

Climate Summary for Florida – September 2025

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Online at: <http://climatecenter.fsu.edu/products-services/summaries>

Summary

- Monthly average temperatures in September were near normal.
- Monthly precipitation totals in September were below normal in northern Florida and the west coast, and above normal in Southeast Florida and the Keys.
- Drought developed in the Panhandle and North Florida during September, while drought improved in Southeast Florida, though long-term drought impacts remained along coastal areas.
- La Niña is favored to develop in the equatorial Pacific Ocean during fall and early winter with a 71% chance during October-December 2025.

Monthly temperatures in September averaged out to be near normal in Florida. Average monthly temperature departures from normal ranged from -0.7°F in Jacksonville to +0.8°F in Orlando and West Palm Beach for the month (see Table 1 and Appendix 1 for select cities). September began with below average temperatures in northern Florida and near average temperatures across the Peninsula. Upper-level troughs and a cold frontal boundary moved into the Southeast U.S. in early September, bringing drier and cooler air as far south as northern Florida. Temperatures continued below-average for much of the month, though above-average temperatures returned toward the end of the month. Select daily high maximum temperature records tied or broken during the month are provided in Appendix 2.

Table 1. September average temperatures and departures from normal (°F) for select cities.

Station	Mean Temperature	Departure from Normal
Pensacola	79.6	-0.4
Tallahassee	78.6	-0.5
Jacksonville	78.1	-0.7
Orlando	81.8	+0.8
Tampa	83.4	+0.7
Miami	83.2	+0.2
Key West	83.8	-0.3

Monthly precipitation totals in September were below normal in northern Florida and the west coast, and above normal in Southeast Florida and the Keys. The monthly precipitation departures from normal ranged

