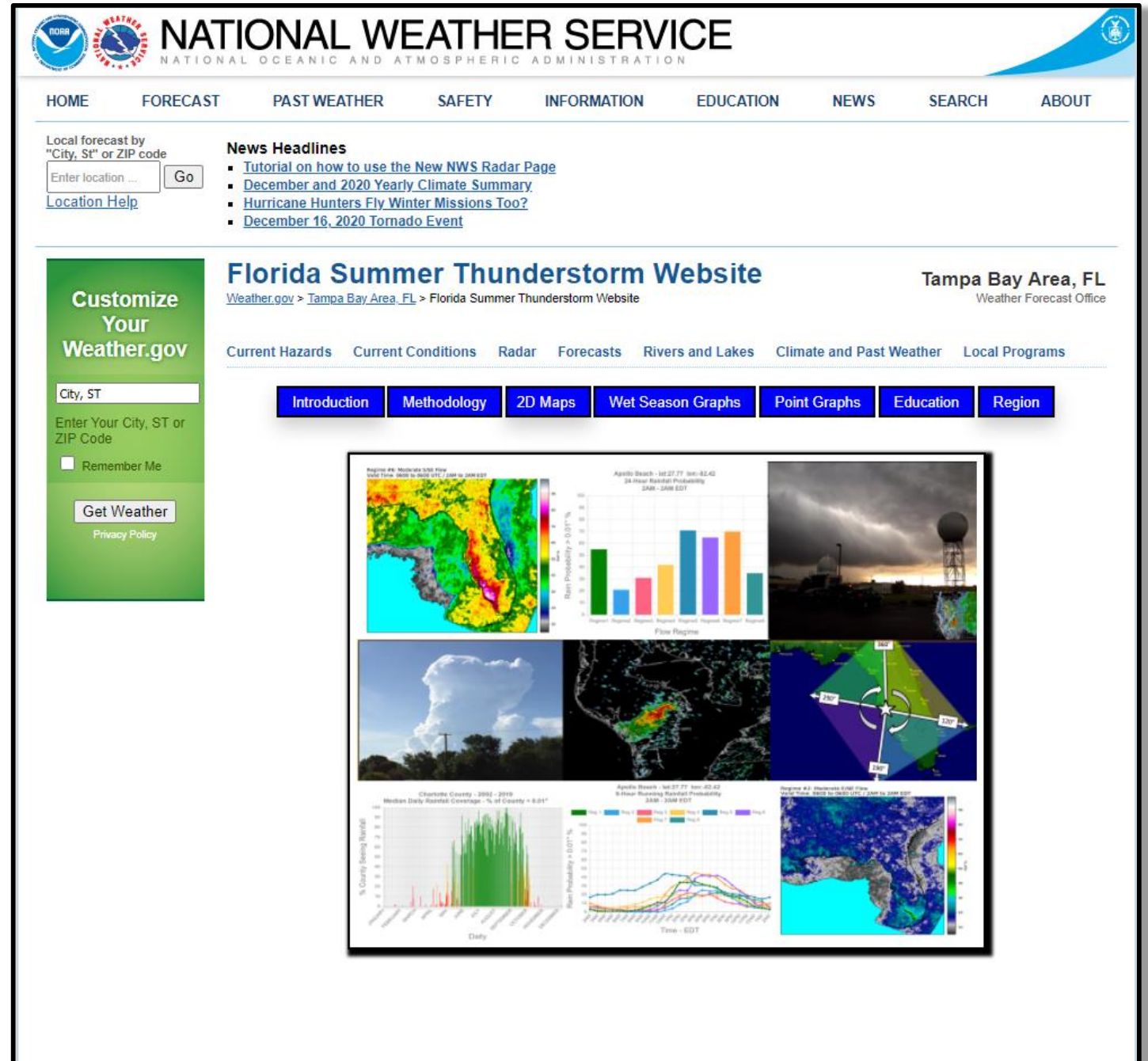


<https://www.weather.gov/tbw/ThunderstormClimatology#>

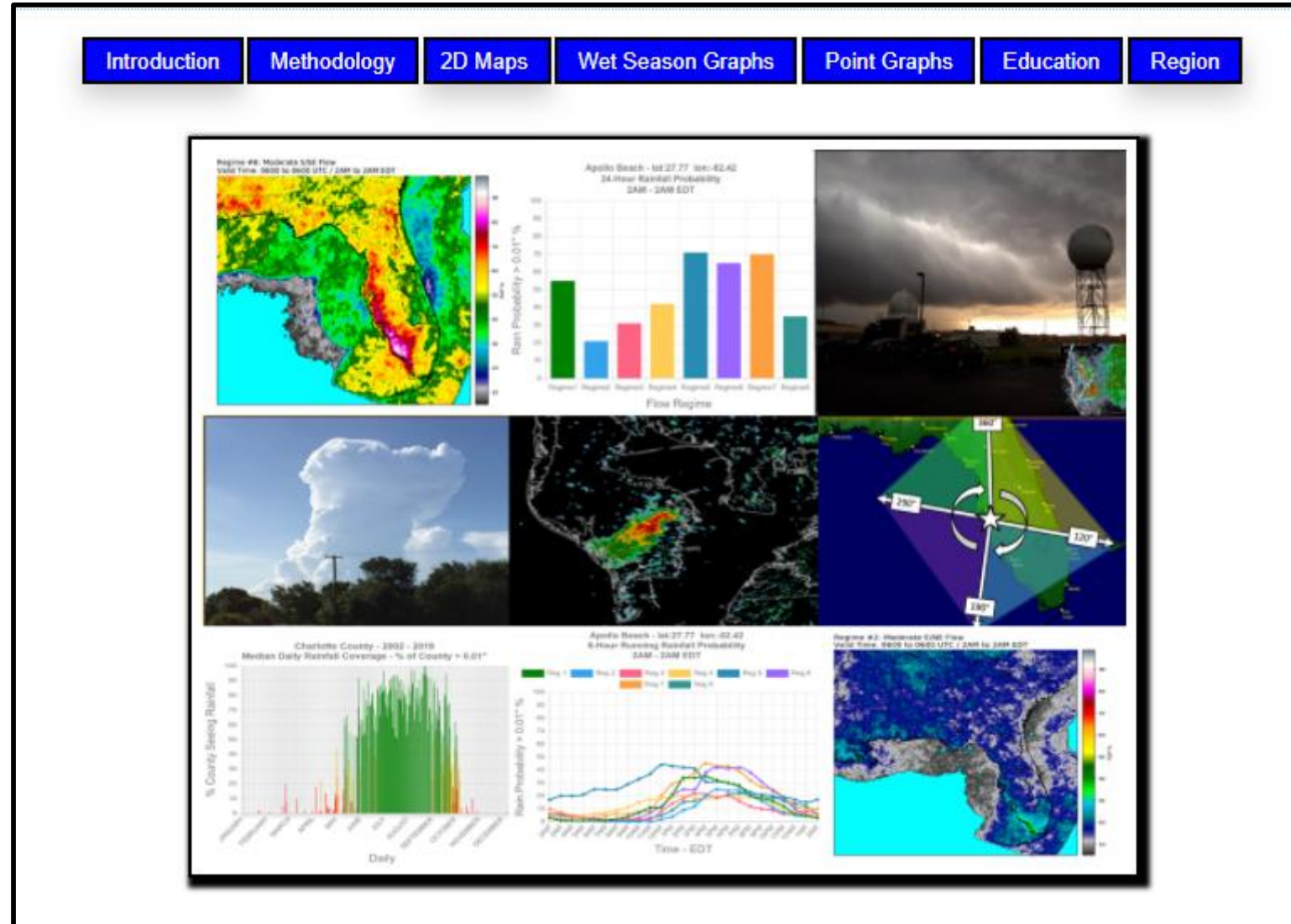
February 2021

Please direct questions to
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Tab Based website

- **Introduction** – Information on the page rationale, research presented, and history of the project.
- **Methodology** – Description of how the research was undertaken, including datasets used.
- **2D – Maps** – Gif maps of the various temporal and spatial rainfall climatologies during the summer months over the southeastern United States.
- **Wet Season Graphs** – Graphs displaying the mean and median rainfall coverage for given geographic areas on each day of the year during the period 2002-2019.
- **Point Graphs** – Graphs of the various temporal rainfall climatologies for specific sites across the state of Florida.
- **Education** – A series of video presentations on various aspects of the Florida summer sea-breeze and resulting thunderstorms.
- **Region** – Used to change the region in which point graph locations are assessible. Each Florida WFO represents a distinct region. Defaults to Tampa Bay upon loading.





2D Maps Tab Dropdown (option 1)

- **GIF Maps (All)** - Once you click this option you will see a Secondary tab menu (green buttons) appear, one tab for each flow Regime defined (1-8). Below that will be a listing of the type of Climatology maps available.



