

### Tropical Update



5:30 AM EDT

Thursday, September 26, 2024

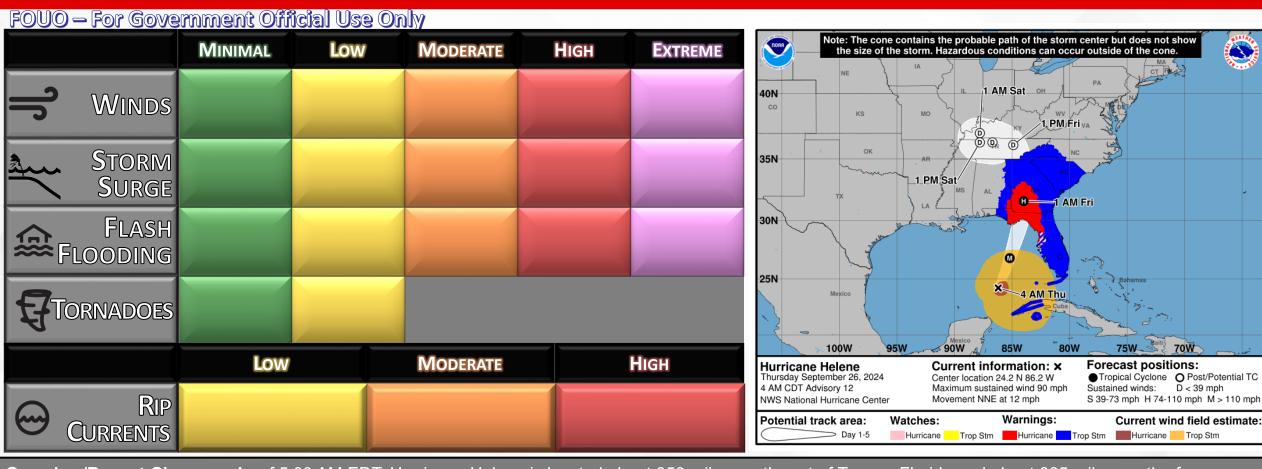
# Hurricane Helene Continues to Strengthen Life-Threatening & Catastrophic Storm Surge and Winds and Significant Flash Flood Risk Expected Along the Florida Big Bend

This update is intended for government and emergency response officials, and is provided for informational and situational awareness purposes only. Forecast conditions are subject to change based on a variety of environmental factors. For additional information, or for any life safety concerns with an active weather event please contact your County Emergency Management or Public Safety Office, local National Weather Service forecast office, or visit the National Hurricane Center website at <a href="https://www.hurricanes.gov">www.hurricanes.gov</a>.



### Hurricane Helene

5:00 AM EDT Thursday: Florida Threats & Changes Since Last Packet

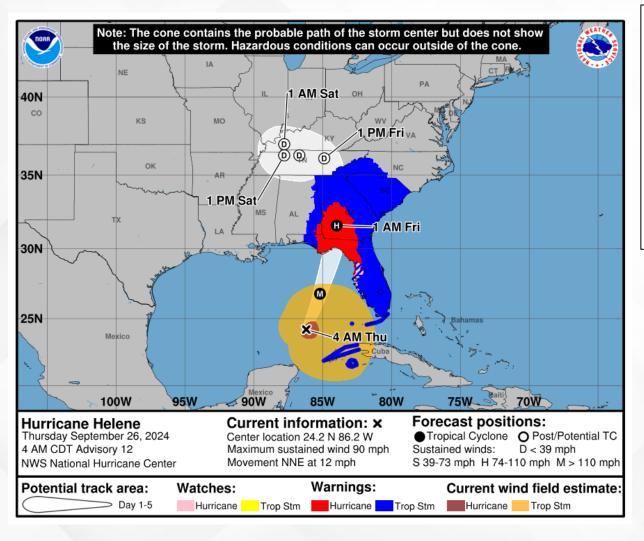


Overview/Recent Changes: As of 5:00 AM EDT, Hurricane Helene is located about 350 miles southwest of Tampa, Florida and about 385 miles south of Apalachicola, Florida and moving north-northeastward at 12 mph. This general motion with a significant increase in forward speed is expected over the next 24 hours. On the forecast track, Helene will move across the eastern Gulf of Mexico today and cross the Florida Big Bend coast this evening or early Friday morning. After landfall, Helene is expected to turn northwestward and slow down over the Tennessee Valley on Friday and Saturday. Maximum sustained winds have increased to near 90 mph with higher gusts. Strengthening is forecast, and Helene is expected to be a major hurricane when it reaches the Florida Big Bend coast this evening. Weakening is expected after landfall, but Helene's fast forward speed will allow strong, damaging winds, especially in gusts, to penetrate well inland across the southeastern United States, including over the higher terrain of the southern Appalachians.



