



Hurricane Helene Webinar #2

12:00 PM EDT

Wednesday, September 25th, 2024

What has changed:

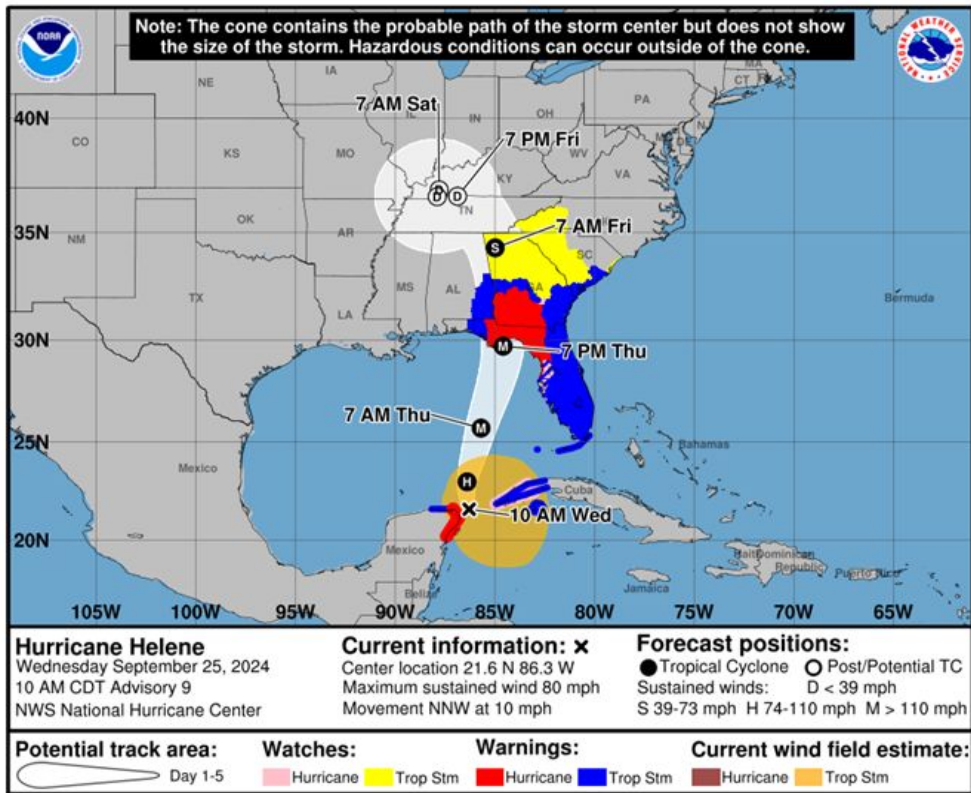
Tropical Storm Watch Issued
Flood Watch Expanded

Risk of life-threatening flash flooding, main stem river flooding, and landslides continues.



Forecast Track

Hurricane Helene



- Little change in the track or intensity forecast since yesterday. **This is a very large storm.**
- There is a Tropical Storm Watches out for the North Carolina mountains/foothills, Upstate South Carolina, and northeast Georgia
- Heaviest rainfall is expected in our area tonight through Friday morning.
- Strongest winds are expected Thursday night and Friday morning.



