

Florida Thunderstorm Season



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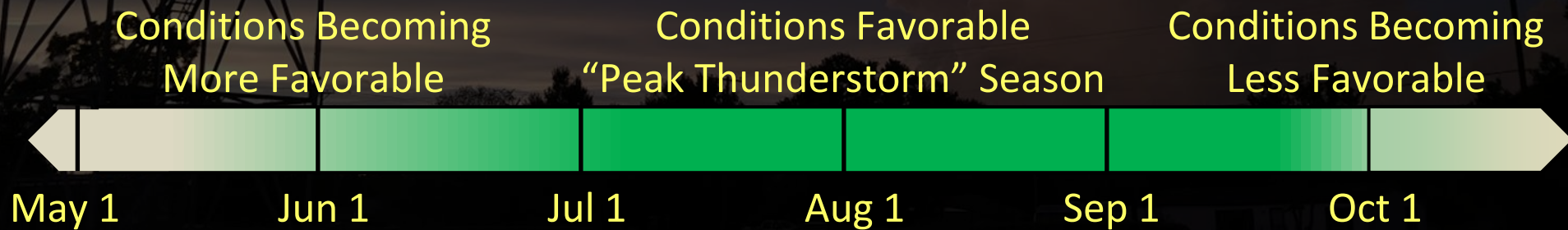
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Florida Thunderstorm Season Basic Ingredients

Thunderstorm season in West Central and Southwest Florida is active when...

- Bermuda High sets up
- Sea surface temperatures surpass 82°F (28°C) offshore, not just along the coast
- Moisture aloft increases
- Surface dew points increase into the 70s

These conditions usually begin to come together in late May/early June and then decline in late September/early October. 55% to 70% of our annual rainfall typically falls during June through September.



Florida Thunderstorm Season

Once all of the previous ingredients are in place the next biggest factor in determining the chance, location, and timing of the daily summer thunderstorms is the low level (synoptic) winds. The interactions between the low level wind flow, and the various smaller scale sea-breezes, lake-breezes, and river-breezes, which form daily across the state, lead to our summer thunderstorms.

Florida Thunderstorm Season

Therefore, this study was done to help everyone, from the public, to private, and government organizations better understand where and when the greatest threat for these summer thunderstorms can be expected on any given day.

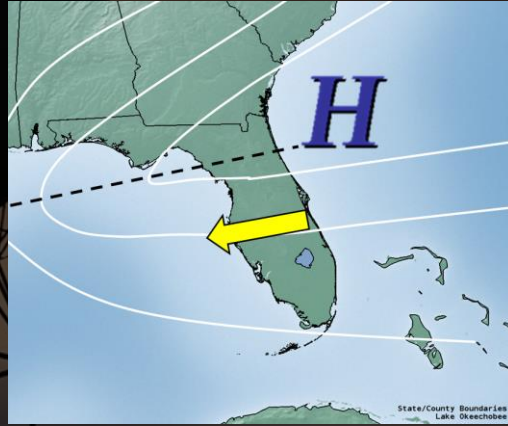
Based on the common patterns of the subtropical ridge, meteorologists at the National Weather Service Forecast Office in Ruskin, FL. identified eight wind patterns or "Flow Regimes" and produced high resolution spatial and temporal probability of precipitation (PoP) climatologies for each across the southeast United States, spanning the years 2002-2019.

