

# South Carolina's Climate Report Card

March 30, 2022

# SC State Climatology Office Team



Hope Mizzell  
South Carolina  
State Climatologist



Melissa Griffin  
Assistant State  
Climatologist



Elliot Wickham  
Water Resource  
Climatologist



Frank Strait  
Severe Weather  
Liaison

# What Is A State Climatology Office?

Promote climate and weather awareness and knowledge through the development and delivery of science-based climate services and tools on a local and state level.





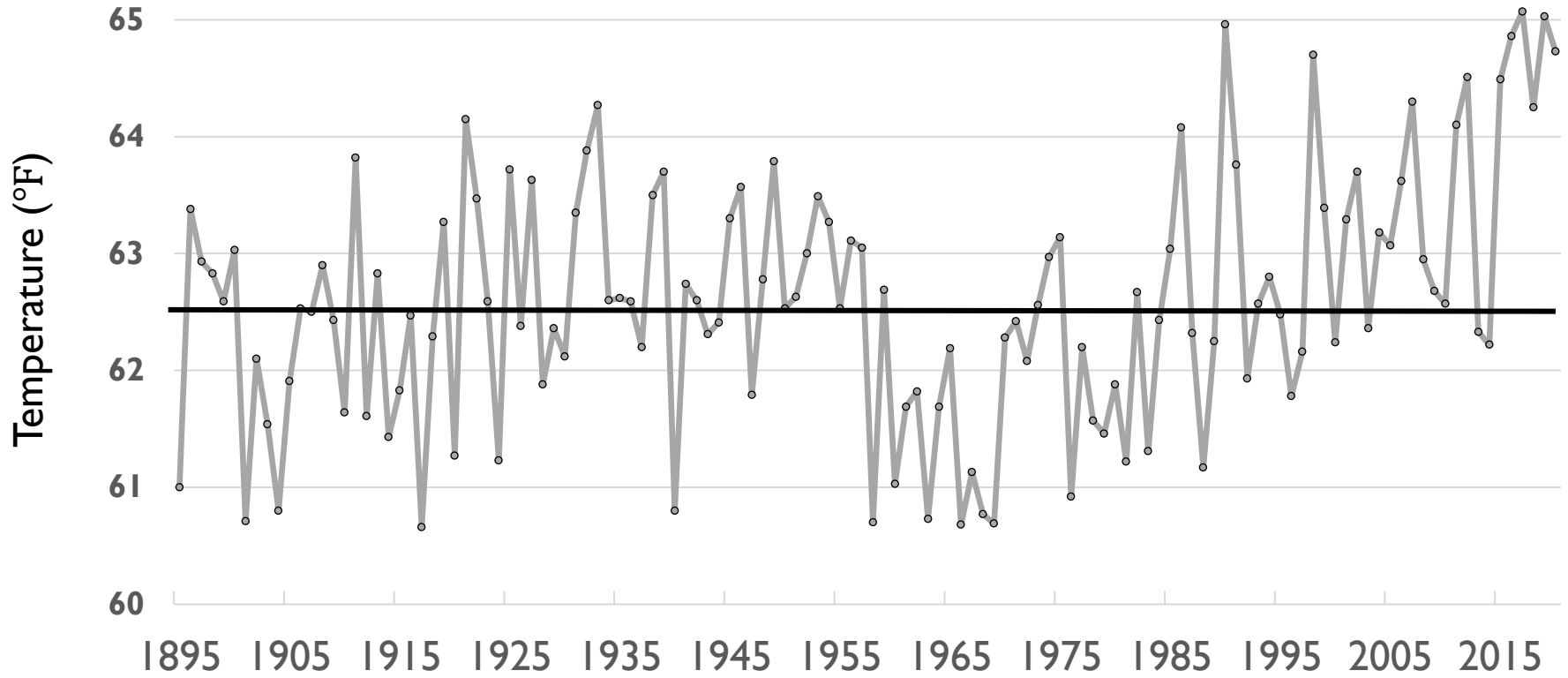


# Temperatures





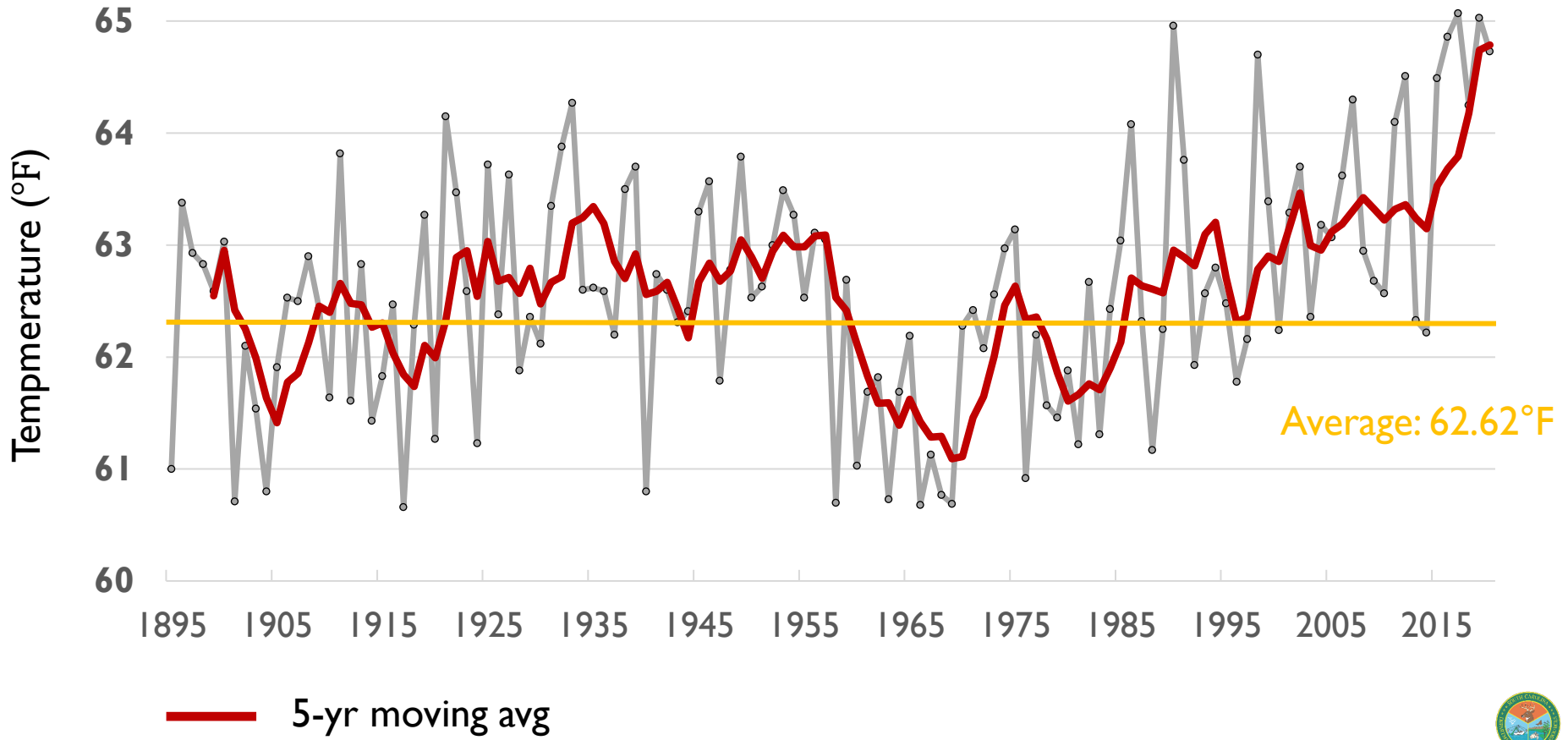
# South Carolina Statewide Annual Average Temperature (1895-2020)



Average: 62.62°F



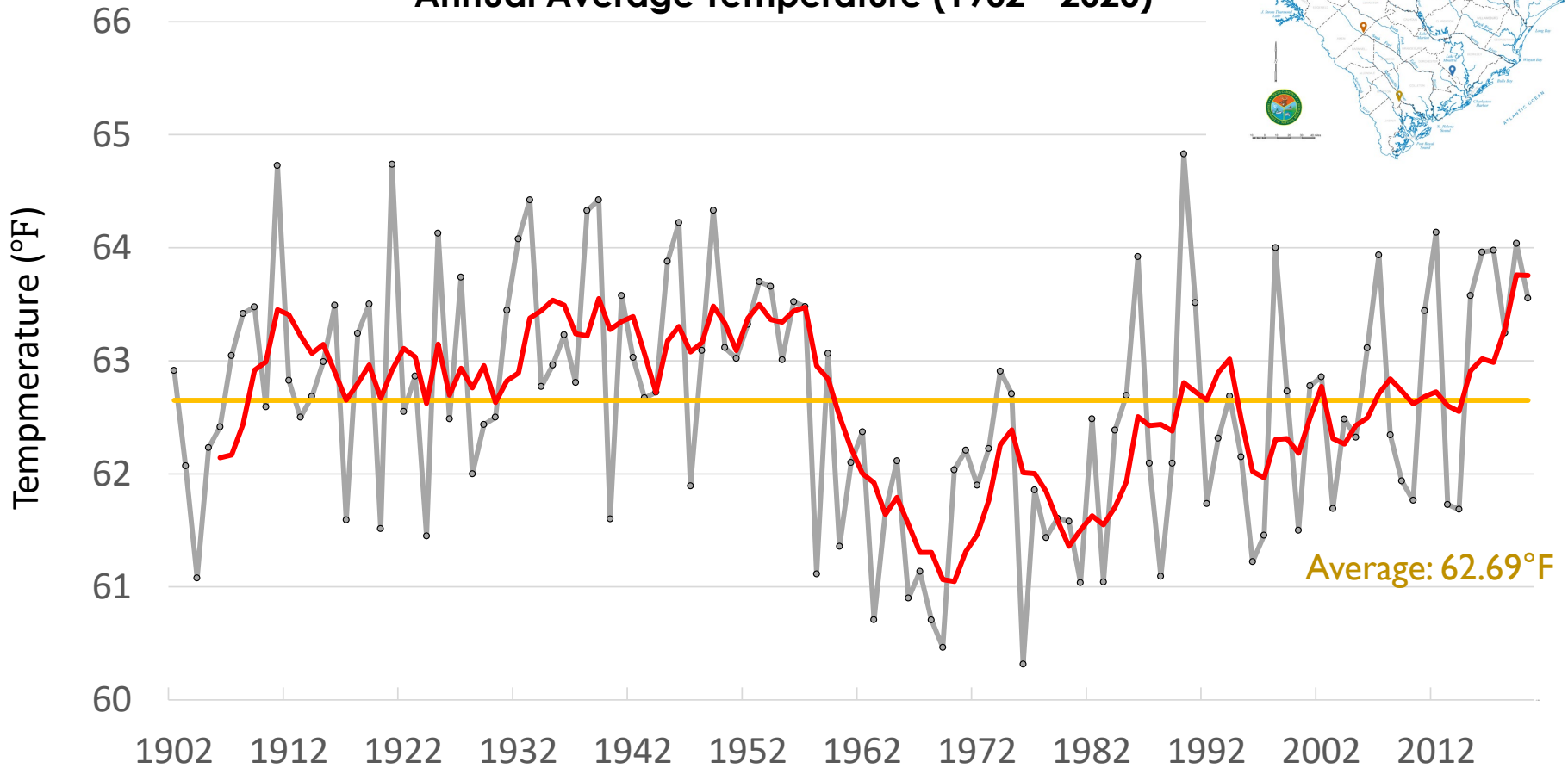
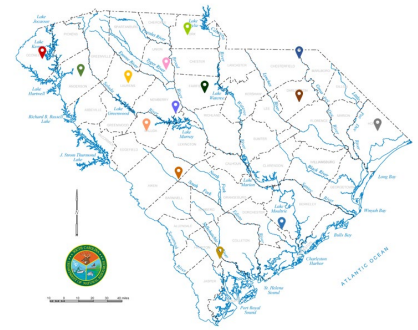
# South Carolina Statewide Annual Average Temperature (1895-2020)





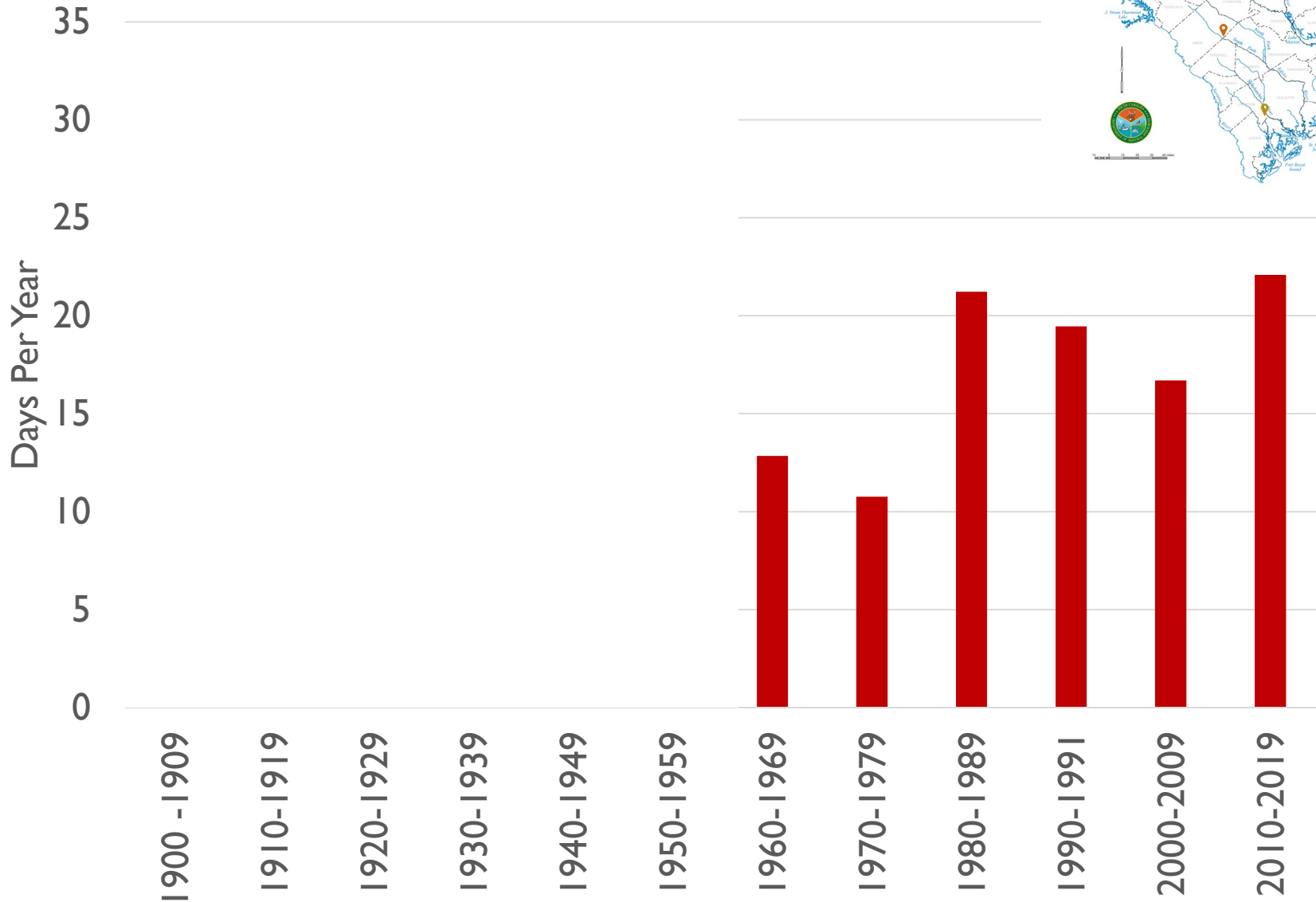
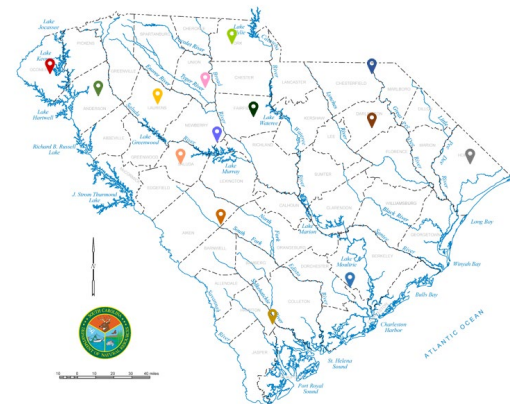