Pre-Helene Rainfall

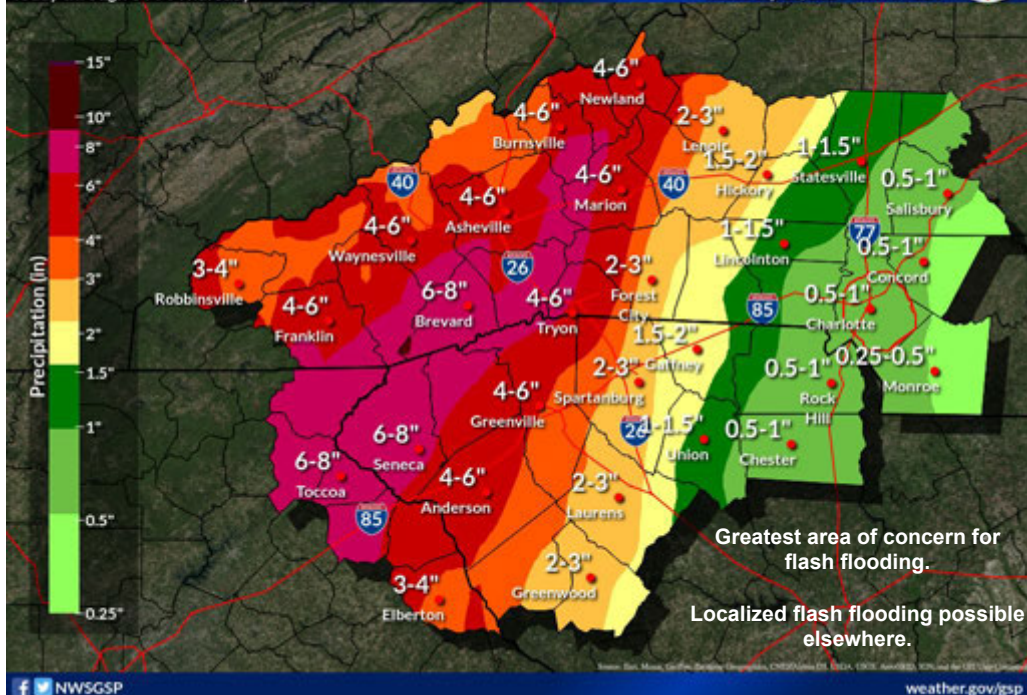
Hurricane Helene

Note: The forecast will change between now and Wednesday night

Pre-Helene Rainfall

Today through 8 PM Thursday

Weather Forecast Office
Greenville-Spartanburg
Issued Sep 25, 2024 4:08 AM EDT

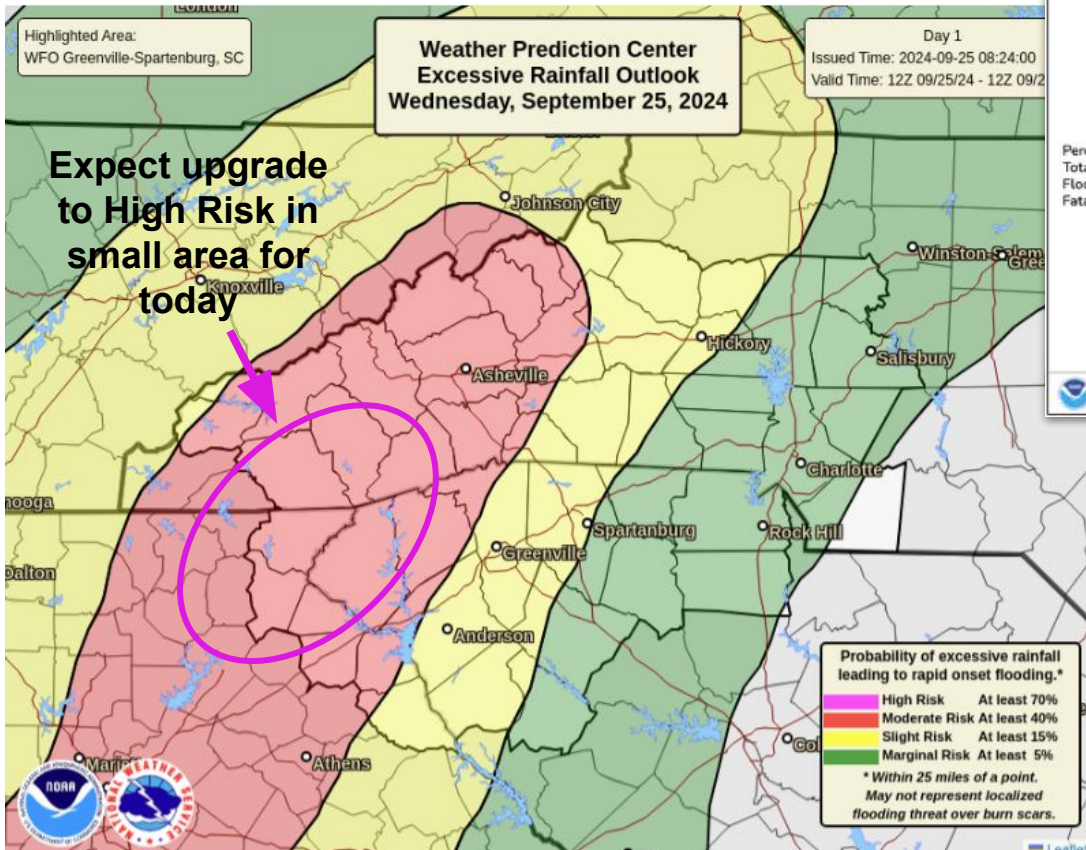


- A “predecessor” rainfall event ahead of Helene will develop later today and continue through Thursday.
- Region of heavy rainfall that develops 24-36 hours in advance of the main rain bands associated with Tropical Systems.
- Flash flood concern will be greatest along and near the Blue Ridge Escarpment prior to Helene, with 4-8” expected. Flash flooding is likely to develop in these areas **before** tropical rain bands arrive.



Pre-Helene Excessive Rainfall Outlook

Hurricane Helene

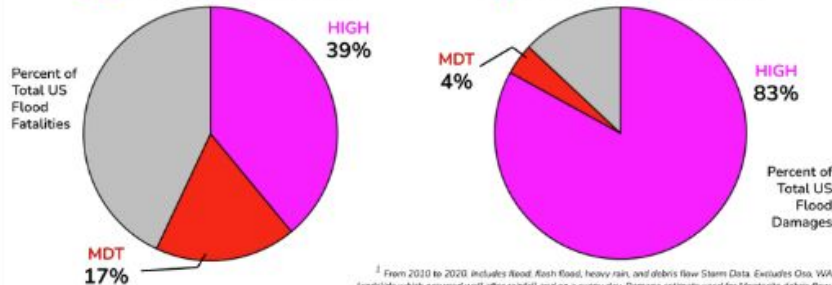


WPC High Risk Days are a **BIG DEAL**

High Risks are only issued by WPC on ~4% of days, but "High Risk Days" have accounted¹ for:

2/5 of ALL Flood-related Fatalities

4/5 of ALL Flood-related Damages



WEATHER PREDICTION CENTER
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

ERG High Risk Statistics, Version J
Updated February 12, 2022





Helene Rainfall

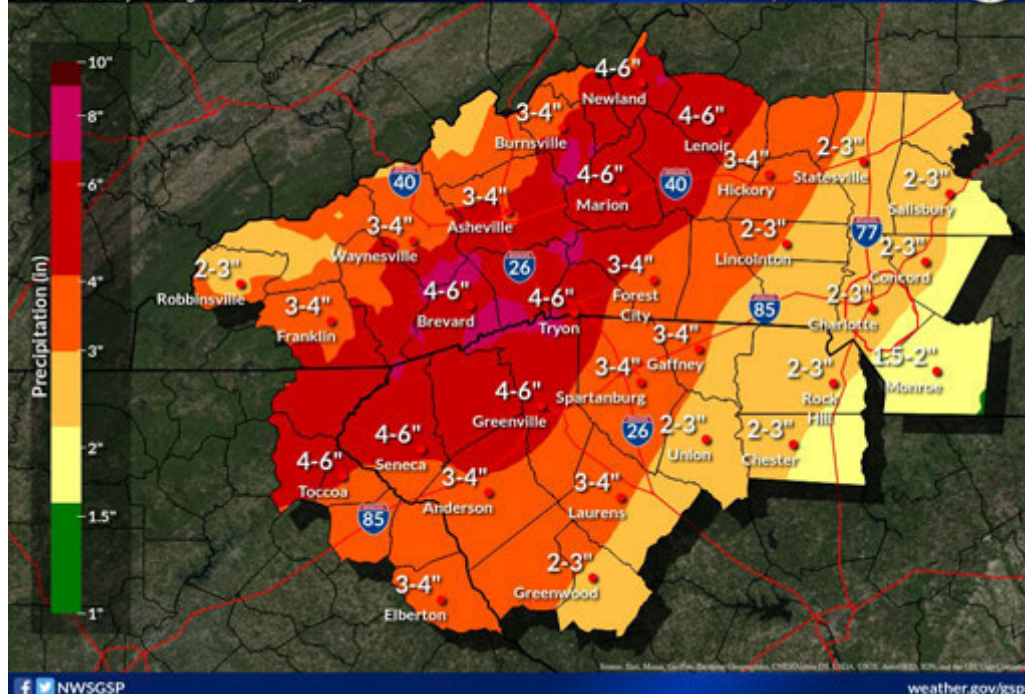
Hurricane Helene

Note: The forecast will change between now and Wednesday night

Helene Rainfall

8 PM Thursday Through 8 PM Friday

Weather Forecast Office
Greenville-Spartanburg
Issued Sep 25, 2024 4:11 AM EDT

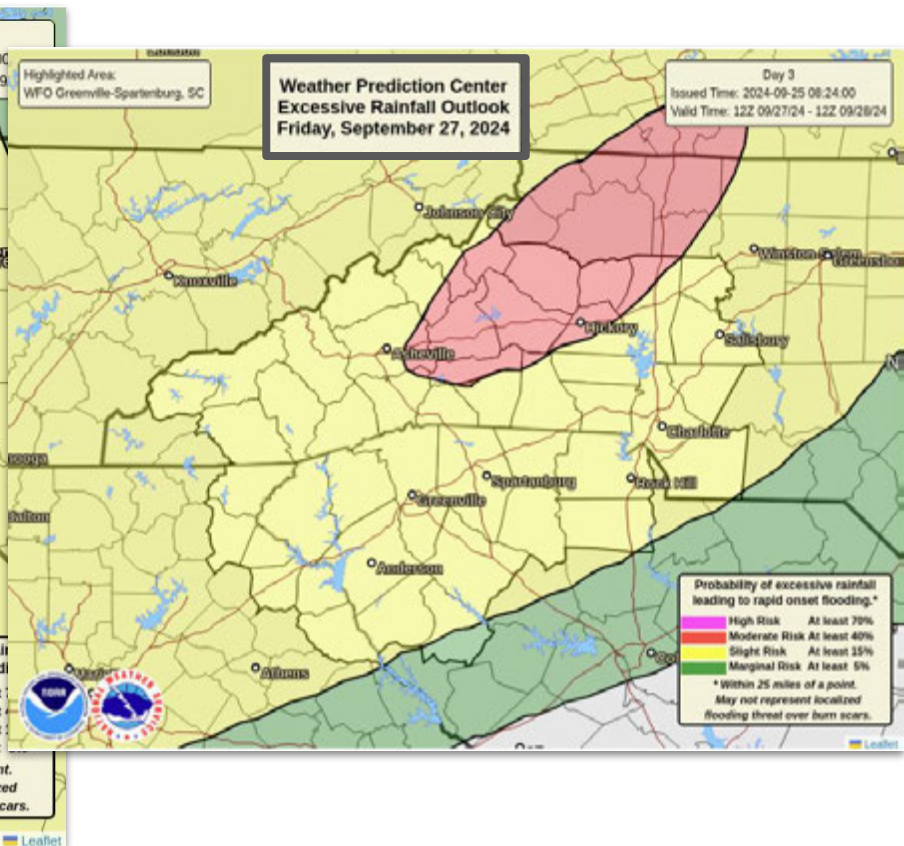
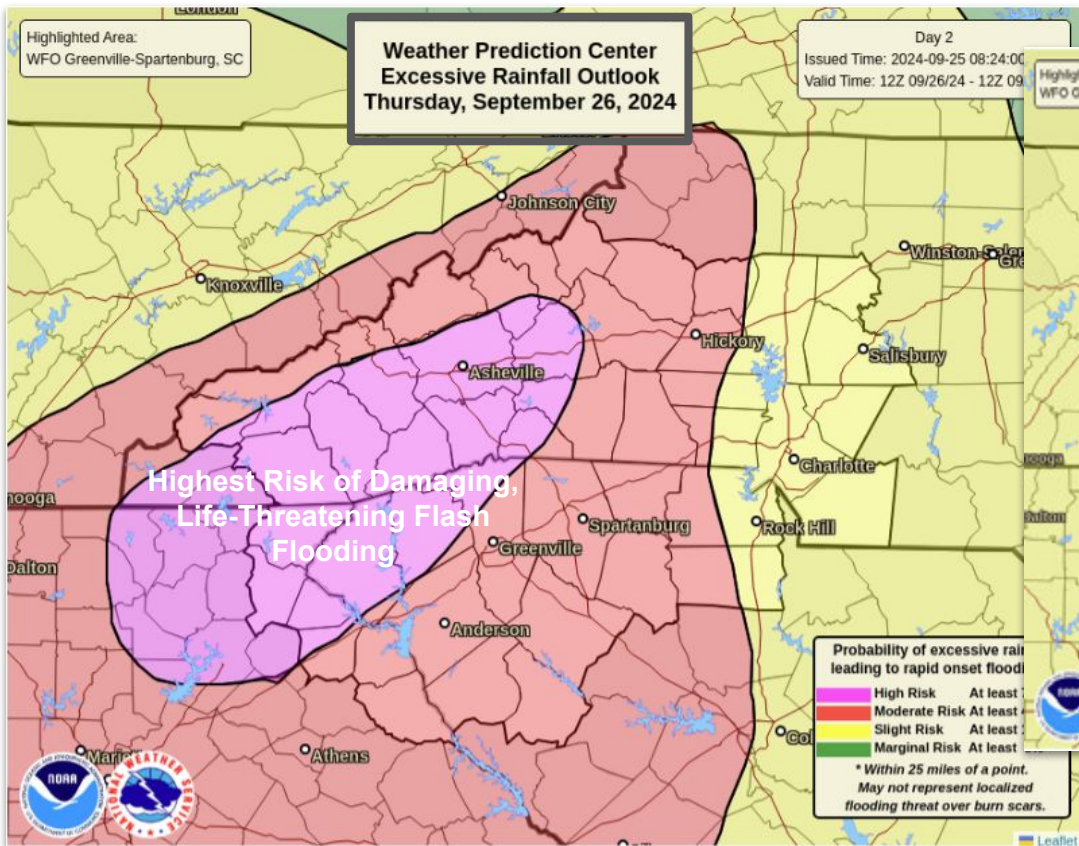


- The main tropical rain bands associated with Helene will move into the area Thursday night, peaking between midnight and sunrise Friday before tapering off.
- **Additional** rainfall amounts of 3 to 6 inches with locally higher amounts are expected during this time, with lesser amounts east toward the I-77 corridor. This rainfall on top of already-saturated soils and ongoing flash flooding will lead to worsening flash flood impacts, with locally catastrophic, life-threatening flash flooding possible in areas along and near the Blue Ridge escarpment.
- Vulnerable areas need to prepare for the worst case scenario. Areas that normally do not flood may flood.