Florida Thunderstorm Season Regimes

Regime 1
Light and Variable



Regime 2
E/NE 5 - 10 knots



Regime 3
E/NE > 10 knots



Regime 4
SW/W 5 - 10 knots



Regime 5
SW/W > 10 knots



Regime 6
S/SE 5 - 10 knots



Regime 7
S/SE > 10 knots

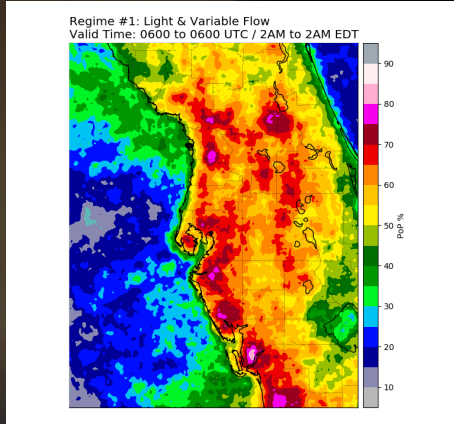


Regime 8
NW/N 5 - 10 knots

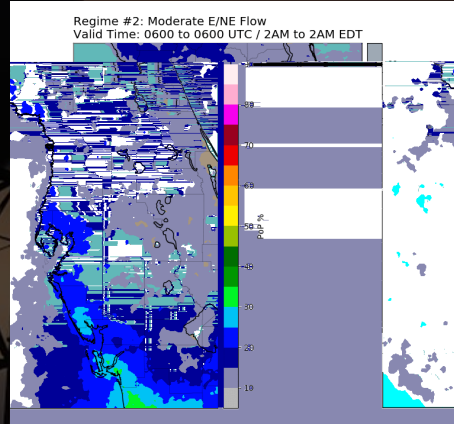


Florida Thunderstorm Season Regime 24-Hour PoPs

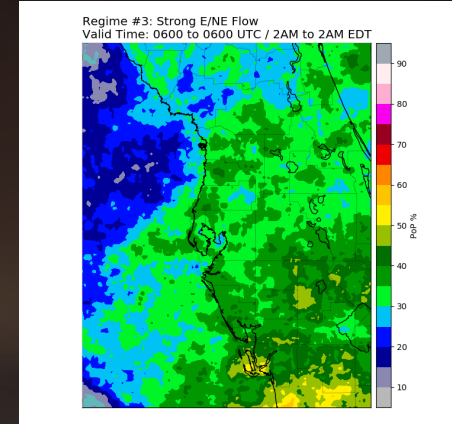
Regime 1
Light and Variable



