

MIAMI-SOUTH FLORIDA

National Weather Service

Forecast Office

<http://www.weather.gov/miami>

South Florida 2024 Weather Summary

Hurricane Season Brought Significant Impacts to South Florida

Another Top 10 Warm Year

January 3rd, 2025: 2024 will be remembered by most in South Florida for the 3 hurricanes which passed very close to the area. While none of these directly struck South Florida with hurricane-force winds, other hazards such as strong/violent tornadoes and storm surge flooding did affect many parts of the region. These impacts are summarized in the Tropical Cyclone section below.

2024 was also another in a long stretch of warmer than normal years. It was the 6th consecutive year of Top 10 warmest years on record, highlighted by a record-hot May and yet another sweltering summer.

Rainfall in 2024 wasn't as extreme as in 2023, but as with most years, there were alternating periods of dry and wet conditions. For example, a very dry April and May was quickly followed by a wet June, then returning to dry conditions in July. The second half of the rainy season (August 1 – October 15) was wetter than normal, which was followed by a drier than normal beginning to the dry season (October 15 – December 31). Aside from the active hurricane season, the number of severe weather and flooding events was lower than in the past few years.

Details on the most significant events is provided below, as well as an overview of 2024 temperatures and rainfall.

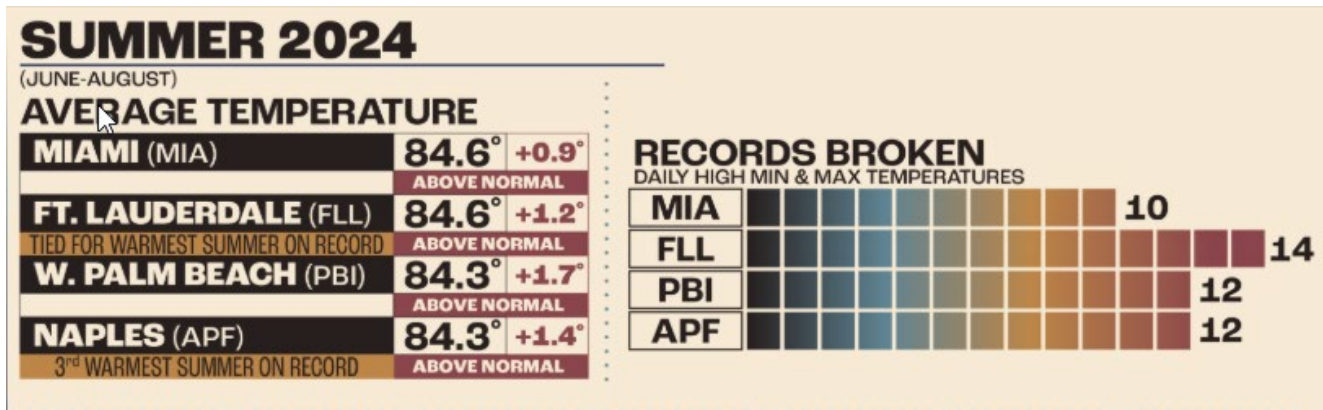
2024 Temperatures

The year began with [near-normal temperatures](#) influenced by the El Niño pattern which featured cloudier days and lower daytime temperatures despite the lack of pronounced cold snaps. The lowest temperature of 2024 at NWS sites was only 42F in Ortona (Glades County) on January 21st. Temperatures turned above normal during the spring and was punctuated by an unusual and record-setting early season May heat wave which gripped South Florida and delivered the hottest May on record at all 4 main South Florida climate sites.

| MAY HEAT WAVE | | |
|-----------------------------|--------------|--------------|
| AVERAGE TEMPERATURE | | |
| MIAMI (MIA) | 83.7° | +3.6° |
| | ABOVE NORMAL | |
| FT. LAUDERDALE (FLL) | 85.1° | +5.4° |
| | ABOVE NORMAL | |
| W. PALM BEACH (PBI) | 84.2° | +5.5° |
| | ABOVE NORMAL | |
| NAPLES (APF) | 83.0° | +4.2° |
| | ABOVE NORMAL | |

Another rather unusual occurrence was the hottest temperatures of the year occurring in May at several locations, including 100F at Homestead General Airport and 99F at the NWS Miami office and Miami-Tamiami Executive Airport on May 19th, 98F at Fort Lauderdale/Hollywood International Airport on May 11th, 99F at Palm Beach International Airport on May 28th, and 97F at Naples Municipal Airport on May 31st.