Helene Excessive Rainfall Outlook

Hurricane Helene





Storm Total Rainfall

Hurricane Helene

Note: The forecast will change between now and Wednesday night

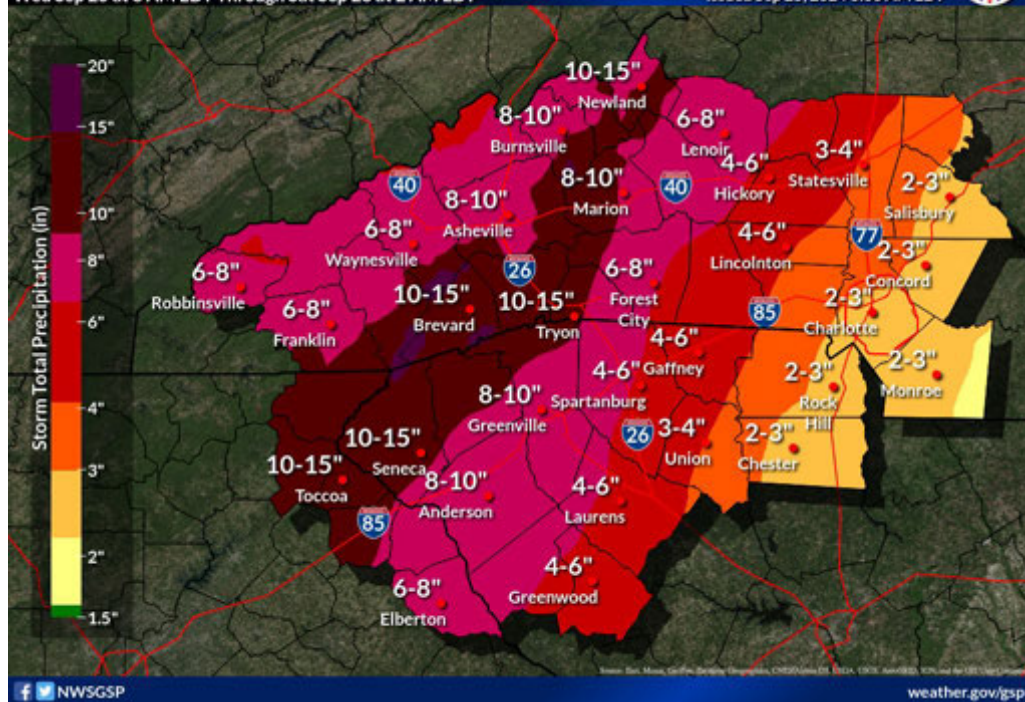
Storm Total Precipitation

Weather Forecast Office
Greenville-Spartanburg



Wed Sep 25 at 8 AM EDT Through Sat Sep 28 at 2 AM EDT

Issued Sep 25, 2024 6:06 AM EDT



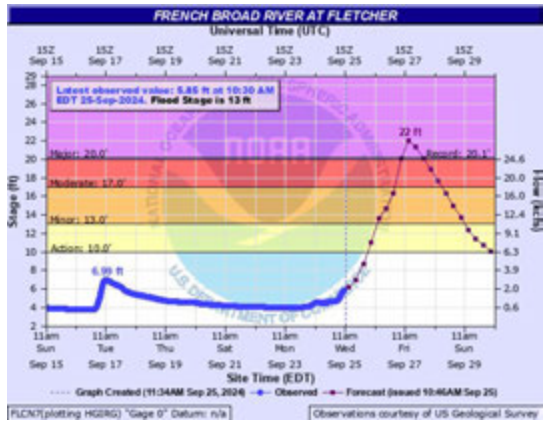
- Storm total rainfall of 9-14" with locally higher amounts could result in life-threatening flash flooding in areas along and near the Blue Ridge escarpment. Locally severe flash flooding could develop in other areas.
- Significant flooding of larger streams and mainstem rivers is likely with flooding in some areas persisting into at least Saturday. Major flooding is possible with any rivers with headwaters near the Blue Ridge.
- Numerous landslides may occur across the mountains, with a couple of large, damaging debris flows/slope failures possible.



