



# South Carolina State Climatology Office

NOAA Eastern Region Climate Services  
Webinar

September 28, 2023



# 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

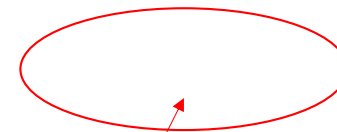
# What Is A State Climatology Office?

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.





## Climatological Data Services



Fort Sumter, April 1861

April 12 – Rain most of the day, Bombardment of Sumter.  
April 13 – Cloudless Day, Surrender of Sumter.  
April 14 – Bright and cloudless Sabbath, Evacuation of  
Sumter.



## Climatological Data Services

Rainfall data and radar imagery for reconstruction of an automobile accident.

Low temperatures for North Charleston to determine current chill hours for plants.

Lightning data and strike confirmation for damage to equipment at Columbia Metro Airport.

Media interview about the warmest and coldest Decembers.

Hourly barometric pressure to verify SCDHEC water level data from ground well sensors.

Appear in court and have been deposed to speak about conditions for litigation purposes.



# Databases and Tools

## South Carolina Hurricanes & Tropical Storms

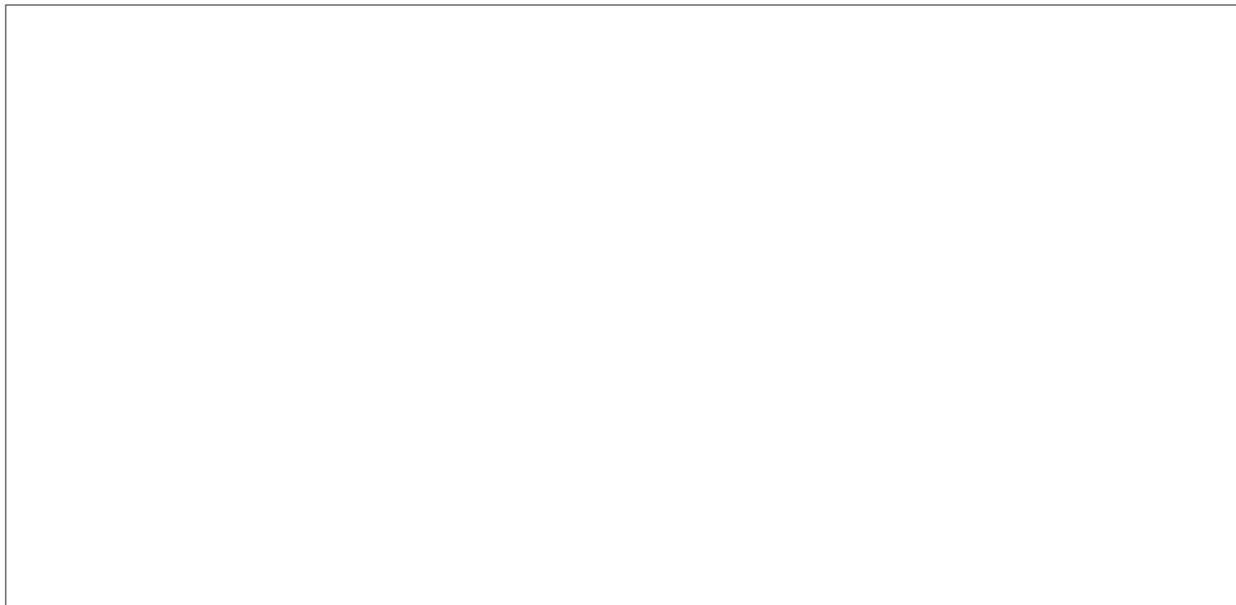
A table-only view of these data, along with storms prior to 1851, can be found in the [Table View](#).