# South Carolina Long-Term Stations Annual Average Temperature (1902 - 2020)

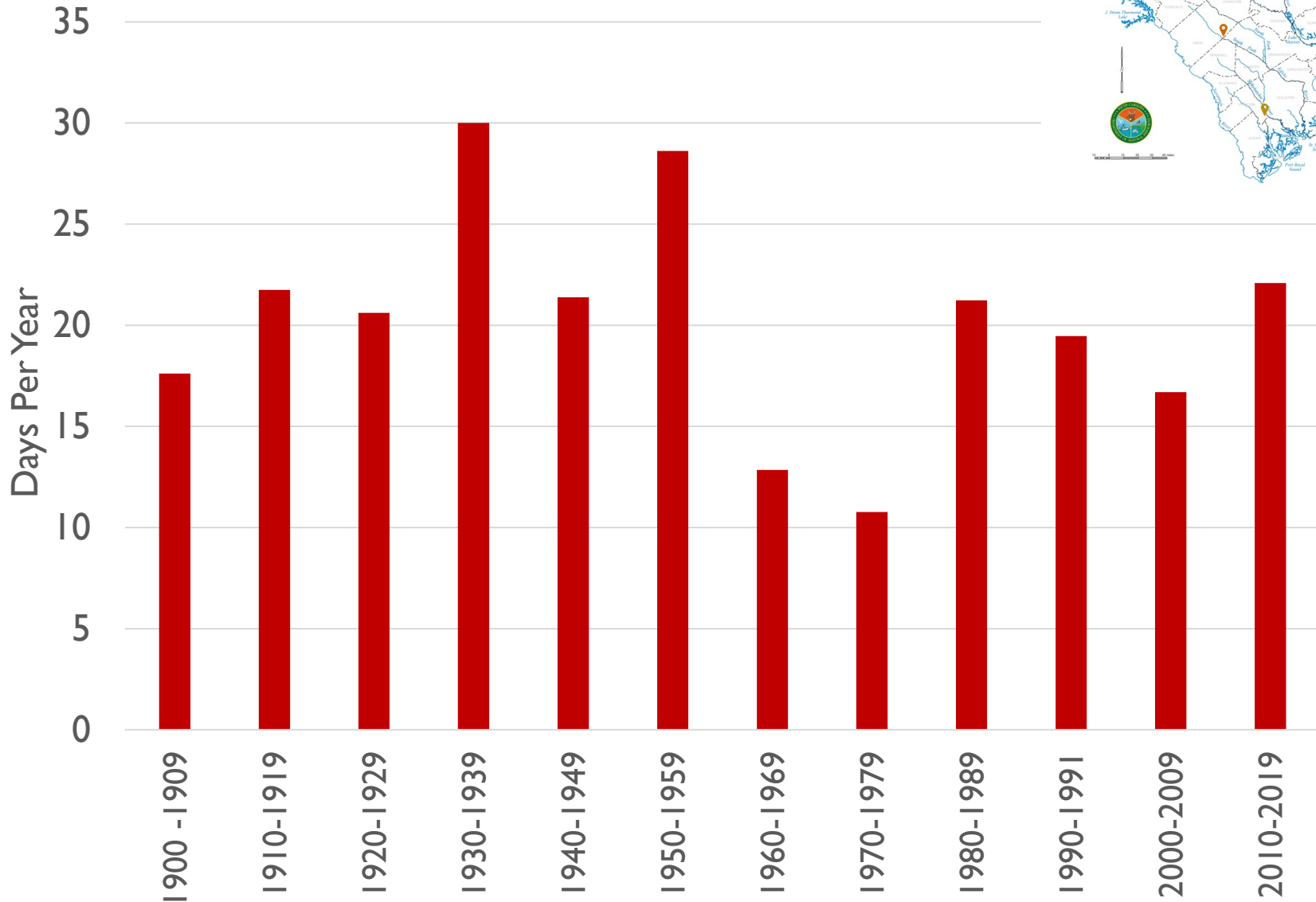
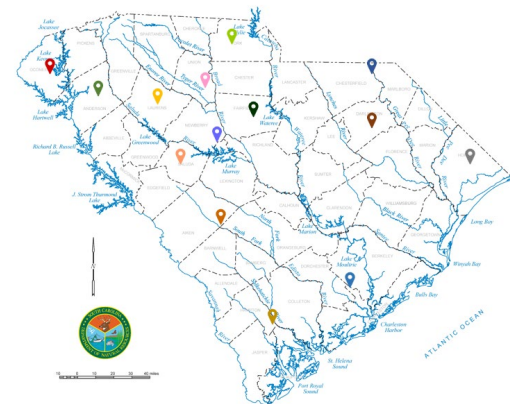


 5-yr moving avg

# Number of Days Maximum Temperature Above 95°F Averaged From SC Long-Term Stations

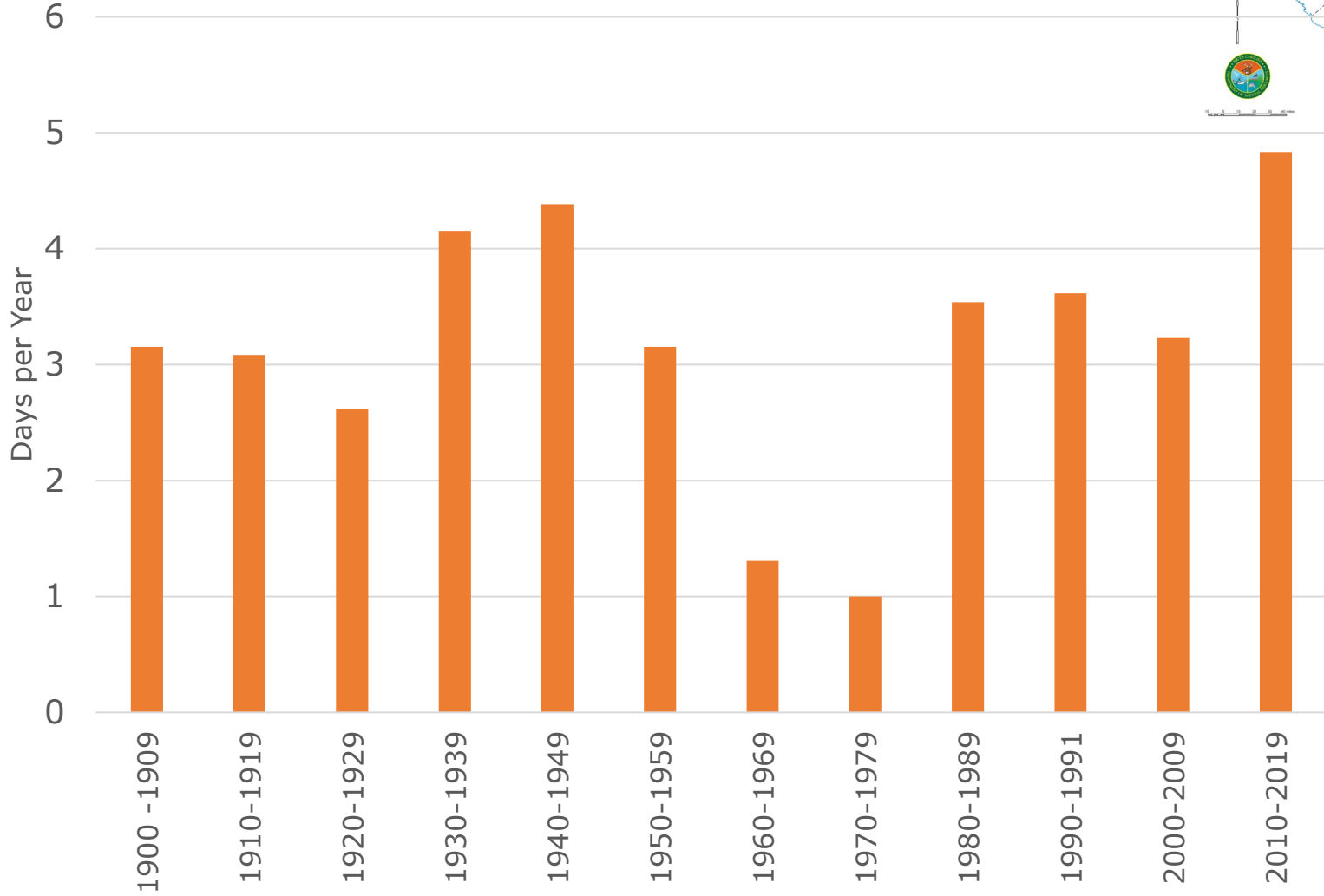
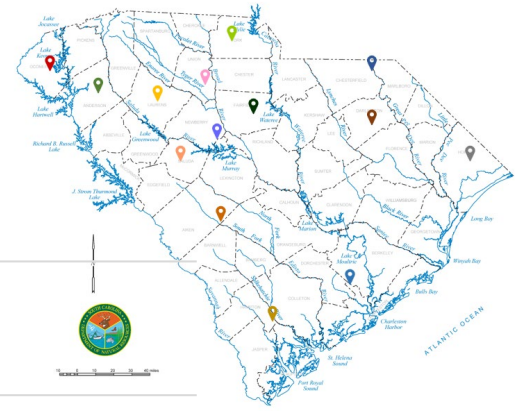


# Number of Days Maximum Temperature Above 95°F Averaged From SC Long-Term Stations

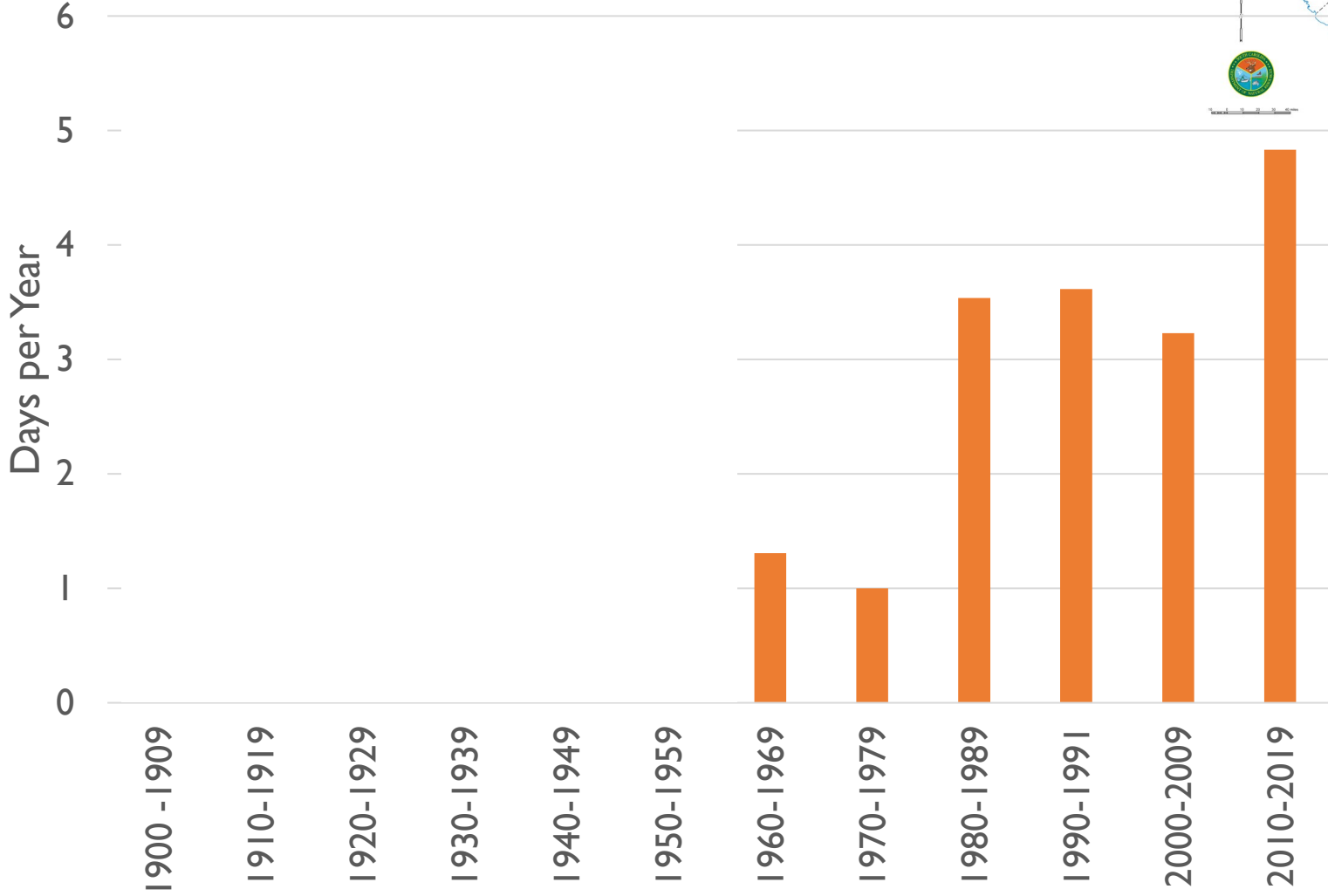
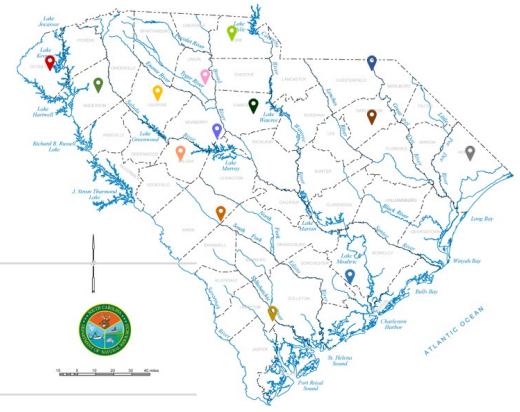




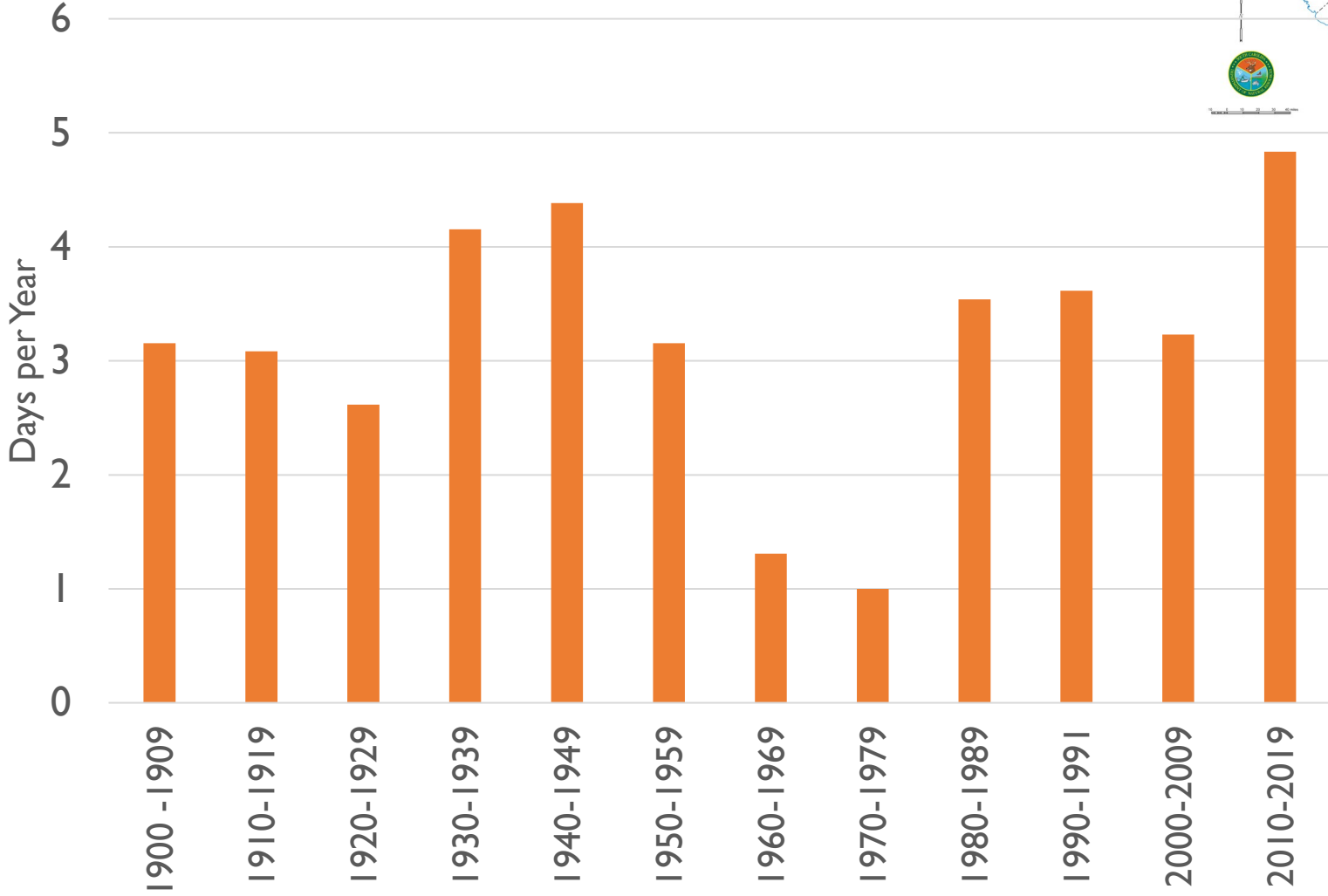
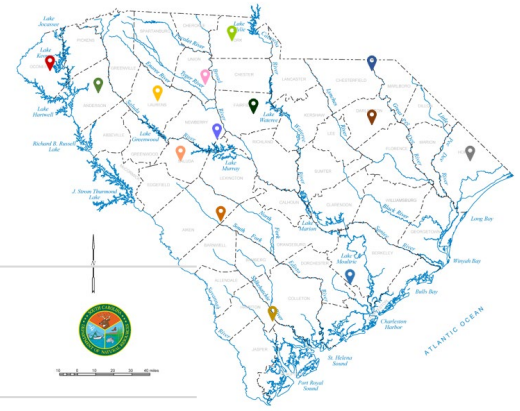
# Number of Days Minimum Temperature Above 75°F Averaged From SC Long-Term Stations