Mainstem Forecast Hydrographs

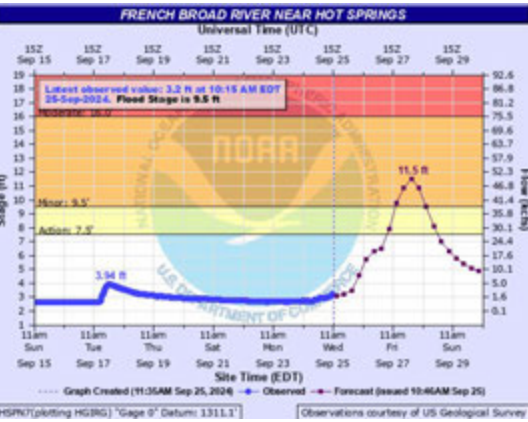
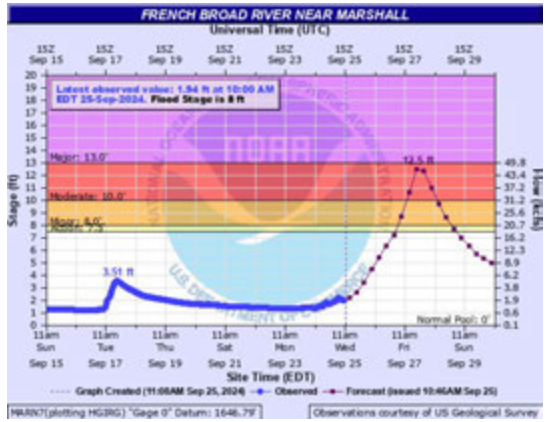
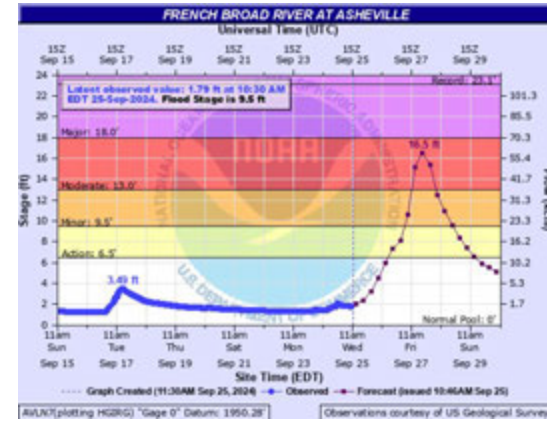
September 25, 2024
10:31 AM

French Broad River Basin



In some locations, flooding could rival or exceed devastating floods of 2004

Click on hydrograph for larger version/ latest forecast/ impacts.



River forecasts are based on 24 hours of forecasted rainfall. River forecasts are very sensitive to changes in the rainfall intensity, timing, and totals. Click [here](#) for a map showing available forecast locations.

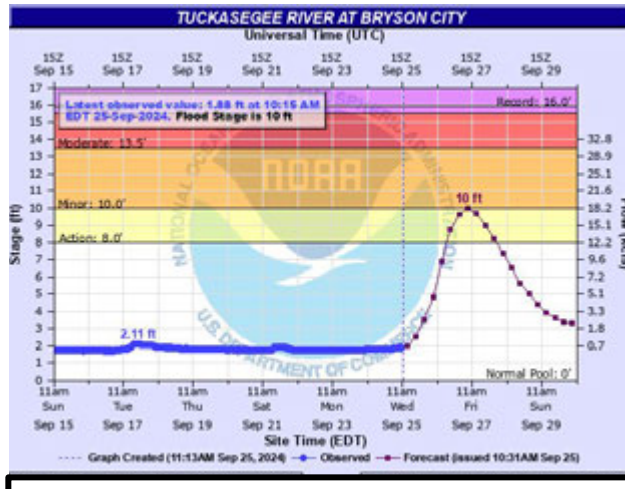




Mainstem Forecast Hydrographs

September 25, 2024
10:31 AM

Pigeon River and Lower Tuckasegee River Basin



Flood Category Definitions

- Action/Advisory:** Nuisance flooding of low-lying areas.
- Minor:** Common, deeper inundation of low-lying areas and secondary roads. Shallow structural flooding may begin.
- Moderate:** Unusual, damaging flooding impacting many roadways, outbuildings, crawlspaces, and basements.
- Major:** Extremely rare, catastrophic flooding capable of destroying first-floor elevations and severely limiting travel.

Links to Larger Hydrographs/Latest Forecasts/Impacts
(or click on hydrograph):

- Pigeon River at [Canton](#) (CTPN7)
- Oconaluftee River at [Birdtown](#) (BIRN7)
- Tuckasegee River at [Bryson City](#) (TKSN7)

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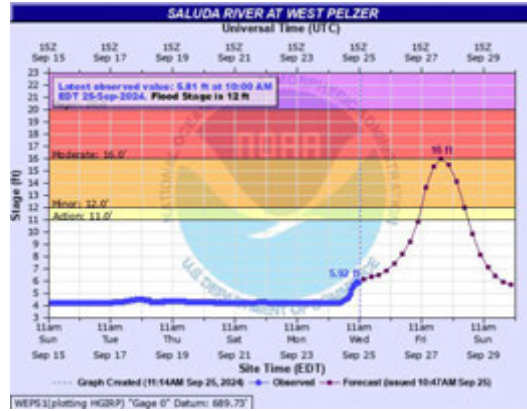


Mainstem Forecast Hydrographs

September 25, 2024

10:31 AM

Saluda and Broad River Basins

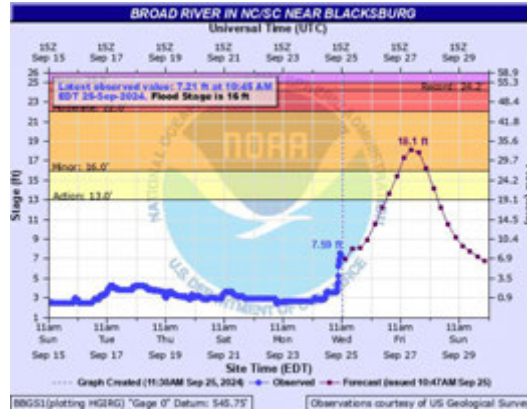
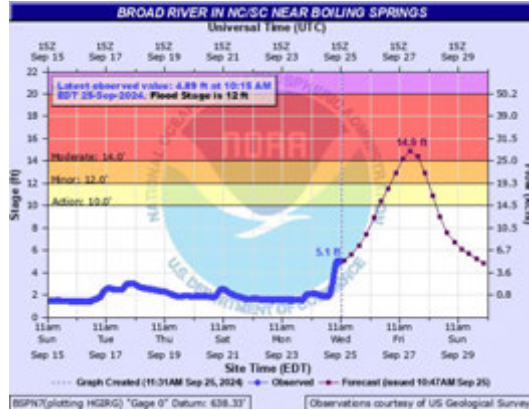


Saluda River flooding could rival floods of 1995 from TC Jerry

Links to Larger Hydrographs/Latest Forecasts/Impacts (or click on hydrograph):

- Saluda River at [5 W Greenville](#) (GSL51)
- Saluda River at [Pelzer](#) (WEPS1)
- Broad River nr [Boiling Springs](#) (BSPN7)
- Broad River nr [Blacksburg](#) (BBGS1)

River forecasts are based on **48 hours** of forecasted rainfall. River forecasts are **very sensitive** to changes in the rainfall intensity, timing, and totals. Please click [here](#) for a map showing available forecast locations.