[While Summer 2024 was certainly hotter than normal](#), it ended up being not quite as hot as 2023's record breaking summer (with the exception of Ft. Lauderdale which had its hottest summer on record in 2024).



In addition to the listing above, Miami had its 7th warmest summer on record, and West Palm Beach its 5th warmest. The number of days with Heat Advisories totaled 60 in Miami-Dade County and 58 in Broward Counties where the advisory threshold for both counties is a heat index of 105F or higher for at least 2 hours. Elsewhere, where the heat advisory threshold is 108F heat index or higher for at least 2 hours, totals ranged from 41 days in Collier County, to 40 days in Palm Beach County, to 24 days in Hendry and Glades counties.

Heading into the fall, October was near to even slightly below normal, November above normal, and December concluded the year with near to slightly above average temperatures.

Here are the 2024 temperature summaries for the 4 main climate sites:

- **Miami International Airport** had an average 2024 temperature of 78.6 degrees Fahrenheit. This is 0.8F above the 30-year normal, and ranks as the **7th warmest year on record** (going back to 1895). The highest temperature was 98 degrees on August 15th, and the lowest temperature recorded was 52 degrees on January 1st and 21st.
- **Palm Beach International Airport** had an average 2024 temperature of 77.6 degrees Fahrenheit. This is 1.8F above the 30-year normal, and ties the **6th warmest year on record** (going back to 1888). The highest temperature was 99 degrees on May 28th, and the lowest was 47 degrees on January 1st and 21st, February 20th, and November 23rd.
- **Fort Lauderdale/Hollywood International Airport** had an average 2024 temperature of 78.7 degrees Fahrenheit. This is 1.5F above the 30-year normal, and ranks as the **2nd warmest year on record** (going back to 1911). The highest temperature was 98 degrees on May 11th and the lowest was 51 degrees on January 21st.

- **Naples Municipal Airport** had an average 2024 temperature of 75.5 degrees Fahrenheit. This is 1.4F above the 30-year normal, and ranks as the **5th warmest year on record** (going back to 1942). The highest temperature was 97 degrees on May 31st, and the lowest was 45 degrees on January 21st.

2024 Precipitation

The El Niño pattern during the winter of 2023-2024 contributed to above normal precipitation, especially in February and March. However, as El Niño waned in the spring, the pattern transitioned rather quickly to much drier than normal in April and May when most areas received only 25 to 50 percent of the normal rainfall for those two months. This led to the development of moderate drought conditions in SW Florida and Palm Beach County in April, spreading south to include most of the southern Florida peninsula by the beginning of June.