# Number of Days Minimum Temperature Above 75°F Averaged From SC Long-Term Stations



# Number of Days Minimum Temperature Above 75°F Averaged From SC Long-Term Stations

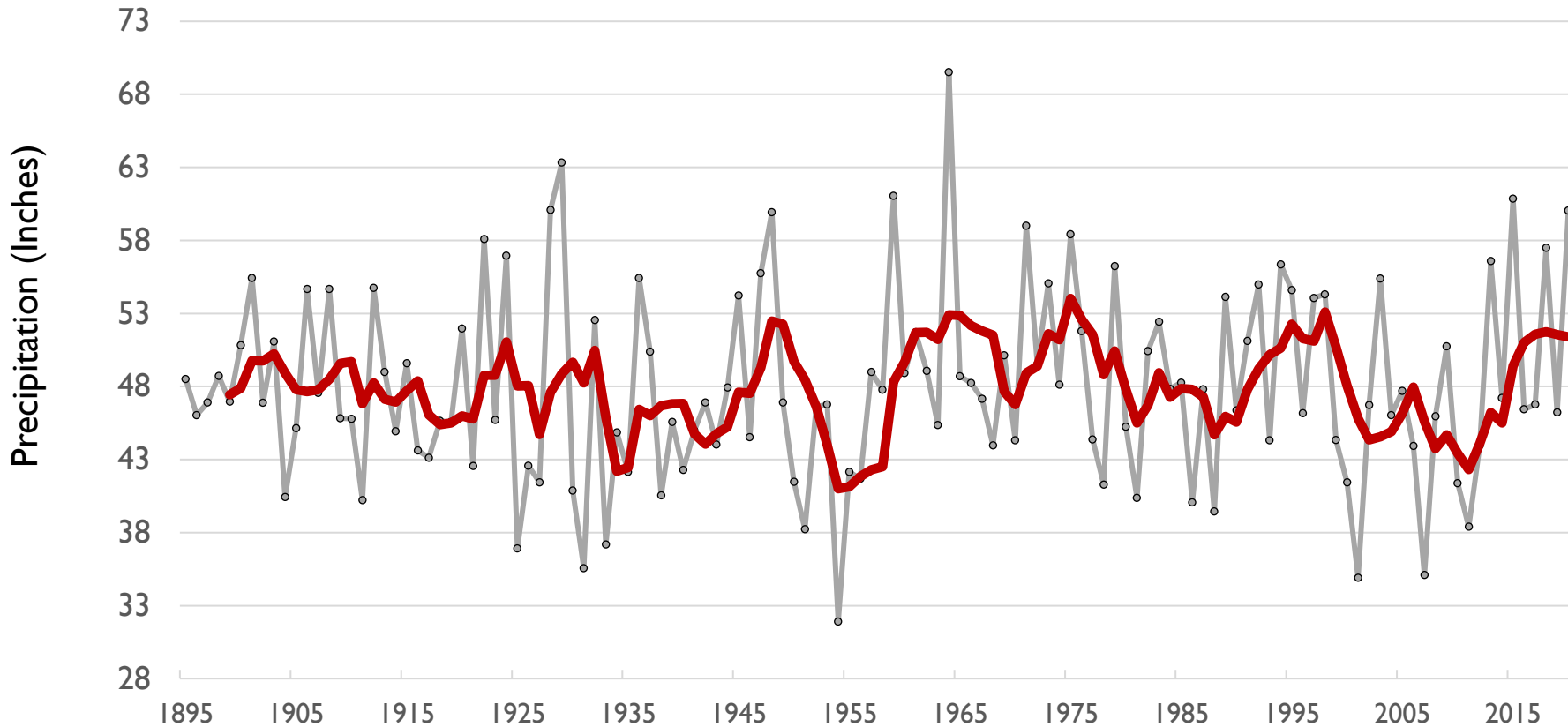






Precipitation

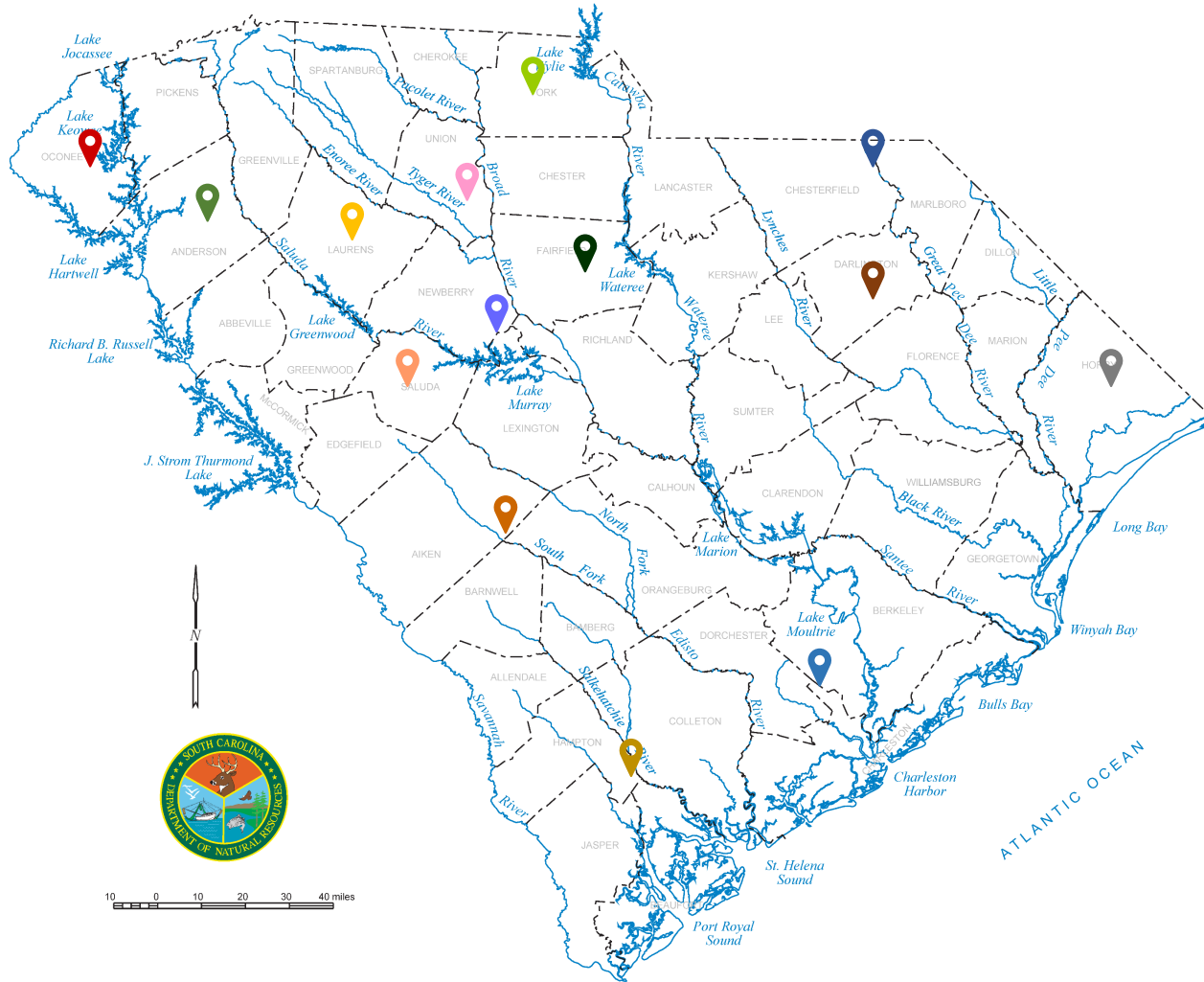
# South Carolina Statewide Annual Average Precipitation (1895-2020)

















Average: 47.81"

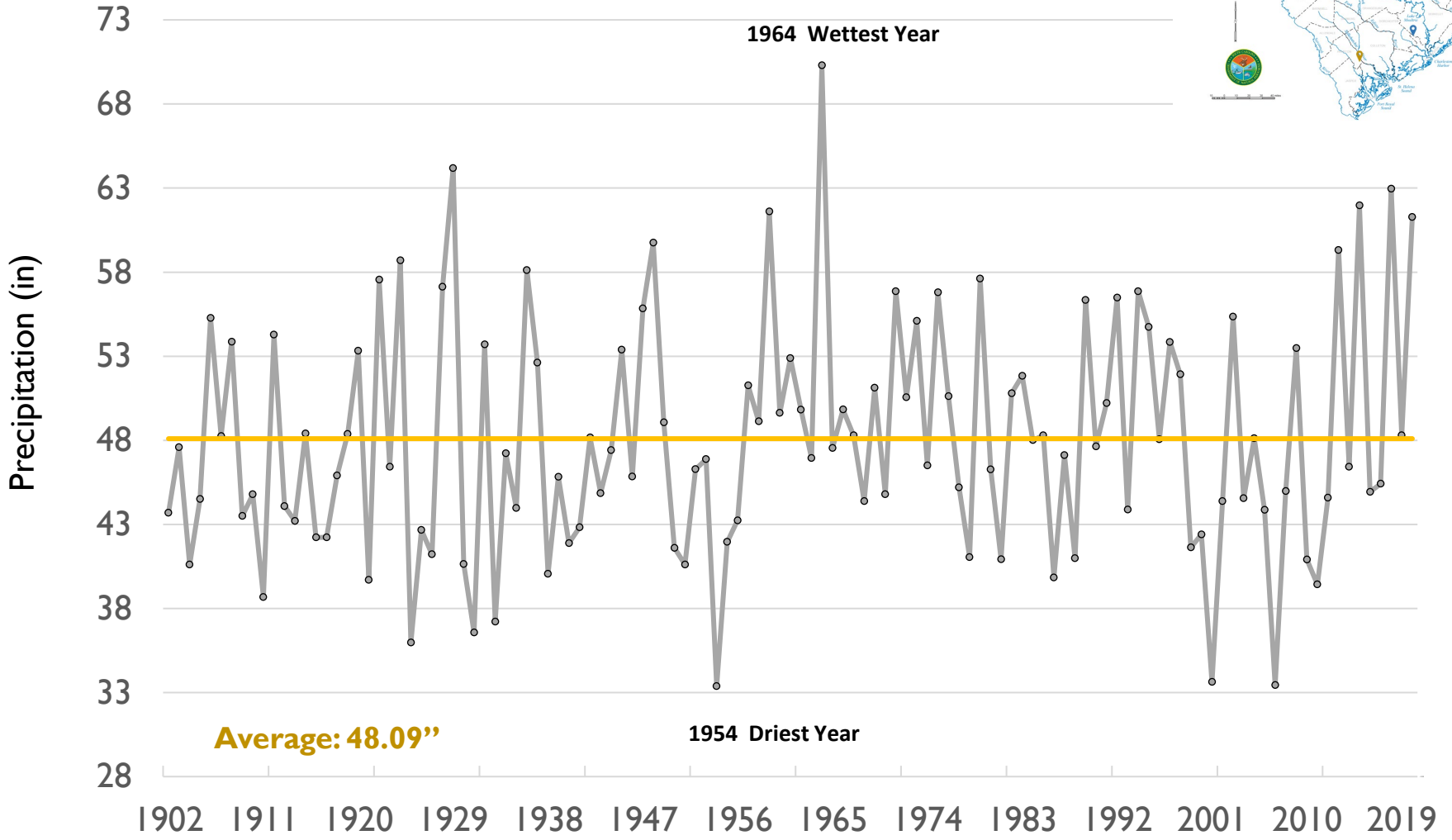
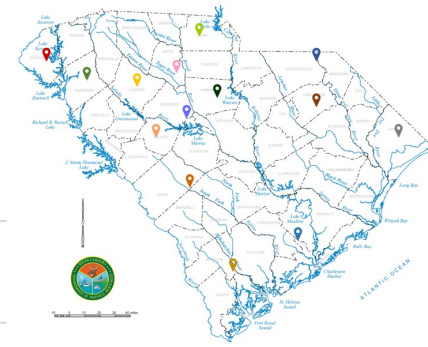


# South Carolina Stations With Data 1900 - 2020

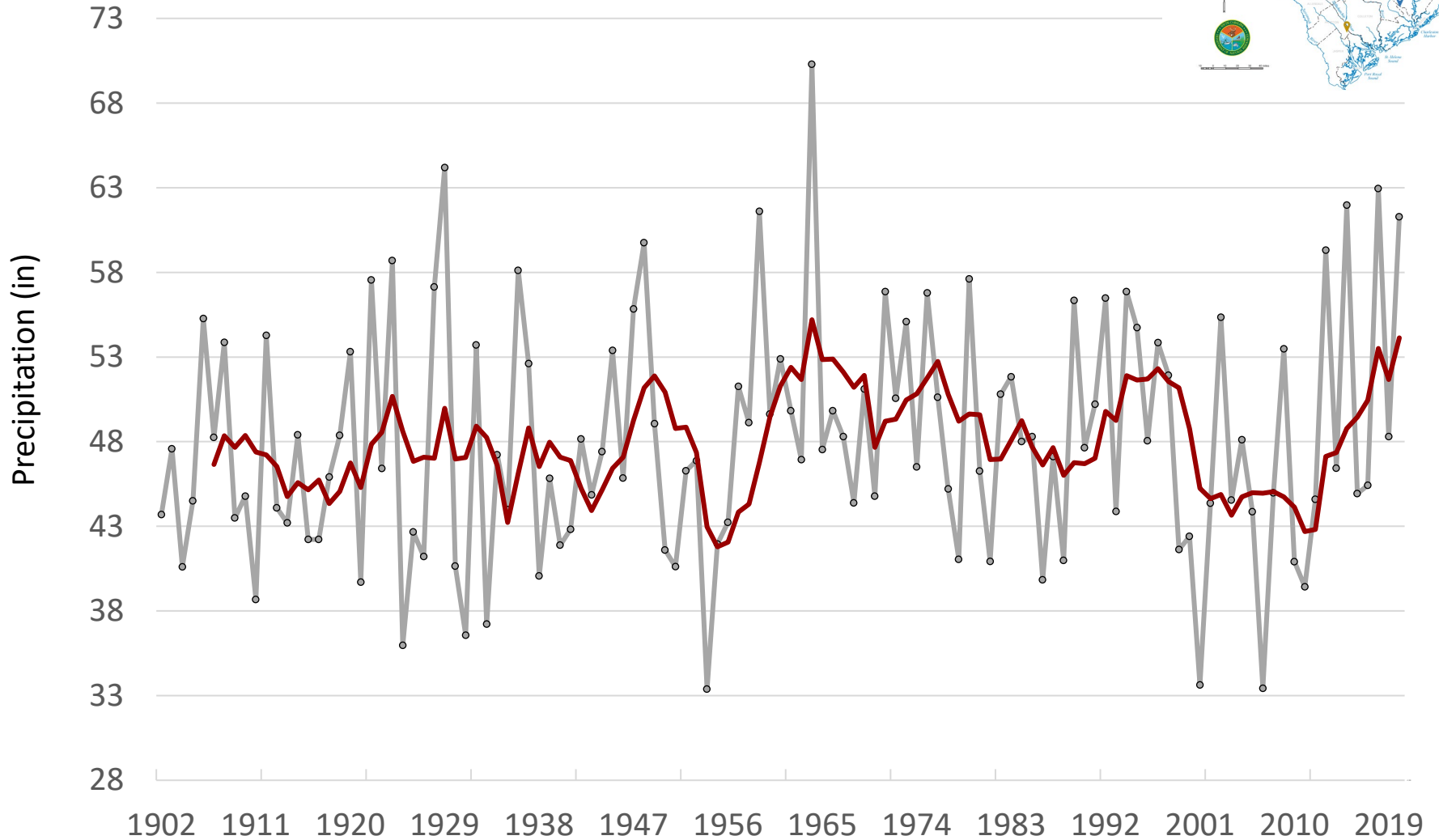
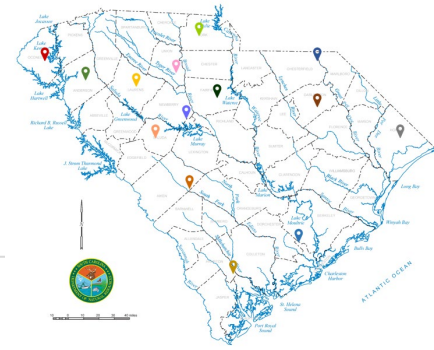


-  Anderson
-  Blackville
-  Cheraw
-  Conway
-  Darlington
-  Laurens
-  Little Mountain
-  Saluda
-  Santuck
-  Summerville
-  Walhalla
-  Winnsboro
-  Winthrop University
-  Yemassee