### Hurricane Helene

From the National Hurricane Center (NHC)



- Location: 350 miles SW of Tampa, Florida; 385 miles S of Apalachicola, Florida
- Maximum Sustained Winds: 90 mph; Category 1
- Current Movement: NNE at 12 mph

This general motion with a significant increase in forward speed is expected over the next 24 hours. On the forecast track, Helene will move across the eastern Gulf of Mexico today and cross the Florida Big Bend coast this evening or early Friday morning. After landfall, Helene is expected to turn northwestward and slow down over the Tennessee Valley on Friday and Saturday. Strengthening is forecast, and Helene is expected to be a major hurricane when it reaches the Florida Big Bend coast this evening. Weakening is expected after landfall, but Helene's fast forward speed will allow strong, damaging winds, especially in gusts, to penetrate well inland across the southeastern United States, including over the higher terrain of the southern Appalachians.

Satellite imagery shows Helene's eye is trying to clear out.



### Current Tropical Wind Watches/Warnings

As of 5:00 AM EDT Thursday



#### Hurricane Warning:

Jackson, Calhoun, Gulf, Gadsden, Liberty, Franklin, Leon, Wakulla, Jefferson, Madison, Taylor, Hamilton, Suwannee, Lafayette, Columbia, Gilchrist, Dixie, western Alachua, Levy, western Marion, coastal Citrus, coastal Hernando, coastal Pasco

#### Tropical Storm Warning:

Walton, Holmes, Washington, Bay, Baker, Nassau, Duval, Union, Bradford, Clay, St. Johns, eastern Alachua, Putnam, Flagler, eastern Marion, Volusia, inland Citrus, Sumter, Lake, Seminole, Brevard, Orange, inland Hernando, inland Pasco, Pinellas, Hillsborough, Polk, Osceola, Indian River, Manatee, Hardee, Highlands, Okeechobee, St. Lucie, Martin, Glades, DeSoto, Sarasota, Charlotte, Palm Beach, Hendry, Lee, Collier, Broward, Miami-Dade, Monroe

#### Hurricane Watches:

Inland Citrus, inland Hernando, inland Pasco, Pinellas, coastal Hillsborough, coastal Manatee, coastal Sarasota

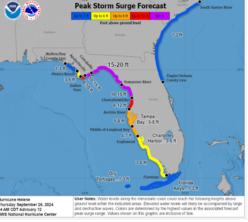


#### Key Messages for Hurricane Helene Advisory 12: 4:00 AM CDT Thu Sep 26, 2024



- 1. A catastrophic and deadly storm surge is likely along portions of the Florida Big Bend coast, where inundation could reach as high as 20 feet above ground level, along with destructive waves. There is also a danger of life-threatening storm surge along the remainder of the west coast of the Florida Peninsula. Residents in those areas should follow advice given by local officials and evacuate if told to do so.
- 2. Potentially catastrophic hurricane-force winds are expected within the eyewall of Helene when it makes landfall in the Florida Big Bend region later today. Preparations to protect life and property should be completed this morning before tropical storm conditions arrive. Damaging and life-threatening hurricane-force winds, especially in gusts, will penetrate well inland over portions of northern Florida and southern Georgia later today and tonight where Hurricane Warnings are in effect. Strong wind gusts are also likely farther north across portions of northern Georgia and the Carolinas, particularly over the higher terrain of the southern Appalachians.
- 3. Catastrophic and life-threatening flash and urban flooding, including numerous significant landslides, is expected across portions of the southern Appalachians through Friday. Considerable to locally catastrophic flash and urban flooding is likely for northwestern and northern Florida and the Southeast through Friday. Widespread significant river flooding and isolated major river flooding are likely.
- 4. Tropical storm conditions are expected over portions of western Cuba within the Tropical Storm Warning area. Hurricane Helene will bring heavy rain to portions of the western Caribbean with potentially significant flooding across western Cuba and the northeastern Yucatan Peninsula through this morning.





For more information go to hurricanes.gov



# Threats & Impacts From the National Weather Service

### **Storm Surge**



- Widespread deep inundation, with storm surge flooding greatly accentuated by powerful battering waves. Structural damage to buildings, with many washing away. Damage greatly compounded from considerable floating debris. Locations may be uninhabitable for an extended period.
- Near-shore escape routes and secondary roads washed out or severely flooded. Flood control systems and barriers may become stressed.
- Extreme beach erosion. New shoreline cuts
- Massive damage to marinas, docks, boardwalks, and piers. Numerous small craft broken away from moorings with many lifted onshore and stranded.

### Wind



- Structural damage to sturdy buildings, some with complete roof and wall failures. Complete destruction of mobile homes. Damage greatly accentuated by large airborne projectiles. Locations may be uninhabitable for weeks or months.
- Numerous large trees snapped or uprooted along with fences and roadway signs blown over.
- Many roads impassable from large debris, and more within urban or heavily wooded places. Many bridges, causeways, and access routes impassable.
- Widespread power and communications outages.