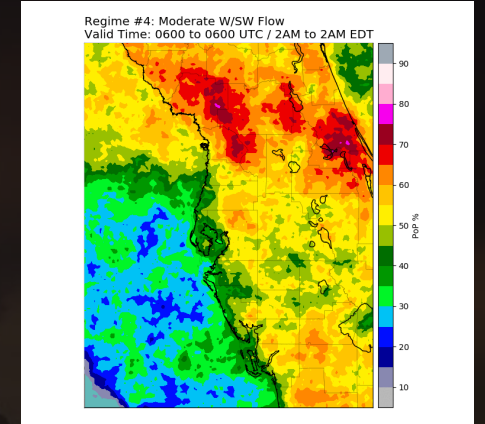
Regime 2
E/NE 5 - 10 knots



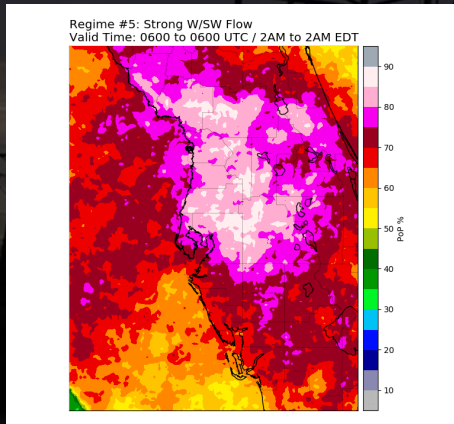
Regime 3
E/NE > 10 knots



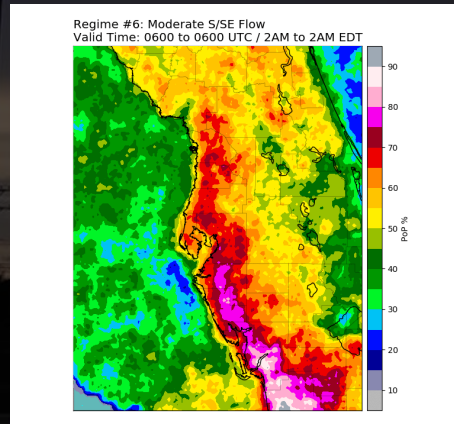
Regime 4
SW/W 5 - 10 knots



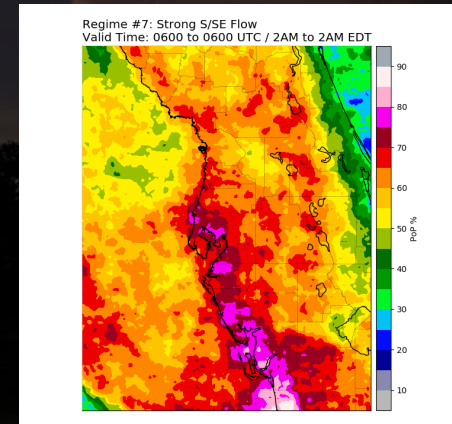
Regime 5
SW/W > 10 knots



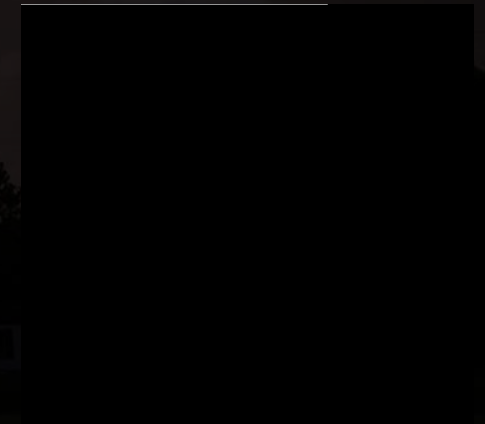
Regime 6
S/SE 5 - 10 knots



Regime 7
S/SE > 10 knots

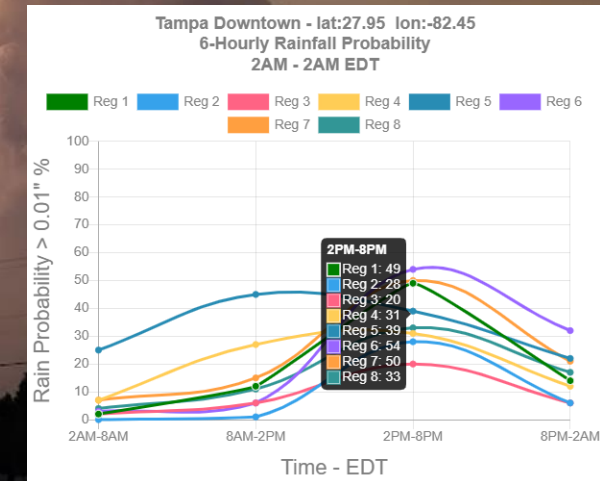
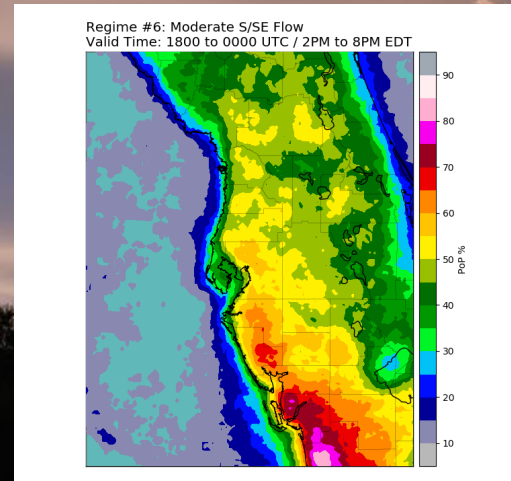
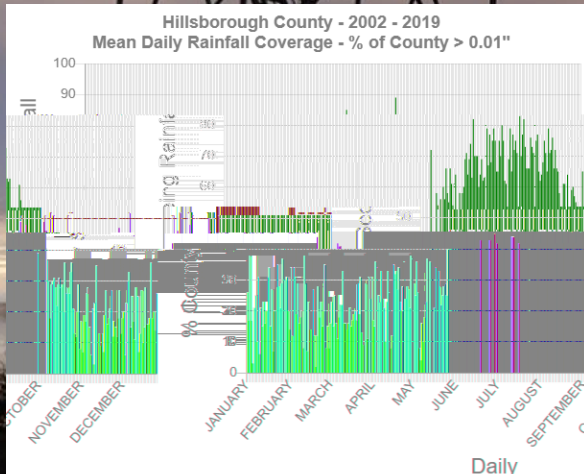