# South Carolina Long-Term Stations Annual Average Precipitation (1902 - 2020)





# South Carolina Long-Term Stations Annual Average Precipitation (1902 - 2020)



## Ten Wettest Years from Long-Term Stations in South Carolina (1902 – 2020)

Note: Percent of Normal based on 1902- 2020 average of 47.85"

Year	Rainfall Total	Percent of Normal
1964	70.23"	146.79%
1929	64.73"	135.28% 
★ 2018	61.98"	129.54%
★ 2015	61.90"	129.38%
1959	61.10"	127.69%
★ 2020	60.77"	127.01%
1948	58.98"	123.27%
★ 2013	58.86"	123.03%
1975	58.73"	122.74%
1924	57.98"	121.19% 






4 of 10 wettest occurred during 2001-2020 

2 of 10 wettest occurred during 1921-1940 



## Ten Driest Years from Long-Term Stations in South Carolina (1902 – 2020)

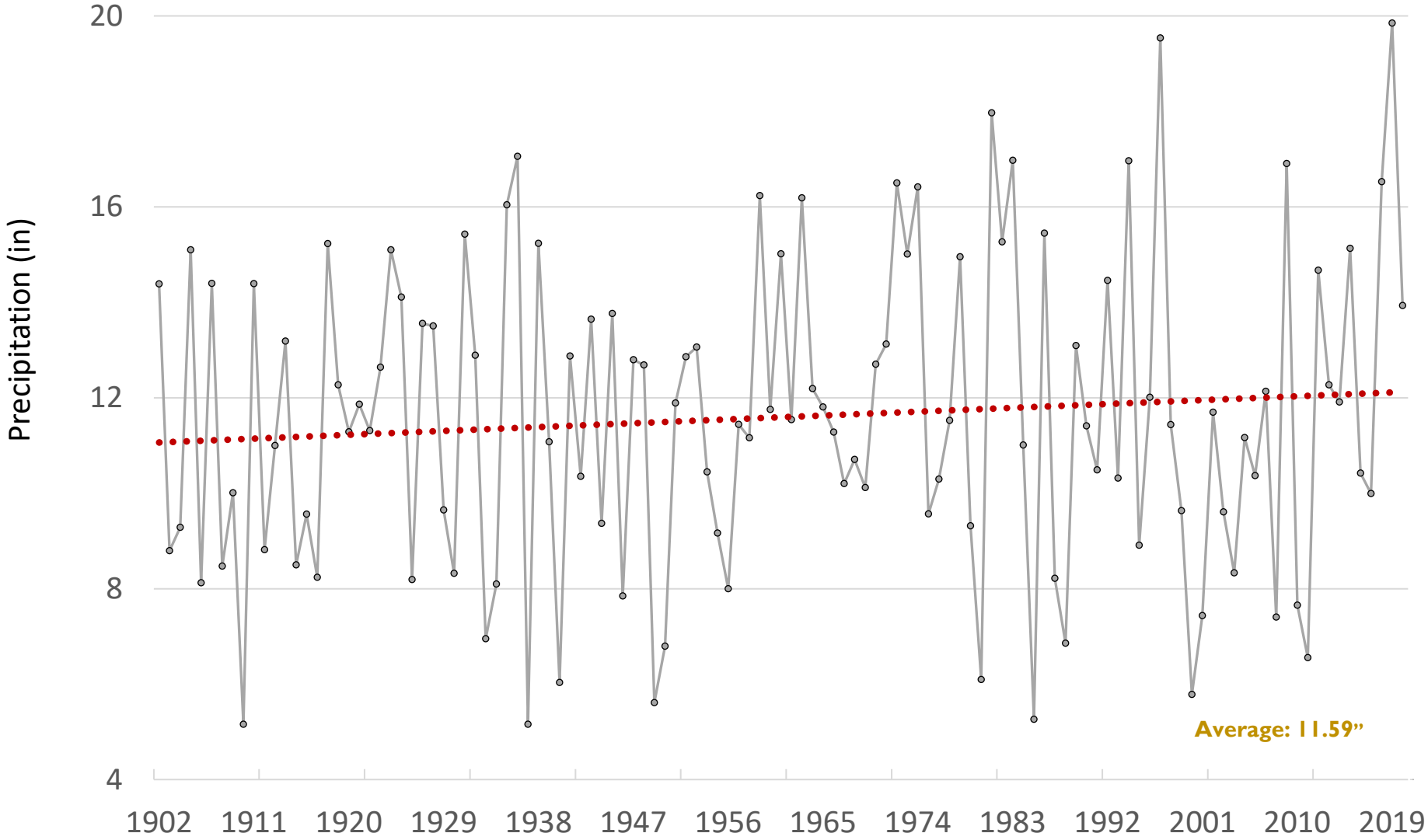
Note: Percent of Normal based on 1902- 2020 average of 47.85"

Year	Rainfall Total	Percent of Normal
★ 2007	33.18"	69.35%
1954	33.27"	69.53%
★ 2001	33.50"	70.01%
1925	36.13"	75.52% 
1931	37.04"	77.41% 
1933	37.24"	77.84% 
★ 2011	39.10"	81.72%
1986	39.74"	83.06%
1938	39.81"	83.21% 
1921	39.93"	83.45% 

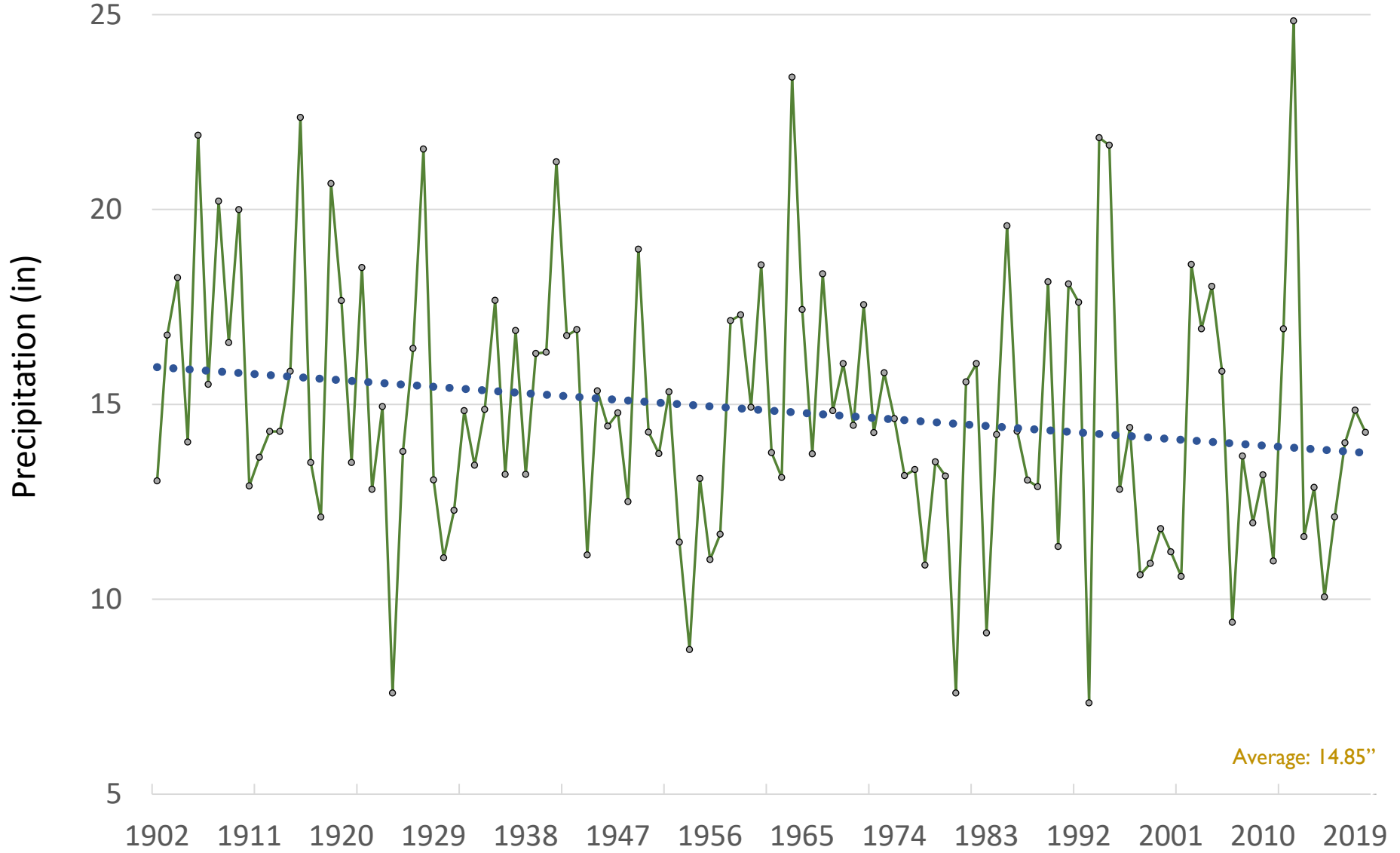
4 of 10 wettest occurred during 2001-2020  
2 of 10 wettest occurred during 1921-1940

3 of 10 driest occurred during 2001-2020  
5 of 10 driest occurred during 1921-1940

# South Carolina Long-Term Stations Winter Average Precipitation (1902 - 2020)

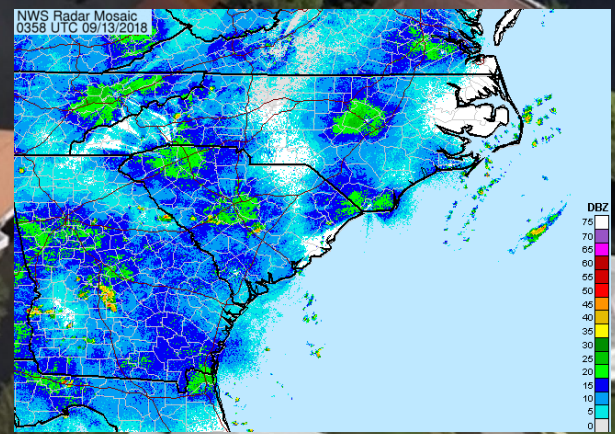
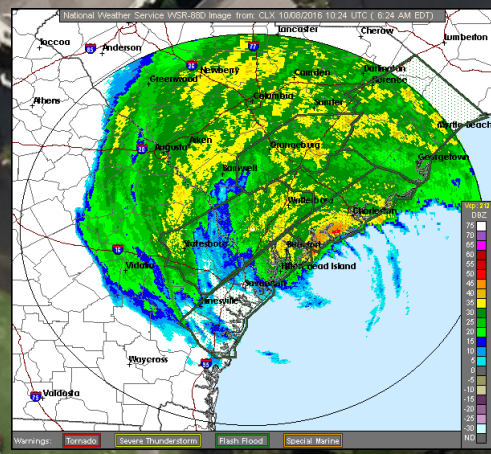
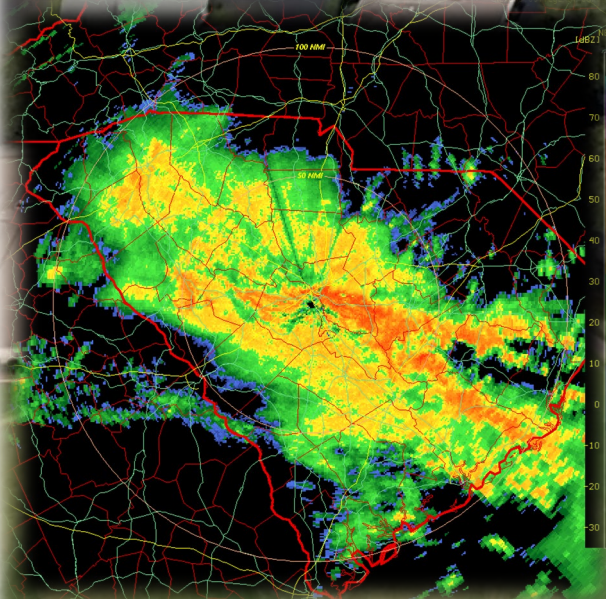
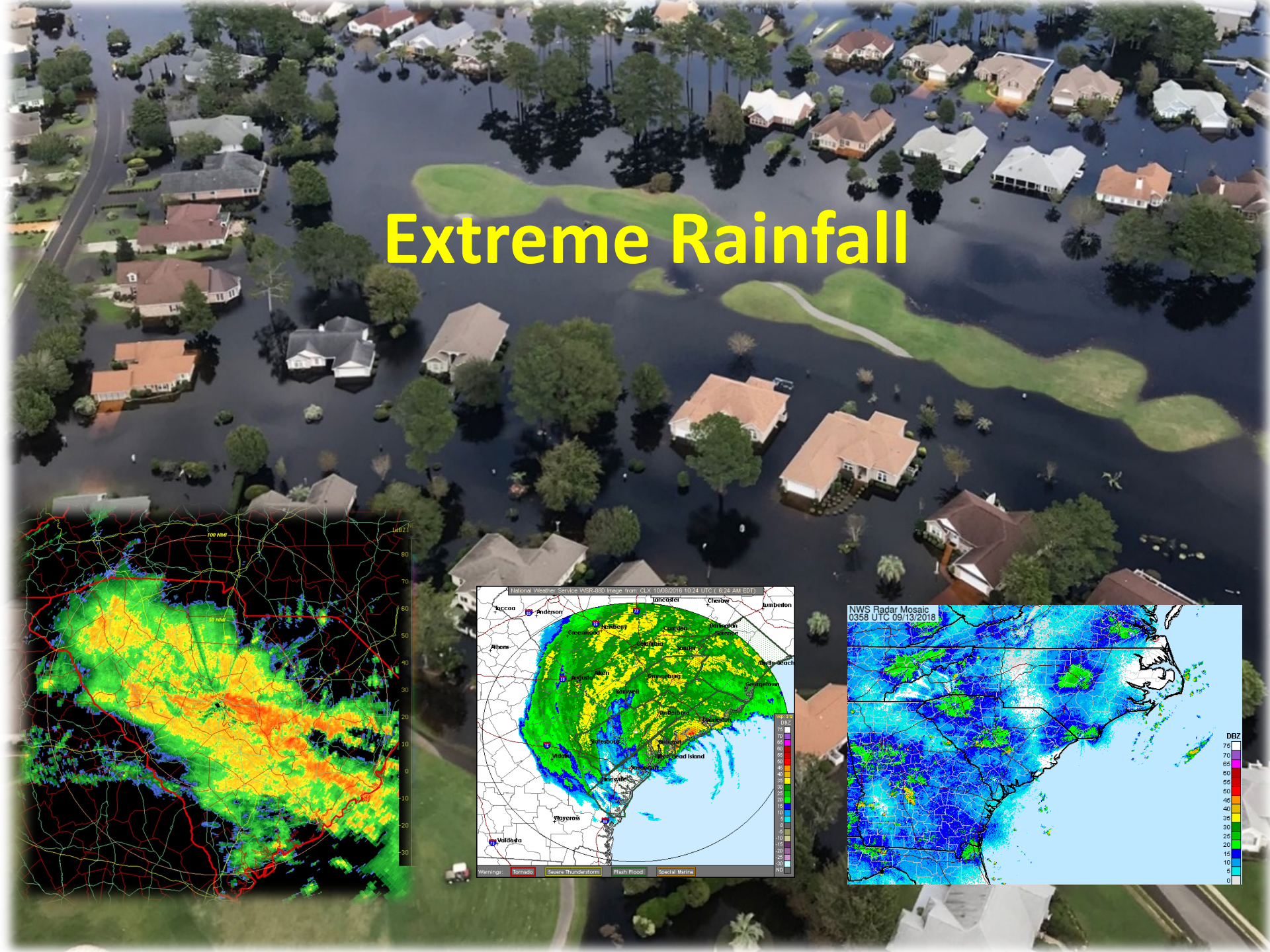


