

The Urgency of Climate Change and the Effects We Can Expect to See in Chatham County

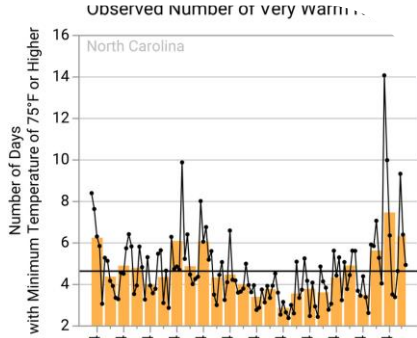
Jared H. Bowden

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Chatham County Climate Change Retreat

Oct. 17th 2025





OUR THREE MISSION AREAS

Research

Original projects to address North Carolina's climate challenges

Extension & Education

Climate knowledge and support to all 100 counties

Monitoring

Understanding North Carolina's environment

Cardinal & Station Scout

one-stop shop for (most of) your North Carolina climate data needs

Current Conditions

From SILR - Siler City Airport in Siler City, NC
October 10 at 8:59 am (4 minutes ago)

Air Temperature **53.6°F**

Winds (at 10m) **8 MPH**

From the east northeast
Gusts to 10 mph

Dew Point: 49.7°F
Relative Humidity: 87%
Barometric Pressure: 1006.2 mb (29.71 in Hg)
Sea Level Pressure: 1029 mb (30.39 in Hg)
Soil Temperature (at 10cm): 64.3°F
Soil Moisture (at 20cm): 0.237 m³/m³

Sky Conditions

Solar Radiation from SILR
On October 10, 2025

Today's Sunrise: 7:20 am (1 hour, 42 minutes ago)
Today's Sunset: 6:49 pm (9 hours, 46 minutes from now)

Yesterday's Weather

From SILR - Siler City Airport in Siler City, NC
for the 24 hours ending on October 10 at 12:00 am

Max/Min Temperatures **69.3°F**

Total Precipitation **0.00 in.**

Maximum Relative Humidity: 75%
Minimum Relative Humidity: 42%
Maximum Wind Speed (at 10 meters): 15 mph
Maximum Wind Gust (at 10 meters): 20 mph
Maximum Soil Temperature (at 10 cm): 71.2°F
Minimum Soil Temperature (at 10 cm): 65.6°F

Year-to-Date Conditions

From SILR - Siler City Airport in Siler City, NC
as of October 10 at 9:00 am

Total Precipitation: 33.27 inches Plotted
Growing Degree Days: 4274.4 Plot

Base: 50°F

Accumulated Precipitation by Day of the Year

SILR - Siler City Airport

— This Year (2025) — Wettest Year (2018)
— Historical Range (2001 to 2025) — Driest Year (2007)
... Historical Average

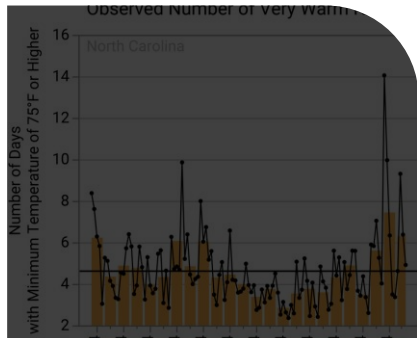
Search Results

Results for Chatham County:

Network	ID	Station Name	Period of Record
ECONET	SILR	Siler City Airport	Oct 2000 to Oct 2025
COOP	310750	B Everett Jordan Dam	Jan 2000 to Oct 2025
COOP	311700	Chatham Wtp	Jul 2007 to Aug 2025
AWOS	KSCR	Siler City Municipal Airp...	Jan 2012 to Oct 2025

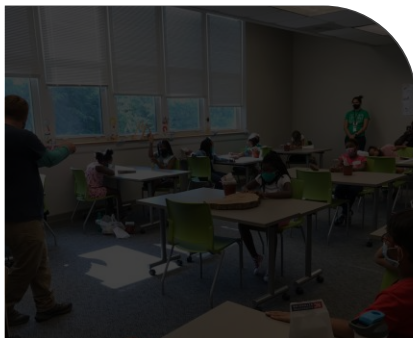
products.climate.ncsu.edu





Research

Original projects to address North Carolina's climate challenges



Extension & Education

Climate knowledge and support to all 100 counties



Monitoring

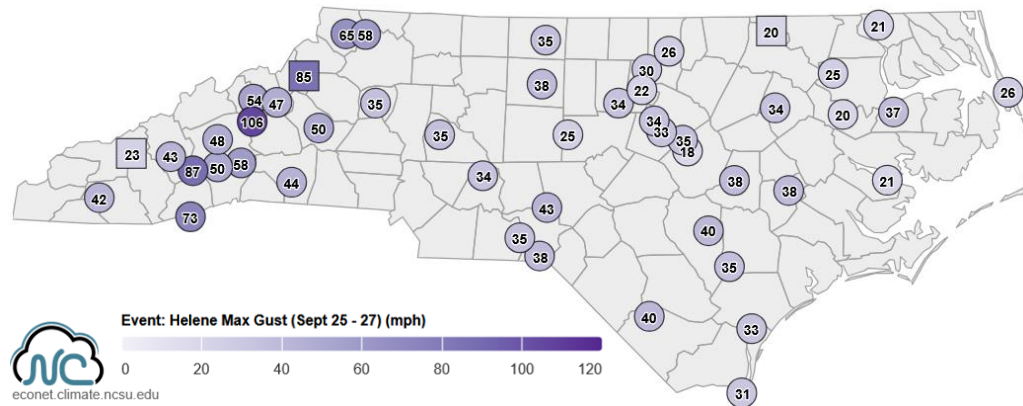
Understanding North Carolina's environment

North Carolina ECONet



North Carolina ECONet: An Overview

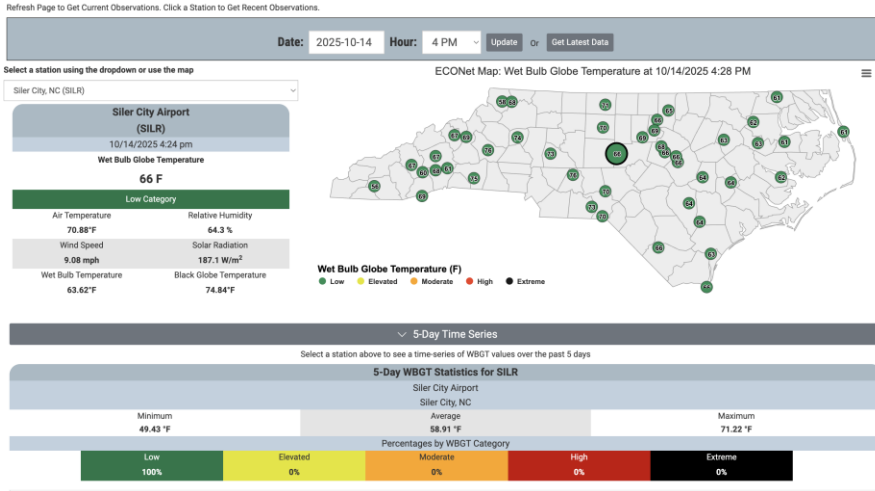
- Started as “Agriculture Network” (AgNet) in 1978
- 45 stations across North Carolina with 3 “extended”
- 1-minute observations, relayed back to Raleigh every 5 minutes
- All data is quality controlled and archived by the NCSCO
- Data are **freely available** through our Cardinal product at products.climate.ncsu.edu/cardinal



Atmospheric and Soil Parameters Measured

- Air Temperature (2m & 9m)
- Relative Humidity (2m)
- Barometric Pressure (2m)
- Wind Speed & Direction (2m, 6m, 10m)
- Precipitation (1m & 2m)
- Total Solar Radiation (2m)
- Photosynthetically Active Radiation (2m)
- Leaf Wetness (0.6m)
- Soil Moisture (-20cm)
- Soil Temperature (-10cm)
- Black Globe Temperature (2m)

Wet Bulb Globe Temperature (WBGT)



<79°F
79-82°F
82-86°F
86-90°F
>90°F

WBGT Category	Effects	Actions
Low		
Elevated	Working or exercising in direct sunlight will stress your body after 45 minutes	Take at least 15 minutes of breaks each hour if working or exercising in direct sunlight
Moderate	Working or exercising in direct sunlight will stress your body after 30 minutes	Take at least 30 minutes of breaks each hour if working or exercising in direct sunlight
High	Working or exercising in direct sunlight will stress your body after 20 minutes	Take at least 40 minutes of breaks each hour if working or exercising in direct sunlight
Extreme	Working or exercising in direct sunlight will stress your body after 15 minutes	Take at least 45 minutes of breaks each hour if working or exercising in direct sunlight

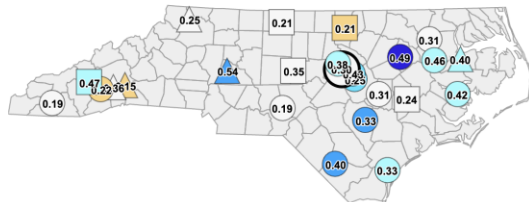
ECONet Soil Moisture Monitoring (new)

Refresh Page to Get Yesterday's Observations. Click a Station to Get Recent Observations.

Date: 2025-03-23

ECONet Map: Average 20cm Soil Moisture for 03/23/2025

● = Coarse Soils; ▲ = Intermediate Soils; ■ = Fine Soils



Soil Moisture Description

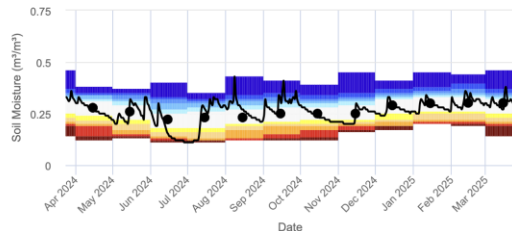
● Exceptionally Dry	● Extremely Dry	● Severely Dry
● Moderately Dry	● Abnormally Dry	● Normal
● Abnormally Wet	● Moderately Wet	● Severely Wet
● Extremely Wet	● Exceptionally Wet	

Select a station using the dropdown or use the map.

Raleigh, NC (LAKE)

Click a station on the map, or select a station above, to see the latest conditions.

Soil Moisture Percentiles and Observations at LAKE 03/23/2024 - 03/23/2025



● Monthly Median ● Daily Observations

Soil Textural Group: Coarse
Soil Textural Class: Loamy Sand

Highcharts.com

See "About Soil Moisture" for more information on percentile ranges.

Note: If exporting the figure above, "Download PDF document" will result in the best resolution.

Additionally, there may be cases where the daily observation exceeds the percentile ranges. The reason for this is the climatology calculations were last run on 12/06/2024, so any values recorded after this date were not included. This will be updated when the climatology calculations are rerun.

<https://econet.climate.ncsu.edu/dev/Maps/SoilMoisture/>

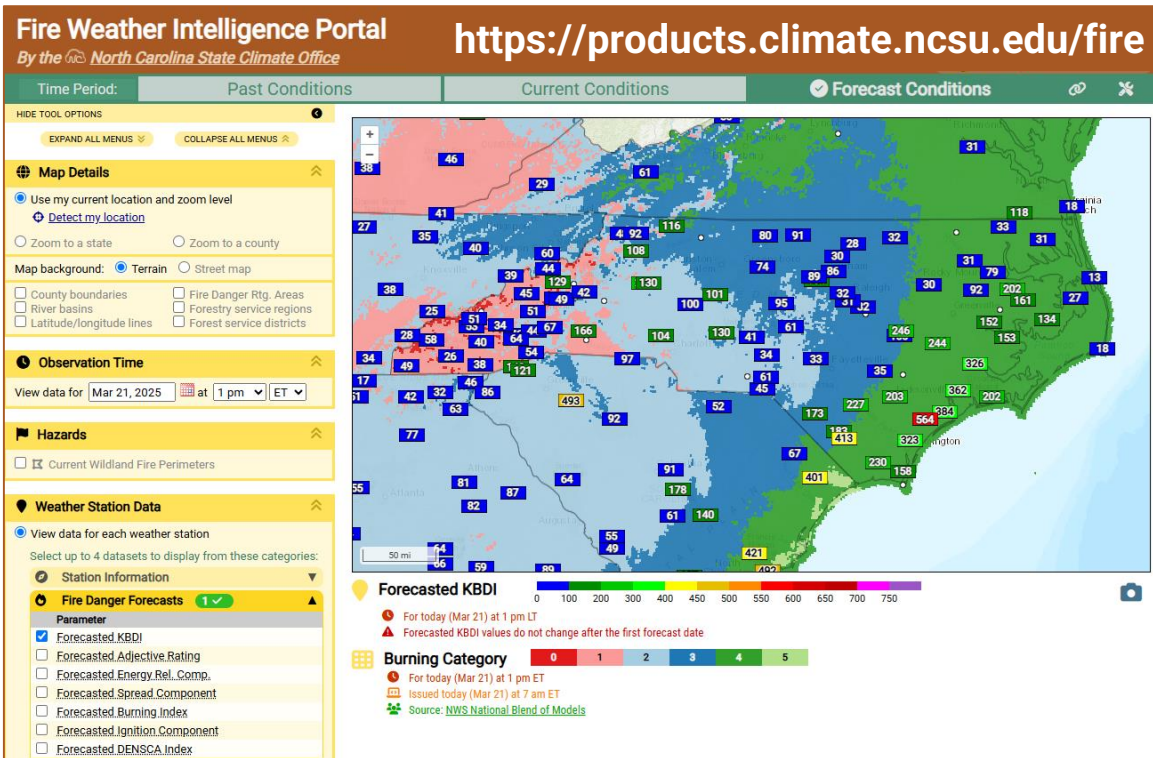
- Integrates current observations with historical records and soil class data to put data into context
- Analyze spatial variation and temporal trends in soil moisture data
- Generation of plots going back to 2004 to visualize drought or extreme precipitation events