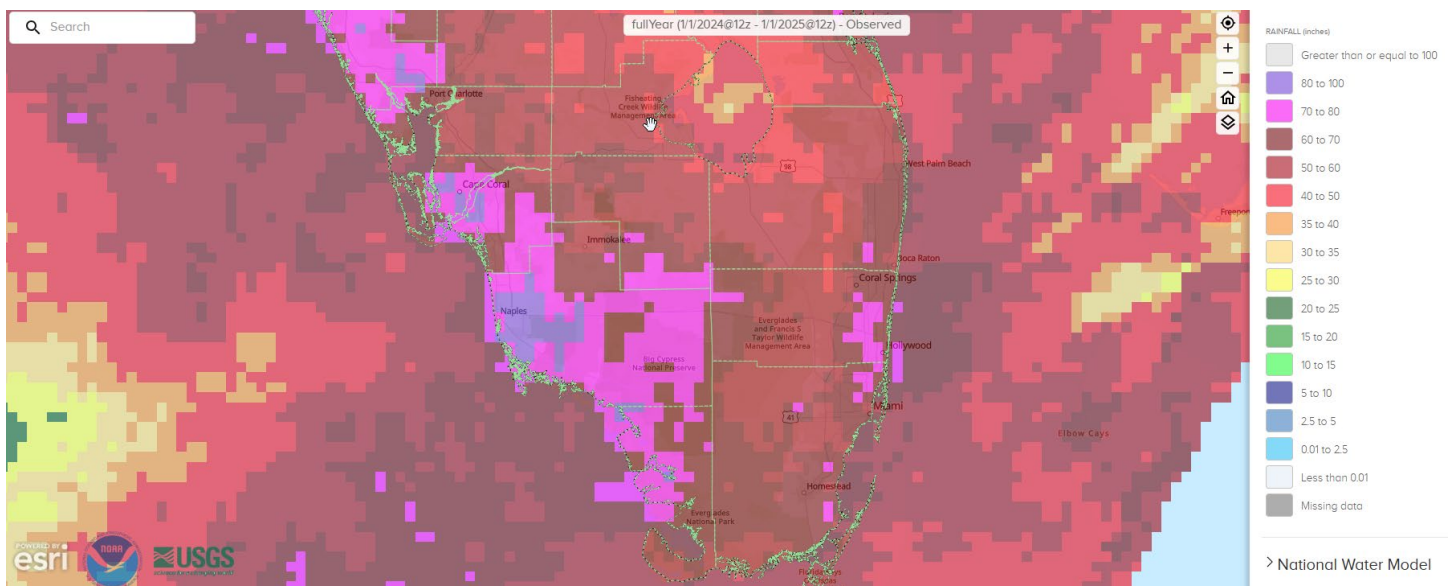
The late-spring dryness ended quite abruptly with the [widespread rain/flood event of June 11-13](#). Several days of copious rainfall led to major flash flooding across parts of South Florida, mainly in the northern Miami-Dade and southern Broward County metro areas where 2-day rainfall totals of 15 to 20 inches were observed. Rainfall totals of 10-20 inches were common across most of Collier County (highest values over the eastern sections of the county), with generally 5-8 inches elsewhere across the region.

Precipitation stayed slightly above normal for the remainder of the summer and rainy season, highlighted by rainfall associated with Hurricanes Debby and Helene which were more notable across SW Florida. After the passage of Hurricane Milton in early October, the year concluded with below normal rainfall.