HURRICANE FLORENCE - 2018	
<b>Storm Summary</b>	<b>South Carolina Impacts</b>
<b>Formation Date</b> 08/29/2018	<b>SC Impacts Dates</b> 09/13 - 09/17
<b>Max Category</b> HU 4	<b>SC Impacts Category</b> TS
<b>Max Wind</b> 159 mph	<b>Comments</b> Florence brought heavy rainfall and widespread flooding to South Carolina. Extreme rainfall in NC and SC caused extensive prolonged flooding impacts in late September, long after Florence left the state. Significant response for flooded communities was required. Nearly every USGS river gage in the Pee Dee region marked a record peak flood stage. Two tornadoes were spawned in Horry County. There were 2 tornadoes reported in South Carolina.
<b>Min Pressure</b> 941 millibars	<b>Reports</b> <a href="#">Track Map</a>   <a href="#">Storm Report</a>
<b>Landfall Locations</b> Wrightsville Beach, NC	

<https://www.dnr.sc.gov/climate/sco/hurricanes/>



# Databases and Tools



*Trees down in Aiken SC. Photo courtesy of WRDW TV.*



*Freezing rain toppled trees in Sumter SC. Photo courtesy of WLTX TV.*



*Large branches and trees down in Williston SC. Photo courtesy of Jackie Scott.*

<https://www.dnr.sc.gov/climate/scoswinterweathe>  
r/



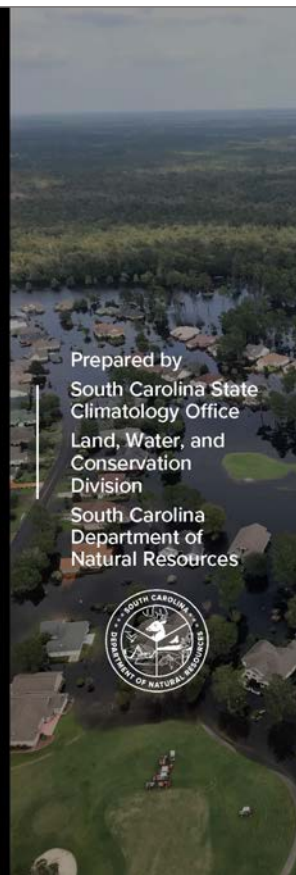
# Databases and Tools

## Keystone Riverine Flooding Events in South Carolina

Prepared by  
 South Carolina State  
 Climatology Office  
 Land, Water, and  
 Conservation  
 Division  
 South Carolina  
 Department of  
 Natural Resources



Flooding in Loris, SC from Florence in 2018  
 (Hope Mizzell/SCDNR)



### THE BAHAMAS HURRICANE SEPTEMBER – OCTOBER 1929

Heavy pre-hurricane rainfall fell over the region from September 23 – 28. This rainfall produced higher than normal river levels and some flooding across portions of the Savannah and Upper Santee river basins.



The remnants of the Bahamas Hurricane moved from the Gulf northeastward over the Southeast, bringing excessive rains across areas impacted by heavy rains at the end of September. Damaging floods were reported on most streams and rivers, where "previous high-water marks were overtopped twice in one week," and "the Savannah River at Augusta set a record crest of 45.1 feet," 13 feet above flood stage.

Rainfall Totals (Sep 28 – Oct 3)	Station	County
10.98"	Saluda	Saluda
10.56"	Edgefield 3 NNE	Edgefield
10.25"	Newberry	Newberry
10.17"	Greenwood	Greenwood
9.70"	Camden 3 W	Kershaw
8.74"	Aiken 5 SE	Aiken
8.67"	Fort Mill 4 NW	York