Fire Weather Monitoring

Supported By



USDA Climate Hubs
U.S. DEPARTMENT OF AGRICULTURE



Weather observations

Fire danger estimates

National Weather Service forecasts



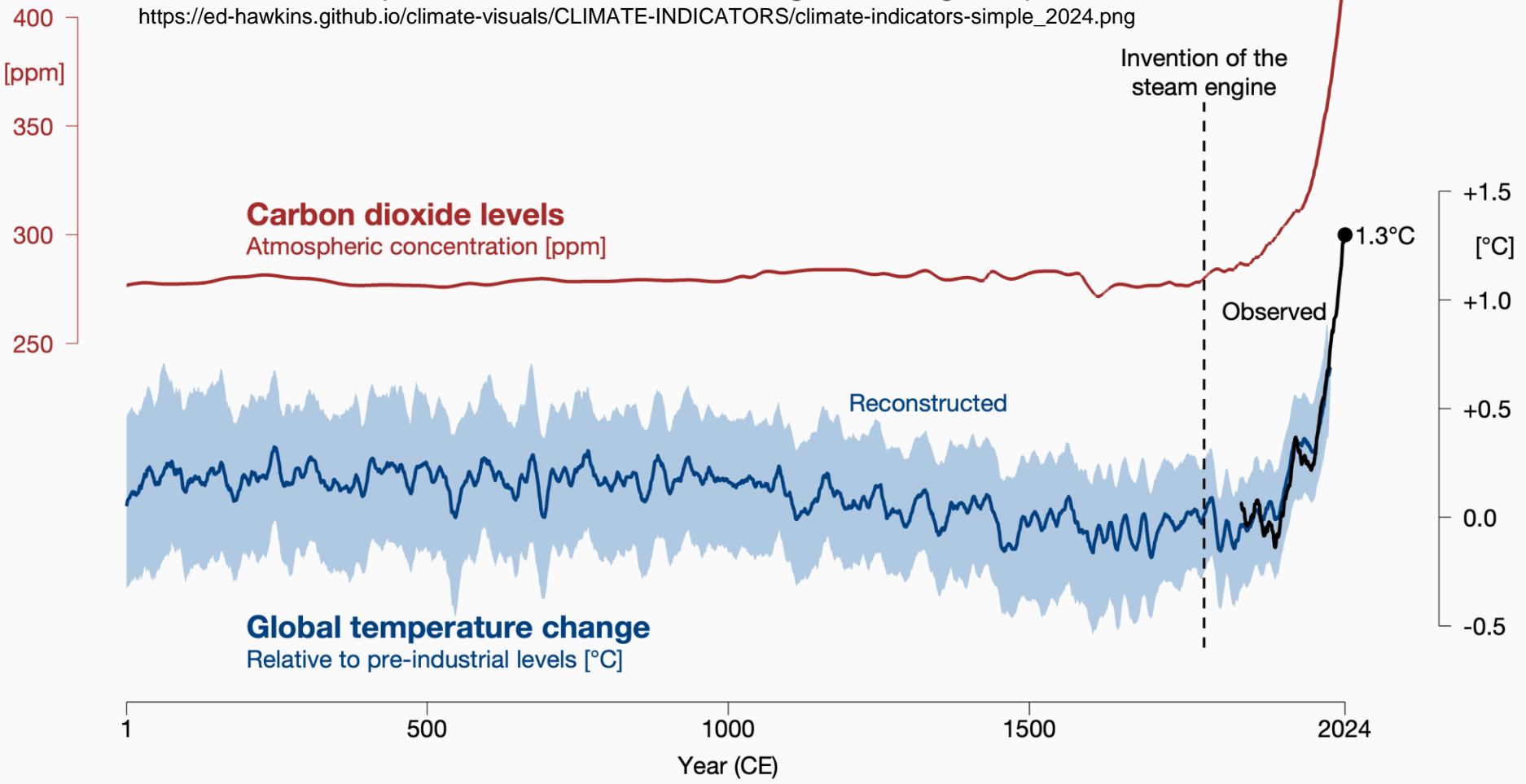
We benefit from understanding how climate is changing, especially regional changes and climate impacts.

We further benefit from understanding plausible future changes in the climate to help us prepare and adapt to future risks.

Observed changes in climate over the last 2024 years

Variations in atmospheric carbon dioxide levels and global average temperature

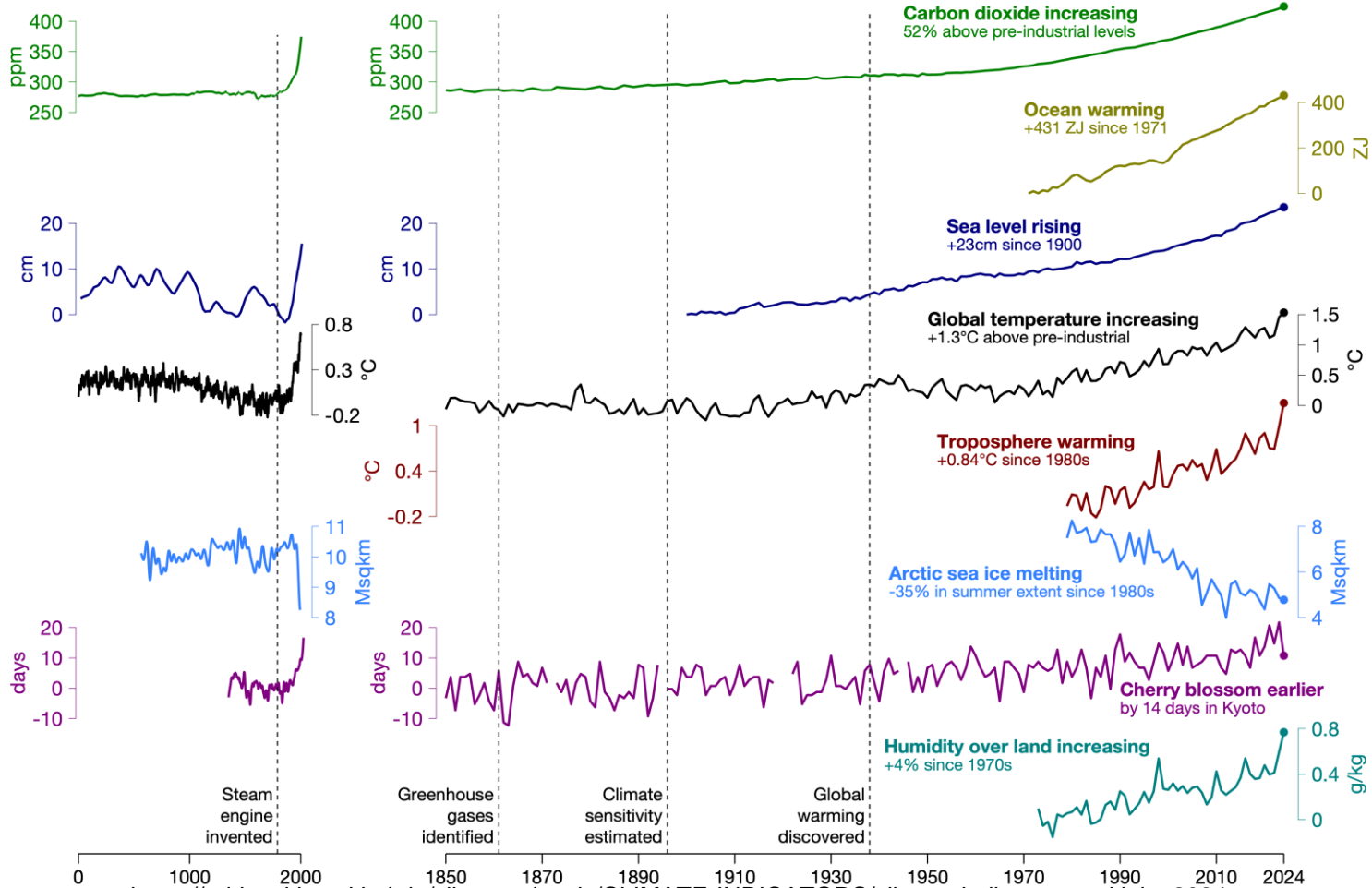
https://ed-hawkins.github.io/climate-visuals/CLIMATE-INDICATORS/climate-indicators-simple_2024.png



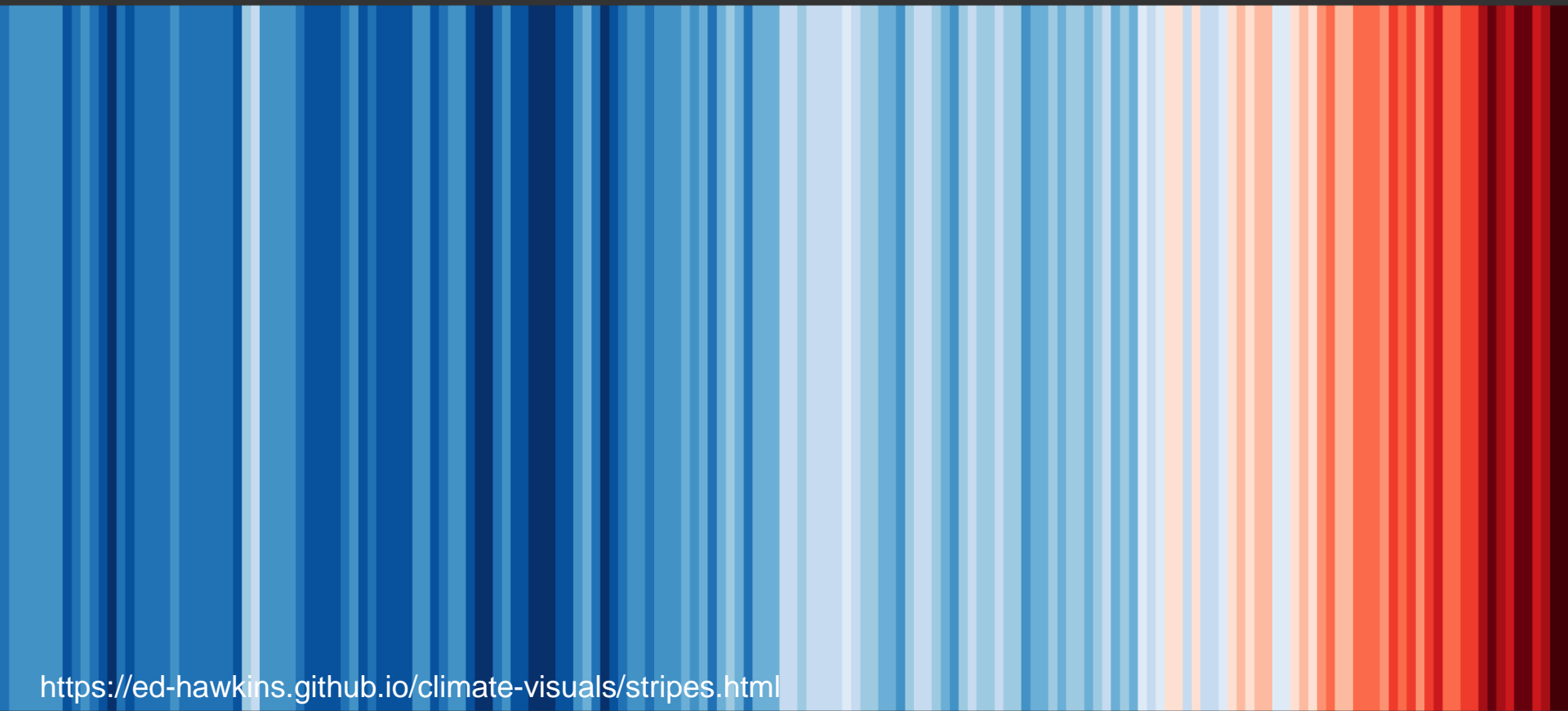
Changes emerging across the climate system

Last 2000 years

Instrumental period



Global temperature change (1850-2024)



