibly interactive, with the ability to zoom within the track map and click on various points on the track to see category, wind and pressure information. Tracks exist in the database starting in 1851, but the table view has records for South Carolina dating back to 1686. This expanded record and extensive collection of data will serve a wide spread of stakeholders, such as the general public and emergency managers.

Also featured on the website is an informational PDF executive summary that reviews general SC tropical climatology, landfalls and major hurricanes.

Tropical Cyclone Track Density by County: Based on Tracks Available 1851 - 2018



This visual shows the county-by-county total of tropical cyclone activity. To create it, HURDAT data of 120 cyclones that have tracked into the state of South Carolina was compiled, and then a query was created to count the number of cyclones that tracked into each county. This graphic will prove to be helpful for various stakeholders, such as emergency planners.

South Carolina Tropical Cyclone Landfalls 1851 - 2018



This visual queries GIS coordinates to show all 41 recorded SC landfalls. The landfalls are color-coded by category upon landfall in SC.

Tropical Storm Florence Story Journal



The Tropical Storm Florence interactive story journal was completed in early 2019. This screen shot shows rainfall accumulation totals.
Link: www.dnr.sc.gov/florence2018

PUBLICATIONS

All of the pictures below show deliverables that I have produced during my time with the SC State Climate Office. Most of the images show the cover of a report placed online.



This is a Twitter post that summarizes January's weather for each region of the state. These are tweeted every month as a creative way to show the public a summary of our weather.

Our South Carolina drought portal, www.scdrought.com, won an award from the SC State Library. Pictured here is a timeline of historical drought impacts.



The three images above show pages from the South Carolina Annual Weather Review, which can be found online. The weather review summarizes monthly data for each region of SC, and highlights any big weather events that may have occurred. At the end, data across each region of SC was averaged and compared to climatological normal.



- Three above images from left to right:
 - Tropical Storm Florence in South Carolina report PDF version cover page
 - SC Hurricanes Executive Summary cover page
 - SC By the Numbers Hurricane Executive Summary infographic page

OUTCOME

- Doing an internship with a state government office has helped me gain incredible insight into my career aspirations and future path.
- I have learned an incredible amount about my field, the state of South Carolina, and workplace relations.
- I now have several research ideas for the future, because I am more familiar with my field.

Prothonotary Warbler Nest Box Study Saluda Shoals Park

Background Information:

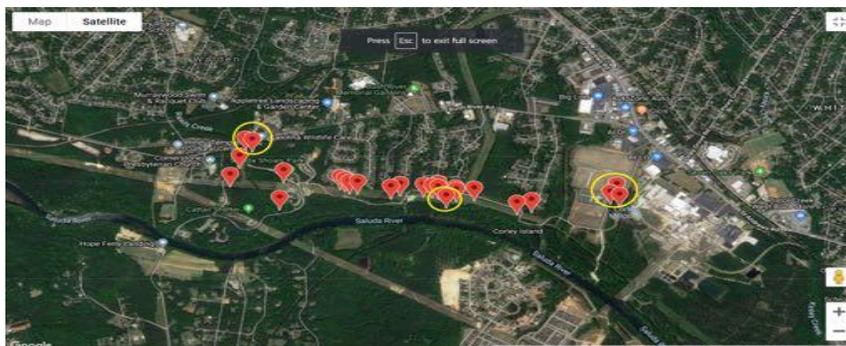
Prothonotary Warblers (*Protonotaria citrea*) are a bright, yellow and olive warbler that calls South Carolina home for the summer. Most of this species' breeding range is in the Carolinas. Though, it is unsure that Prothonotary Warblers breed at Saluda Shoals Park, this species is a regular summer visitor and the park does have suitable breeding habitat. This species breeds in shady, wooded swamp, flooded bottomland forest, and woods near streams and lakes. They are secondary cavity nesters, using old woodpecker nesting cavities. Between 1966 to 2015, Prothonotary Warbler populations have declined over 1% each year, adding up to a total population decline of 42%. A statewide initiative to provide artificial nesting sites for Prothonotary Warblers has begun in the last year, and Saluda Shoals Park was given six nesting boxes to install and monitor.