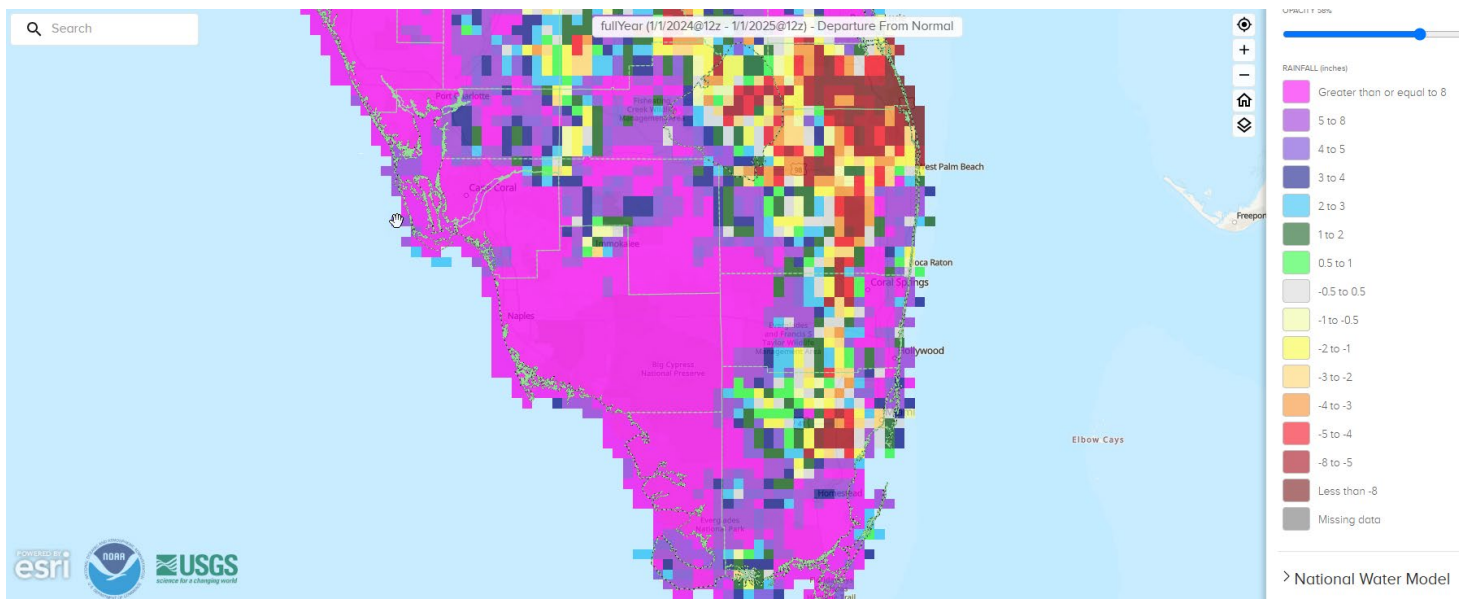
Overall, 2024 ended up with above normal rainfall over most of SW Florida. Most of metro SE Florida ended up with above normal rainfall, except for an area of below normal rainfall from the eastern Everglades into portions of metro Miami-Dade and northern Palm Beach counties.

Here are 2024 precipitation totals and departure from normal for several NWS sites:

| Location | 2024 Rainfall (inches) as of December 28th | Departure from Normal | Top 20 Ranking |
|---|--|-----------------------|-------------------------------|
| Ft. Lauderdale Dixie Water Plant | 80.37 | +11.60 | |
| Ft. Lauderdale/Hollywood Int'l Apt | 71.25 | +10.30 | |
| Fort Lauderdale Executive Airport | 65.30 | +8.80 | |
| Hialeah | 69.54 | -3.39 | |
| Hollywood North Perry Airport | 56.26 | -5.72 | |
| Hollywood Waste Water Plant | 71.71 | +6.67 | 8th wettest |
| Homestead General Airport | 60.38 | +2.99 | 8th wettest |
| Marco Island | 69.45 | +16.15 | 3rd wettest |
| Miami International Airport | 69.56 | +2.15 | |
| Miami/Tamiami Executive Airport | 57.39 | +1.31 | |
| Muse | 52.05 | -4.67 | |
| Naples Municipal Airport | 67.33 | +17.74 | 6th wettest |
| NWS Miami – University Park | 65.82 | -3.92 | 3rd wettest |
| Opa-Locka Airport | 60.35 | -2.30 | 2nd wettest |
| Palm Beach Int'l Airport | 63.26 | +1.42 | |
| Pompano Beach Airpark | 62.03 | +6.41 | |