### **Flooding**



- Extreme rainfall flooding may prompt numerous evacuations and rescues.
- Rivers and tributaries may overwhelmingly overflow their banks in many places with deep moving water. Small streams, creeks, and ditches may become raging rivers. Flood control systems and barriers may become stressed.
- Flood waters can enter numerous structures within multiple communities, some structures becoming uninhabitable or washed away. Numerous places where flood waters may cover escape routes. Streets and parking lots become rivers of raging water with underpasses submerged. Driving conditions become very dangerous. Numerous road and bridge closures with some weakened or washed out.

### **Tornadoes**



- The occurrence of scattered tornadoes can hinder the execution of emergency plans during tropical events.
- Several places may experience tornado damage with a few spots of considerable damage, power loss, and communications failures.
- Locations could realize roofs torn off frame houses. mobile homes demolished, boxcars overturned, large trees snapped or uprooted, vehicles tumbled, and small boats tossed about. Dangerous projectiles can add to the toll.



### Tropical Storm-Force Wind Probabilities

Hurricane Helene



As Hurricane Helene moves into the eastern Gulf of Mexico, tropical storm-force conditions have begun to arrive along the Florida Keys and will begin to reach into South Florida this morning. The forecast quick forward motion of Helene will allow for deteriorating conditions quickly. Later this morning, tropical storm-force winds will mostly likely arrive along the West-Central and western I-4 corridor. Deteriorating conditions and the quick forward motion will allow for tropical storm-force winds to most likely arrive across the Florida Big Bend during the late morning to early afternoon hours, then extend towards the I-10 corridor late this afternoon into this evening.

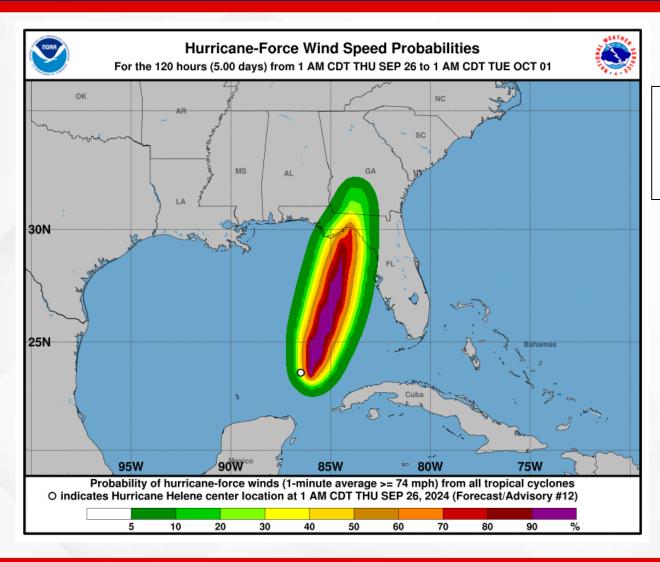
Wind speed probabilities will likely continue to increase in future packets as the eventual forecast track and intensity forecast become realized.

City	Tropical Storm-Force Wind Probability			
Key West	48% (+5%)			
Naples	66% ( <del>+8</del> %)			
Miami	9% (+3%)			
Fort Myers	79% (+24%)			
Tampa	87% (+2%)			
Cedar Key	96% (+-0%)			
Cocoa Beach	42% (+-0%)			
Orlando	56% (+ <mark>6%)</mark>			
Gainesville	94% (+7%)			
Tallahassee	99% (+-0%)			
Jacksonville	73% (+10%)			
Apalachicola	96% (-2%)			
Panama City	78% (-10%)			
Pensacola	8% (-6%)			



### Hurricane-Force Wind Probabilities

Hurricane Helene



The additional strengthening and intensification of Hurricane Helene will allow for hurricane-force winds throughout the Florida Big Bend and extending along the Panhandle as well as Nature Coast and along the West-Central Florida coast.

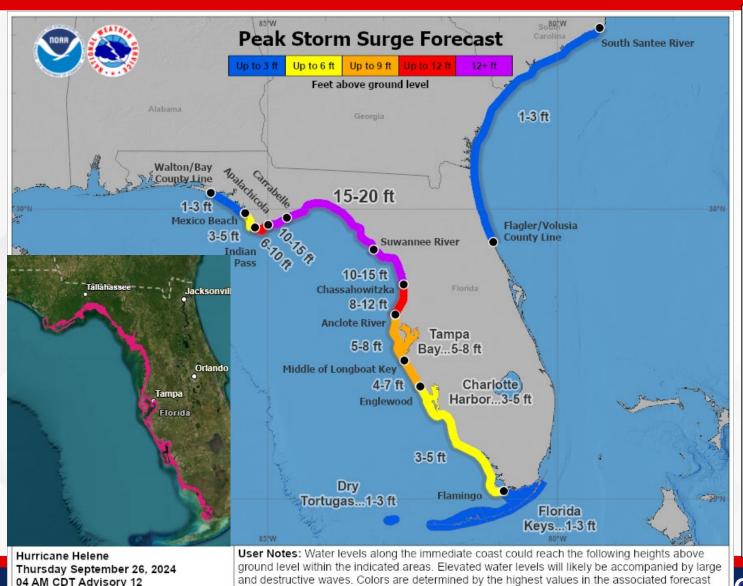
Strong Tropical Storm- Force Wind Probability		
1%		
9%		
39%		
36%		
5%		
27%		