<https://ed-hawkins.github.io/climate-visuals/stripes.html>

1860

1880

1900

1920

1940

1960

1980

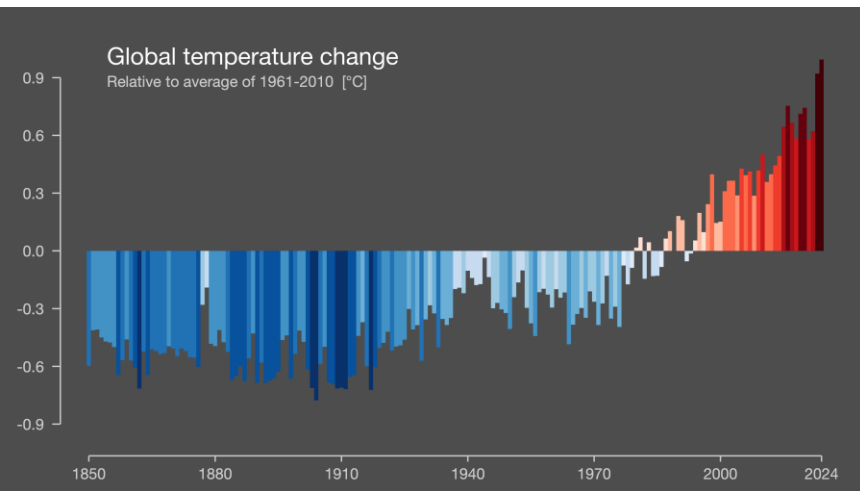
2000

2020

Global to Local Warming Mean Annual Temperature Change

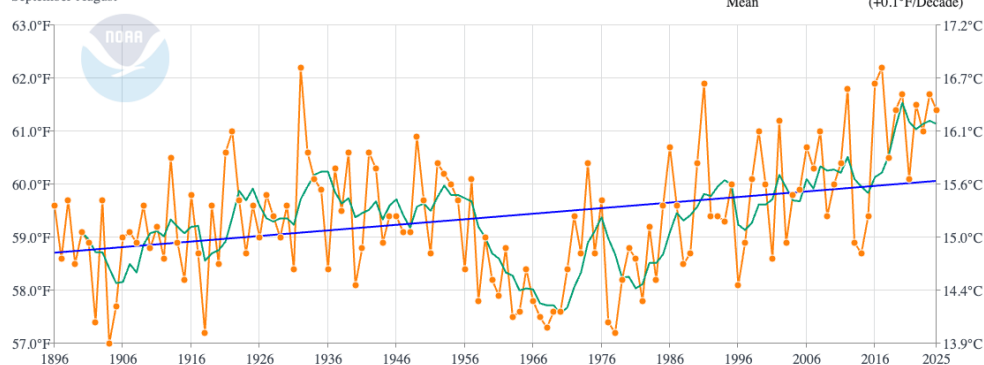
Global ~ 2.3°F

Chatham County Avg. ~ 1.3°F



<https://showyourstripes.info/>

Chatham County, North Carolina Average Temperature
September-August



<https://ncei.noaa.gov>

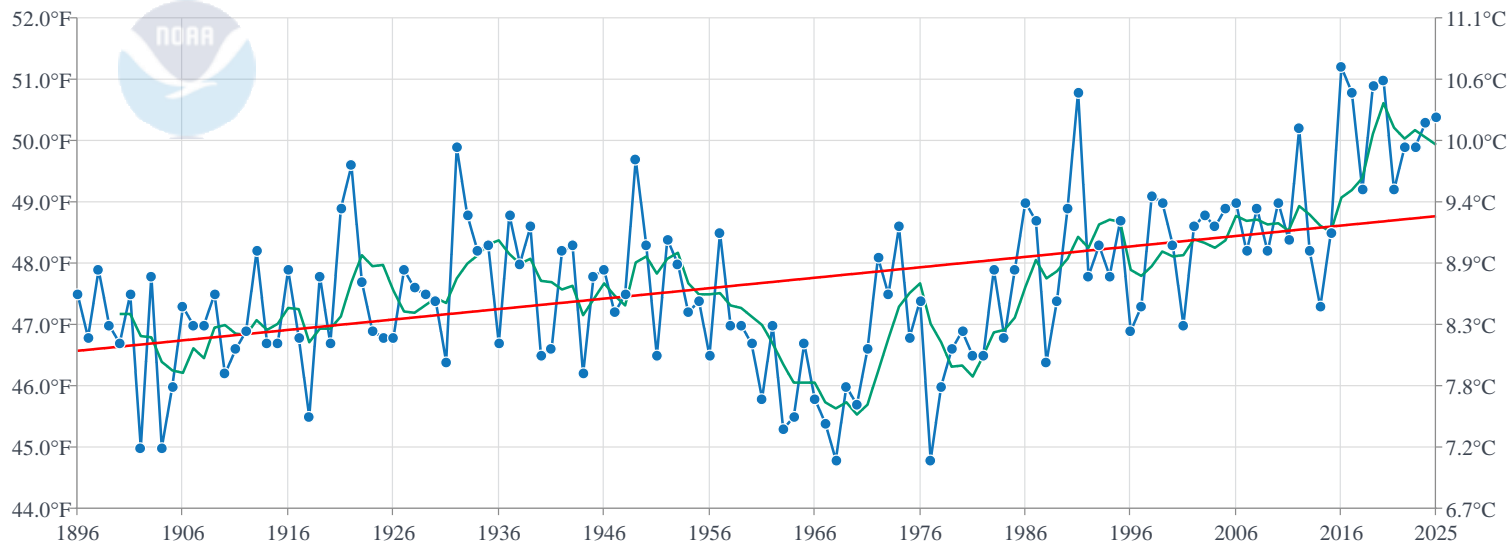


Number of very warm nights are increasing

Chatham County Avg. ~ 2.6°F

Chatham County, North Carolina Minimum Temperature

September-August

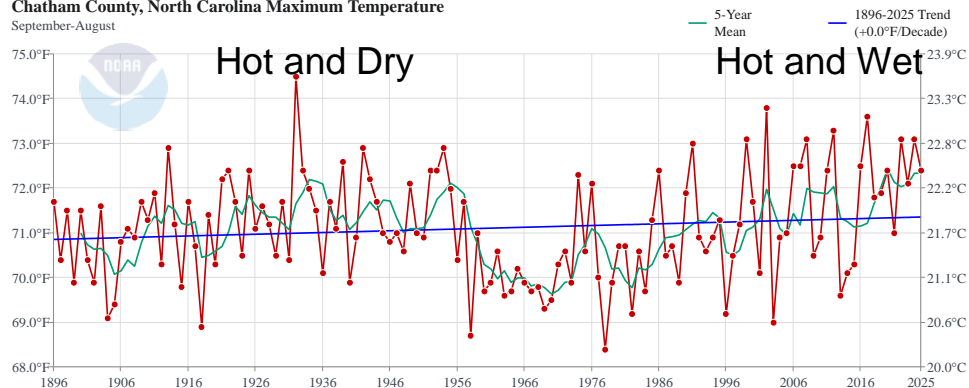


<https://ncei.noaa.gov>



Maximum Temperature no significant change but the last 10 years rival the warm period of the 1930s

Chatham County, North Carolina Maximum Temperature
September-August



<https://ncei.noaa.gov>

Article | [Open access](#) | Published: 17 October 2022

How the Great Plains Dust Bowl drought spread heat extremes around the Northern Hemisphere

[Gerald A. Meehl](#) , [Haiyan Teng](#), [Nan Rosenbloom](#), [Aixue Hu](#), [Claudia Tebaldi](#) & [Guy Walton](#)

[Scientific Reports](#) **12**, Article number: 17380 (2022) | [Cite this article](#)

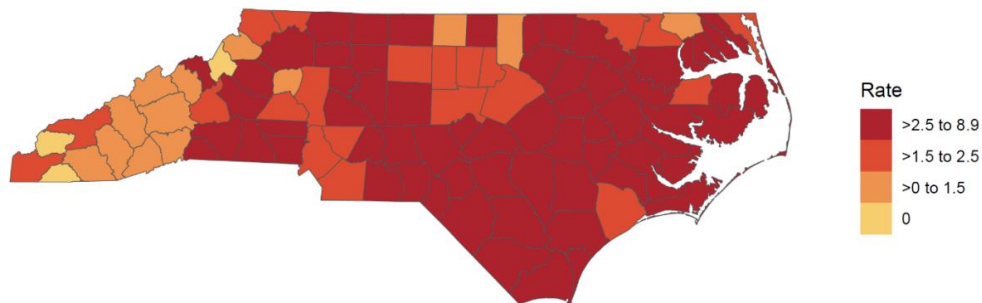
5551 Accesses | 10 Citations | 129 Altmetric | [Metrics](#)

Heat Illness (2025 season)

Heat-related illness spiked in 2025 during the first major heat wave at the end of June. 1,215 heat-related illness ED visits in one week from June 22 – 28, the highest weekly rate (11.5 per 100,000 people).

The average weekly rate of heat-related illness (HRI) emergency department (ED) visits **this season to date is 2.4 per 100,000 population.**

Figure 2a. Average Weekly Rate of Heat-related Illness Emergency Department Visits per 100,000 Population
May 1–July 12 (2025)



<https://www.dph.ncdhhs.gov/programs/epidemiology/occupational-and-environmental-epidemiology/climate-and-your-health/extreme-heat/nc-heat-health-data-and-reports>

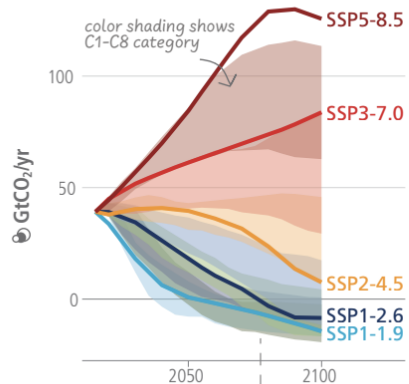
Global temperature change since 1850

Future choices up to 2100

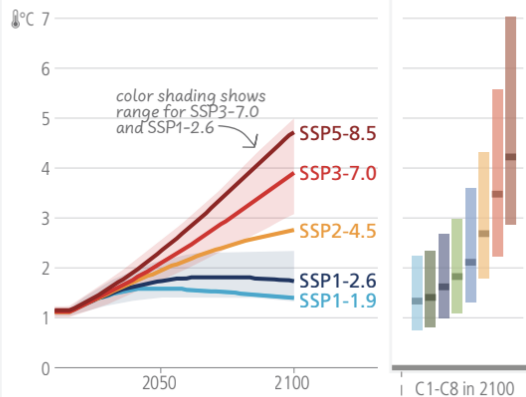
WE
ARE
HERE

Future Emission Scenarios

CO₂ emissions for SSP-based scenarios and C1-C8 categories



Temperature for SSP-based scenarios over the 21st century and C1-C8 at 2100



RCP4.5 / SSP2-4.5 (intermediate emissions)

Limit global warming to 3°C by 2100

SSP3-7.0 (high emissions)

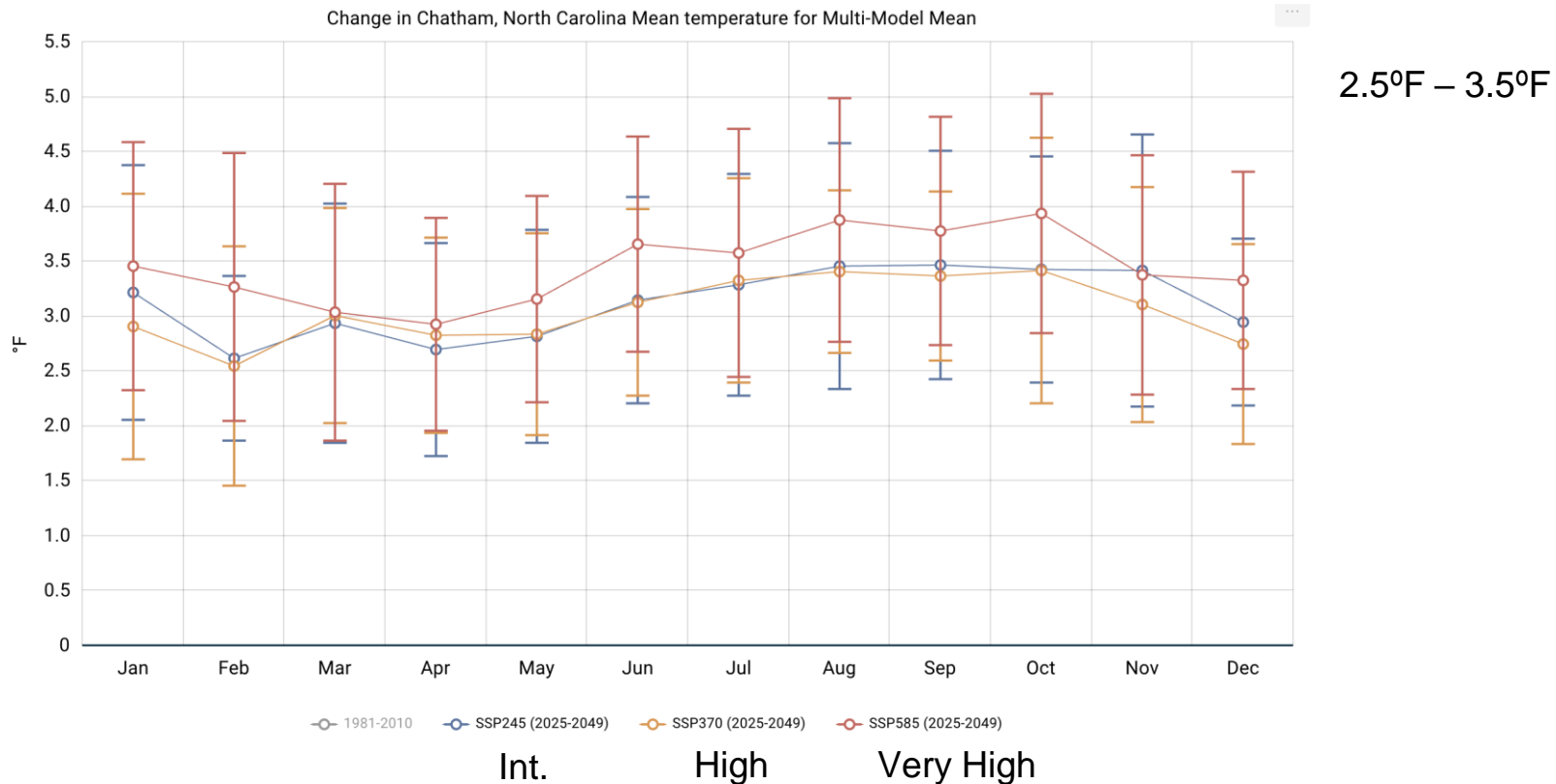
Limit global warming to 4°C by 2100

RCP8.5/SSP5-8.5 (very higher emissions)

Exceed warming of 4°C by 2100

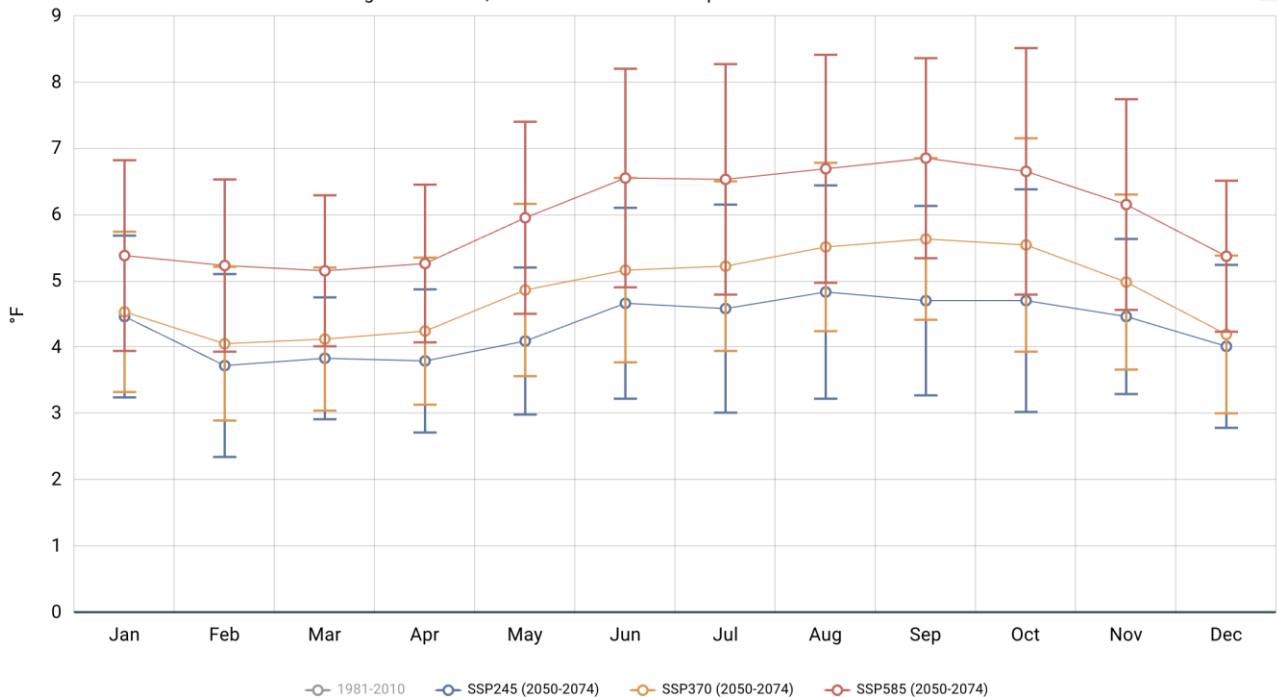
Figure source: IPCC AR6 Synthesis Report