Flood Category Definitions

Action/Advisory: Nuisance flooding of low-lying areas adjacent to streams including farmland and greenways.

Minor: Common, deeper inundation of low-lying areas and secondary roads. Shallow flooding of outbuildings and crawl spaces possible.

Moderate: Unusual, damaging flooding impacting many roadways, outbuildings, crawlspaces, and basements. Shallow first-floor flooding possible.

Major: Extremely rare, catastrophic flooding capable of destroying first-floor elevations. Devastating impact to travel likely with significant road closures.





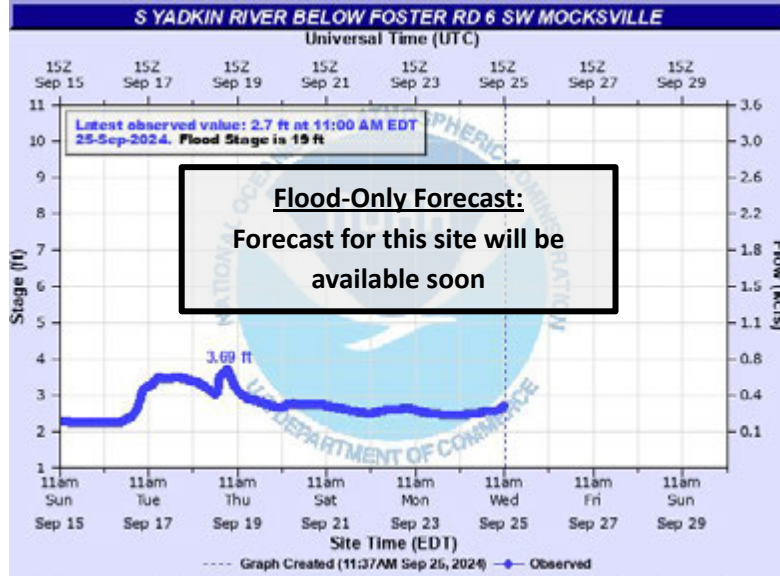
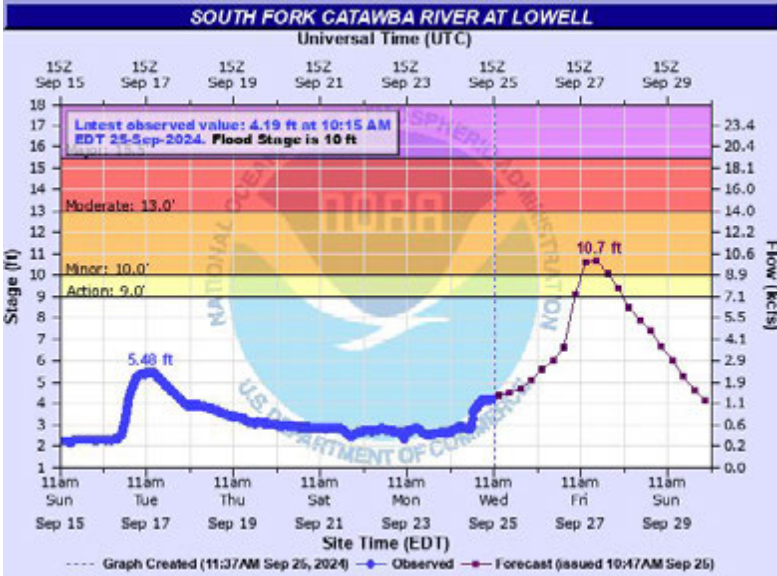
Mainstem Forecast Hydrographs

September 25, 2024
10:31 AM

South Fork Catawba and South Yadkin Rivers

Click on hydrograph for larger version/latest forecast/impacts.

River forecasts are based on **48 hours** of forecasted rainfall. River forecasts are **very sensitive** to changes in the rainfall intensity, timing, and totals. Click [here](#) for a map showing available forecast locations.



Flood Category Definitions

- Action/Advisory:** Nuisance flooding of low-lying areas adjacent to streams including farmland and greenways. Isolated, shallow flooding of secondary roadways.
- Minor:** Common, deeper inundation of low-lying areas and secondary roads. Shallow flooding of outbuildings and crawl spaces possible.
- Moderate:** Unusual, damaging flooding impacting many roadways, outbuildings, crawlspaces, and basements. Shallow first-floor flooding possible.
- Major:** Extremely rare, catastrophic flooding capable of destroying first-floor elevations. Devastating impact to travel likely with significant road closures.





Important Notes

Hurricane Helene

Landslides:

- High potential to push this event into higher end of landslide spectrum
- Things to watch out for:
 - Rainfall amounts piling up over 10" in mountainous terrain
 - Rapid burst of excessive rain with rates 2-3" per hour

Flash Flood Emergencies

- What it means: widespread/overwhelming minor impacts, scattered moderate to major impacts, numerous road closures, several threats to structures, significant emergency response
- It is *imperative* that we communicate with Emergency Management for FFEs
- If you are seeing impacts in your county and believe you need one, CALL US (preferred)
- We get very busy very quickly with these events. Please don't assume we know what's happening on your small streams. CALL US!



Flood Watch

Hurricane Helene

Note: The forecast will change between now and Wednesday night

Flood Watch

Now through Friday Morning

Weather Forecast Office
Greenville-Spartanburg
Issued Sep 25, 2024 11:21 AM EDT



Valid 11 AM Today - 2 PM Friday

- Hazards
- Flood Watch



- Multiple rounds of heavy rainfall are expected due to the interaction of tropical moisture along a stationary front and Helene.
- The Flood Watch may expand further east in later forecast updates.
- This has the potential to be an extremely rare event with significant, damaging, and life-threatening flash flooding along numerous streams.



Max Wind Gusts

Hurricane Helene



- Wind gusts of 40 to 50 mph are likely across most of the forecast area from late Thursday night through Friday morning. Gusts to 60 can be expected in the NC mountains.
- Brief gusts as high as 60 mph cannot be ruled out across northeast Georgia and the the western Upstate.
- The combination of strong wind gusts and saturated soils will likely result in numerous downed trees, with scattered to numerous power outages possible.



