

Tropical Update



11:30 PM EDT

Thursday, September 26, 2024 Helene Makes Landfall In the Florida Big Bend As An Extremely Dangerous Category 4 Hurricane Accompanied By Catastrophic Storm Surge and Life-Threatening Winds

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 <u>www.hurricanes.gov</u>.

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Major Hurricane Helene 11:00 PM EDT Thursday: Florida Threats & Changes Since Last Packet



Overview/Recent Changes: Based on NWS Doppler radar data, the eye of Helene has made landfall as a Category 4 hurricane in the Florida Big Bend region at about 11:10 PM EDT just east of the mouth of the Aucilla River and about 10 miles west-southwest of Perry, Florida. As of the 11:00 PM EDT, Major Hurricane Helene is located about 70 miles north-northwest of Cedar Key, Florida and 45 miles east-southeast of Tallahassee, Florida and moving north-northeastward at 24 mph. A turn toward the north is expected overnight, taking the center over Georgia. The center of the hurricane should make landfall very soon in the Big Bend region of Florida. After landfall, Helene is expected to turn northwestward and slow down over the Tennessee Valley on Friday and Saturday. Maximum sustained winds are near 140 mph with higher gusts. Weakening is expected after Helene is moves inland, but the fast forward motion 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. Helene is a very large hurricane, and tropical storm-force winds extend outwards up to 310 miles and hurricane-force winds extend outward up to 60 miles from the center. There have been no changes made to the existing watches and warnings across Florida.

From the National Hurricane Center (NHC)



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- Location: 75 miles NW of Cedar Key, Florida; 40 miles SE of Tallahassee, Florida
- Maximum Sustained Winds: 140 mph; Category 4
- Current Movement: NNE at 24 mph

Based on NWS Doppler radar data, the eye of Helene has made landfall as a Category 4 hurricane in the Florida Big Bend region at about 11:10 PM EDT just east of the mouth of the Aucilla River and about 10 miles west-southwest of Perry, Florida. A turn toward the north is expected overnight, taking the center over Georgia. The center of the hurricane should make landfall very soon in the Big Bend region of Florida. After landfall, Helene is expected to turn northwestward and slow down over the Tennessee Valley on Friday and Saturday.

Weakening is expected after Helene is moves inland, but the fast forward motion 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. Helene is a very large hurricane, and tropical storm-force winds extend outwards up to 310 miles and hurricane-force winds extend outward up to 60 miles from the center. There have been no changes made to the existing watches and warnings across Florida.





Current Tropical Wind Watches/Warnings As of 11:00 PM 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

From the National Hurricane Center (NHC)

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Key Messages for Hurricane Helene Advisory 15: 11:00 PM EDT Thu Sep 26, 2024

1. A catastrophic and deadly storm surge is occurring 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 lifethreatening storm surge along the remainder of the west coast of the Florida Peninsula.

 Catastrophic hurricane-force winds are occurring near the coast within the eyewall of Helene and will spread inland over portions of northern Florida and southern Georgia.

3. Damaging wind gusts will penetrate well inland over portions of Georgia and the Carolinas tonight, particularly over the higher terrain of the southern Appalachians. Residents in these areas should be prepared for the possibility of long-duration power outages. If you use a generator after the storm, be sure it is placed outside at least 20 feet away from doors, windows, and garages to avoid deadly carbon monoxide poisoning.

4. 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.



Humcane Neinee User Nodes: Vitiner levels along the internetative coast could reach the totawarg heights above Turnsday Segmenter 38, 2024 11 PM LEDT Advisory 15 port devised totake internetative coast could reach the totawarg height and internetative noise. Coasts are determined by the highter values in the associated forecast MPS Tablotal Humcane Center

For more information go to hurricanes.gov



- possible. Massive damage to marinas, docks, boardwalks,
- and piers. Numerous small craft broken away from moorings with many lifted onshore and stranded.
- causeways, and access routes impassable. Widespread power and communications outages.

within urban or heavily wooded places. Many bridges,

- - 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.
- projectiles can add to the toll.



Current Wind Speeds (Gusts) Major Hurricane Helene



Helene is producing catastrophic winds that will be spreading onshore in the Florida Big Bend region during the next few hours.