River and station	Flood stage	Above flood stage—stage		Crest	
		From—	To—		Stage
<b>ATLANTIC DRAINAGE—continued</b>					
<i>Savannah</i>	<i>Feet</i>				
Bristol, S. C.	1	2	0	11.8	5
Ferguson, S. C.	12	2	0	21.8	2
Fayetteville, S. C.	12	2	0	26.1	11-12
<i>Upper Santee</i>					
Camden, S. C.	15	2	3	18.0	3
Clinton, S. C.	12	2	4	26.7	3
<i>Upper Savannah</i>					
Walton, S. C.	14	2	5	36.0	3
Marion, S. C.	14	4	7	18.0	6
Camden, S. C.	15	1	4	25.1	3
Broad, S. C.	15	1	5	26.5	3
<i>Lower Santee</i>					
Pfister, S. C.	7	1	4	11.8	5
<i>Upper Cape Fear</i>					
Chapin, S. C.	14	0	23	17.9	24
<i>Lower Cape Fear</i>					
Calhoun Falls, S. C.	8	1	3	15.1	4
Agnes, S. C.	10	1	4	15.1	3-5
<i>Upper Broad</i>					
Sturtevant, S. C.	22	2	6	26.6	4
Mary Hill, S. C.	17	3	14	22.3	7
Peters, S. C.	16	6	17	26.5	10
Lytton, S. C.	14	6	10	18.4	7





# Outreach and Education



SCDNR | Live Life Outdoors

weather.gov

Pocket Weather Safety Guide

**BOATING**

**Weather-Ready for a day on the water?**

Be alert of changing weather conditions, such as shifting winds and dark clouds.

Stay hydrated. Use sunscreen and take shade breaks.

Head to shore and find shelter if you see lightning or hear thunder.

FROM THE SOUTH CAROLINA STATE CLIMATOLOGY OFFICE

AMBASSADOR™ WFN

**Severe Weather Outlooks, Watches, & Warnings**

Outlooks are issued up to 8 days in advance of a potential severe weather event to give advance notice of a threat.

Warnings are issued when severe weather is occurring or imminent.

**"Outlooks" aka "The Shopping List"**

"Outlook" is an advanced severe weather notice.

The Outlook means that conditions favorable for severe weather are in the forecast, but the forecast could change.

Outlooks are similar to gathering ingredients for a recipe on a shopping list.

**"Watches" aka "Purchased Ingredients"**

"Watches" are issued when conditions favorable for severe weather are occurring and that severe weather can begin in the very near future.

Akin to the cook in the kitchen with all the ingredients ready to prepare.

**"Warnings" aka "The Dish"**

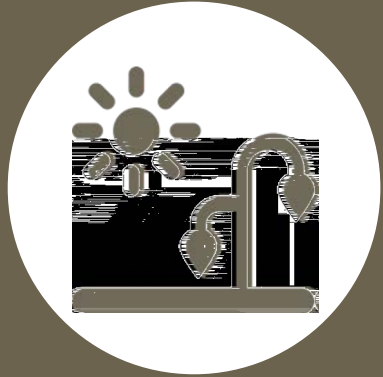
"Warnings" are when the severe weather is occurring or imminent.

Likewise to the Shrimp and Grits being served!



# Outreach and Education



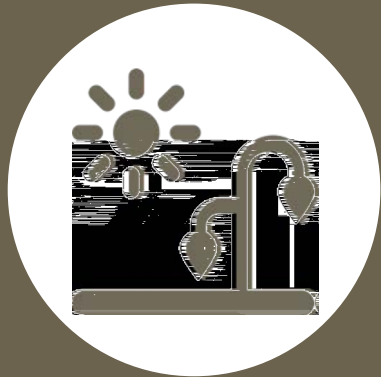


# Drought Monitoring and Response



<https://www.scdrought.com>

**SCDNR** | State Climatology  
Office



# Drought Monitoring and Response

The Drought Response Committee meets to evaluate conditions and impacts within four Drought Management Areas when needed. It evaluates drought indicators to determine drought status defined by the S.C. Drought Response Act to protect the State's water resources.