# South Carolina Long-Term Stations Summer Average Precipitation (1902 - 2020)



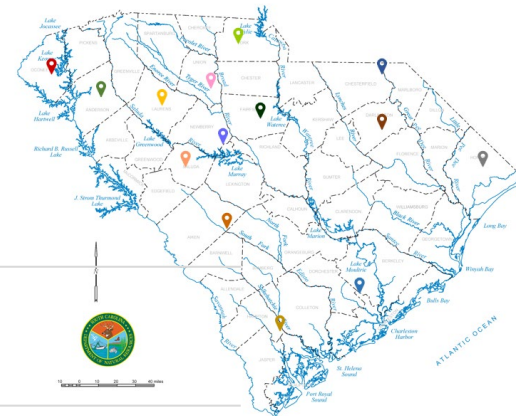
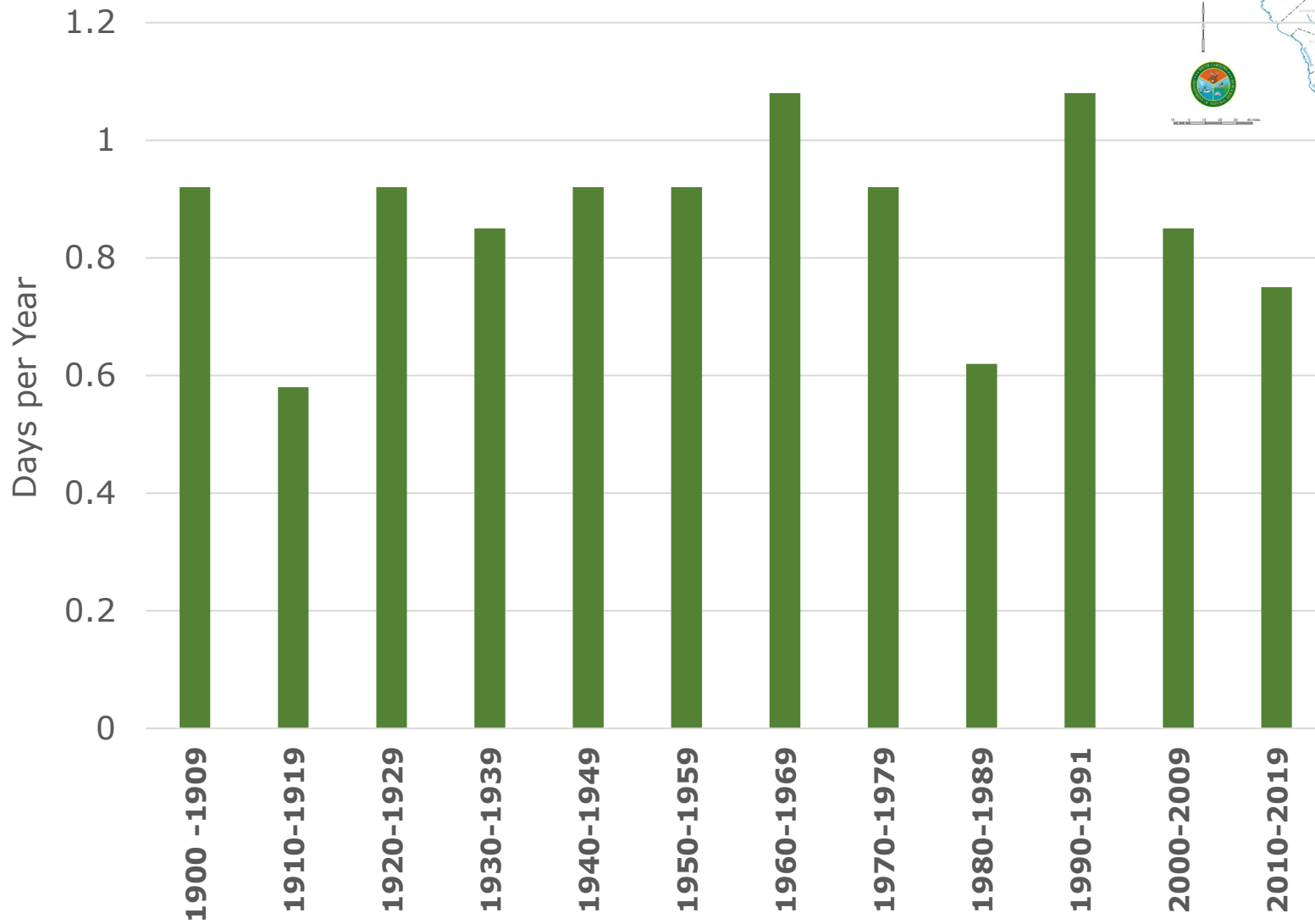
Average: 14.85"

# Extreme Rainfall





# Number Days with Rainfall $\geq 3.00''$ Averaged from SC Long-Term Stations



# October 2015

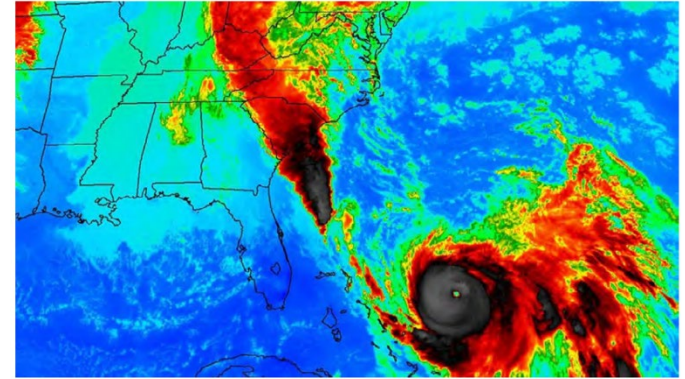
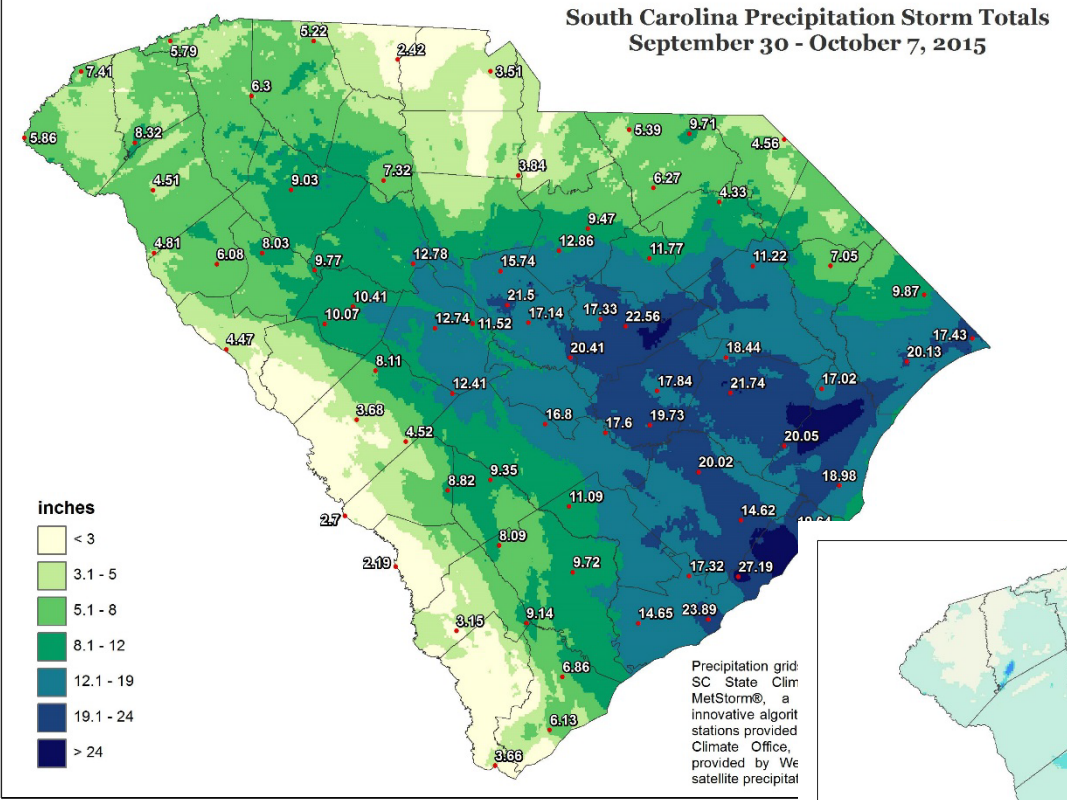
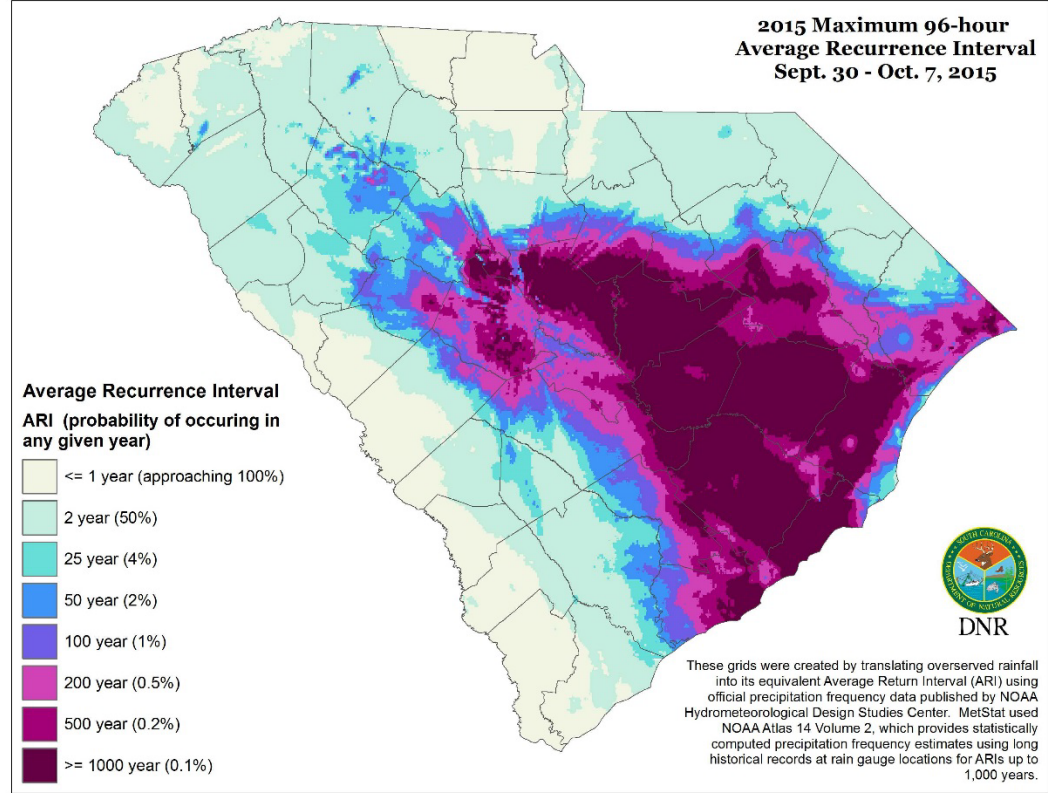


Figure 1. Infrared satellite image of the intense rainfall being funneled into South Carolina during the morning of October 3, 2015. (NASA)

## South Carolina Precipitation Storm Totals September 30 - October 7, 2015

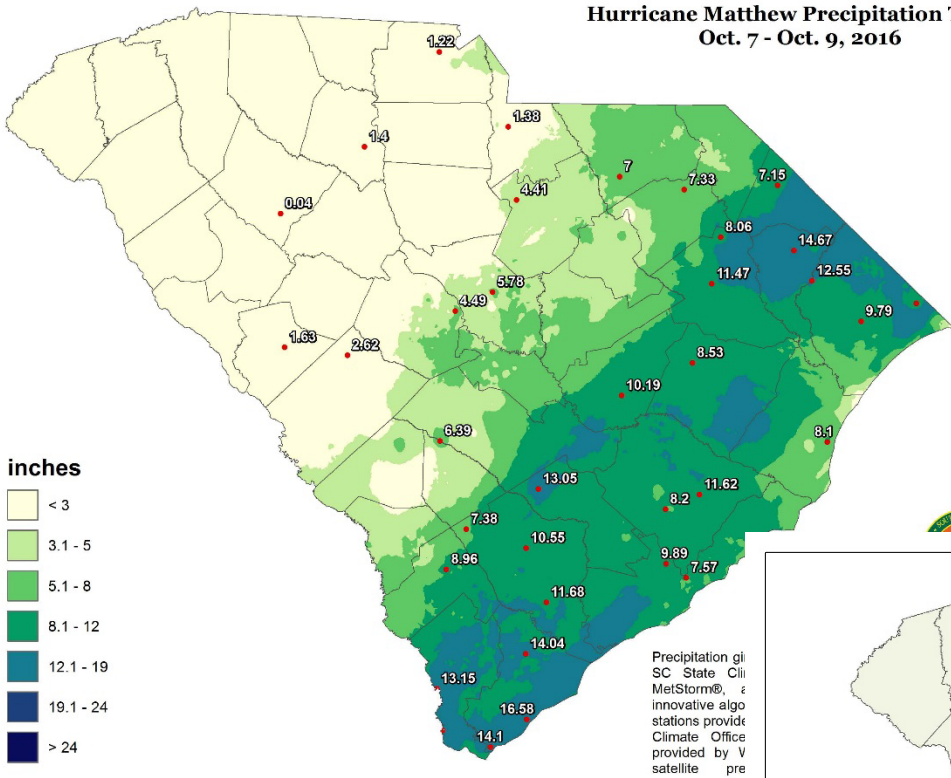


## 2015 Maximum 96-hour Average Recurrence Interval Sept. 30 - Oct. 7, 2015

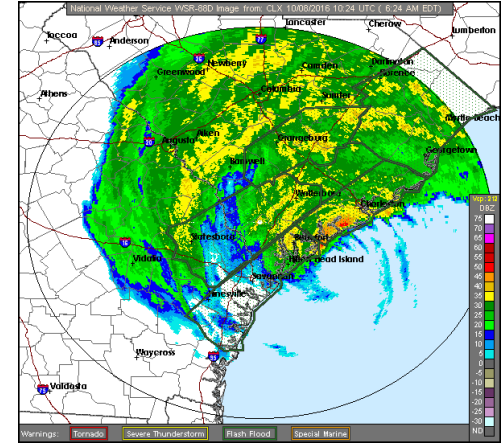




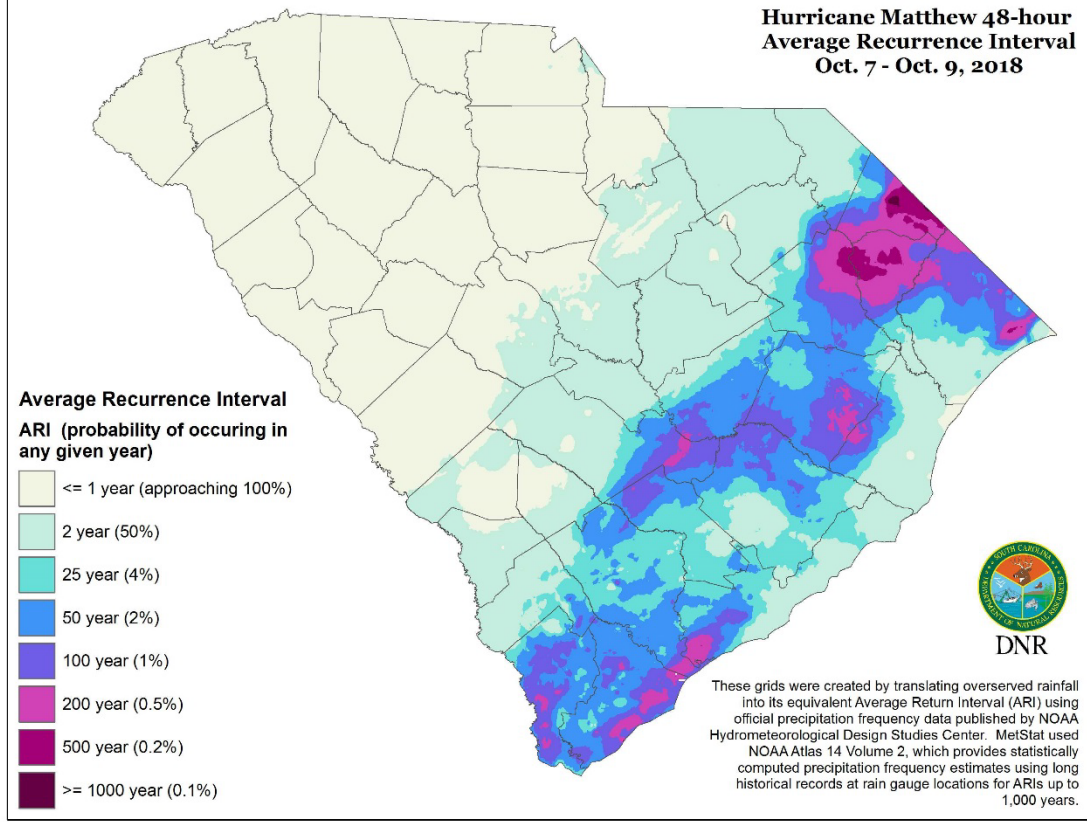
### Hurricane Matthew Precipitation Totals Oct. 7 - Oct. 9, 2016