Painting of Prothonotary Warblers- John James Audubon



Actions Taken:

- 1) First, we received the six boxes from South Carolina Wildlife Federation.
- 2) Then the boxes were painted green, brown, and black to camouflage the boxes, so they blend in with their natural surroundings.
- 3) These warblers have site specific nesting grounds so six spots were scouted and cleared out so installation can occur.
- 4) To install the boxes, five-foot poles were bought to mount the boxes to. Cone shaped baffles were then attached to the poles to act as predator guards.
- 5) Once the boxes were mounted installation occurred. While installing the boxes notes were made on location specifics and what numbered boxes were located where in the park.
- 6) The boxes have been monitored for three weeks and we still have not had any nesting attempts. Prothonotary Warblers were sighted in the park April 20th 2019, so hopefully breeding will begin soon. (Box monitoring will continue until their breeding season ends in Mid-Summer)



Conclusion

Due to the boxes being new in the park, it is likely that nesting activity from Prothonotary Warblers will not occur this year. These boxes will continue to stay up, and in the 2020 breeding season hopefully these birds will become familiar with these boxes and call them home.

*The park has been observing Eastern Bluebird nest boxes as well. The sites circled in yellow are the Prothonotary Warbler sites located in the park.



Karli M. Sinclair

B.A. in Environmental Studies

GEOG 595 Internship





Geographic Information System Intern South Carolina's Department of Natural Resources – LWCD Megan James



Story Maps

South Carolina Scenic Rivers



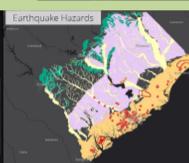
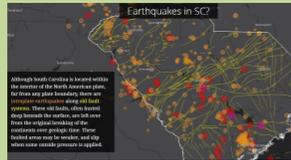
- Used ArcGIS to create points of interest maps
- Used ArcMap to create overview maps
- Used Esri Story Maps to create webpage

- Tells the history and current use of all ten scenic rivers
- Highlights parks, boat launches, historic sites, and other points of interest along the rivers



South Carolina Earthquakes

- Used ArcGIS to create all maps
- Used Esri Story Maps to create webpage



- Explains why and how earthquakes happen generally and in South Carolina
- Gives a brief history of the 1886 Charleston earthquake
- Details hazardous areas in South Carolina
- Describes ways one can prepare for an earthquake

Other Projects

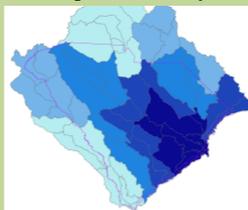
- Organization of information relating to geological quadrangle maps
- Compilation of land irrigated in South Carolina

Stream Flow Analysis



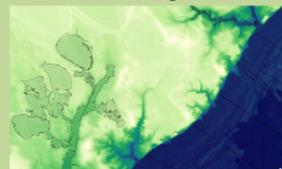
- Compiled and filtered stream flow data from active and inactive gages to find streams with the highest flow during the dry season, indicating a stronger influence from groundwater aquifers
- Used ArcMap to plot locations where streams are influenced heavily by groundwater
- Outlined points are considered to be urban and therefore data may be skewed

Precipitation Analysis



- ArcMap was used to find watersheds that received the most rainfall during the 2015, 2016, and 2018 storms

Floodplain Elevation



- ArcMap was used to evaluate sites for lowest elevation using LiDAR returns
- Determined if sites were in FEMA 100-year floodplain

Website Makeover



- Updated the hydrology & geology department websites using my training in HTML, CSS, and JavaScript
- Corrected broken links, changed older pictures, and organized content

After



SC Saltwater Paddling Trail



- ArcMap was used to input new access points and points of interest along coastal waterways
- The Paddle SC website was updated to include a new saltwater paddling trail

Acknowledgments

I would like to thank my supervisor, Tanner Arrington, for imparting a fraction of his vast knowledge to me. With his guidance, I have been able to shape skills learned in the classroom and during my internship into ones I will be able to use in my professional career. Thank you, Tanner!