2024 rainfall courtesy NWS/NWPS



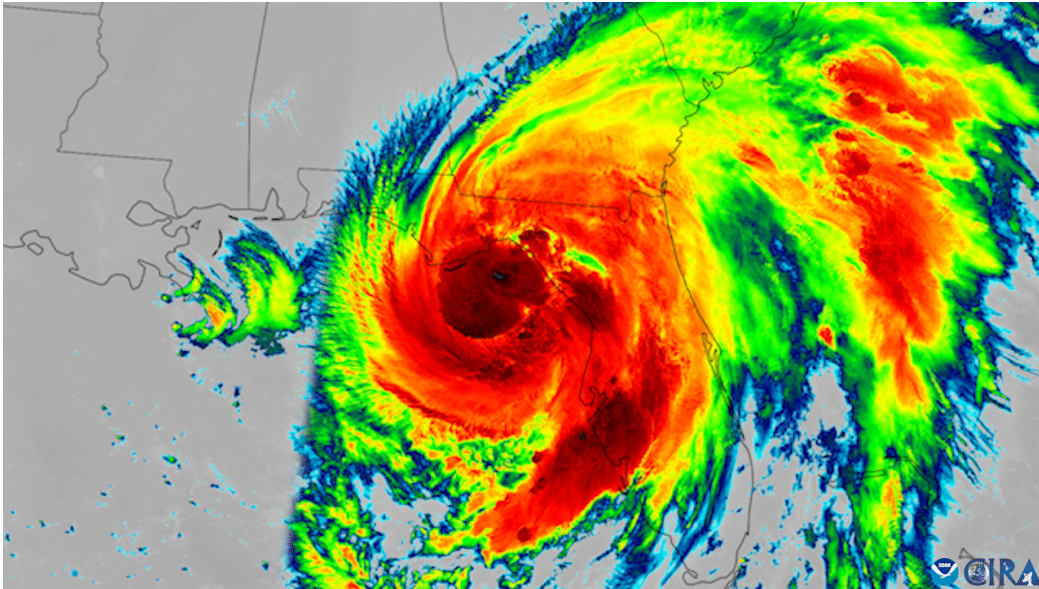
2024 rainfall departure from normal courtesy NWS/NWPS

Tropical Cyclones

Below is a summary of the 3 tropical cyclones which affected South Florida in 2024. Follow the links embedded in the header of each paragraph for a detailed report of each storm.

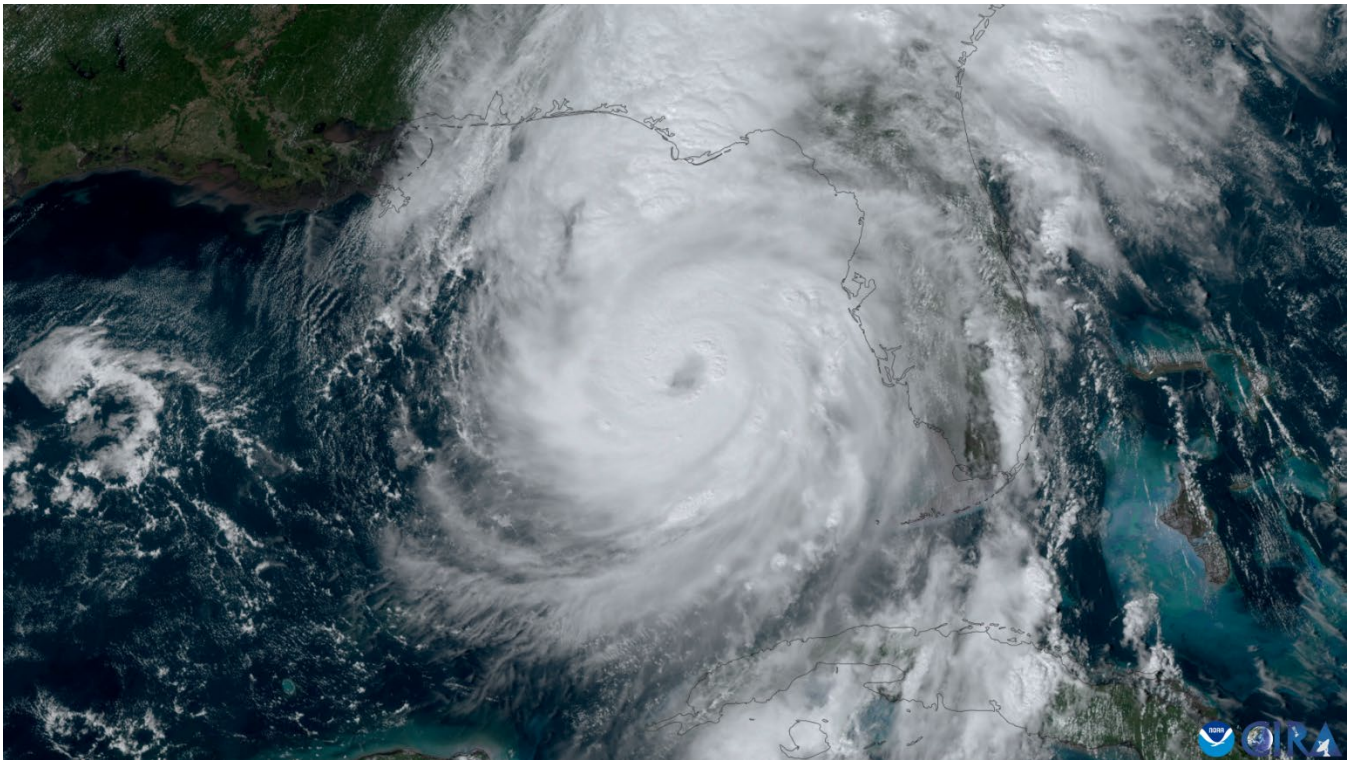
- [Hurricane Debby – August 3-5](#): The center of Debby passed about 140 miles west of Naples as a tropical storm moving N-NW over the eastern Gulf of Mexico around 8 AM EDT on August 4th, then intensified into a hurricane NW of Tampa at 11 PM EDT August 4th before making landfall in the Florida Big Bend area as a Category 1 hurricane on the morning of August 5th. The outermost edge of Debby's tropical storm force wind field skirted the SW Florida Gulf coast, and outer rain bands periodically moved across the southern Florida peninsula on August 3rd and 4th, bringing brief tropical storm force wind gusts to most of the area. The most persistent rain bands moved over western, southern, and central sections of Collier County on August 4th, producing near-tropical storm conditions and rainfall of 4-6 inches in just a few hours. A storm surge of just over 3 feet, in combination with the high rainfall amounts, led to moderate coastal flooding in vulnerable storm surge locations in coastal Collier County during the high tide cycle on August 4th. A maximum tide level of 3.11 feet above Mean Higher High Water (MHHW) was registered at the NOAA tide gauge in Naples Bay. The heavy rainfall also