Max Wind Gusts

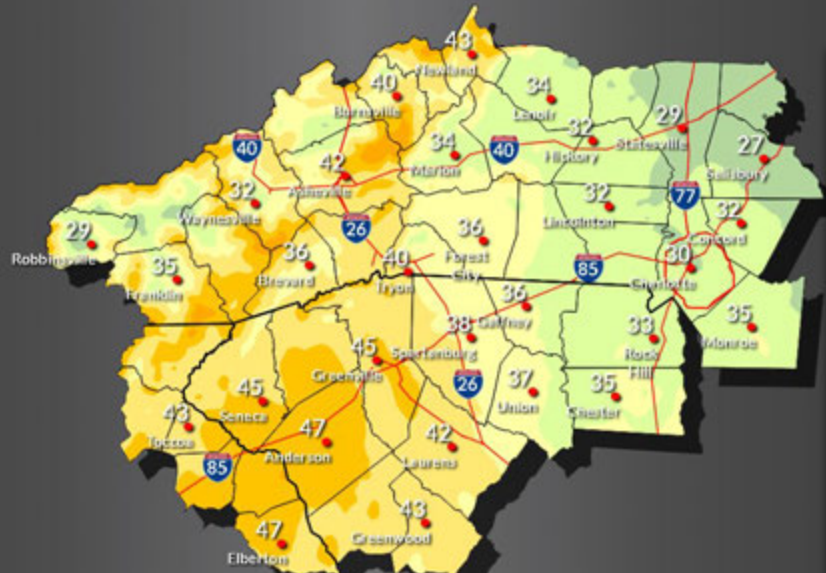
Hurricane Helene

www.weather.gov/forecastpoints

Max Wind Gusts

8 PM Thur Sept 26 through 2 AM Fri Sept 27

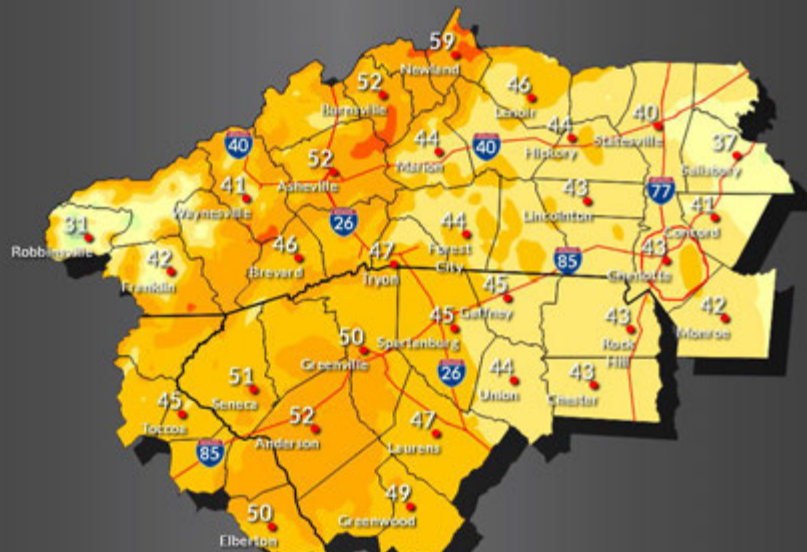
Weather Forecast Office
Greenville-Spartanburg
Issued Sep 25, 2024 11:16 AM EDT



Max Wind Gusts

2 AM Fri Sept 27 through 8 AM Fri Sept 27

Weather Forecast Office
Greenville-Spartanburg
Issued Sep 25, 2024 11:16 AM EDT



NWSGSP

weather.gov/gsp

NWSGSP

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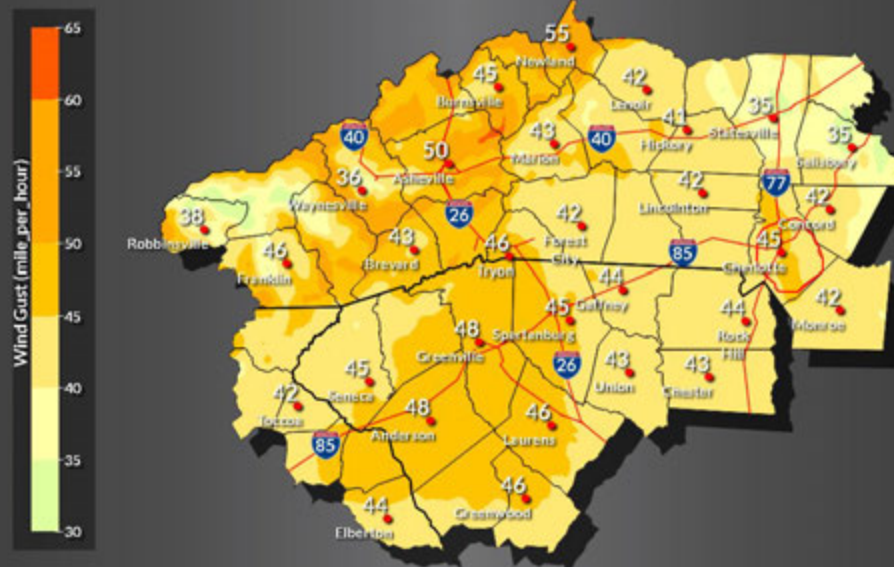
Max Wind Gusts