Regime 8
NW/N 5 - 10 knots



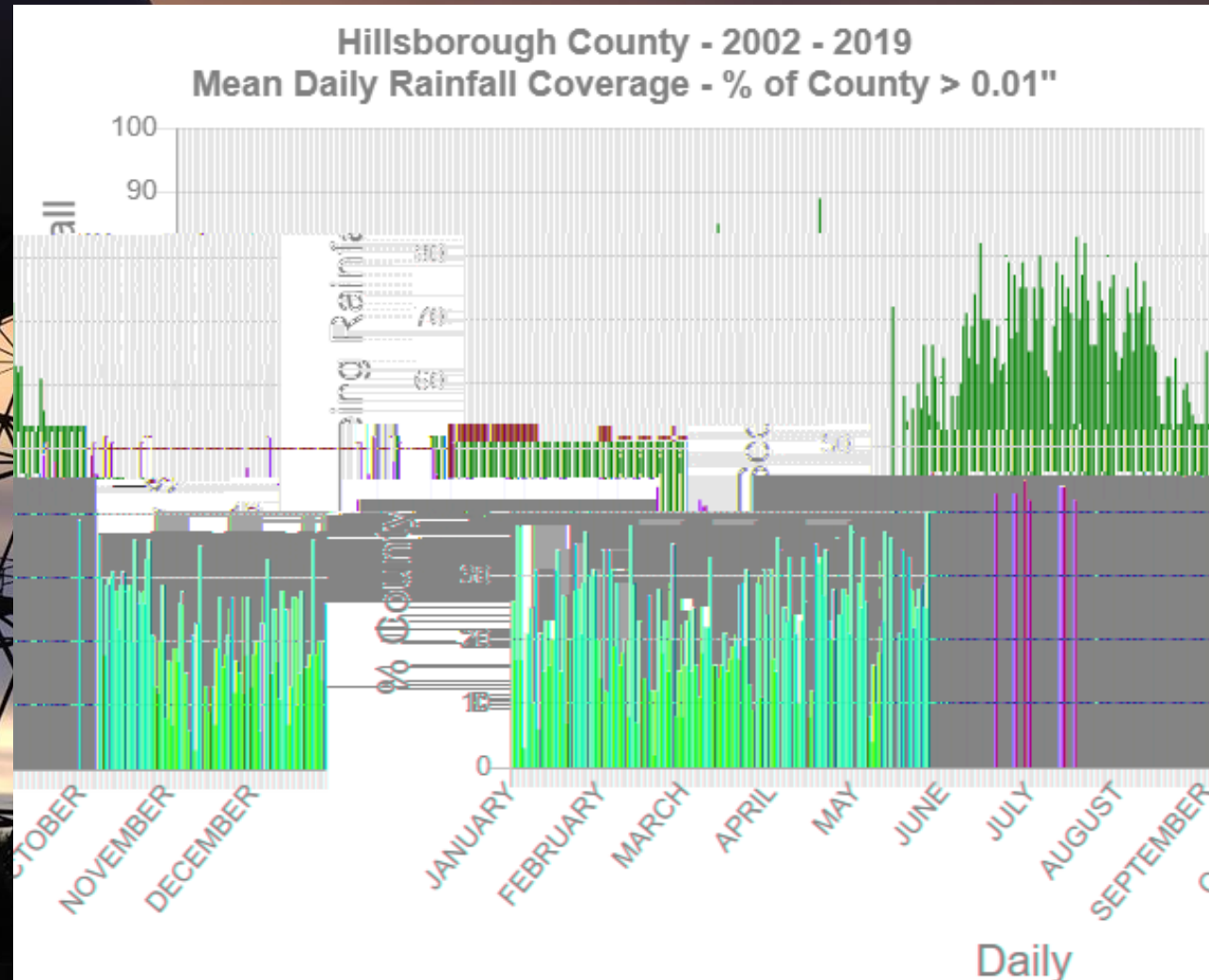
Florida Thunderstorm Season Graphics

Using the common eight regime patterns, thunderstorm season graphs, timing maps, and point graphs for NWS county warning areas, media markets, counties, and individual cities across the entire state of Florida were created.