NWS National Hurricane Center

### Current Storm Surge Watch

As of 5:00 AM EDT Thursday



peak surge range. Values shown on this graphic are inclusive of tide.

Catastrophic and life-threatening storm surge can be expected along the Florida Big Bend. Inundation above normally dry ground could reach as high as 20' along with destructive wave action. Given the large radii and wind footprint of Helene, storm surge will be able to travel a significant distance inland, and especially within coastal river systems and basins. There is a danger of life-threatening storm surge along the West Coast of Florida.

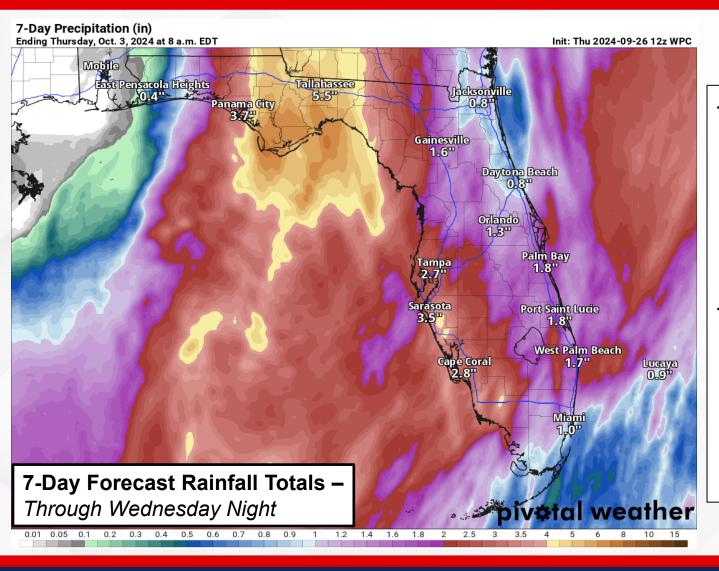
**Storm Surge Warnings** extend along the entire Florida Gulf Coast to coastal Gulf County.

- 15-20' of storm surge can be expected from Carabelle to the Suwannee River; 10-15' from Carabelle to Apalachicola and the Suwannee River south to Chassahowitzka.
- 8-12' of storm surge is now forecast for the Nature Coast to the Anclote River, with 5-8' along the West-Central Florida Coast including Tampa Bay.



### Rainfall Totals – Next 7 Days

From the Weather Prediction Center (WPC)

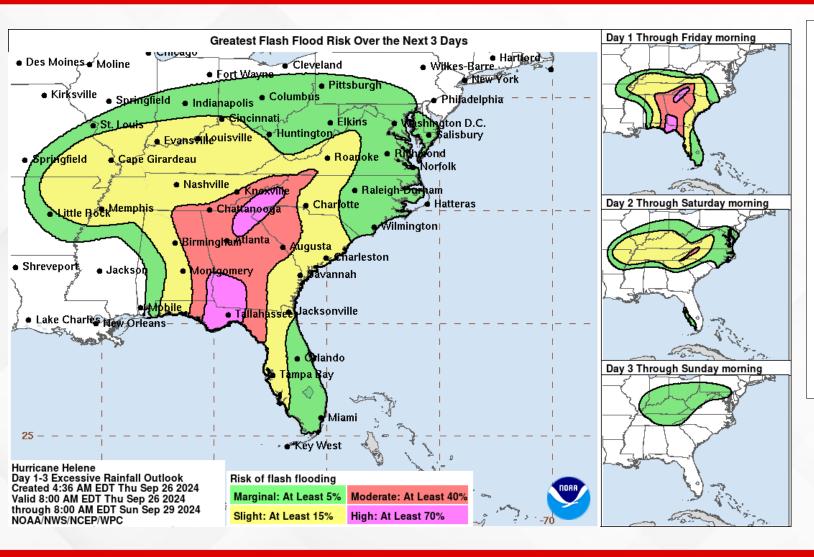


- As Helene moves northward to northnortheastward today, tropical moisture will push northward through the state and rainbands from the system will bring multiple rounds of heavy rainfall nearly statewide throughout the day.
- Widespread rainfall totals of 2-4" can be expected across the state through the next 7 days, with locally higher totals upwards of 6-10" along the Panhandle and immediate Gulf Coast. Localized instances upwards of 12-15" cannot be ruled out along portions of the western coastal Big Bend.