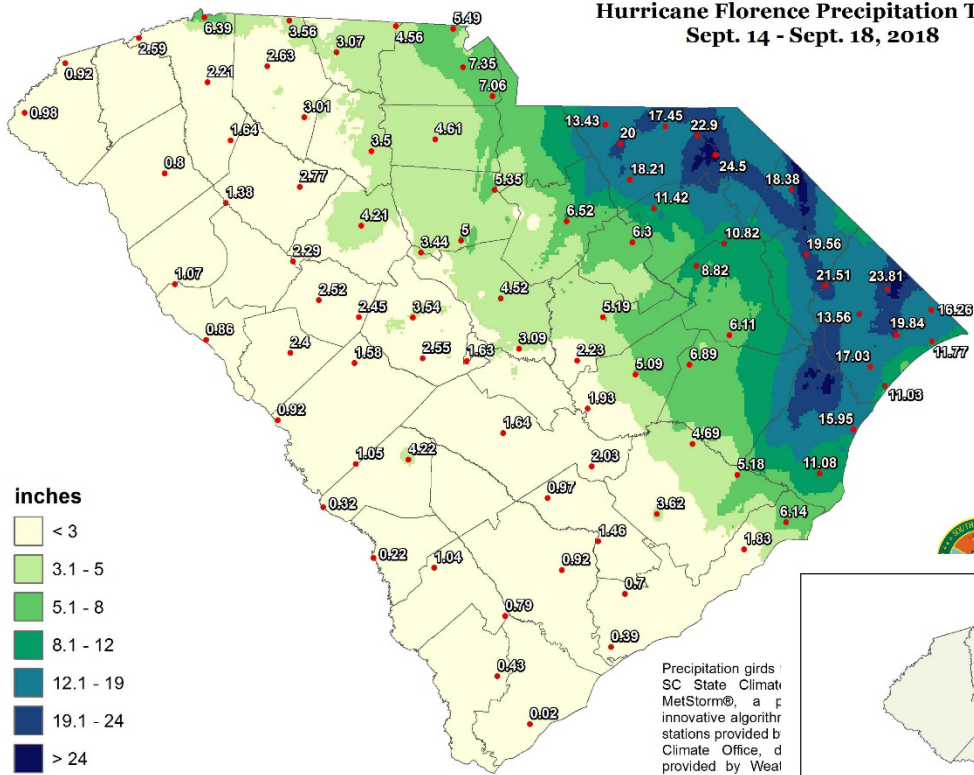
# October 2016



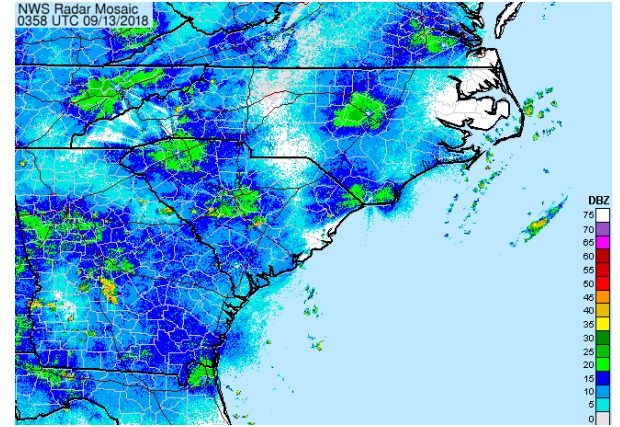
### Hurricane Matthew 48-hour Average Recurrence Interval Oct. 7 - Oct. 9, 2018



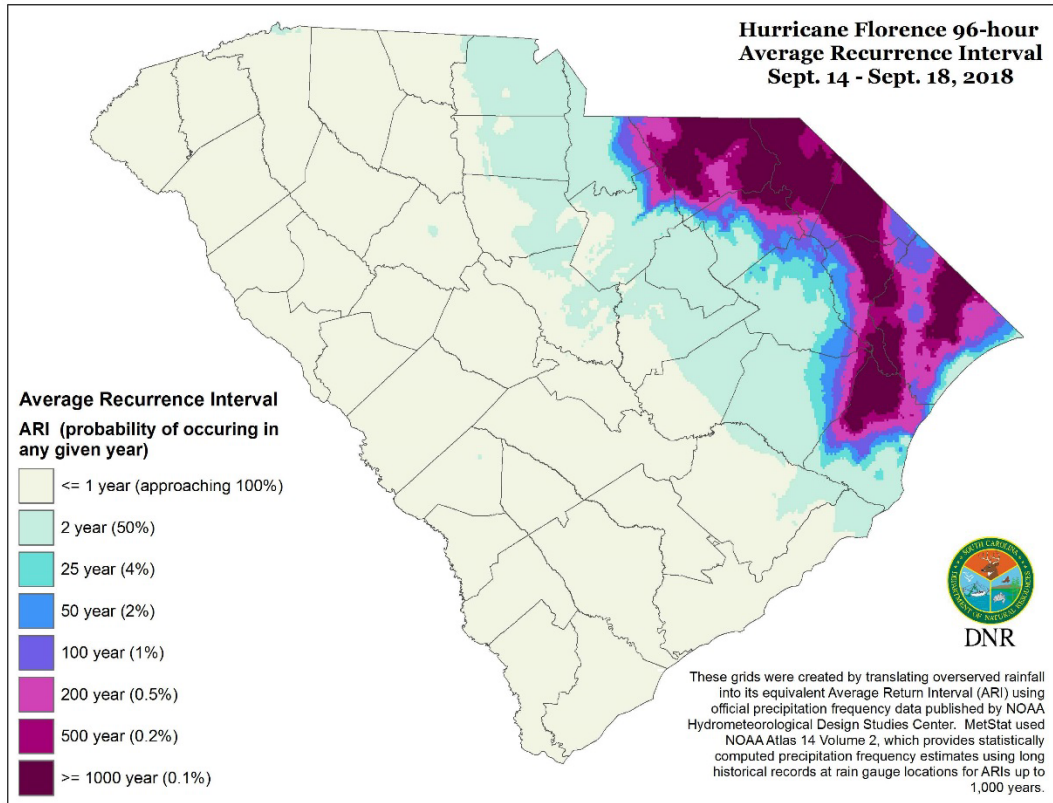
### Hurricane Florence Precipitation Totals Sept. 14 - Sept. 18, 2018



# September 2018



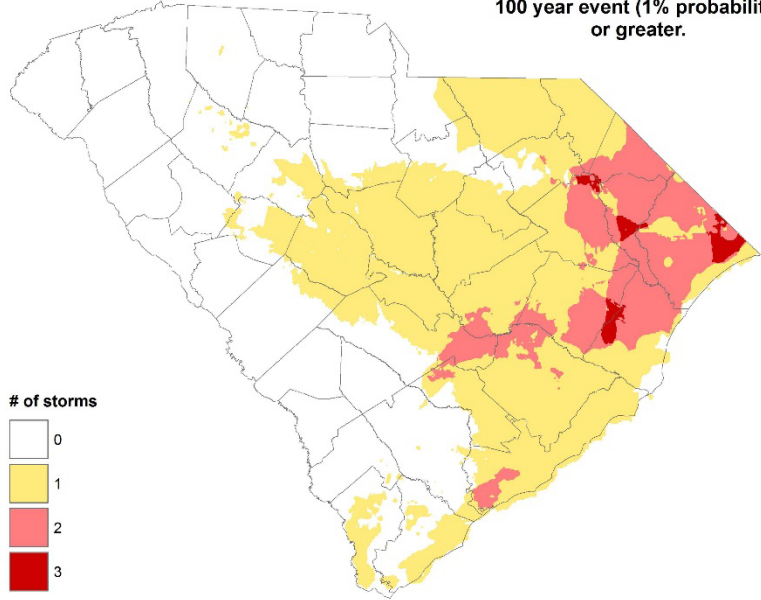
### Hurricane Florence 96-hour Average Recurrence Interval Sept. 14 - Sept. 18, 2018



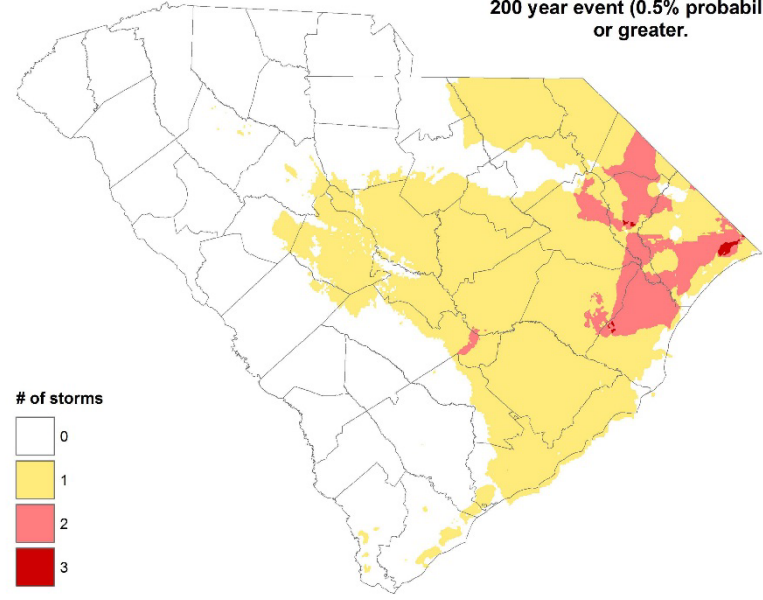


# Areas impacted by one or more of the recent extreme storms (October 2015, Hurricane Matthew 2016 and Tropical Storm Florence 2018).

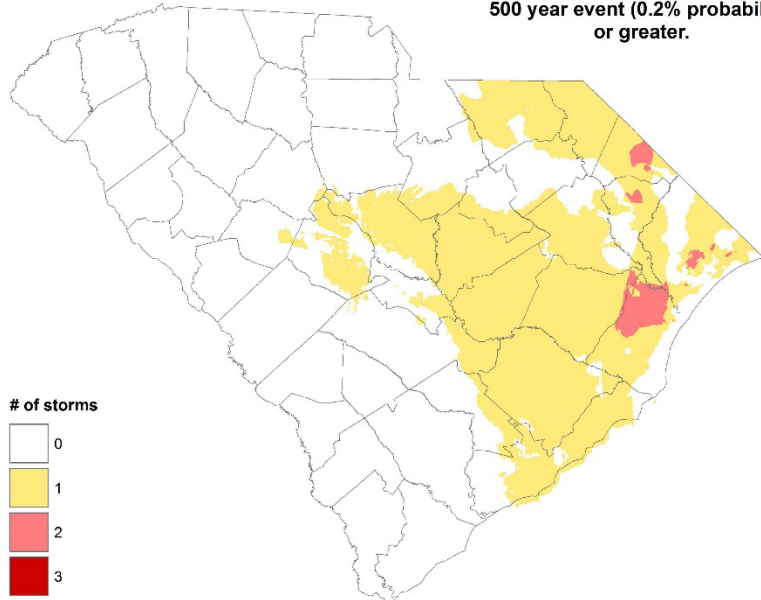
100 year event (1% probability)  
or greater.



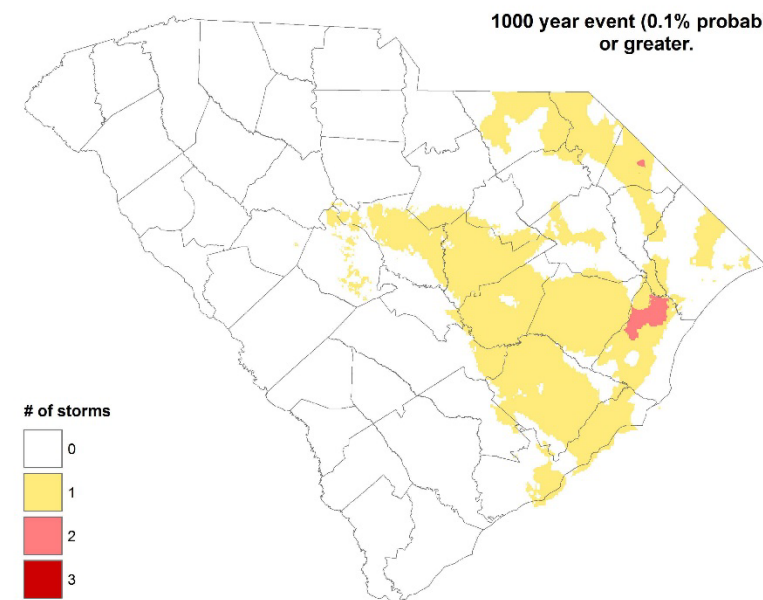
200 year event (0.5% probability)  
or greater.



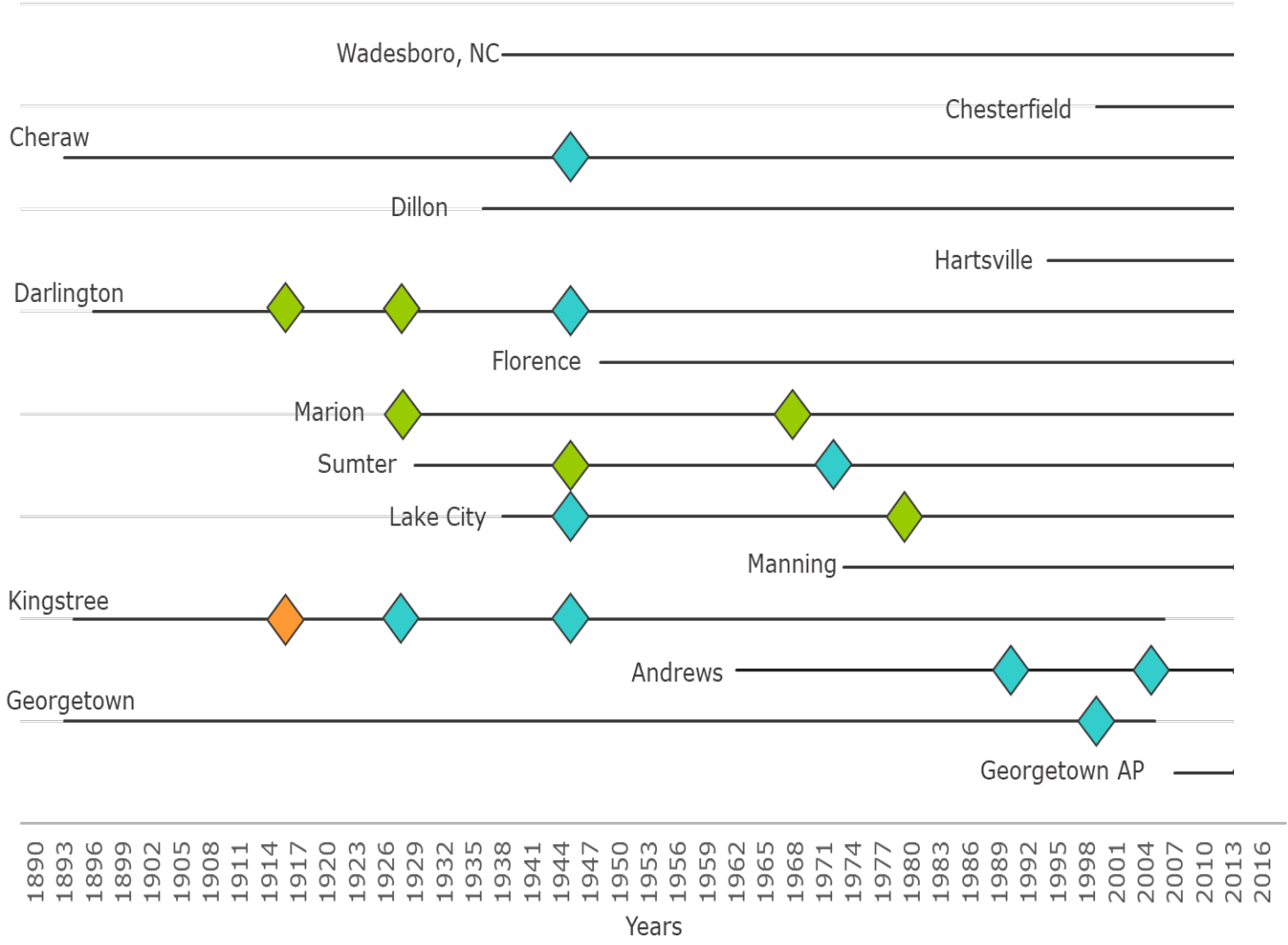
500 year event (0.2% probability)  
or greater.



1000 year event (0.1% probability)  
or greater.