caused widespread minor to moderate inland flooding across the Naples and Golden Gate areas.



GOES satellite image of Hurricane Debby near landfall in the Florida Big Bend on August 5th

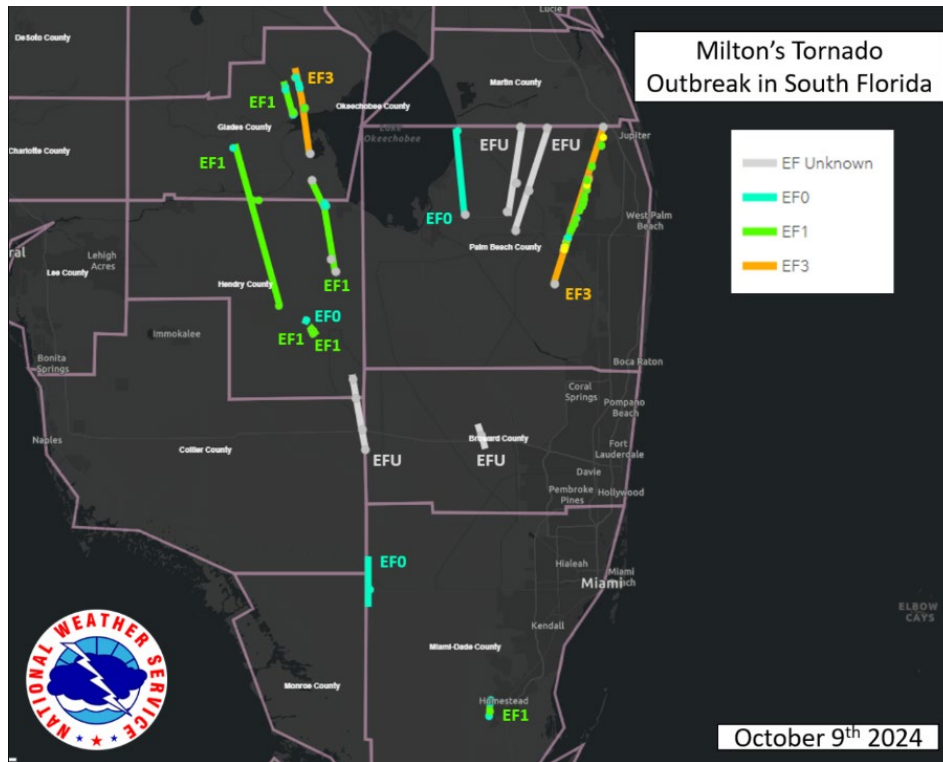
- [Hurricane Helene – September 25-26](#): The center of Hurricane Helene passed about 200 miles west of Naples as a Category 3 hurricane moving N-NE over the eastern Gulf of Mexico around midday on Thursday, September 26th, then made landfall later that evening in the Florida Big Bend as a Category 4 hurricane. The large wind field around Helene brought tropical storm force winds to a good portion of southern Florida, with the most consistent area of sustained tropical storm force winds over western Collier County on September 26th. Brief but strong tropical storm force wind gusts affected the remainder of southern Florida, with maximum wind gusts of 60-70 mph common. Some of the strong wind gusts associated with Helene were not directly associated with rainbands, but due to the very strong pressure gradient and daytime heating which acted to mix down strong winds just above the surface. Most locations experienced some wind damage, primarily to trees. Sections of Collier County observed minor roof and structural damage from wind. Significant coastal flooding occurred