### Flash Flood Outlooks

From the Weather Prediction Center (WPC)



As Hurricane Helene approaches the northeastern Gulf of Mexico and approaches the Florida Big Bend today, tropical downpours can be expected nearly statewide due to the large size of this system. The Weather Prediction Center (WPC) is outlooking a rare High Risk (level 4 of 4) for Flash Flooding across the eastern Panhandle through the Big Bend with a Moderate Risk (level 3 of 4) stretching across the central Panhandle and Suwannee Valley today, and a Slight Risk (level 2 of 4) across the rest of the Panhandle and along the eastern I-10 corridor and south through the I-75 corridor along the West Coast. A Marginal Risk (level 1 of 4) extends statewide as hazards will likely extend well away from the center. Regardless, tropical downpours and multiple rounds of rainfall may be possible that lead to instances of flash flooding as the system moves into the southeastern Gulf of Mexico, especially with potentially training showers and thunderstorms over the same areas and moving onshore. There is a Marginal Risk (level 1 of 4) for Flash Flooding on Friday as well along West-Central and Southwest Florida.

#### **Understanding WPC Excessive Rainfall Risk Categories**

#### **MARGINAL** SLIGHT **MODERATE** HIGH No Area/Label (SLGT) (MRGL) (MDT) (HIGH) Flash floods are Isolated flash Scattered flash Numerous flash Widespread flash generally not floods possible floods possible floods likely floods expected expected. Localized and Mainly localized. Most Severe, widespread primarily affecting vulnerable are urban flash flooding. Areas places that can areas, roads, small that don't normally streams and washes. experience rapid runoff with heavy Isolated significant flooding, could, Lives flash floods possible. and property in @NWSWPC areater danger.



### Flood Watch

### From the National Weather Service (NWS)



- Flood Watches are in place across nearly the entire state as tropical downpours associated with Hurricane Helene could bring instances of localized flooding.
- Moderate to heavy rainfall is expected with this system, which could lead to instances of localized flash flooding.
- With recently saturated grounds and soils, additional heavy rainfall across low-lying/poor drainage areas could exacerbate the potential for localized flooding.
- As well, with elevated water levels along the coast and extending into rivers and creeks along the coast due to storm surge, heavy rainfall over surrounding areas could slow the rate of heavy rainfall depositing into system and running off towards the gulf waters. This may also exacerbate potential flooding concerns.



# Coastal Flooding Continues From the National Weather Service (NWS)



A Coastal Flood Warning is in effect along the Florida Keys until tonight as major saltwater flooding of 1-3' above normally dry ground with isolated locations up to 4' are possible, especially near and during times of high tide from Hurricane Helene.

Coastal Flood Warnings are in effect along the Florida Northeast Coast as saltwater flooding of 1-3' is possible, with locally higher totals upwards of 4' due to winds from Hurricane Helene.

Coastal Flood Advisories are in place along the western Panhandle as minor coastal flooding near and during times of high tide from Hurricane Helene.

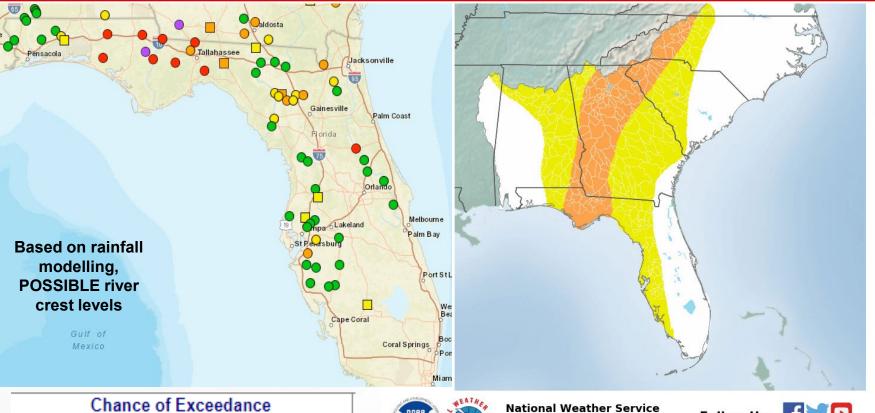
Due to compounding effects of lingering runoff from recent heavy rainfall, onshore flow, and recent high astronomical tides (King tides) courtesy of the recent Full Moon, minor coastal flooding can be expected along the St. Johns River through the middle of the week. A Coastal Flood Advisory remains in effect throughout the basin and along the Intracoastal Waterway and Atlantic Coast.