# Timeline 4-day Maximum Rainfall Events Along The Pee Dee Watershed (Ending 2014)



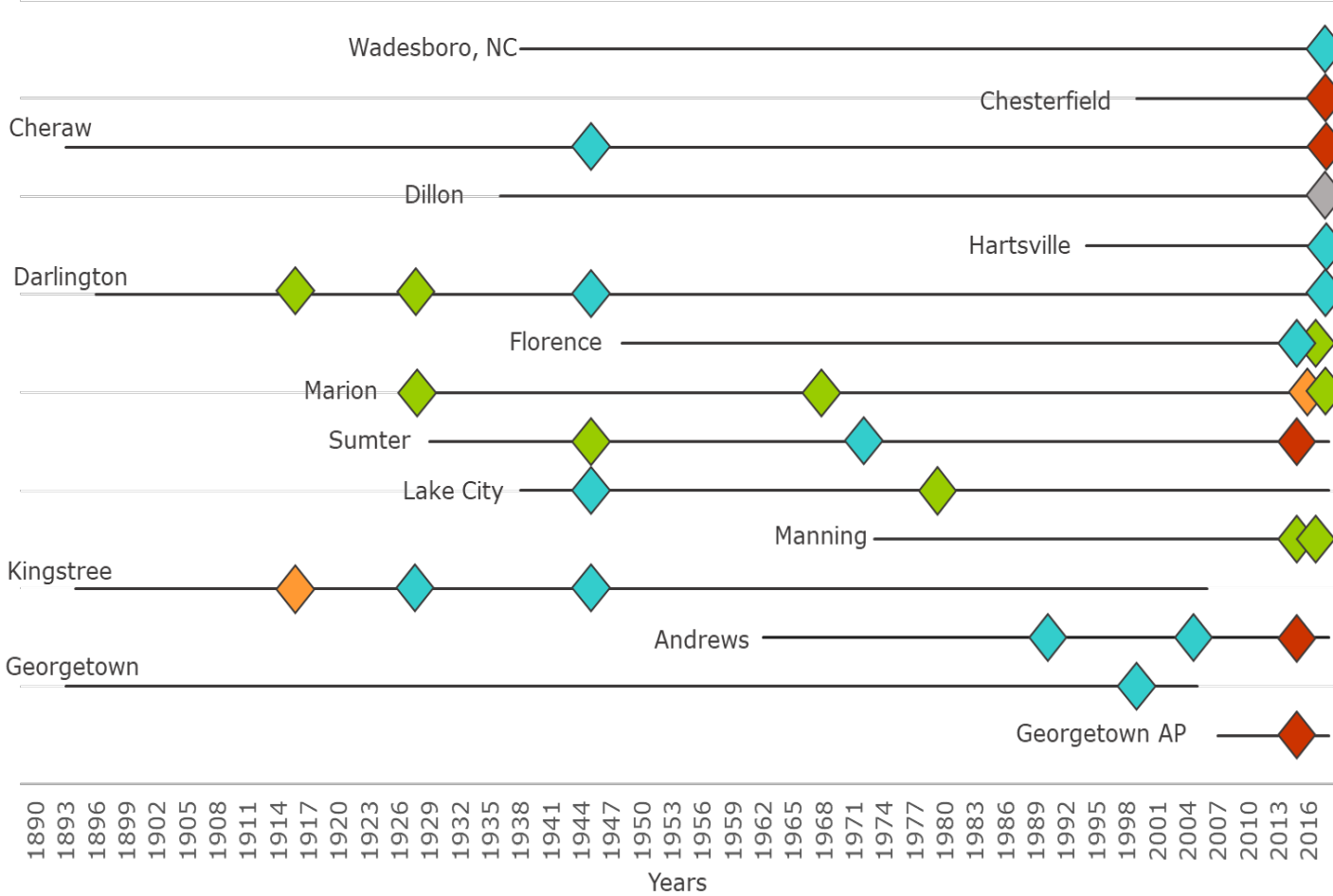
The purposes of ARI/AEP analysis, the following scale will be used in this

**Average Recurrence Intervals (AEP)**

- ◆ 1,000 Year (0.1%)
- ◆ 500 Year (0.2%)
- ◆ 200 Year (0.5%)
- ◆ 100 Year (1.0%)

# Timeline 4-day Maximum Rainfall Events Along The Pee Dee Watershed

Ending 2020

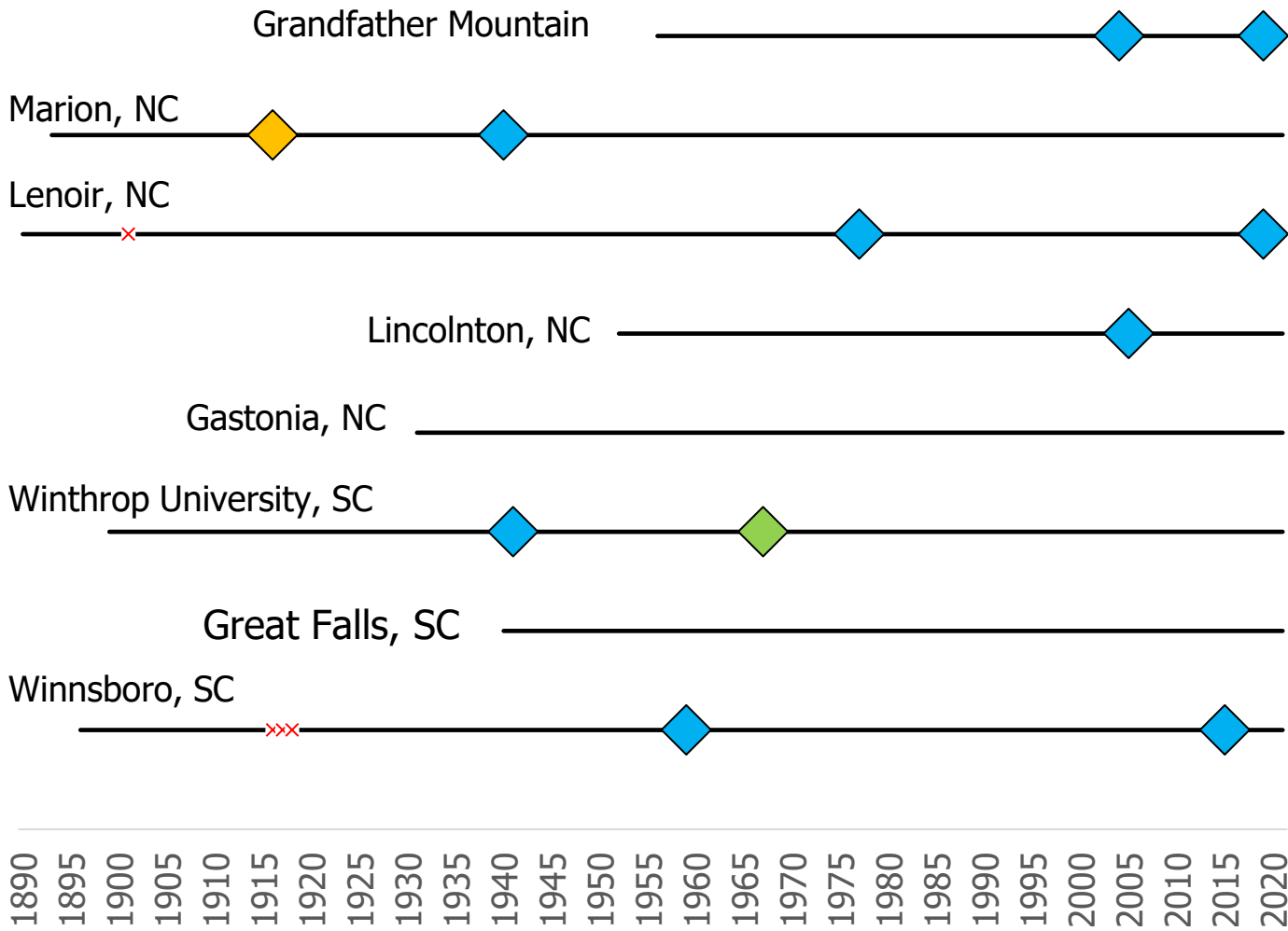


The purposes of ARI/AEP analysis, the following scale will be used in this report

**Average Recurrence Intervals (AEP)**

- 1,000 Year (0.1%)
- 500 Year (0.2%)
- 200 Year (0.5%)
- 100 Year (1.0%)

# Timeline of 4-day 100-year (or higher) Rainfall Events (Waterree)



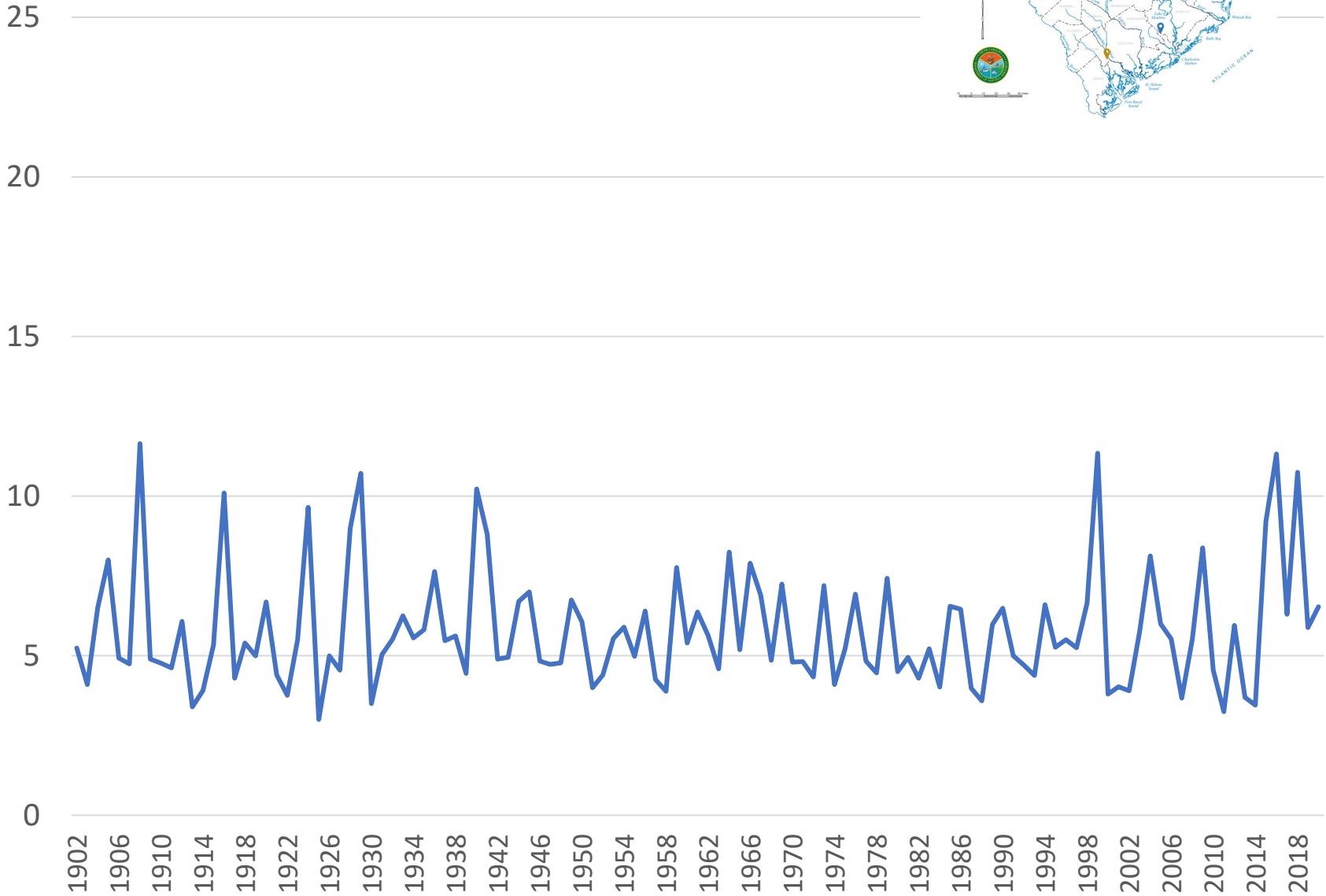
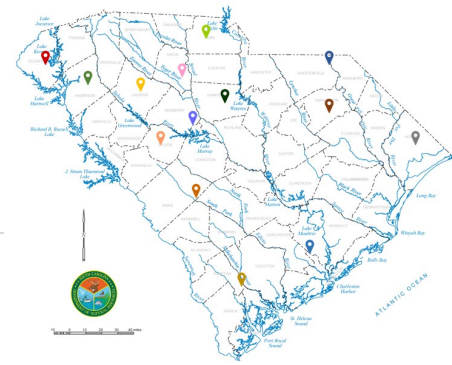
The purposes of ARI/AEP analysis, the following scale will be used in this

Average Recurrence Intervals (AEP)

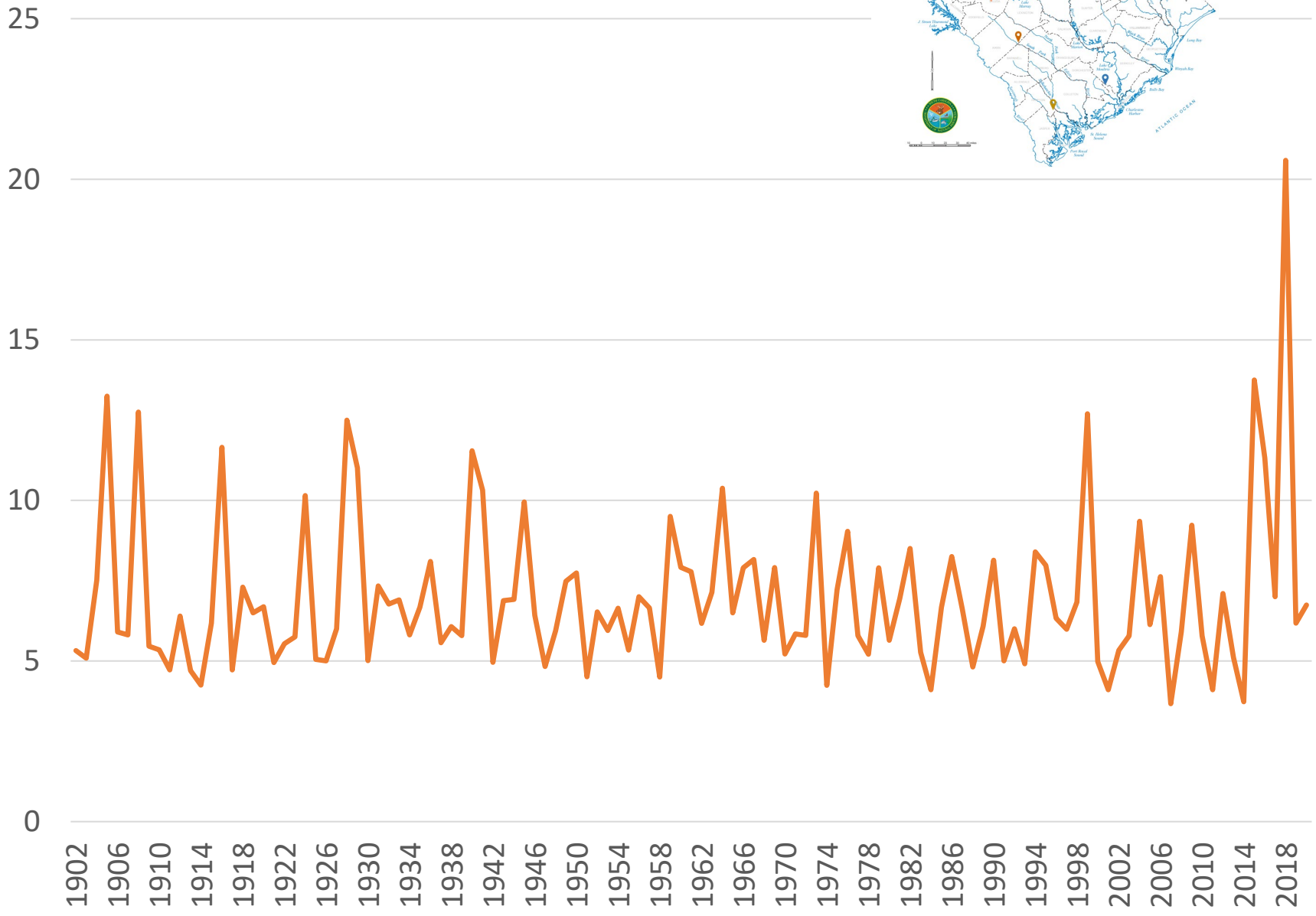
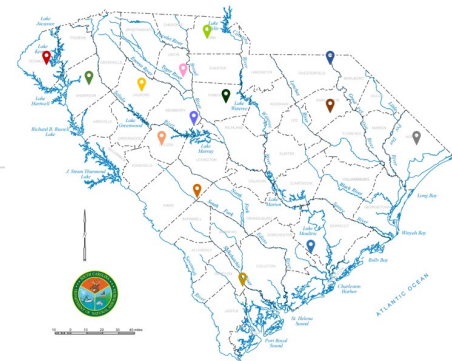
- 1,000 Year (0.1%)
- 500 Year (0.2%)
- 200 Year (0.5%)
- 100 Year (1.0%)