Florida Thunderstorm Season – Wet Season Graph

Wet Season
Graph for
Hillsborough
County

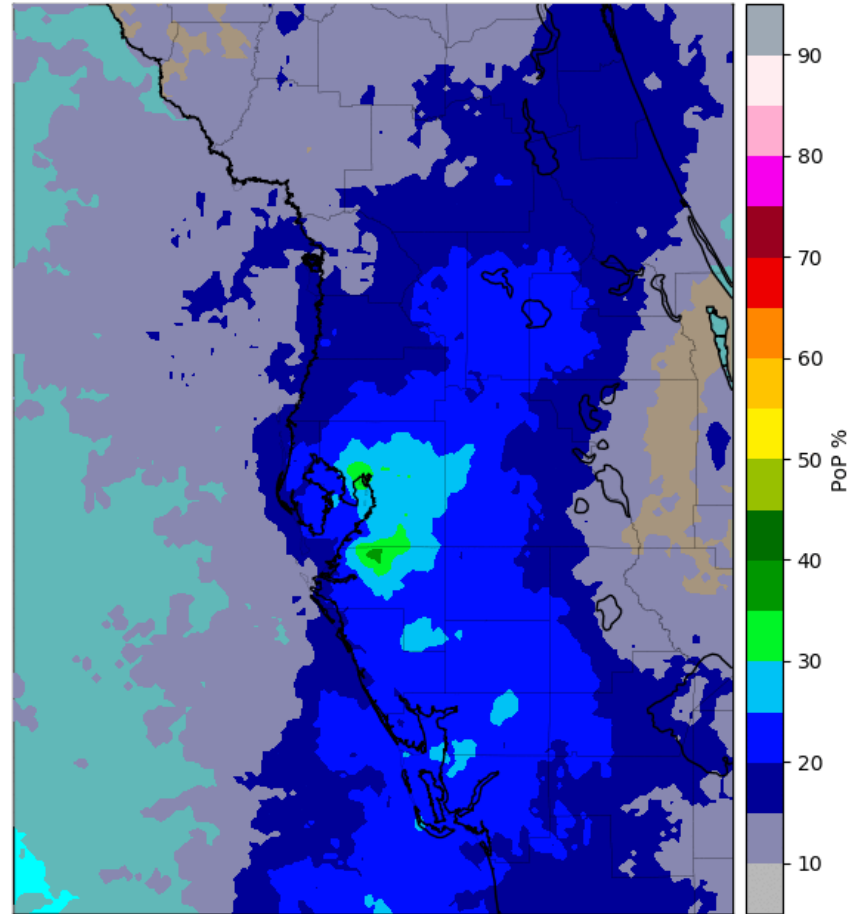


Daily
Probability
of > 0.01 inch
of rain

Florida Thunderstorm Season - 2D Maps

Regime 6 6-Hour Maps

Regime #6: Moderate S/SE Flow
Valid Time: 0000 to 0600 UTC / 8PM to 2AM EDT