Minor beach erosion cannot be ruled out at times near and during times of high tide along the East Coast, especially for vulnerable beaches.



### Riverine Flooding

Chance of River Flooding Based on Range of Forecast Rainfall



Chance of Exceedance					
30%	Level				
0	Action				
0	Minor Flood				
	Moderate Flood				
	Major Flood				

🕽 = less than 30% chance of reaching Action level

Follow Us: Peachtree City, GA 09/25/2024 11:55 AM EDT weather.gov/serfc Significant River Flooding Not Significant River Flooding Weather conditions indicate, without certainty that significant river flooding Significant River Flooding Likely Significant River Flooding Weather conditions indicate that

signficant river flood conditions can be

Occurring Significant river flooding is occurring

creeks/streams. Rivers. and waterways across North Florida are already running above normal for this time of year. Computer forecast models are indicating the potential for minor to moderate flooding mainstems along several branches including the Apalachicola, Ochlockonee, Santa Fe, Myakka, Manatee, and Alafia by next week. Major flooding cannot be ruled out along Florida Panhandle rivers that locally higher rainfall totals realized across local and northern portions of the basins.

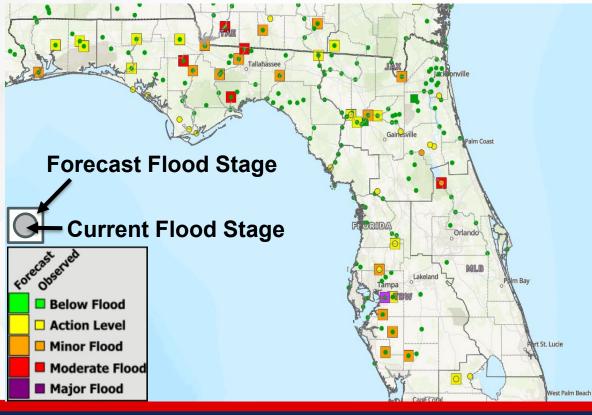
Riverine flooding will be closely tied to which basin receives the greatest swath of rainfall. Trends will continue to be monitored.



### River Flood Warnings

From the National Weather Service

River Guage	County(ies) Affecte	Current Level	Crest Level	Record Leve	Status 🔽	Crest Da	Warning Expire
Alafia River at Riverview near US 301	Hillsborough	Below: 2.86 ft	Major: 7.00 ft	6.60 ft	Falling	26-Sep	0948 EDT 27-Sep
St. Johns River at Astor	Volusia, Lake	Minor: 2.93 ft	Moderate: 3.00 ft	4.70 ft	Steady	26-Sep	Until Further Notice
St. Mary's River near Macclenny	Baker, Nassau	Below: 5.04 ft	Minor: 12.00 ft	24.40 ft	Falling	27-Sep	1400 EDT 27-Sep
Manatee River near Myakka Head at SR-64	Manatee	Below: 4.22 ft	Minor: 11.80 ft	20.90 ft	Rising	28-Sep	2224 EDT 28-Sep
Little Manatee River near Wimauma at US-301	Hillsborough	Below: 5.23 ft	Minor: 13.10 ft	20.10 ft	Rising	28-Sep	Until Further Notice