Hurricane Helene

Max Wind Gusts

8 AM Fri Sept 27 through 2 PM Fri Sept 27

Weather Forecast Office
Greenville-Spartanburg
Issued Sep 25, 2024 11:18 AM EDT



Max Wind Gusts

2 PM Fri Sept 27 through 8 PM Fri Sept 27

Weather Forecast Office
Greenville-Spartanburg
Issued Sep 25, 2024 11:18 AM EDT



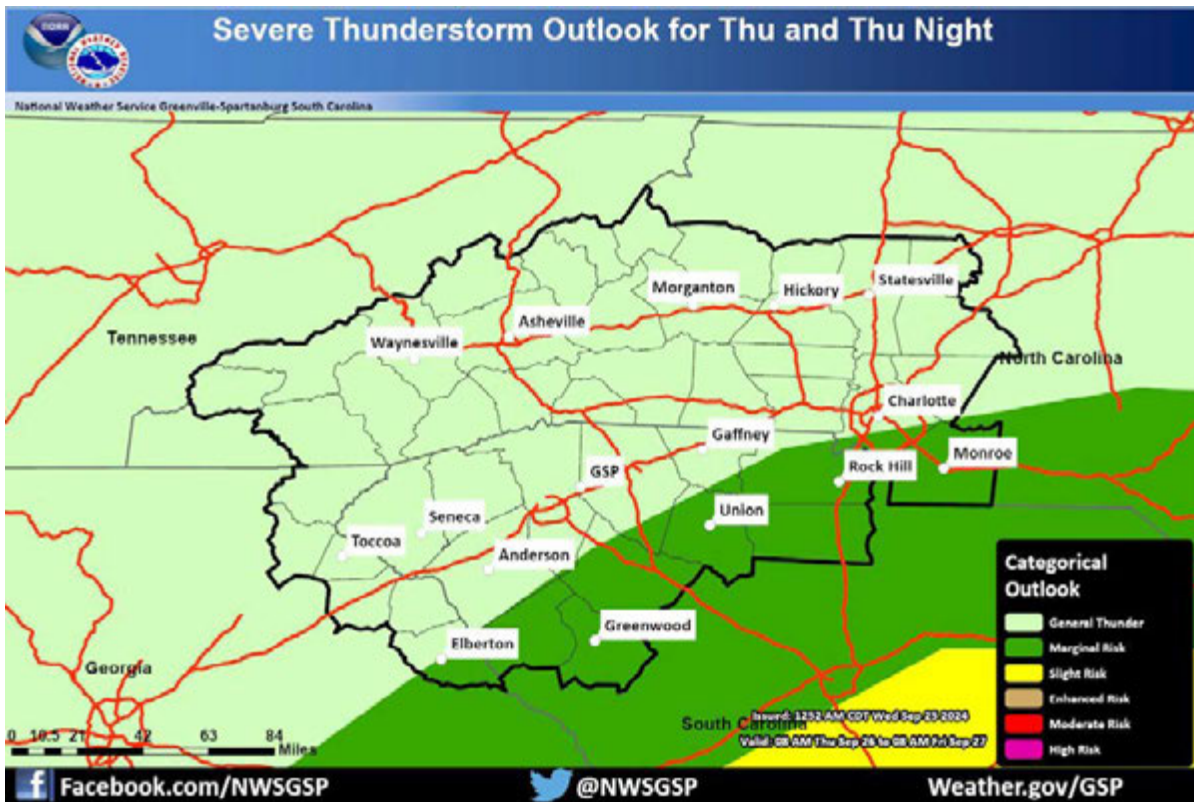
NWSGSP

weather.gov/gsp



Max Wind Gusts

Hurricane Helene

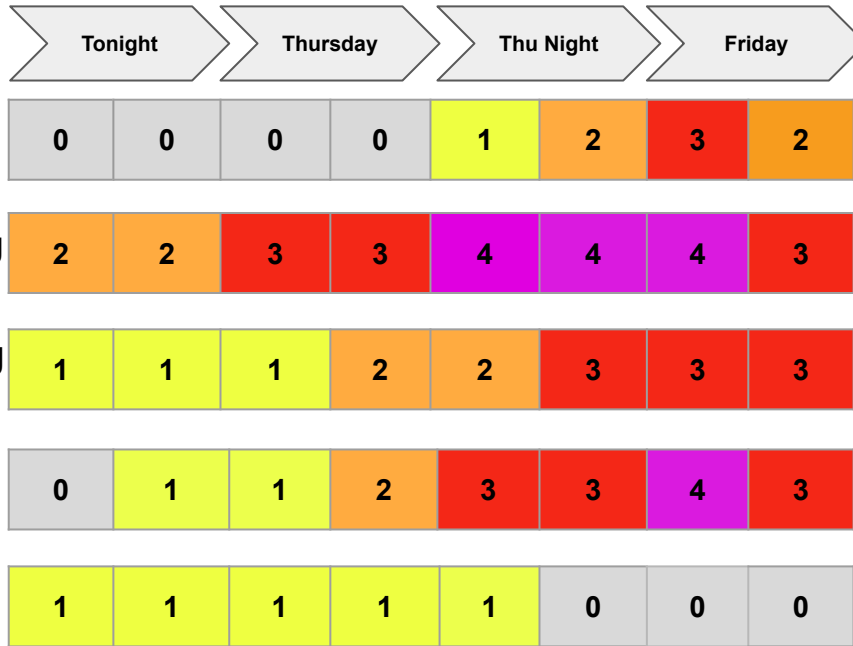


- Tornado threat is the least of the three, but non-zero
- Greatest threat overnight Thursday night
- Nocturnal tornadoes can be a significant concern
- May be hard to hear with heavy rain/wind
- Any damage may be difficult to distinguish from overall wind



Timeline for Greatest Impacts & Key Messages

Hurricane Helene



Impacts Legend

- 0 Little to No Impact
- 1 Minor Impact
- 2 Moderate Impact
- 3 High Impact
- 4 Extreme Impact

Key Messages

- The potential exists for widespread flash flooding, which could be locally severe and life-threatening. Mainstem river flooding is also expected, with major flooding possible.
- Wind gusts of 40 to 50 mph are currently expected across much of our area, with 50 to 60 mph gusts possible across the western part of our area. Numerous downed trees and at least scattered power outages are likely.
- A small threat for isolated tornadoes will develop later today and continue through Thursday evening.



Local Resources

Hurricane Helene

Next Briefing:

Another Live Webinar Will be Held Thursday. Time TBD



Web: <http://weather.gov/gsp>



Phone: (864) 848-9970



E-mail: nws.er.gsp.met@noaa.gov



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For the latest graphics and information go to: www.hurricanes.gov or weather.gov/gsp/tropical