NC warming anticipated within the next 25 years



NC Warming 2050-2074

Change in Chatham, North Carolina Mean temperature for Multi-Model Mean



4°F – 7°F

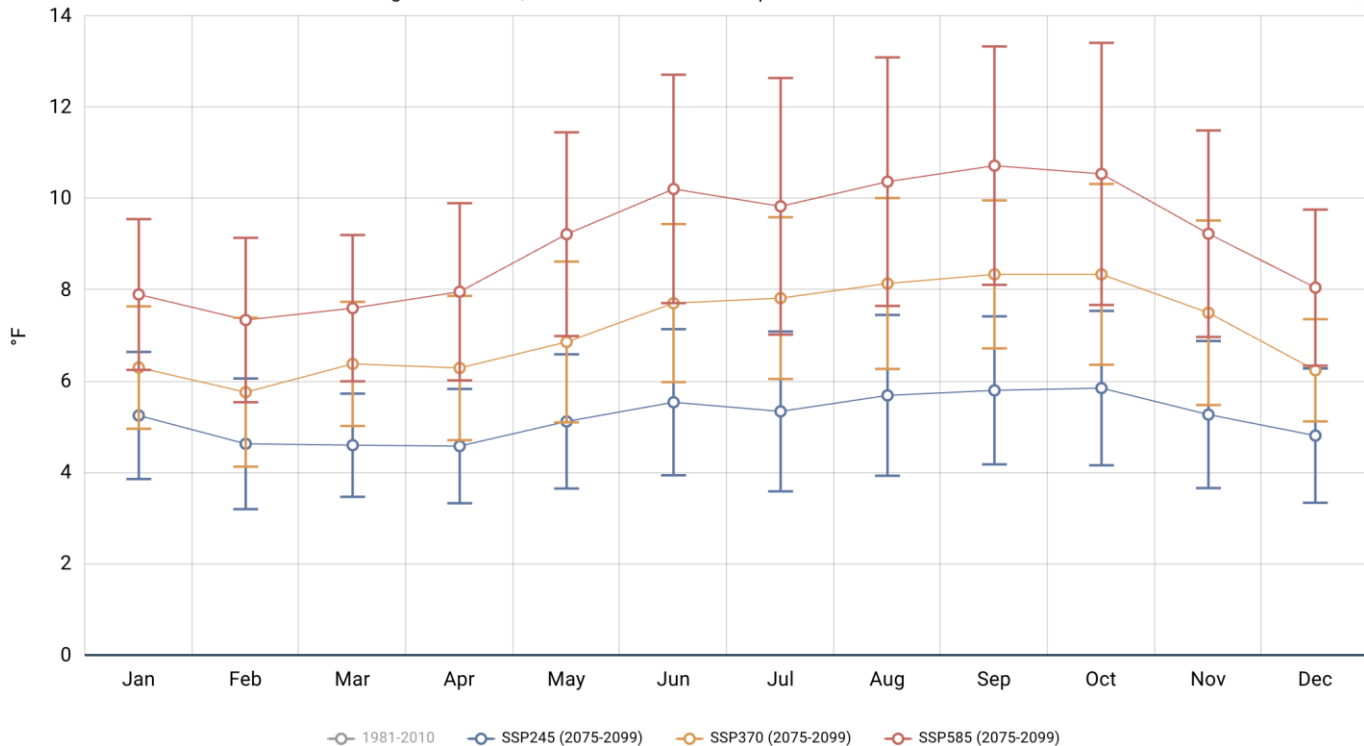
w/ largest changes
late summer / early fall

Int. High Very High



NC Warming 2075-2099

Change in Chatham, North Carolina Mean temperature for Multi-Model Mean



4.5°F – 9°F
w/ largest changes
late summer / early fall

Int.

High

Very High

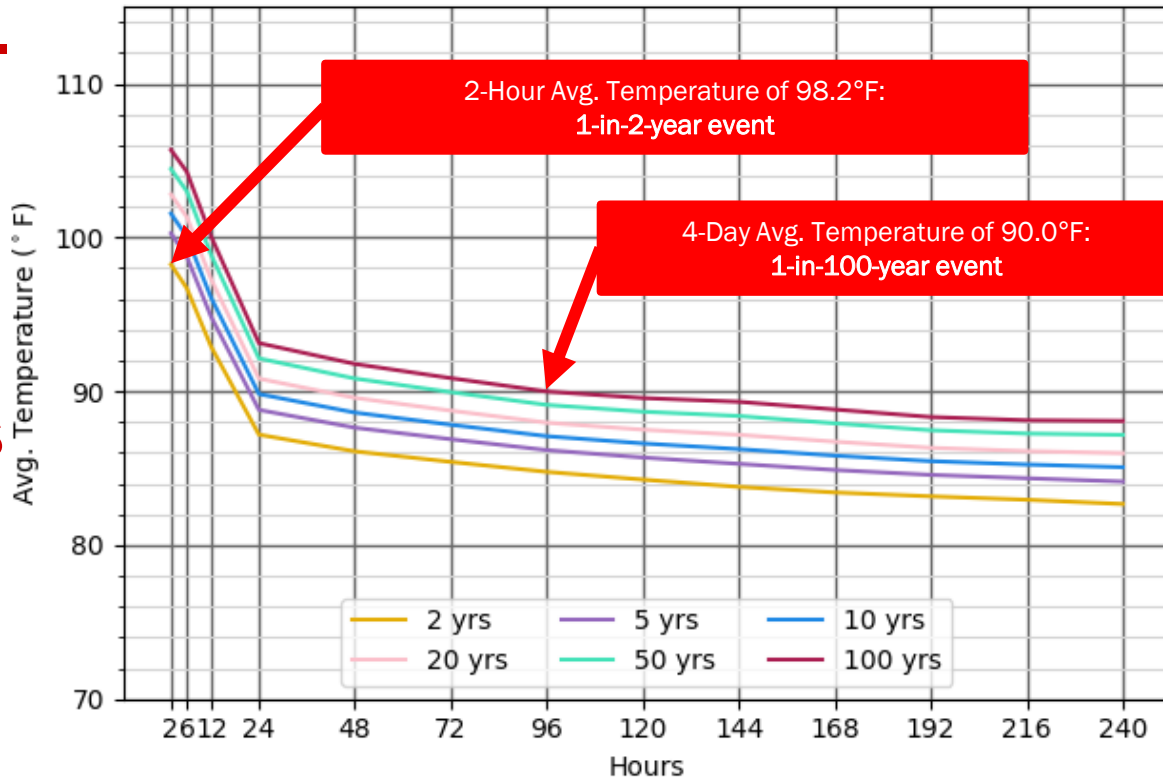


Intensity-Duration-Frequency

Probability of temperature for different durations

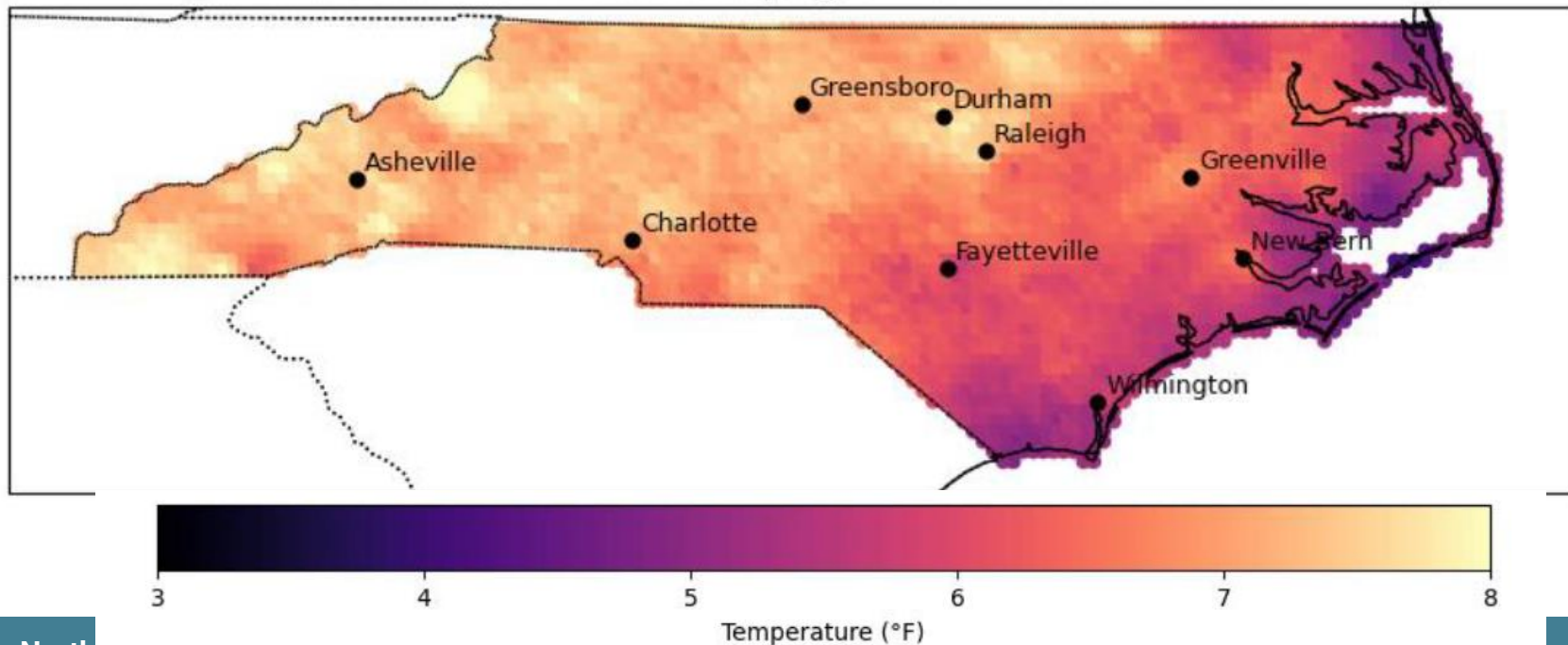
Site: Raleigh/Durham Int'l Airpt, NC
 Variable: Temperature
 Base Data: 1992-2022 (30 years)

Temperature IDF for Raleigh, NC
 Years: 1992-2022 (N=30)



Currently in development Heat Atlas for NC

Increase in Intensity of 1-in-100-year, 3-Day Heat Wave (°F)
2045-2074 vs. 1985-2014 | High-end Emissions Scenario



Chatham County Increase in Heat Wave Intensity (° F)
(Intensity in 2060 - Intensity in 2000; High Emission Scenario)

		<i>Event Duration</i>								
		1 day	2 days	3 days	4 days	5 days	6 days	7 days	14 days	21 days
<i>Event Return Period</i>	2 years	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
	5 years	6.5	6.4	6.4	6.4	6.4	6.4	6.3	6.3	6.3
	10 years	6.7	6.6	6.6	6.5	6.5	6.5	6.5	6.5	6.4
	25 years	6.9	6.9	6.8	6.7	6.7	6.7	6.6	6.6	6.6
	50 years	7.1	7.0	6.9	6.9	6.8	6.8	6.7	6.7	6.6
	100 years	7.2	7.2	7.1	7.0	6.9	6.9	6.8	6.8	6.7
	250 years	7.4	7.3	7.2	7.1	7.1	7.0	6.9	7.0	6.8

Heat Action Plan Toolkit

Guidance and resources to help North Carolina communities prepare for extreme heat



With climate change driving more frequent and intense heat events, the state's Heat Action Plan Toolkit aims to help communities adapt and build resilience to extreme heat. Primarily targeted for use by local governments, including health and emergency management departments, the toolkit focuses on approaches to reduce the human health impacts of increasing temperatures and heat waves.

[Download the Toolkit \(Word\) !\[\]\(d66ff64371a51729ac8c1cdaa685ba6f_img.jpg\)](#)

Designed for communities in North Carolina, the Heat Action Plan Toolkit includes:

- Background information on the importance of addressing extreme heat
- A heat action plan template for communities
- Guidance on how to identify groups most at risk to extreme heat in local jurisdictions
- Recommendations for when to activate different parts of your heat action plan locally
- Sample messaging and graphics for communicating with residents (*Algunos materiales están disponibles en español.*)
- Sample checklists and protocols for cooling centers and other heat relief resources

Chatham County Heat Action Plan – U.S

Organization: North Carolina Climate Office

Year: 2024

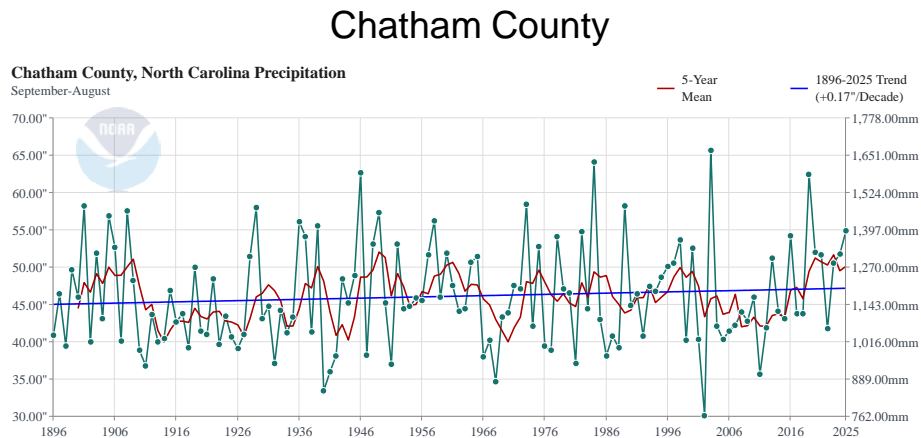
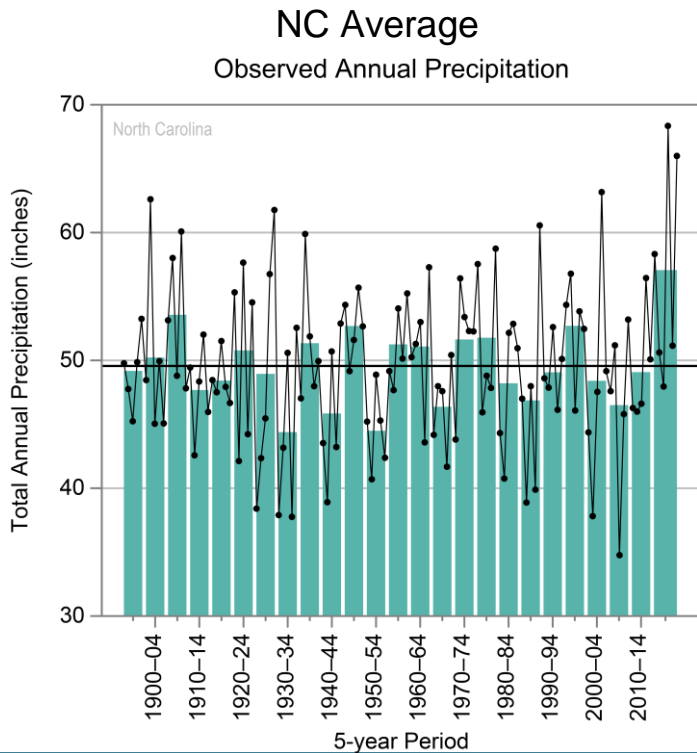


The Chatham County Heat Action Plan is a comprehensive strategy designed to protect residents from extreme heat events. Developed collaboratively by local agencies and community partners, the plan focuses on public education, preparedness, and response measures to mitigate heat-related health risks. Key components include establishing cooling centers, issuing heat health alerts, and providing resources for vulnerable populations. This proactive approach underscores Chatham County's commitment to safeguarding public health amid rising temperatures.