along the Collier County coast from storm surge. A maximum tide level of 4.02 feet above Mean Higher High Water (MHHW) was registered at the NOAA tide gauge in Naples Bay. Rainfall totals remained rather low, with the highest storm total amounts of 3-4 inches registered across portions of Collier County.



GOES satellite image of Hurricane Helene over the eastern Gulf of Mexico on September 26th

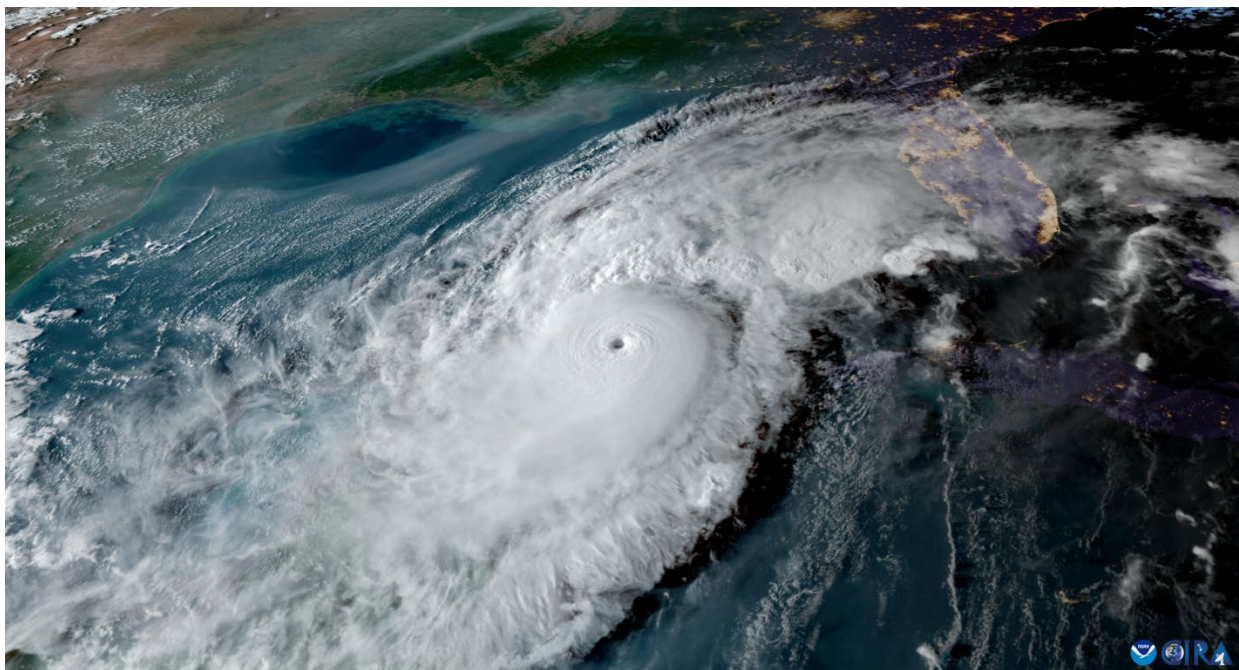
- [Hurricane Milton – October 8-10](#): Hurricane Milton became a Category 5 hurricane in the southwestern Gulf of Mexico on Monday, October 7th about 735 miles SW of Tampa while moving ESE, then turned E and NE on Tuesday, October 8th while maintaining Category 4 and 5 strength. Milton's maximum winds decreased as it approached the Florida peninsula on Wednesday, October 9th, and made landfall near Siesta Key as a Category 3 hurricane with maximum sustained winds of 120 mph. The outer circulation of Milton began affecting South Florida late Tuesday night, October 8th, with tropical storm force wind gusts spreading across South Florida through the early morning hours of Thursday, October 10th. The outer bands of Milton began to affect South Florida early in the morning on Wednesday, October 9th, with repeated bands of squally showers and thunderstorms.