Probability of
> 0.01 inch
of rain in the
6-hour period
indicated

July 27, 2021

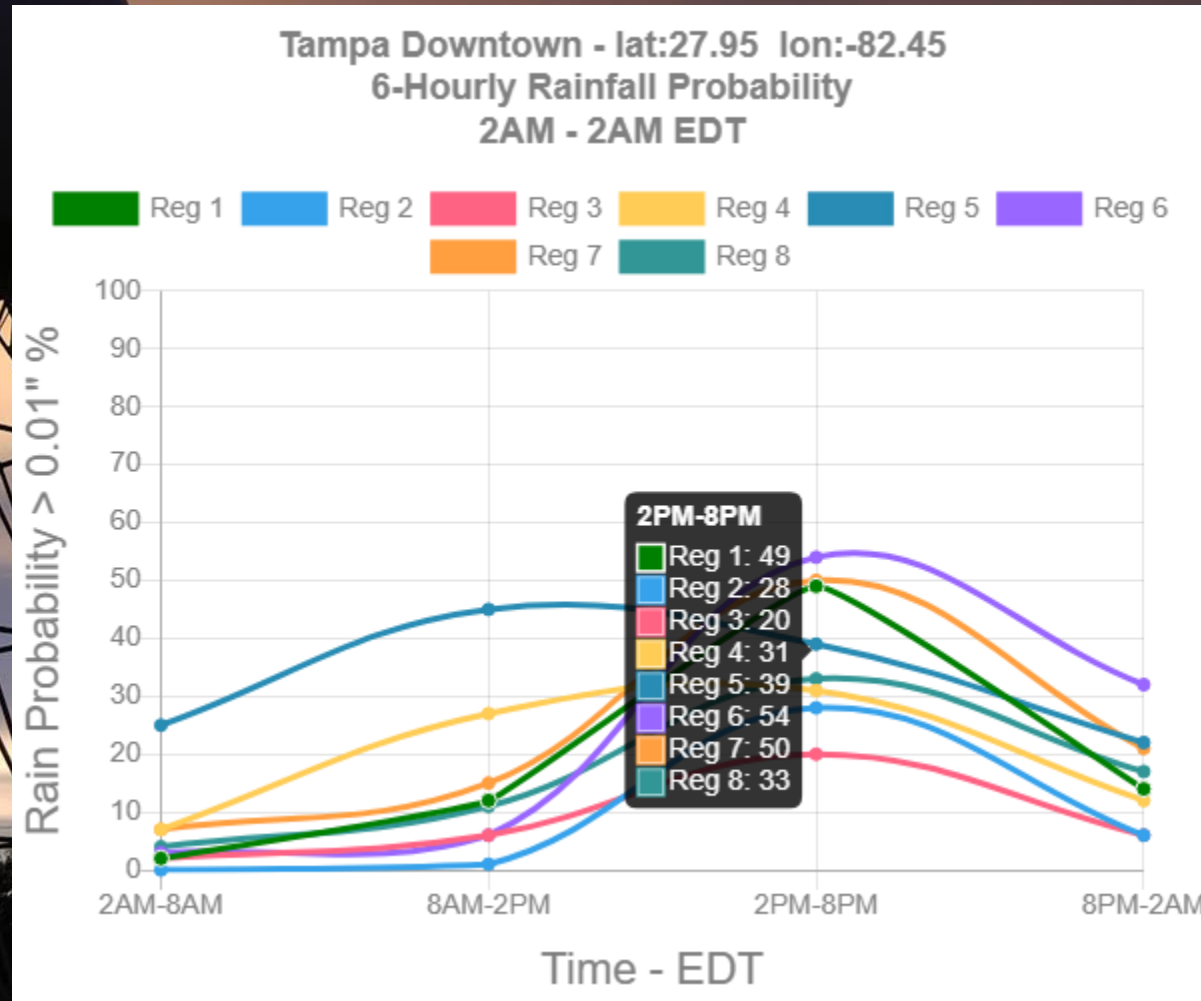
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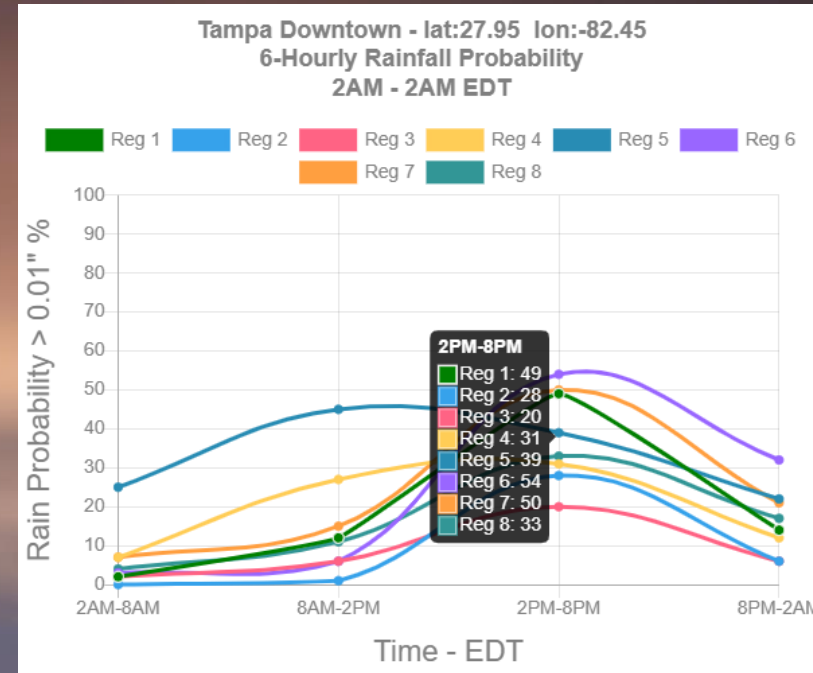
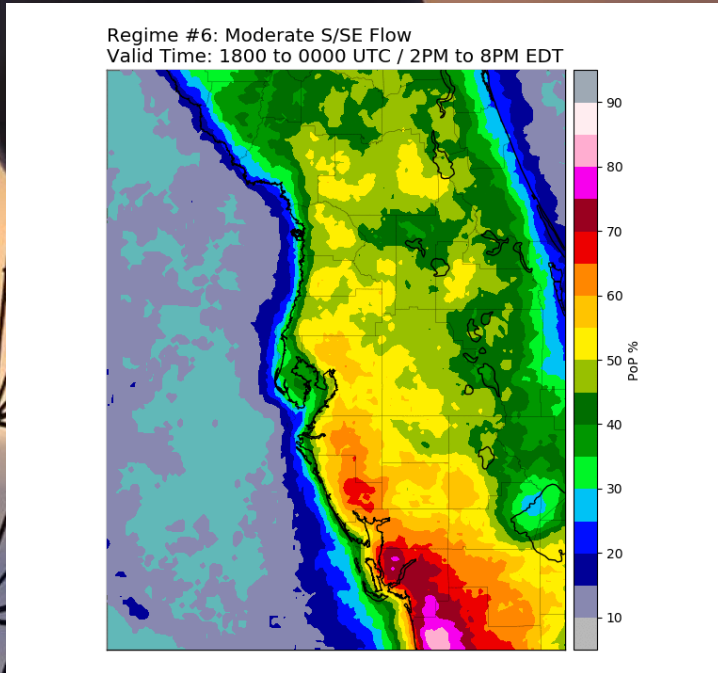
Florida Thunderstorm Season – 6-Hour Point Graph