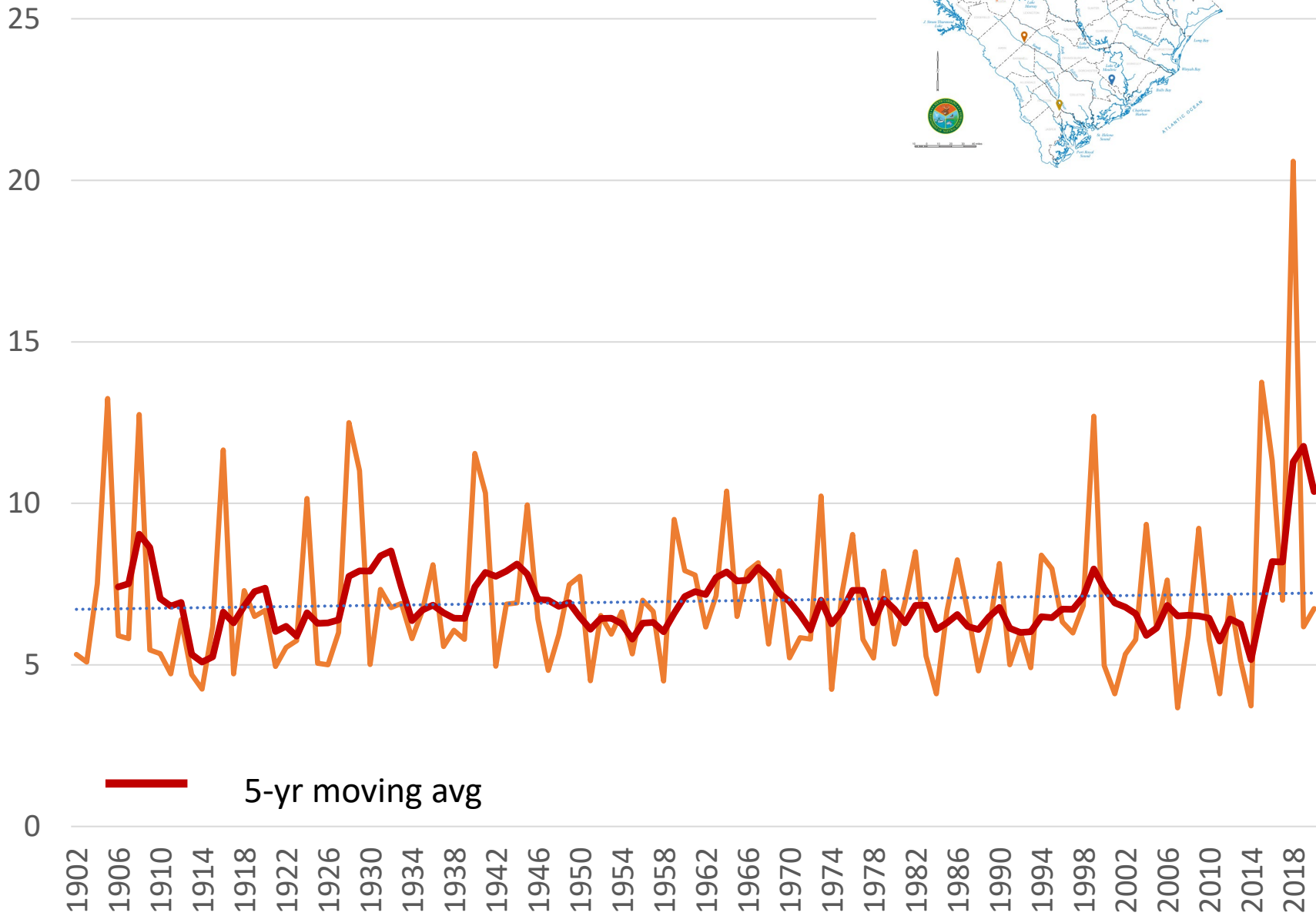
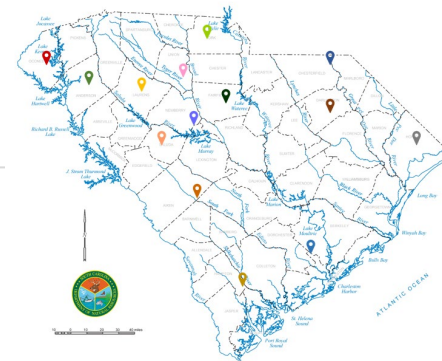
# Annual 1-Day Maximum Rainfall Totals From SC Long-Term Stations (1902-2020)



# Annual 2-Day Maximum Rainfall Totals From SC Long-Term Stations (1902-2020)

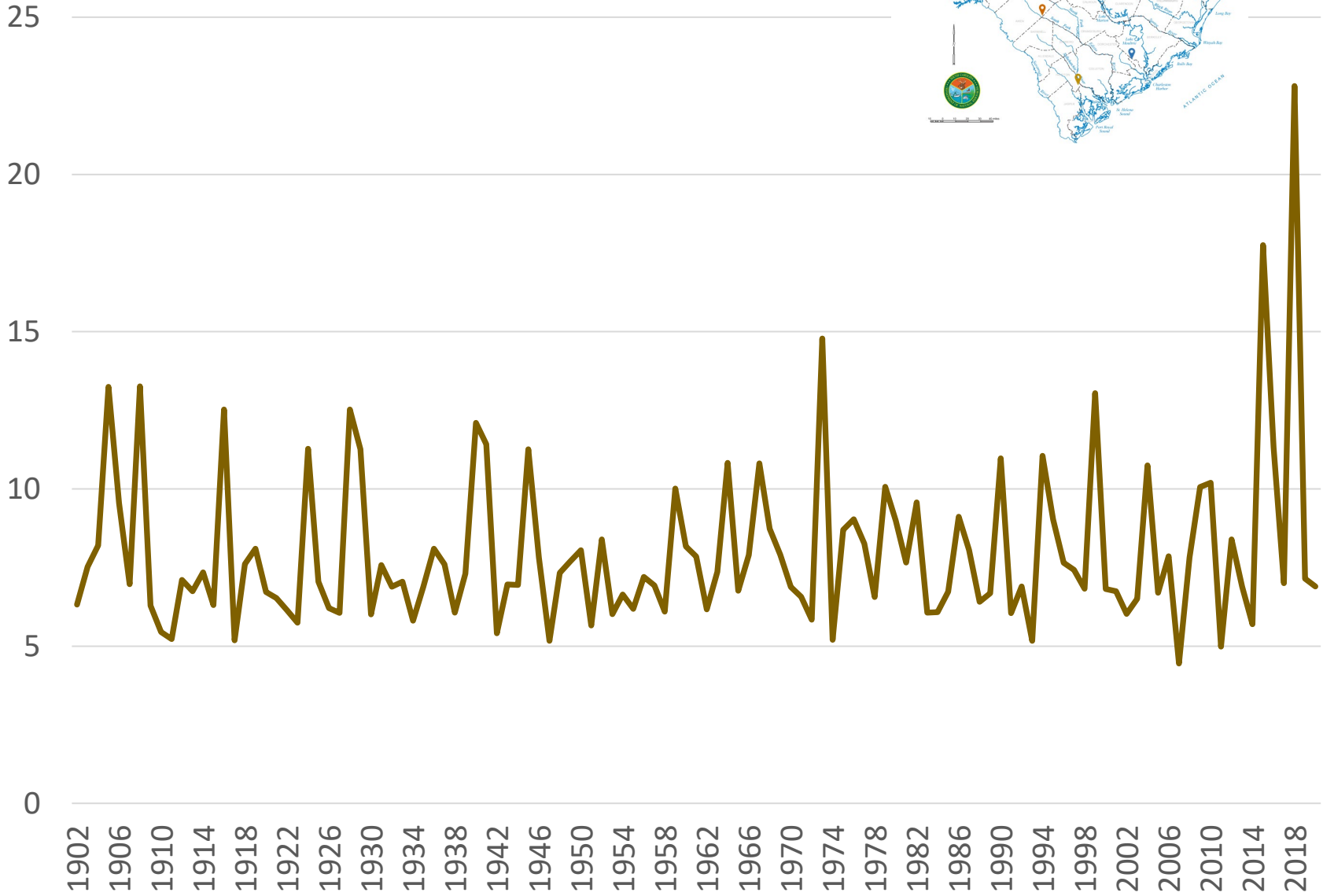
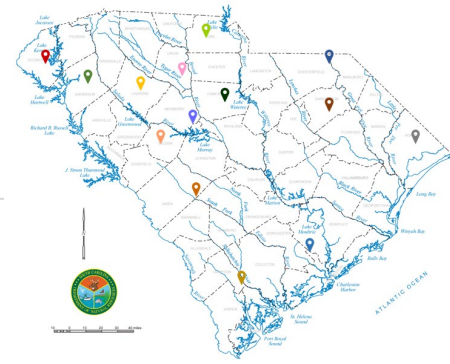


# Annual 2-Day Maximum Rainfall Totals From SC Long-Term Stations (1902-2020)

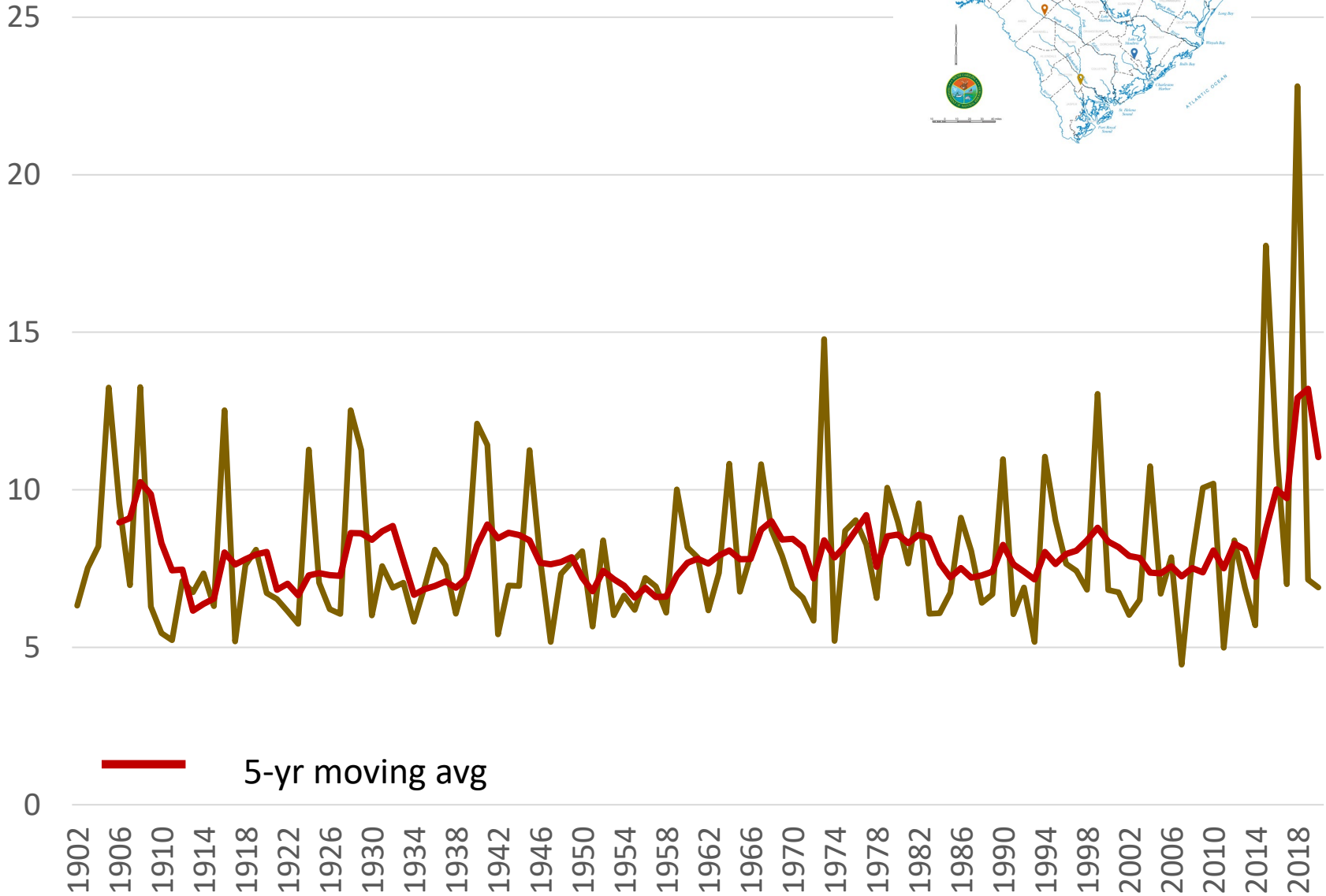
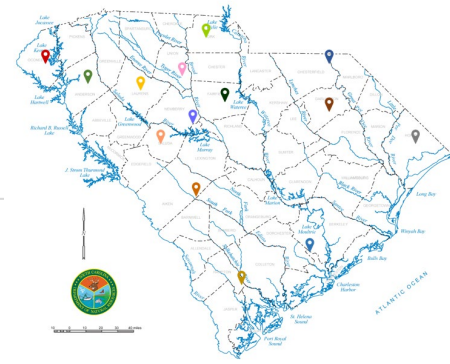


 5-yr moving avg

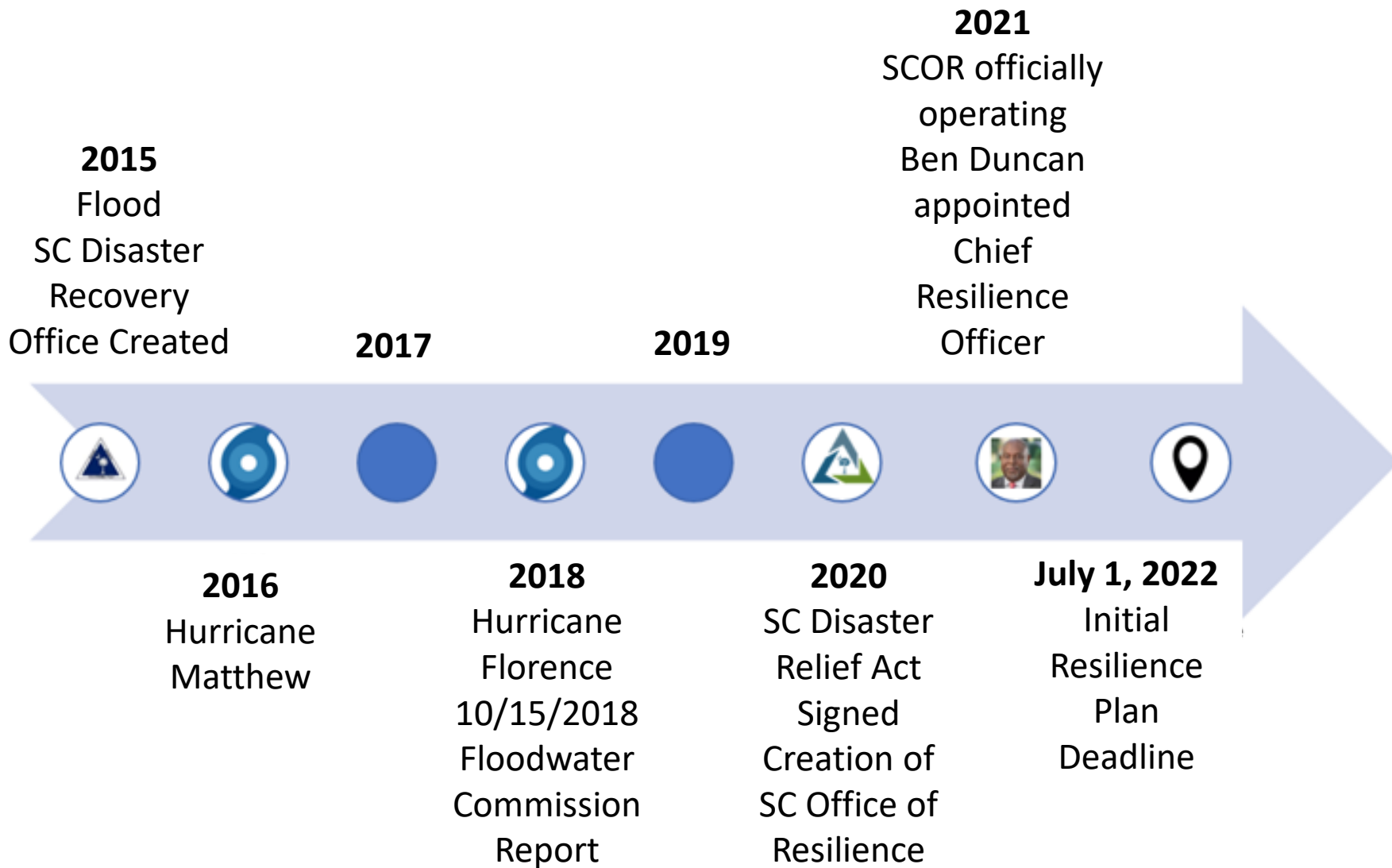
# Annual 4-Day Maximum Rainfall Totals From SC Long-Term Stations (1902-2020)



# Annual 4-Day Maximum Rainfall Totals From SC Long-Term Stations (1902-2020)



# Timeline - SC Office of Resilience and Plan





# SC Resilience Plan Advisory Committee State Agency Members

<b>SC Department of Natural Resources</b>	<b>SC Department of Transportation</b>
<b>SC Department of Insurance</b>	<b>SC State Housing Finance &amp; Development</b>
<b>SC Department of Agriculture</b>	<b>SC Ports Authority</b>
<b>SC Emergency Management Division</b>	<b>SC SLED</b>
<b>SC Sea Grant Consortium</b>	<b>SC Forestry Commission</b>
<b>SC Department of Commerce</b>	<b>SC LLR</b>
<b>SC DHEC</b>	<b>Office of Regulatory Staff (Energy Office)</b>
<b>SC Parks, Recreation &amp; Tourism</b>	

**Community Services  
Subcommittee**

**Economic  
Subcommittee**

**Environmental  
Subcommittee**

**Infrastructure  
Subcommittee**

**Building Codes and Zoning  
Subcommittee**

**Cultural Resources  
Subcommittee**



---

**Hope Mizzell, Ph.D.**  
**South Carolina State Climatologist**  
**Supervisor SC Flood Mitigation Program**  
**803-734-9568 (Office)**  
**[mizzellh@dnr.sc.gov](mailto:mizzellh@dnr.sc.gov)**