These rain bands moved across South Florida in an environment highly conducive for tornadic development, and this resulted in a record-setting total of 15 tornadoes confirmed across the southern Florida peninsula from the pre-dawn hours through late afternoon. Two of these reached EF-3 (winds estimated above 130 mph) on the Enhanced Fujita Scale.



Observed tornadoes associated with Milton on October 9th

A maximum tide level of 5.08 feet above Mean Higher High Water (MHHW) was registered at the NOAA tide gauge in Naples Bay during the evening of Wednesday, October 9th, the highest measurement in the Naples area since Hurricane Ian in 2022.



2024-10-08 | 22:20 UTC | GOES-16 | ABI | GeoColor

GOES satellite image of Hurricane Milton over the southern Gulf of Mexico on October 8th

South Florida Severe/Hazardous Weather Statistics

- **Flooding:** A total of 8 local flash flood events were recorded in 2024, all but 2 occurring with the [June 11-13 flood event](#). This was the most significant flood event of the year, causing at least \$7 million in damage and affecting much of South Florida.
- **Lightning:** 3 lightning-related deaths were reported in 2024, the highest yearly number of deaths since 3 were reported in 2018. At least 3 structures sustained fire/smoke damage from lightning strikes
- **Rip Currents:** 6 deaths from rip currents were reported in 2024, 5 of these in Palm Beach County in November. This is the highest number of yearly rip current fatalities in South Florida since 6 were reported in 2013.
- **Thunderstorm Wind/Hail:** 44 damaging wind and/or large hail events occurred in South Florida in 2024. May had the most reports with 20, but the normally dry month of March had a relatively high number of reports (10). The largest hailstone reported was 1.5 inches in diameter (ping pong ball size) in Davie on March 3rd, and in Kendall on May 21st. The strongest measured thunderstorm wind gust (non-tropical) was 88 mph at Homestead General Airport on August 21st.
- **Tornadoes:** 23 tornadoes were confirmed across South Florida in 2024, the highest yearly total since 2000 when 25 were reported. In addition to the 15 tornadoes associated with Hurricane Milton on October 9th, 4 occurred on February 18th in association with a strong frontal system, and 2 on January 6th including an EF-0 near downtown Ft. Lauderdale.
- **Waterspouts:** a total of 19 waterspouts were reported in 2024 over the local South Florida waters, with 15 of these occurring in July, August, and September.