Point Graph
for Tampa
Downtown



6-Hour
Probability
of > 0.01 inch
of rain based
on regime

Florida Thunderstorm Season Graphics



The timing maps and point graphs above come in several different time ranges from 3-hour up to 24-hour.

Florida Thunderstorm Season

In the near future we hope to have the Regime number for today and the next day displayed within the Thunderstorm Climatology web pages so you can quickly know which maps/graphs to view on those days.

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Florida Thunderstorm Season Website

NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HOME FORECAST PAST WEATHER SAFETY INFORMATION EDUCATION NEWS SEARCH ABOUT

Local forecast by "City, St" or ZIP code
Enter location ... [Location Help](#)

News Headlines
• [Post Tropical Cyclone Report - Hurricane Elsa](#)

Florida Summer Thunderstorm Website
[Weather.gov > Tampa Bay Area, FL > Florida Summer Thunderstorm Website](#)

Tampa Bay Area, FL
Weather Forecast Office

Current Hazards Current Conditions Radar Forecasts Rivers and Lakes Climate and Past Weather Local Programs

**** User's Guide ****

[Introduction](#) [Methodology](#) [2D Maps](#) [Wet Season Graphs](#) [Point Graphs](#) [Education](#) [Region](#)

<https://www.weather.gov/tbw/ThunderstormClimatology>

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[weather.gov/tampabay](https://www.weather.gov/tampabay)

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