[READ MORE](#)

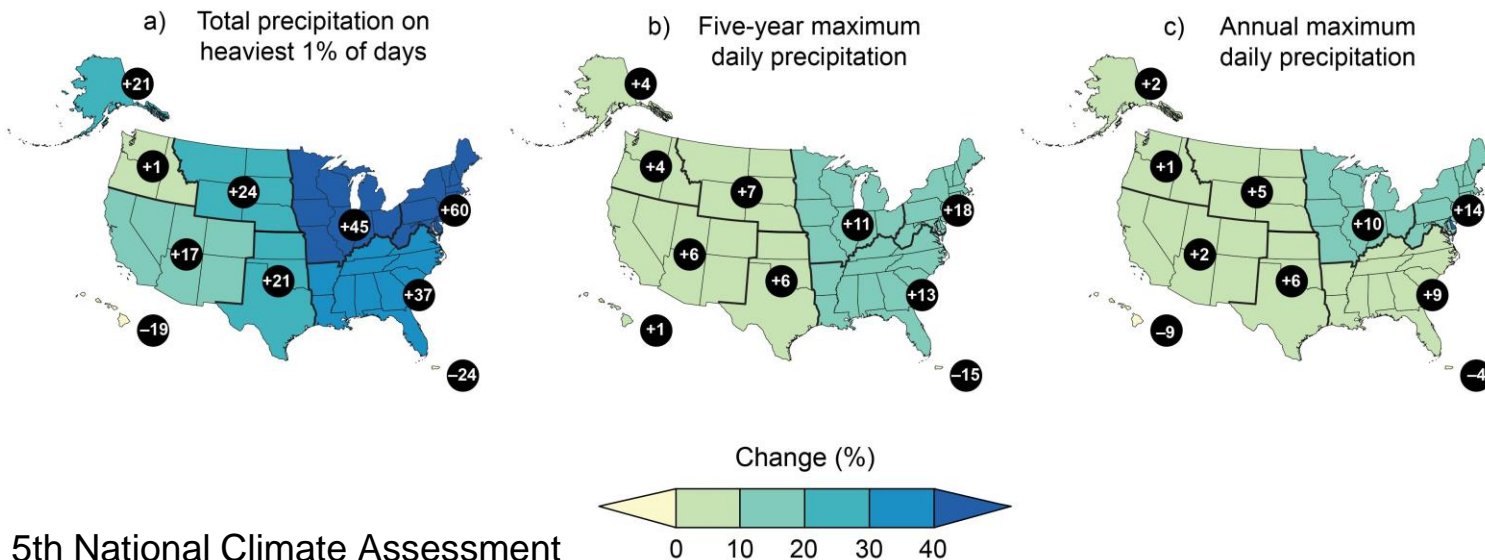


Annual precipitation



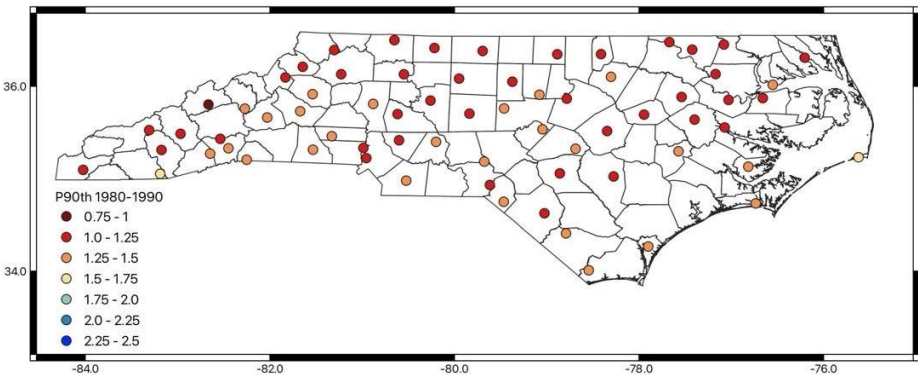
Rainfall characteristics are changing in severity and frequency

Observed Changes in the Frequency and Severity of Heavy Precipitation Events

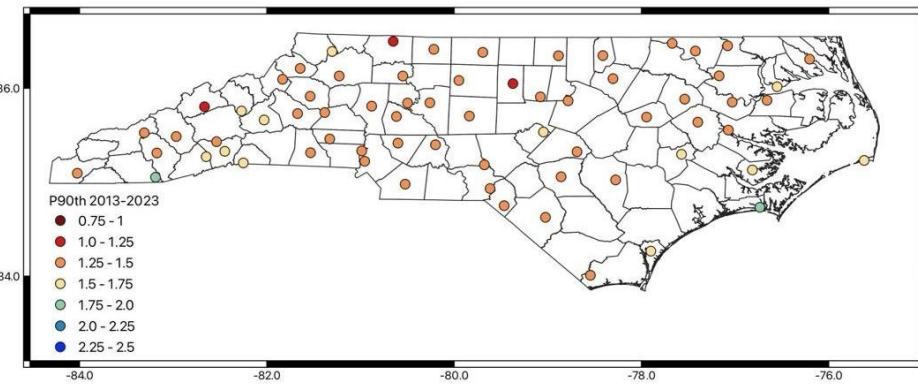


Source: 5th National Climate Assessment

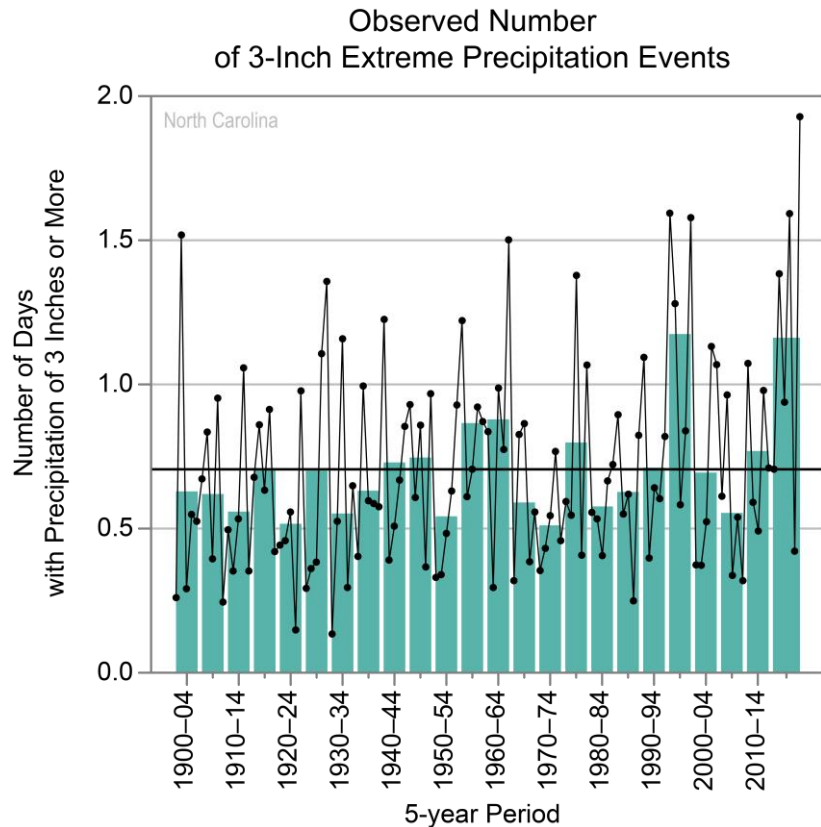
1980s - 90th Percentile Rainfall Value



Recent Decade - 90th Percentile Rainfall Value



Increasing Heavy Rainfall Events in NC 3" precip. event happens ~ every 1-2 years



Disaster Type	Events	Events/Year	Percent Frequency	Total Costs	Percent of Total Costs
Drought	13	0.3	10.7%	\$10.0B-\$20.0B	7.9%
Flooding	2	0.0	1.7%	\$100M-\$250M	0.1%
Freeze	3	0.1	2.5%	\$250M-\$500M	0.2%
Severe Storm	54	1.2	44.6%	\$5.0B-\$10.0B	6.4%
Tropical Cyclone	31	0.7	25.6%	\$100.0B-\$200.0B	83.5%
Wildfire	2	0.0	1.7%	\$5M-\$100M	0.1%
Winter Storm	16	0.4	13.2%	\$2.0B-\$5.0B	1.8%
All Disasters	121	2.7	100.0%	\$100.0B-\$200.0B	100.0%

NC Billion Dollar Disasters

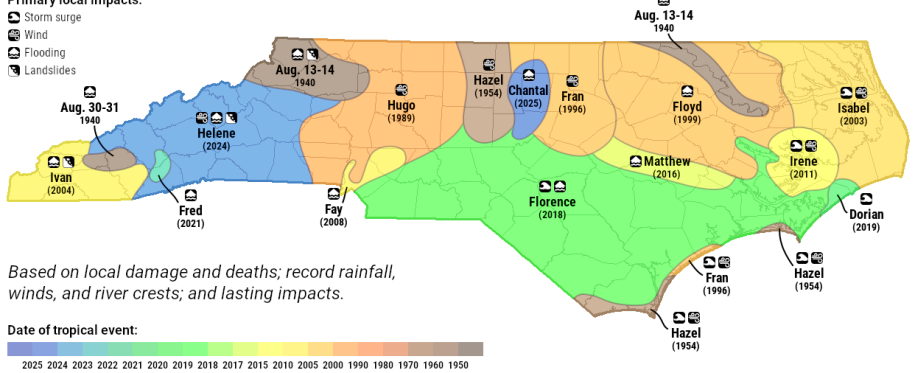
The economic impact

Our Worst Tropical Events As of Sep. 2025



Primary local impacts:

- Storm surge
- Wind
- Flooding
- Landslides



Based on local damage and deaths; record rainfall, winds, and river crests; and lasting impacts.

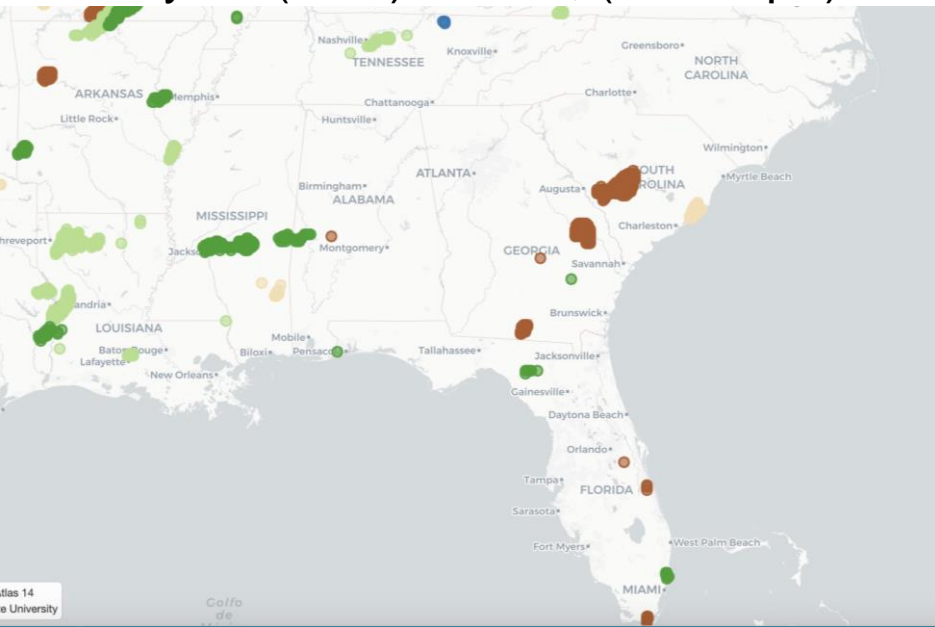


Rank	Storm	Year	Damage (unadjusted)	Damage (2025 dollars)
1	Hurricane Helene	2024	\$59.6 billion	\$61.2 billion
2	Hurricane Florence	2018	\$17 billion	\$21.8 billion
3	Hurricane Floyd	1999	\$6 billion	\$11.6 billion
4	Hurricane Matthew	2016	\$4.8 billion	\$6.4 billion
5	Hurricane Fran	1996	\$2.4 billion	\$4.9 billion
6	Hurricane Hugo	1989	\$1 billion	\$2.6 billion
7	Hurricane Irene	2011	\$1.2 billion	\$1.7 billion
8	Hurricane Hazel	1954	\$136 million	\$1.6 billion
9	Hurricane Dorian	2019	\$1.2 billion [†]	\$1.5 billion
10	Hurricane Ione	1955	\$88 million	\$1.0 billion

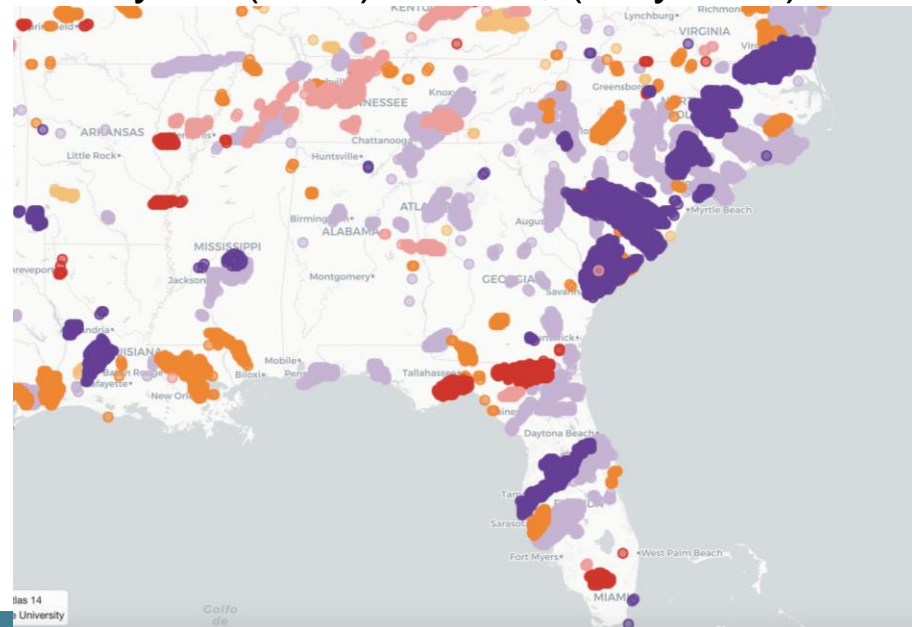


Rare events (1% chance in a year), found mostly during the summer and fall seasons (when oceans are the warmest)

100-year (24hr) storms; (Nov.-Apr.)