<https://www.scdrought.com>

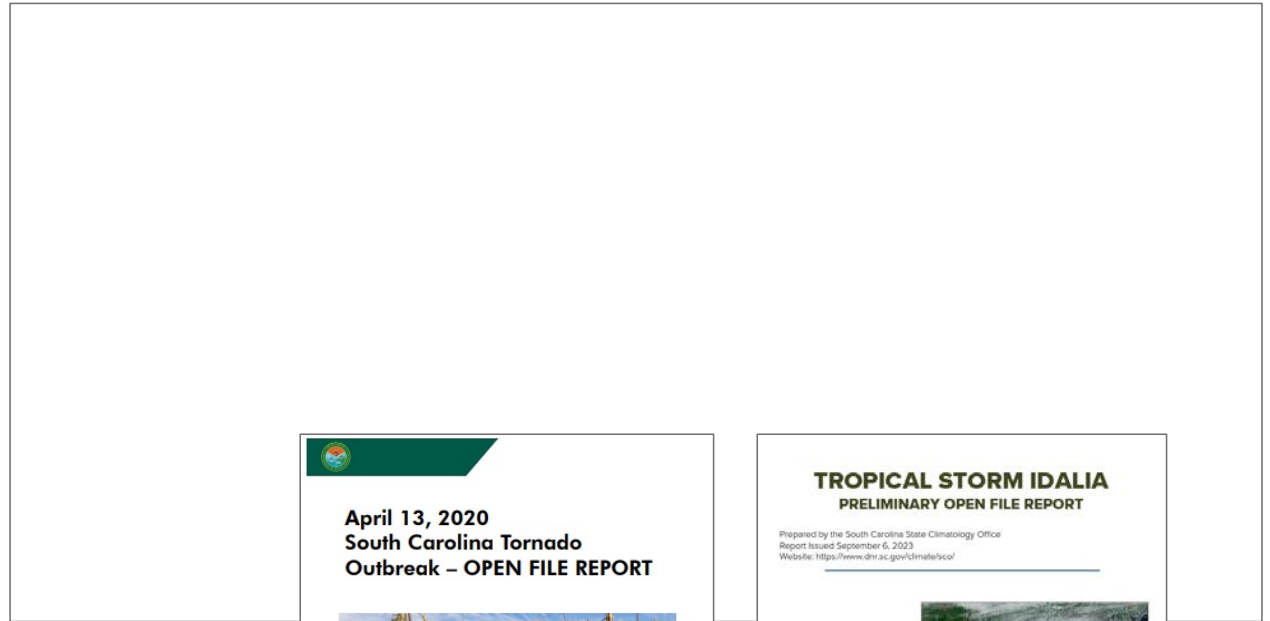



# Severe Weather Operations and Assessments








# Severe Weather Operations and Assessments



  
**April 13, 2020  
South Carolina Tornado  
Outbreak – OPEN FILE REPORT**



South Carolina State Climatology Office  
Report Date: June 9, 2020  
Website: <http://www.dnr.sc.gov/climate/sco/>

**TROPICAL STORM IDALIA  
PRELIMINARY OPEN FILE REPORT**

Prepared by the South Carolina State Climatology Office  
Report Issued September 6, 2023  
Website: <https://www.dnr.sc.gov/climate/sco/>

**Storm History and  
Impacts Report**  
**August 30 – 31, 2023**





FIGURE 1. SOUTH CAROLINA STATE CLIMATOLOGY OFFICE  
A GeoColor visible satellite image of Idalia  
from around 1800 UTC (7:18 p.m. EDT) on  
August 30, 2023, as the storm was centered  
near Waycross, Georgia.



## Contact Information

Hope Mizzell, South Carolina State Climatologist  
[MizzellH@dnr.sc.gov](mailto:MizzellH@dnr.sc.gov)

Melissa Griffin, Asst. State Climatologist  
[GriffinM@dnr.sc.gov](mailto:GriffinM@dnr.sc.gov)

Elliot Wickham, Water Resources Climatologist  
[WickhamE@dnr.sc.gov](mailto:WickhamE@dnr.sc.gov)

Frank Strait, Severe Weather Liaison  
[StraitF@dnr.sc.gov](mailto:StraitF@dnr.sc.gov)