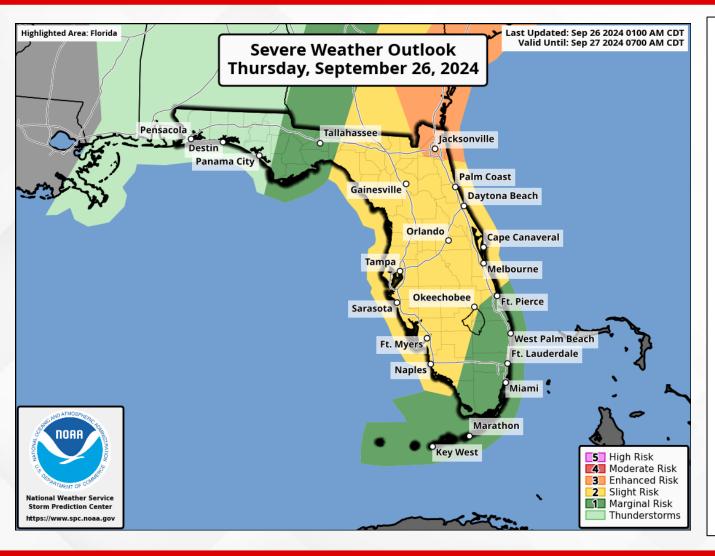


A River Flood Warning remain in effect in the St. Johns River at Astor as water levels are holding steady within minor flood stage just below the line for moderate flood stage due to trapped tides within the river basin. Water levels are forecast to hold relatively steady along the line of minor to moderate flood stage in the next few days in response to heavy rainfall across the basin and elevated tides and ocean swells preventing these waters from discharging. Additional forecast points along the St. Johns River are forecast to remain near or within Action Stage (bank-full) due to recent heavy rainfall over the area; however, river flooding is not anticipated at this time. Tidal portions of the lower St. Johns River could fluctuate in between Action and minor flood stage due tide fluctuations. A River Flood Warning has been issued for the Alafia River at Riverview near US 301 as major flooding is forecast due to tidal fluctuations and anticipated storm surge associated with Hurricane Helene. A River Flood Warning has been issued for the St. Mary's River near Macclenny as water levels are forecast to rise into minor flood stage later this week. River Flood Warnings have also been issued for the Manatee River near Myakka Head at SR-64 and the Little Manatee River near Wimauma at US-301 as heavy rainfall across the region today and tomorrow raises water levels into minor flood stage. Additional River Flood Warnings will likely be issued later this week and this weekend as heavy rainfall expected from Hurricane Helene is observed across the state; however, Riverine flooding will be closely tied to which basin receives the greatest swath of rainfall. Trends will continue to be monitored. For more details, please visit the River Forecast Center.



### Tropical Tornadoes

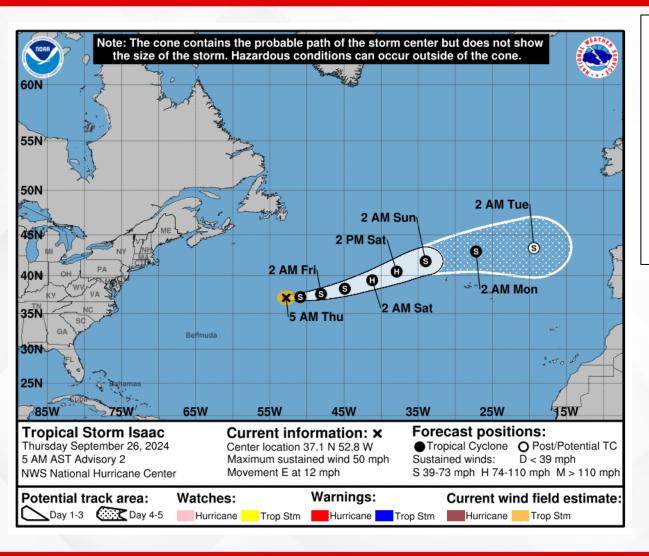
From the Storm Prediction Center (SPC)



- The Storm Prediction Center (SPC) is outlooking a Marginal Risk (level 1 of 5) for Severe Weather across much of the state through the pre-dawn hours today.
- An Enhanced Risk (level 3 of 5) for Severe Weather is being outlooked in far Northeast Florida with a Slight Risk (level 2 of 5) across the Northern Peninsula southward to Lake Okeechobee and a Marginal Risk (level 1 of 4) along the Big Bend, Southeast Florida, and the Keys.
- Isolated tropical tornadoes are possible within outer bands of Hurricane Helene today and Thursday as outer rainbands from Helene extend along the Peninsula and Big Bend Coast.
- The greatest tropical tornado threat will exist along and to the east of the eventual path.
- Tornado Watches and Warnings will be issued as conditions warrant.



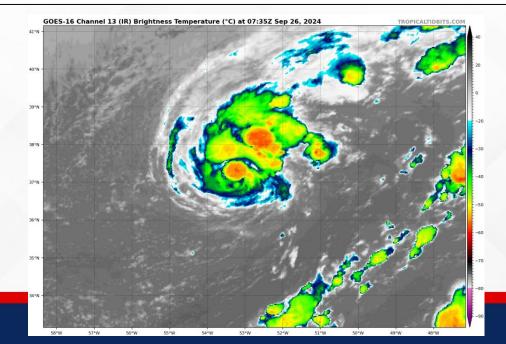
## Tropical Storm Isacc From the National Hurricane Center (NHC)



- Location: 1410 miles W of the Azores; 755 miles ENE of Bermuda
- Maximum Sustained Winds: 50 mph
- Current Movement: E at 12 mph

A general eastward to east-northeastward motion is expected to continue for the next several days. Maximum sustained winds are near 50 mph. Some strengthening is forecast during the next 48 hours and Isaac could become a hurricane by Friday over the open subtropical Atlantic.

Isaac poses no threat to Florida.