100-year (24hr) storms; (May-Oct.)

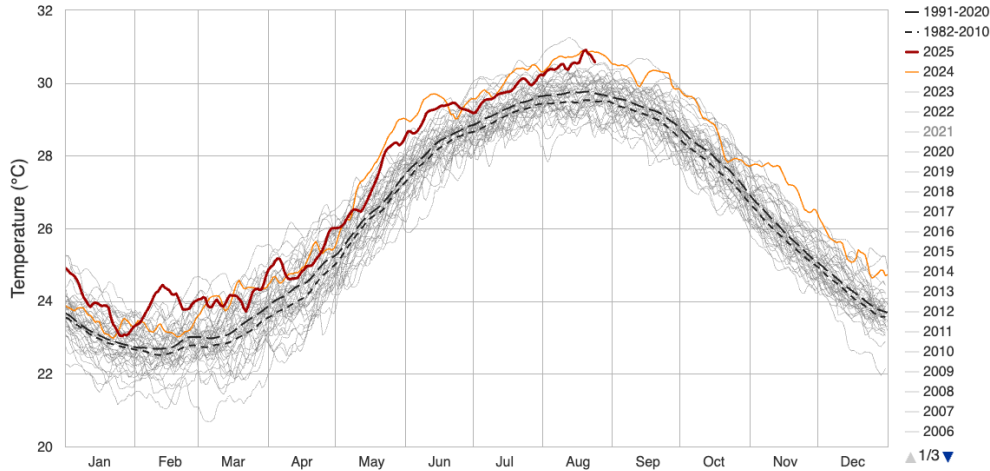


Increasing Weather Fuel for Storms

nearby oceans are warming = inc. atmospheric moisture

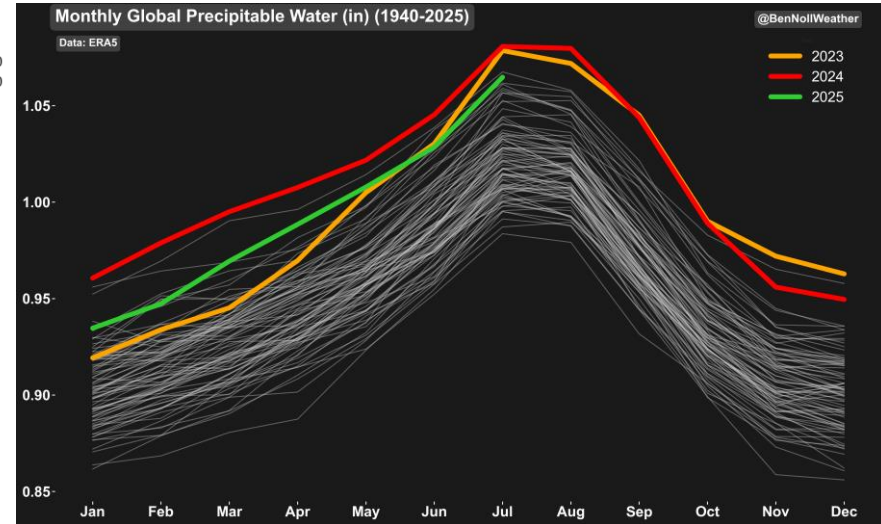
Daily SST, Gulf of Mexico (20–30°N, 82–98°W)

Dataset: NOAA OISST V2.1 | Image Credit: ClimateReanalyzer.org, Climate Change Institute, University of Maine



Daily Gulf Of Mexico SST

Source: <https://climatereanalyzer.org>



Monthly global precipitable water: ERA5, 1940-2025. BenNollWeather, via Albany “MAP” list

Tropical Storm Chantal

Basemap Layers

- OpenStreetMap
- Google Maps Satellite
- ArcGIS Terrain

Precip Layers

- MPE Precip
- MPE-Based ARI (6-72 Hour)
- Current US Radar [\[NWS\]](#)

My Projects

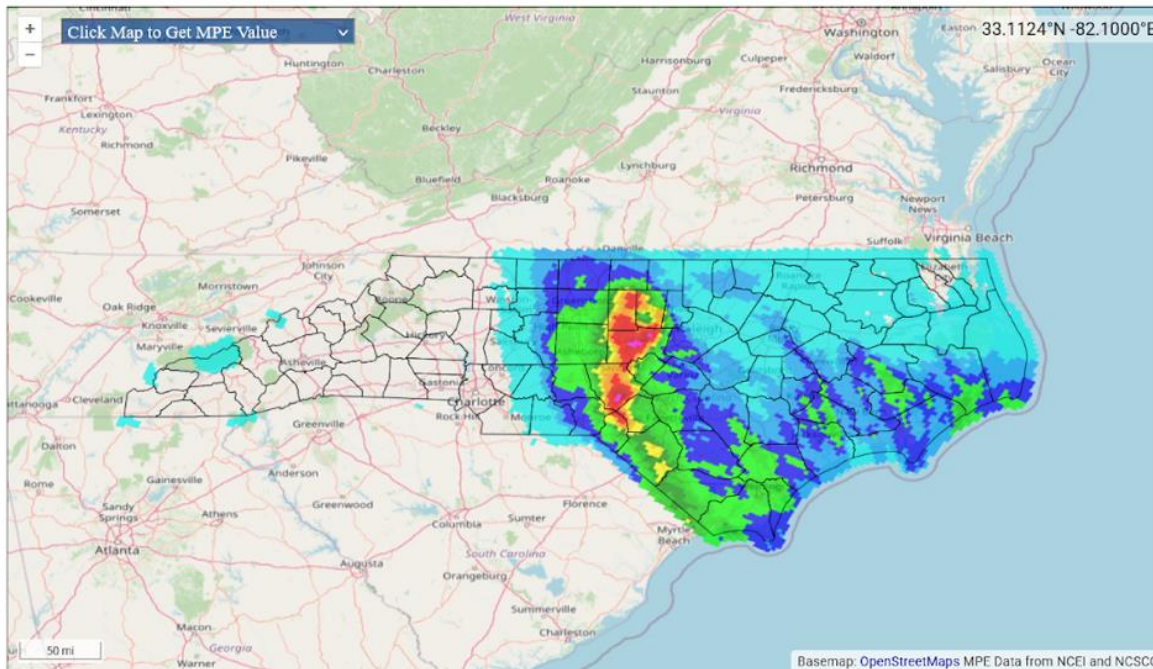
- My Project Sites

Geographic Layers

- NC County Lines
- Rivers & Lakes
- HUC-6
- HUC-8

[Share View Link](#)

[Show Print View](#)



Click on the map above to view the data value, to set an alert, or to get past MPE data for the chosen location. To draw a polygon, select "Draw Polygon" from the dropdown. Use "Remove Polygon" to remove a drawn polygon.

MPE Time Period

Choose Dates

Start Date: 07 / 05 / 2025

End Date: 07 / 06 / 2025

File Types: 6-Hour

[Submit](#)

MPE Map Info

Data Range: 0.01 to 8.12 Inches

MPE Legend (Inches)

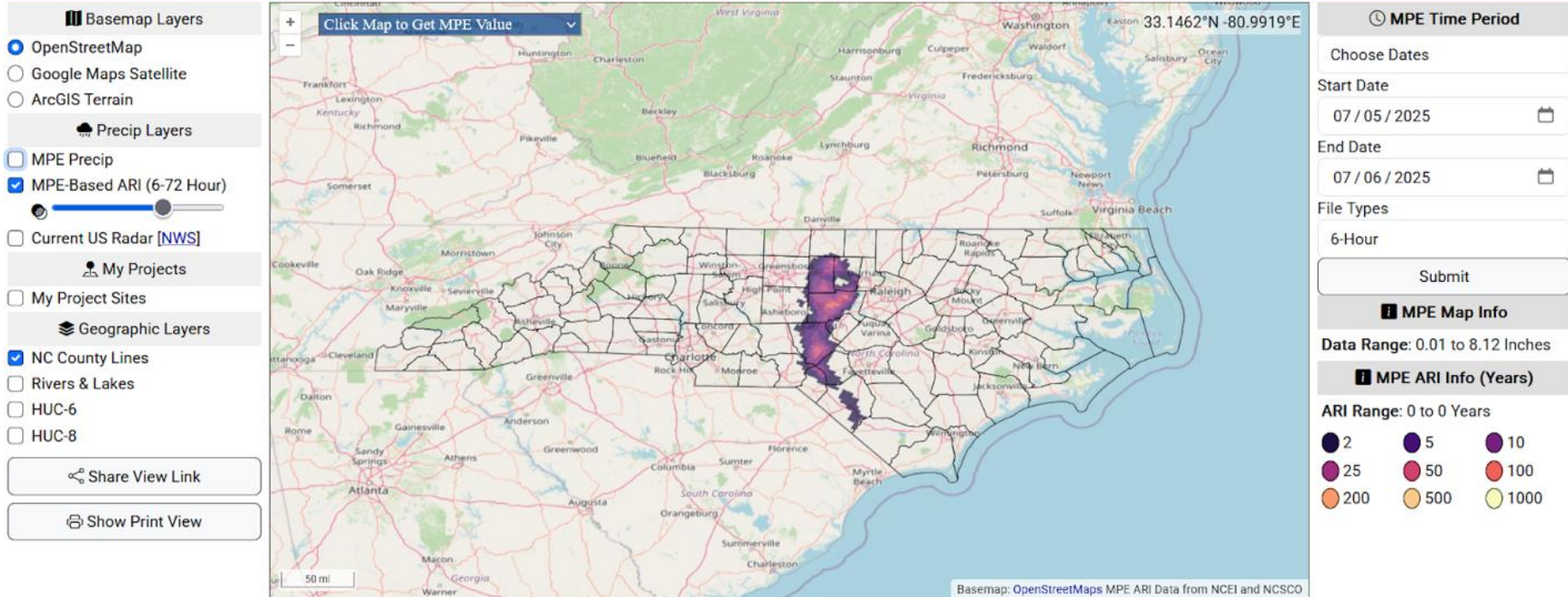
Data Min: 0.01

Data Max: 8.12

0.01 - 0.55	4.35 - 4.88
0.56 - 1.09	4.89 - 5.42
1.10 - 1.63	5.43 - 5.96
1.64 - 2.17	5.97 - 6.50
2.18 - 2.71	6.51 - 7.04
2.72 - 3.25	7.05 - 7.58
3.26 - 3.79	7.59 - 8.12

Tropical Storm Chantal

Home Map My Projects + Alerts More Projects More MPE Data User Info Status Contact Cardinal [↗](#) State Climate Office [↗](#)



Click on the map above to view the data value, to set an alert, or to get past MPE data for the chosen location. To draw a polygon, select "Draw Polygon" from the dropdown. Use "Remove Polygon" to remove a drawn polygon.



RainDrop Tool for NC Rainfall-Intensity-Duration and Return for Observations and Projections

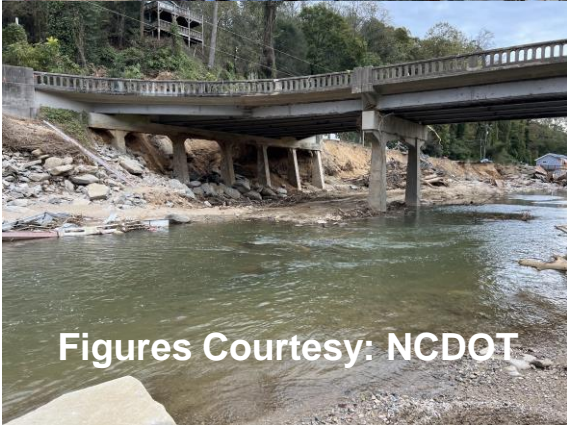


<https://products.climate.ncsu.edu/climate/raindrop-tool/>

Contact:
Jared Bowden
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Future time horizons for IDF Curves



Figures Courtesy: NCDOT

We provide future estimates for two 30 year future periods relative to a historical period

Historical: (1976-2005) – overlaps with Atlas14

Mid-Century (2040-2069)

End-Century (2070-2099)