A University of Florida Coastal Monitoring Program tower located on Cedar Key recently reported a sustained wind of 59 mph and a wind gust of 78 mph.

A WeatherSTEM station at Wakulla High School in Wakulla County recently reported a sustained wind of 70 mph and a wind gust of 101 mph.

Wind gusts of 115 mph have been reported recently from WeatherSTEM stations at the Ochlockonee Boat Ramp in Franklin County and in Fish Creek in Taylor County.

As of 11:00 PM EDT Thursday



Hurricane Helene Thursday September 26, 2024 11 PM EDT Advisory 15 NWS National Hurricane Center **User Notes:** Water levels along the immediate coast could reach the following heights above ground level within the indicated areas. Elevated water levels will likely be accompanied by large and destructive waves. Colors are determined by the highest values in the associated forecast 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 forecast for the Nature Coast to the Anclote River, with **5-8'** along the West-Central Florida Coast including Tampa Bay.

A NOAA National Ocean Service tide gauge located at Clearwater Beach recently reported a water level of **6.18 feet above mean higher high water** (a new record for that location), which is an approximation of inundation in that area. A National Ocean Service tide gauge at Cedar Key is reporting a water level 5.76 feet above mean higher high water.

Rainfall Totals – Next 7 Days From the Weather Prediction Center (WPC)

7-Day Precipitation (in) Ending Thursday, Oct. 3, 2024 at 8 p.m. EDT



- 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.
- Heavy rainfall is expected with an additional 6-10 inches along Helene's center, 4-6 inches elsewhere. This could cause considerable to catastrophic flash flooding, especially in urban areas and where heavy rainfall occurred recently.

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 along West-Central and Southwest Florida on Friday and across Central Florida Saturday as well .

Understanding WPC Excessive Rainfall Risk Categories

| No Area/Label | MARGINAL (MRGL) | SLIGHT (SLGT) | MODERATE (MDT) | HIGH (HIGH) |
|--|---|--|---|--|
| Flash floods are generally not expected. | Isolated flash floods possible | Scattered flash floods possible | Numerous flash floods likely | Widespread flash floods expected |
| www.wpc.ncep.noaa.gov @NWSWPC | Localized and primarily affecting places that can experience rapid runoff with heavy rainfall. | Mainly localized. Most vulnerable are urban areas, roads, small streams and washes. Isolated significant flash floods possible. | Numerous flash flooding events with significant events possible. Many streams may flood, potentially affecting larger rivers. | Severe, widespread flash flooding. Areas that don't normally experience flash flooding, could. Lives and property in greater danger. |

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.

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



Rivers. creeks/streams. 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 and branches including the Apalachicola, Ochlockonee, Santa Fe, Myakka, Manatee, and Alafia by next week. Major flooding cannot be ruled out along rivers that see locally higher rainfall totals realized across local and upper 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.

Current & Forecast River Conditions

From the National Weather Service



River Flood Warnings remain in effect along the St. Johns River at Astor as water levels very slowly decline but remain within minor flood stage due to trapped tides within the river basin. 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. Additional River Flood Warnings have been issued across the Big Bend, Northern Peninsula, and West-Central Florida ahead of water level rises from heavy rainfall anticipated with Helene. Moderate riverine flooding is likely on larger rivers across the Eastern Panhandle and Big Bend while smaller creeks and streams more susceptible to heavy rainfall, and major flooding cannot be ruled out on the flashier rivers. 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.