#### **FOUO – For Government Official Use Only**

#### **Hurricane Helene:**

- As of 5:00 AM EDT, Hurricane Helene is located about 350 miles southwest of Tampa, Florida and about 385 miles south of Apalachicola, Florida and moving north-northeastward at 12 mph.
- This general motion with a significant increase in forward speed is expected over the next 24 hours.
- On the forecast track, Helene will move across the eastern Gulf of Mexico today and cross the Florida Big Bend coast this evening or early Friday morning.
- After landfall, Helene is expected to turn northwestward and slow down over the Tennessee Valley on Friday and Saturday.
- Maximum sustained winds have increased to near 90 mph (Category 1) with higher gusts.
- Strengthening is forecast, and Helene is expected to be a major hurricane when it reaches the Florida Big Bend coast this evening.
- Weakening is expected after landfall, but Helene's fast forward speed will allow strong, damaging winds, especially in gusts, to penetrate well inland across the southeastern United States, including over the higher terrain of the southern Appalachians.
- Hurricane Warnings have been issued for the following counties: Jackson, Calhoun, Gulf, Gadsden, Liberty, Franklin, Leon, Wakulla, Jefferson, Madison, Taylor, Hamilton, Suwannee, Lafayette, Columbia, Gilchrist, Dixie, western Alachua, Levy, western Marion, coastal Citrus, coastal Hernando, coastal Pasco
- Hurricane Watches have been issued for the following counties: Inland Citrus, inland Hernando, inland Pasco, Pinellas, coastal Hillsborough, coastal Manatee, coastal Sarasota
- Tropical Storm Warnings have been issued for the following counties: Walton, Holmes, Washington, Bay, Baker, Nassau, Duval, Union, Bradford, Clay, St. Johns, eastern Alachua, Putnam, Flagler, eastern Marion, Volusia, inland Citrus, Sumter, Lake, Seminole, Brevard, Orange, inland Hernando, inland Pasco, Pinellas, Hillsborough, Polk, Osceola, Indian River, Manatee, Hardee, Highlands, Okeechobee, St. Lucie, Martin, Glades, DeSoto, Sarasota, Charlotte, Palm Beach, Hendry, Lee, Collier, Broward, Miami-Dade, Monroe
- Catastrophic and life-threatening storm surge can be expected along the Florida Big Bend. Inundation above normally dry ground could reach as high as 20' along with destructive wave action. Given the large radii and wind footprint of Helene, storm surge will be able to travel a significant distance inland, and especially within coastal river systems and basins.
- There is a danger of life-threatening storm surge along the West Coast of Florida.
  - Storm Surge Warnings extend along the entire Florida Gulf Coast to coastal Gulf County.
  - 15-20' of storm surge can be expected from Carabelle to the Suwannee River; 10-15' from Carabelle to Apalachicola and the Suwannee River south to Chassahowitzka.
  - 8-12' of storm surge is now forecast for the Nature Coast to the Anclote River, with 5-8' along the West-Central Florida Coast including Tampa Bay.

The next briefing packet will be issued on Thursday morning. For the latest information, please visit the National Hurricane Center website.

#### **FOUO – For Government Official Use Only**

#### Florida Outlook:

- Hurricane Helene will be a significant multi-hazardous event, bringing the risk for life-threatening storm surge, dangerous to catastrophic winds, catastrophic to life-threatening flash flooding, and isolated tropical tornadoes to the Florida Gulf Coast.
- Widespread showers and thunderstorms within Helene's outermost influence are continuing to move from south to north throughout the Florida Peninsula, with additional rounds of more widespread rainfall likely to arrive this morning.
- Tropical storm-force winds will mostly likely arrive to the Nature Coast, coastal Big Bend, and Panhandle later this morning and early this afternoon, reaching I-10 corridor this
  afternoon into this evening.
  - Destructive to potentially catastrophic hurricane-force winds are expected within the eyewall of Helene when it makes landfall in the Florida Big Bend this evening.
  - Damaging and life-threatening hurricane-force winds, especially in gusts, will penetrate well inland over portions of northern Florida this evening and into tonight.
- Significant rainfall totals will also accompany this system, despite its fast forward speed. Catastrophic to life-threatening rainfall and flooding cannot be ruled out and there is now a **High Risk (level 4 of 4) for Flash Flooding** across the Eastern Panhandle and Big Bend with a **Moderate Risk (level 3 of 4)** through the Central Panhandle and Suwannee Valley.
  - Widespread rainfall totals of 4-8" can be expected, with higher totals of 10-12" likely. Localized amounts of 12-15" cannot be ruled out.
  - Flood Watches have been raised nearly statewide, from the central Florida Panhandle through the remainder of the Florida Peninsula.
  - Widespread minor to moderate river flooding is likely.
- An Enhanced Risk (level 3 of 5) for Severe Weather is being outlooked in far Northeast Florida with a Slight Risk (level 2 of 5) across the Northern Peninsula southward to Lake Okeechobee and a Marginal Risk (level 1 of 4) along the Big Bend, Southeast Florida, and the Keys for a few tropical tornadoes possible in outer rainbands.
  - Tornado Watches and Warnings will be issued as conditions warrant.



### Tropical Update



**FOUO – For Government Official Use Only** 

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State Meteorological Support Unit

Florida Division of Emergency Management

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