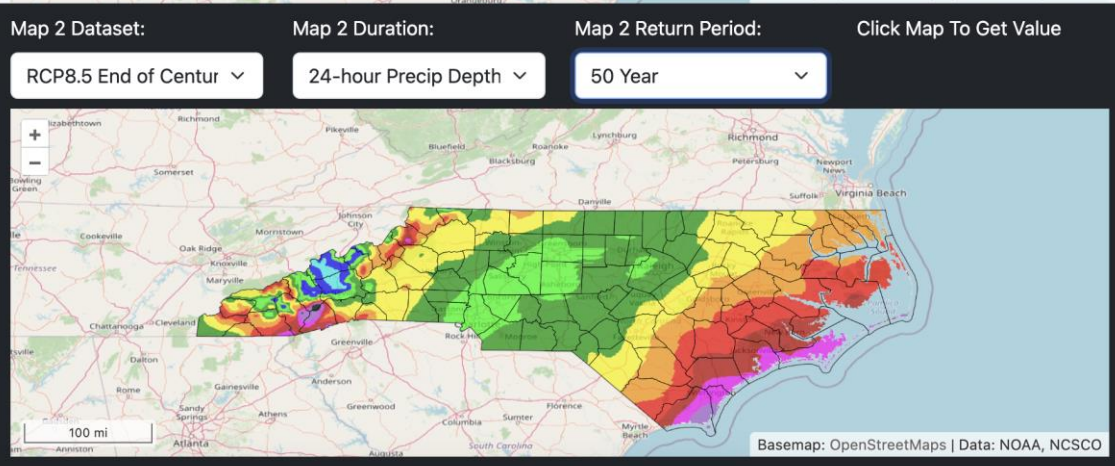
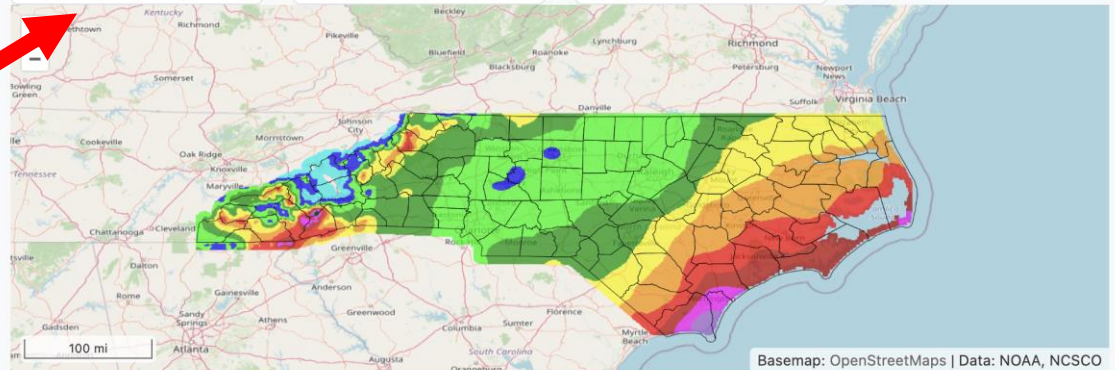
End-Century RCP8.5 = high impact low probability event

Mid-Century RCP4.5 = increasing probable event but with smaller impacts

Rainfall Intensity, Duration and Return for Observations and Projections Tool for North Carolina

Maps - IDF Precip Depth

Map 1 Dataset: Atlas 14 Map 1 Duration: 24-hour Precip Depth Map 1 Return Period: 100 Year Click Map To Get Value



Select maps to compare

Example for 24-hour rainfall depth:

Atlas 14 – 100 year (top)

RCP8.5 – 50 year (bottom)

1-in-100yr could occur at a 1-in-50yr frequency



Pick a point and get estimate

Example for
24-hour rainfall depth:

Atlas 14 – 100 year (top = 7.66")

RCP8.5 – 50 year (bottom = 8.130 in)

Future 50yr exceeds current 100yr

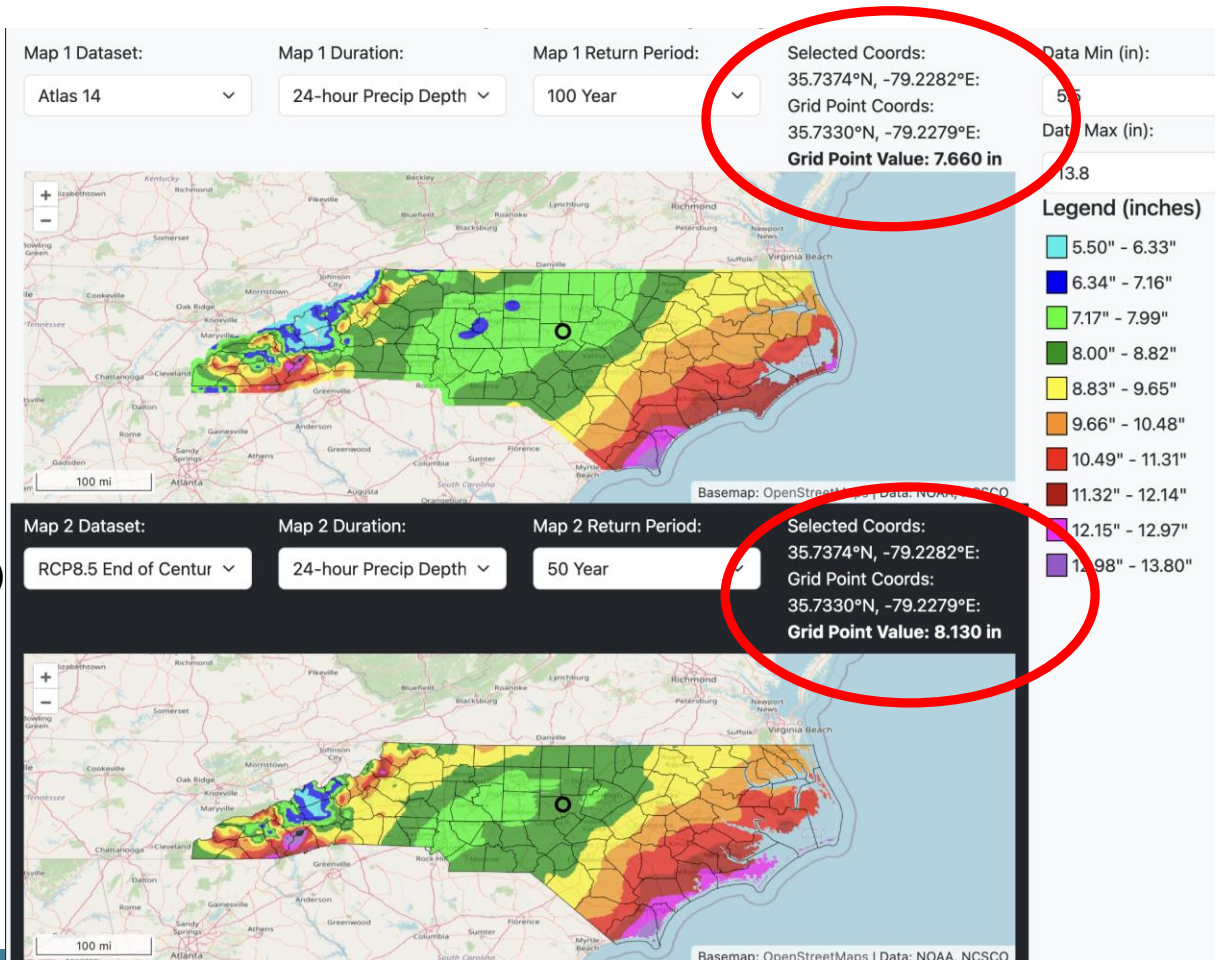


Table - IDF by Dataset

Lat (°N): Use the map or enter below

Lon (°E): Use the map or enter below

Update the table below by clicking on 'Update Table Location'

35.7046

-79.2136

Update Table Location

Datasets		Duration	
<input checked="" type="checkbox"/> Atlas 14	<input type="checkbox"/> RCP4.5 Mid Century (Mean)	<input type="checkbox"/> 1-hour Precip Depth (in)	<input type="checkbox"/> 2-hour Precip Depth (in)
<input type="checkbox"/> RCP4.5 Mid Century (90 Percentile)	<input type="checkbox"/> RCP4.5 End of Century (Mean)	<input type="checkbox"/> 3-hour Precip Depth (in)	<input type="checkbox"/> 6-hour Precip Depth (in)
<input type="checkbox"/> RCP4.5 End of Century (90 Percentile)	<input type="checkbox"/> RCP8.5 Mid Century (Mean)	<input type="checkbox"/> 12-hour Precip Depth (in)	<input checked="" type="checkbox"/> 24-hour Precip Depth (in)
<input type="checkbox"/> RCP8.5 Mid Century (90 Percentile)	<input checked="" type="checkbox"/> RCP8.5 End of Century (Mean)	<input type="checkbox"/> 1-hour Precip Intensity (in/hr)	<input type="checkbox"/> 2-hour Precip Intensity (in/hr)
<input checked="" type="checkbox"/> RCP8.5 End of Century (90 Percentile)		<input type="checkbox"/> 3-hour Precip Intensity (in/hr)	<input type="checkbox"/> 6-hour Precip Intensity (in/hr)
		<input type="checkbox"/> 12-hour Precip Intensity (in/hr)	<input checked="" type="checkbox"/> 24-hour Precip Intensity (in/hr)

Precip Depth (in) and Intensity (in/hr) estimates for 35.70833°N, -79.21668°E:

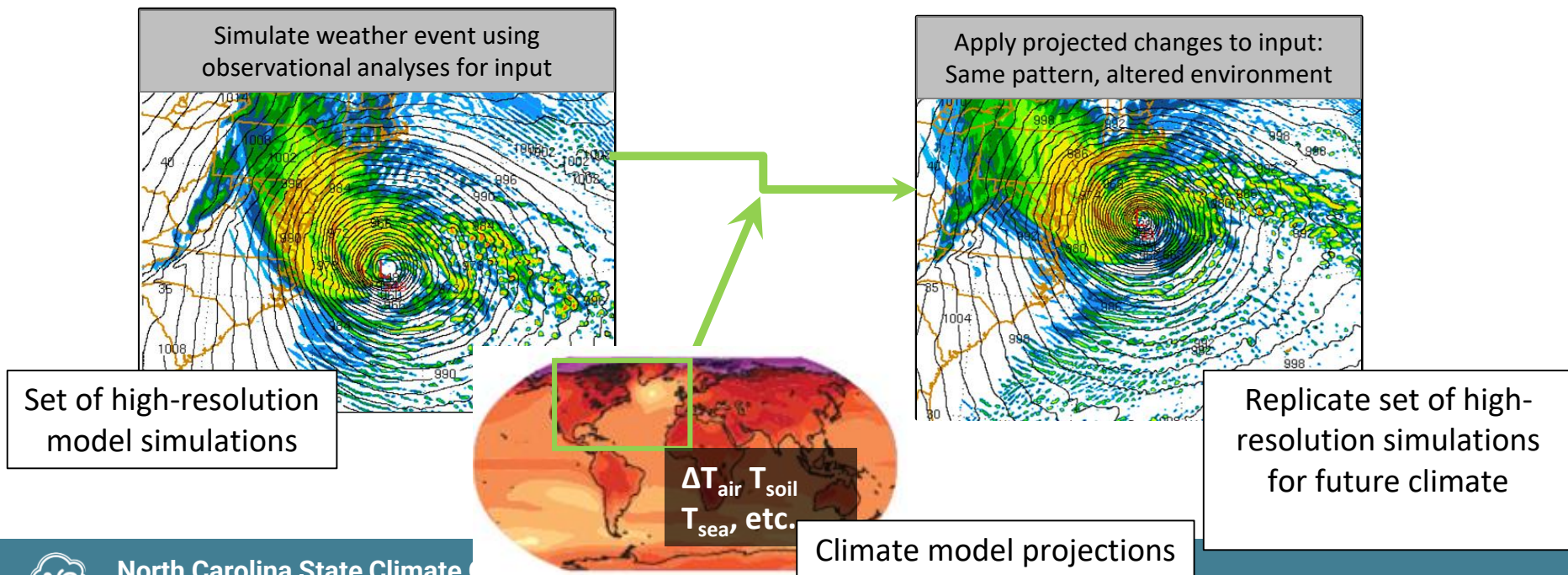
(This is the nearest grid point to your selected location of 35.7046°N, -79.2136°E)

Note: Intensity is calculated by precip depth (inches) divided by duration (hours)

Dataset	Duration	ARI 2 yr	ARI 5 yr	ARI 10 yr	ARI 25 yr	ARI 50 yr	ARI 100 yr	ARI 500 yr	ARI 1000 yr
Atlas 14	24-hour Depth (in)	3.58	4.48	5.19	6.14	6.9	7.68	9.57	10.44
Atlas 14	24-hour Intensity (in/hr)	0.15	0.19	0.22	0.26	0.29	0.32	0.4	0.44
RCP8.5 End of Century (Mean)	24-hour Depth (in)	4.08	5.2	6.02	7.18	8.07	9.06	11.48	12.63
RCP8.5 End of Century (Mean)	24-hour Intensity (in/hr)	0.17	0.22	0.25	0.3	0.34	0.38	0.48	0.53
RCP8.5 End of Century (90 Percentile)	24-hour Depth (in)	4.65	5.96	7.27	8.78	10.01	11.37	14.93	17.33
RCP8.5 End of Century (90 Percentile)	24-hour Intensity (in/hr)	0.19	0.25	0.3	0.37	0.42	0.47	0.62	0.72



We attempt to answer that question by running model simulations of historical TCs in a warmer climate (Future Design Storm Database)

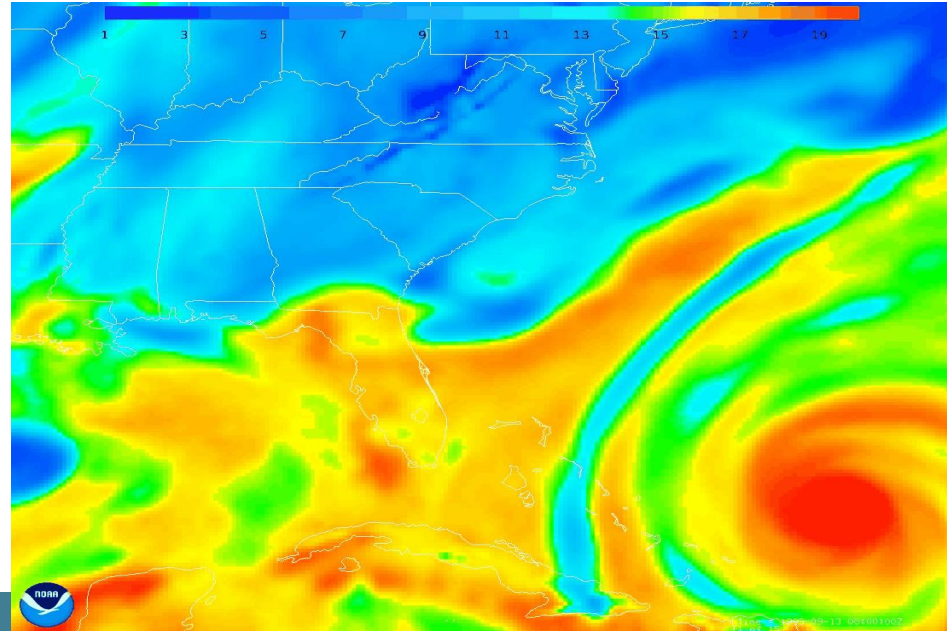
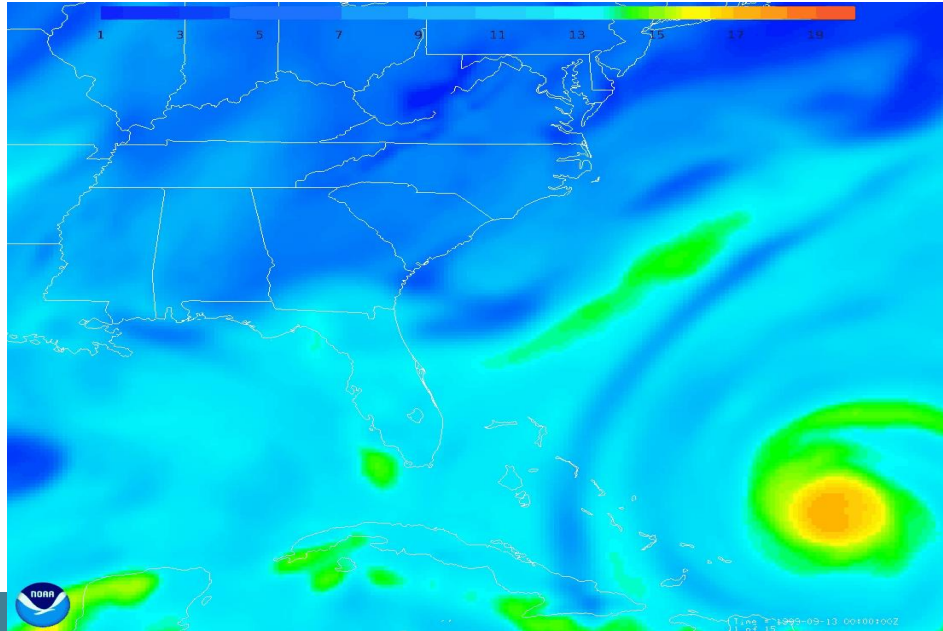