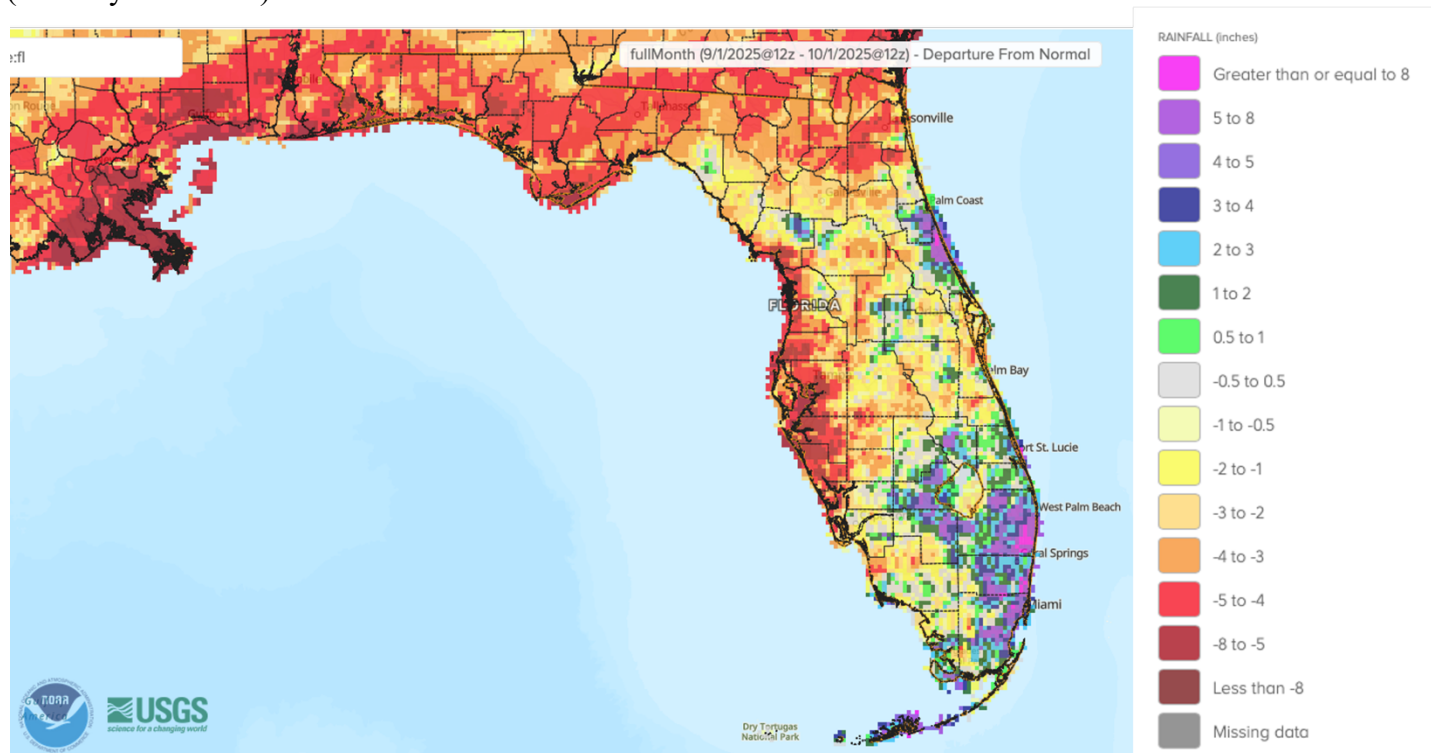


from -5.39 inches in Tampa to +6.33 inches in Miami (see Table 2 and Appendix 1 for select locations). Rainfall in September underdelivered across much of the state, and rapidly drying conditions occurred across the Panhandle and northern Florida by mid-month. Tallahassee had its 3rd-driest September on record (86 years) and Jacksonville had its 9th-driest September on record (86 years). The recent dry conditions in north Florida and southern Georgia have caused problems with crops, lack of pasture growth, and shortages in forage. The western Florida Peninsula experienced rainfall deficits for the month as well, and September 2025 ranked as the driest September on record in the Tampa area (136 years) and 3rd-driest on record in Sarasota (110 years). The east coast of the Florida Peninsula received above-average rainfall, with the greatest surpluses in Southeast Florida, which helped to improve soil moisture and drought conditions there. Fort Lauderdale registered its 3rd-wettest September on record (104 years) with +8.5” of surplus rainfall for the month, and Miami recorded its 7th-wettest September on record (89 years) with +6.33” of surplus rainfall.

Table 2. September precipitation totals and departures from normal (inches) for select cities.

Station	Total Rainfall	Departure from Normal
Pensacola	2.00	-4.61
Tallahassee	0.54	-4.37
Jacksonville	2.74	-4.82
Orlando	6.42	+0.05
Tampa	0.70	-5.39
Miami	16.55	+6.33
Key West	9.39	+2.15

Figure 1. A graphical depiction of the monthly rainfall departure from normal (in inches) for September 2025 (courtesy of NOAA)



La Niña Watch.

ENSO-neutral conditions continued in August 2025 with near to below average sea surface temperatures (SSTs) in the tropical equatorial Pacific Ocean. Odds toward the development of La Niña have increased, with a 71% chance during October-December 2025. For the remainder of winter, La Niña is favored but the probability decreases to 54% during December 2025–February 2026, before returning to ENSO-neutral conditions thereafter.

Hazardous Weather Events in September.

According to the Local Storm Reports issued by the local National Weather Service offices serving Florida, there were 139 individual local reports of hazardous weather events recorded across the state during the month of September (see Table 3 for a breakdown by event type).

Table 3. Breakdown of storm reports submitted in Florida during the month of September (compiled from Iowa State University/Iowa Environmental Mesonet).

Report Type	Number of Reports
Heavy Rain	26
Flash Flood	0
Flood	23
Hail	1
Marine Thunderstorm Wind	15
Non-Thunderstorm Wind Gust	4
Thunderstorm Wind Damage	9
Thunderstorm Wind Gust	22
Non-Thunderstorm Wind Damage	0
Tornado/Waterspout/Funnel Cloud/Landspout	1 / 20 / 8 / 1

Daily Record Events in September.