River Flood Warnings

From the National Weather Service

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| River Guage 🚽 | County(ies) Affecte | Current Level 🔽 | Crest Level 🔽 | Record Leve | Status 🔽 | Crest Da | Warning Expire |
|---|------------------------|------------------|--------------------|-------------|----------|----------|----------------------|
| Alafia River at Riverview near US 301 | Hillsborough | Major: 6.35 ft | Major: 8.00 ft | 6.60 ft | Rising | 26-Sep | 1045 EDT 27-Sep |
| Chipola River near Altha (CR-274) | Calhoun | Below: 13.95 ft | Moderate: 27.30 ft | 33.50 ft | Rising | 28-Sep | Until Further Notice |
| Little Manatee River near Wimauma at US-301 | Hillsborough | Below: 6.16 ft | Minor: 14.40 ft | 20.10 ft | Rising | 28-Sep | Until Further Notice |
| Manatee River near Myakka Head at SR-64 | Manatee | Below: 5.70 ft | Minor: 12.60 ft | 20.90 ft | Rising | 28-Sep | Until Further Notice |
| Ochlockonee River near Bloxham (SR-20) | Leon, Liberty, Wakulla | Action: 18.15 ft | Minor: 21.30 ft | 32.60 ft | Rising | 1-Oct | Until Further Notice |
| Ochlockonee River near Havana (US-27) | Gadsden, Leon | Below: 16.89 ft | Moderate: 31.00 ft | 35.10 ft | Rising | 30-Sep | Until Further Notice |
| Ochlockonee River near Concord (CR-12) | Gadsden, Leon | Below: 28.96 ft | Moderate: 42.60 ft | 45.70 ft | Rising | 30-Sep | Until Further Notice |
| Sopchoppy River near Sopchoppy | Wakulla | Action: 26.66 ft | Moderate: 33.94 ft | 36.80 ft | Rising | 27-Sep | Until Further Notice |
| St. Johns River at Astor | Volusia, Lake | Minor: 2.72 ft | Minor: 2.90 ft | 4.70 ft | Falling | Crested | Until Further Notice |

For more details on the hydrographs as well as impact statements, click the links for each river gauge.

Tropical Tornadoes From the Storm Prediction Center (SPC)



- An Enhanced Risk (level 3 of 5) for Severe Weather is being outlooked in far Northeast Florida today 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 Watch #686** is in effect across the Northern and Central Peninsula until 6:00 AM EDT Friday morning (9/27). Low-topped supercells in the outer rain bands of Hurricane Helene will continue to pose a threat for several tornadoes this evening and continuing into the overnight hours across much of Florida and southern Georgia.



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Major Hurricane Helene:

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 River and about 10 miles west-southwest of Perry, Florida.
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- A turn toward the north is expected overnight, taking the center over Georgia.
- The center of the hurricane should make landfall very soon in the Big Bend region of Florida.
- After landfall, Helene is expected to turn northwestward and slow down over the Tennessee Valley on Friday and Saturday.
- Maximum sustained winds are near 140 mph with higher gusts.
- Weakening is expected after Helene is moves inland, but the fast forward motion 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.
- Helene is a very large hurricane, and tropical storm-force winds extend outwards up to 310 miles and hurricane-force winds extend outward up to 60 miles from the center.
- 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 early Friday morning. For the latest information, please visit the National Hurricane Center website.



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.
 - Helene is producing catastrophic winds that will be spreading onshore in the Florida Big Bend region during the next few hours; Wind gusts of 115 mph have been reported recently from WeatherSTEM stations at the Ochlockonee Boat Ramp in Franklin County and in Fish Creek in Taylor County.
 - A NOAA National Ocean Service tide gauge located at Clearwater Beach recently reported a water level of 6.18 feet above mean higher high water (a new record for that location), which is an approximation of inundation in that area. A National Ocean Service tide gauge at Cedar Key is reporting a water level 5.76 feet above mean higher high water.
- 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.
 - Heavy rainfall is expected with an additional 6-10 inches along Helene's center, 4-6 inches elsewhere; This could cause considerable to catastrophic flash flooding, especially in urban areas and where heavy rainfall occurred recently.
 - Flood Watches remain in place nearly statewide, from the central Florida Panhandle through the remainder of the Florida Peninsula.
 - Moderate riverine flooding is likely on larger rivers across the Eastern Panhandle and Big Bend while smaller creeks and streams more susceptible to heavy rainfall, and major flooding cannot be ruled out on the flashier rivers.
 - Riverine flooding will be closely tied to which basin receives the greatest swath of rainfall and trends will continue to be monitored.
- 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 Watch #686 is in effect across the Northern and Central Peninsula until 6:00 AM EDT Friday morning (9/27).
 - Low-topped supercells in the outer rain bands of Hurricane Helene will continue to pose a threat for several tornadoes this evening and continuing into the overnight hours across much of Florida and southern Georgia.



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Created by:

Melissa James, Assistant State Meteorologist

Melissa.James@em.myflorida.com

State Meteorological Support Unit

Florida Division of Emergency Management

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