Atmospheric Model Simulation

Hurricane Floyd: Water Vapor Comparison Loop

Historical Simulation

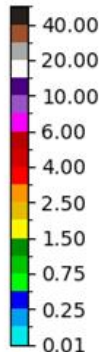
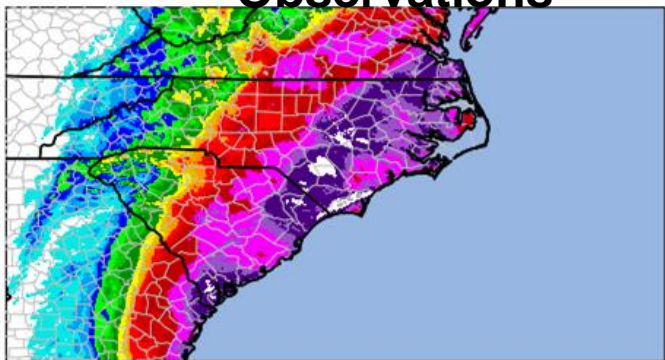
Future Simulation



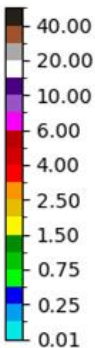
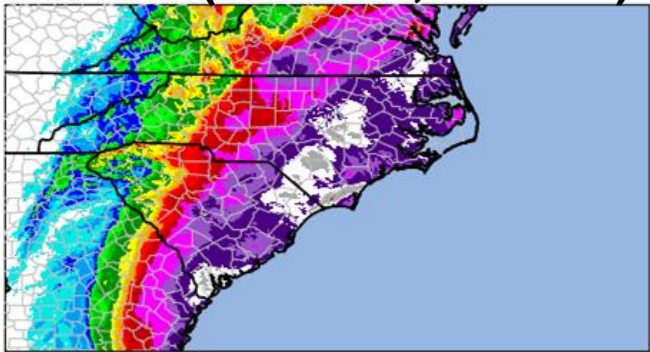
Large increases in rainfall totals from TCs in a warmer climate

Hurricane Matthew (2016)

Observations

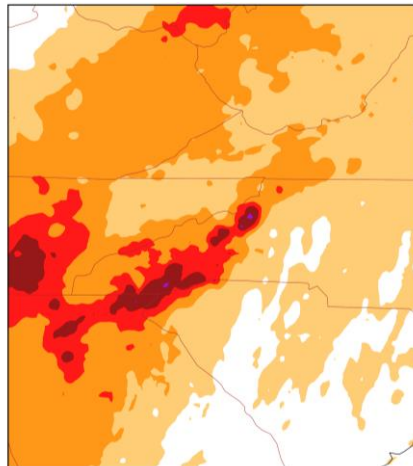


Future (ca. 2100; RCP8.5)

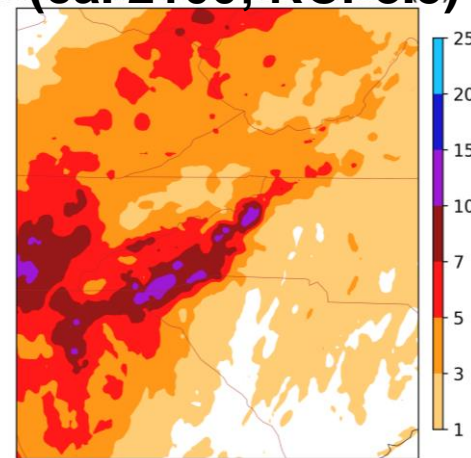


Hurricane Ivan (2004)

Observations



Future (ca. 2100; RCP8.5)

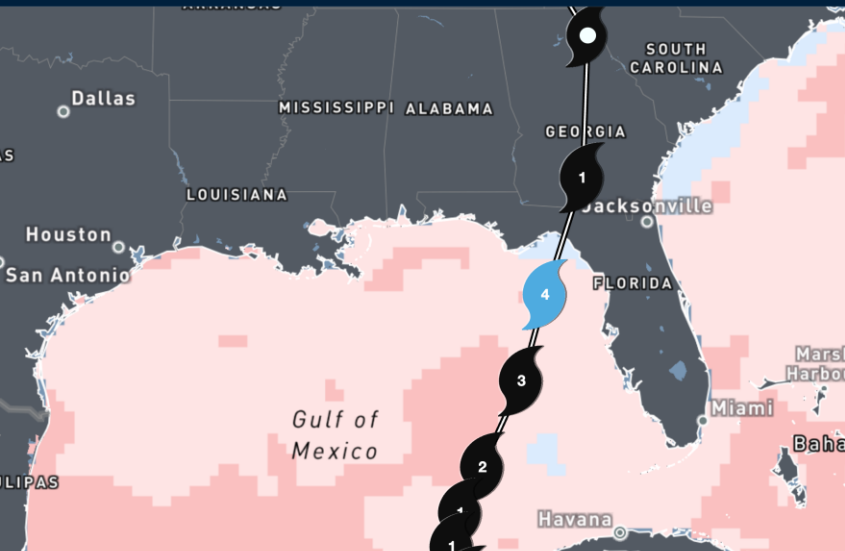
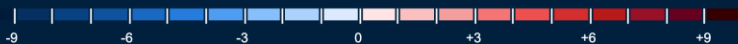


Total rainfall ~25-30% increase
With larger increases for hourly rainfall rates

Rapid intensification sea surface temperatures 2-3°F warmer than normal

Hurricane Helene and Difference from Normal

Sep 27, 2024



Tropical cyclone track data from National Hurricane Center. Icons indicate position of storm, not storm's size. Temperature anomalies (relative to 1991-2020) for average sea surface temperatures. Based on NOAA OISST. Dates are UTC.

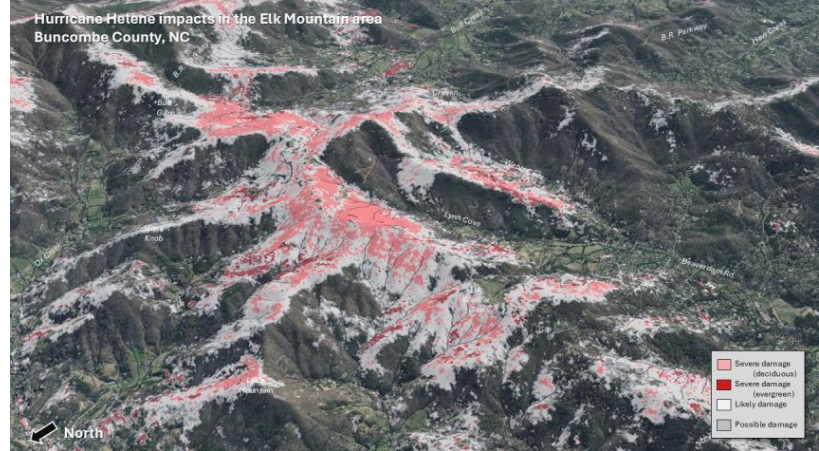
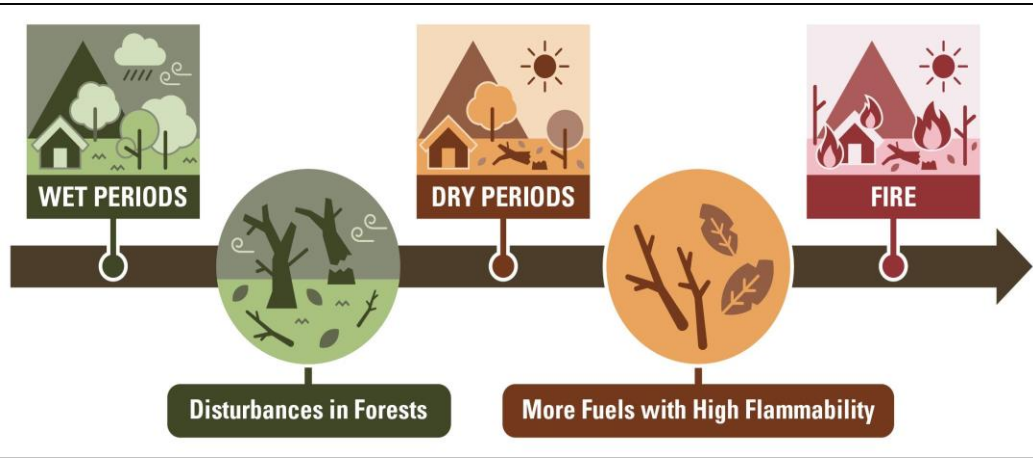
CLIMATE CENTRAL

**Increasing Risk
of Rapid Intensification
(increase max. sustained wind speed
- 35mph in 24hr)**

**Hurricane Helene intensified
55mph in 24hr (Cat. 1 to 4)
85mph (11PM 25th)
to 140mph (11PM 26th)
Landfall at 11:10 PM 26th**

Weather Whiplash

Warmer temperature favor extreme events (flood-drought-wildfires)



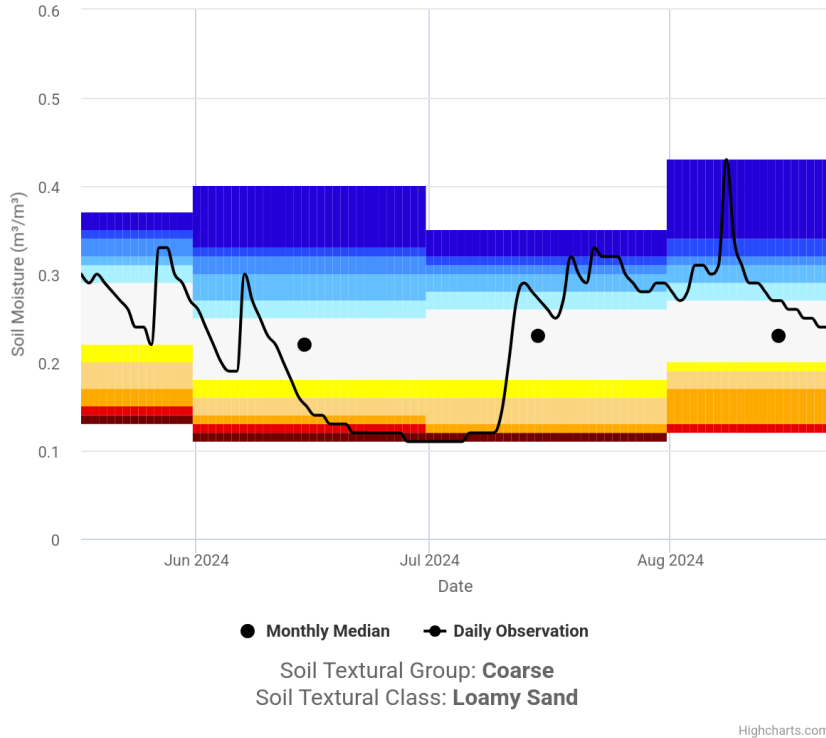
<https://climate.ncsu.edu/blog/2025/04/dry-weather-dry-air-spark-march-fire-danger/>

<https://hiform.org/projects/2024-hurricane-helene-southern-appalachians>



Flash Drought – quickly emerging drought conditions are becoming more common

Lake Wheeler Rd Field Lab - Raleigh, NC



After worst season in North Carolina history, corn farmers want 'hope'

Corn, normally a \$750 million business for NC farmers, yielded only \$250 million in 2024 because of extreme weather — both wet and dry.

by Jane Winik Sartwell · March 31, 2025

Facebook X Print Email



Personal Concerns

Emphasis Chatham County

RaInDROP Tool



- **Growing risk of extreme heat (humidity) and extension of the heat season and impacts on people and the environment – impacts from type heat waves we haven't experienced.**
- **Increasing risk of more frequent warm season storms with more destructive TCs**
- **Being more prepared for the weather whiplash – from one extreme to another in a short period of time (e.g., hurricane to extreme heat to drought)**
- **Anticipate quickly developing drought conditions - impacts, especially ag.**

Making sense of a rapidly changing North Carolina



SUBSCRIBE TO THE CLIMATE BLOG



> [Winter Outlook 2024-25: A Decisive Season for Droughts](#)

November 13, 2024

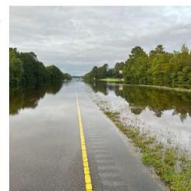
It's setting up to be a consequential winter for North Carolina, with the fate of a newly emerging drought, along with a potentially record-breaking "snow..."



> [October Dries Out in a Monthly Rainfall Reversal](#)

November 4, 2024

Coming off a soaking September, October offered a decidedly drier pattern, along with mostly warm temperatures. That has made for an unconventional start to fall...



> [Reflecting on a Record-Setting, Storm-Soaked September](#)

October 3, 2024

Due to Hurricane Helene, the National Centers for Environmental Information's data center in Asheville is currently shut down. Our colleagues at NCEI have confirmed that...