Table 4. Summary of daily records broken in Florida in September (source: NCEI Daily Weather Records).

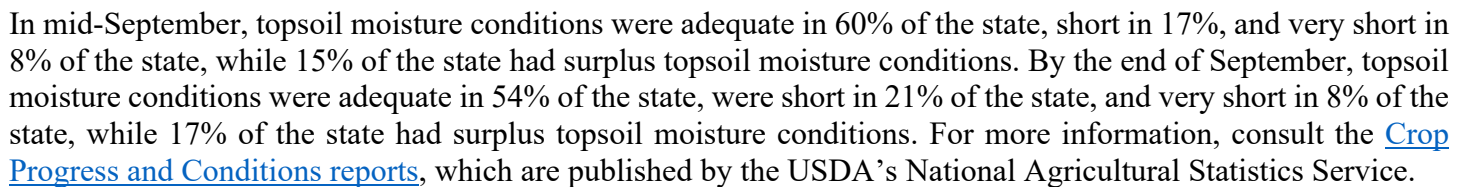
Category	Number of Records
Highest daily max. temp.	17
Highest daily min. temp.	7
Lowest daily max. temp.	8
Lowest daily min. temp.	12
Highest daily precipitation	12
Total	56

Drought-Related Impacts.

Below-normal rainfall has led to drought development across northern Florida during September. In Southeast Florida, above-normal rainfall led to drought improvement, though long-term drought impacts continued in coastal portions of Martin, Palm Beach, and Broward Counties. In mid-September, roughly 9% of the state was in moderate drought (D1) and 33% was abnormally dry (D0), according to the U.S. Drought Monitor. By the end of September, approximately 6% of the state was in severe drought (D2), 24% was in moderate drought (D1), and 27% of the state was abnormally dry (D0) (Figure 2 below).

As of September 30, the Lake Okeechobee water level was 13.51 ft. above sea level (Feet-NGVD29), which is below average for this time of year. At the first of the month, the water level was 12.52 ft. above sea level.

Agriculture-Related Impacts.



Station	Average Temperature (°F)	Departure from Normal (°F)	Total Rainfall (in.)	Departure from Normal (in.)
Gainesville	79.5	+0.7	3.43	-1.62
Sarasota	82.0	-0.2	1.66	-4.34
Melbourne	80.8	+0.2	8.37	+0.74
Fort Myers	82.6	+0.4	6.56	-2.44
West Palm Beach	82.7	+0.8	7.96	0.00

Appendix 2. Select daily record high maximum temperatures tied or broken during September (compiled from NOAA).

Location	Date	Record (°F)	Broken/Tied	Last
Fort Lauderdale Beach	2	96	Broken	94 in 2006
Miami	2	94	Broken	93 in 2022
Fort Lauderdale Beach	3	96	Broken	94 in 2006
Homestead	3	96	Broken	95 in 1996
Lakeland	4	99	Broken	97 in 1982
Vero Beach	6	95	Broken	94 in 1966
Gainesville	7	95	Tied	95 in 2019
Miami	11	94	Tied	94 in 2022
Chipley	20	99	Broken	97 in 2010
Niceville	20	95	Broken	94 in 2005
Chipley	21	100	Tied	100 in 2010
Gainesville	22	95	Broken	92 in 2022
Gainesville	23	96	Broken	93 in 2018
Chipley	24	97	Broken	95 in 2010
Clermont	24	96	Broken	95 in 2024
Fort Lauderdale Beach	26	92	Broken	91 in 2022
Ocala	26	95	Tied	95 in 1961
Quincy	26	94	Broken	93 in 2016
Miles City	27	96	Broken	95 in 2019
Tampa	28	95	Tied	95 in 1961