Map Types:

24-Hour - Probability of > 0.01 " of precipitation 0600 UTC through 0600 UTC

12-Hour - Probability of > 0.01 " of precipitation 1200 - 0000 UTC and 0000 - 1200 UTC

6-Hour - Probability of > 0.01 " of precipitation 0600 - 1200 UTC, 1200 - 1800 UTC, 1800 - 0000 UTC, and 0000 - 0600 UTC

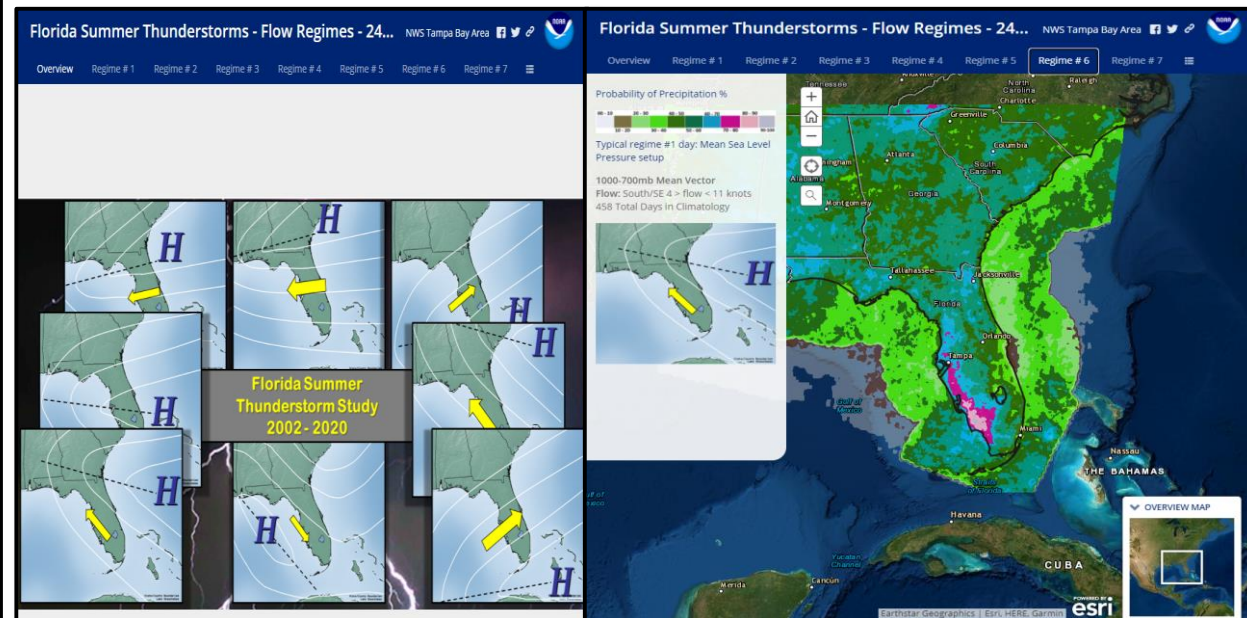
3-Hour - Probability of > 0.01 " of precipitation 0600 - 0900 UTC, 0900 - 1200 UTC, 1200 - 1500 UTC, 1500 - 1800 UTC, 1800 - 2100 UTC, 2100 - 0000 UTC, 0000 - 0300 UTC, and 0300 - 0600 UTC

5run-Hour - Running probability of > 0.01 " of precipitation during a 5 hour period centered on each specific hour (1200 UTC, 1300 UTC, ...)

3run-Hour - Running probability of > 0.01 " of precipitation during a 3 hour period centered on each specific hour (1200 UTC, 1300 UTC, ...)

2D Maps Tab Dropdown (option 2)

- **GIS Maps (24hr Only)** - Link to an argis online page with the 24 hour rainfall climatologies for each of the 8 regimes. Future additions will include other temporal resolutions.



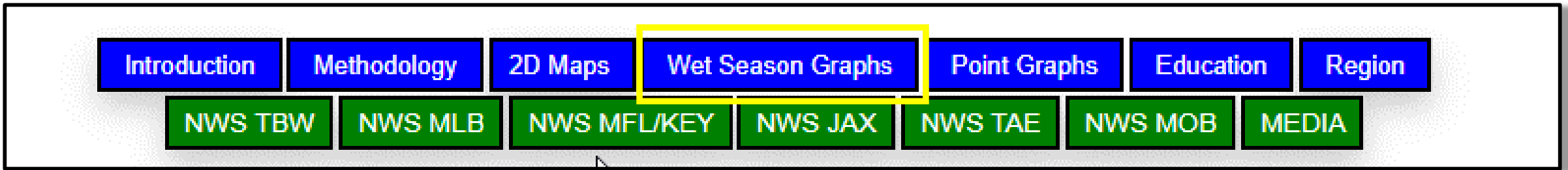


2D Maps Tab Dropdown (option 1)

- GIF Maps (All)** - Using the green flow regime tabs – 1) Hover over the regime of choice, 2) choose your temporal time, 3) and choose your domain of interest. The page will take your inputs and display the climatology of choice and the flow regime's mean MSLP pattern. All but the 24 hour choice will contain a slider bar for animation. Images will load as you scroll, so move slider back and forth a few time. *Future versions of site will load automatically as soon as choices are made.*

The sequence of screenshots illustrates the user interface for selecting a regime and time domain:

- Step 1:** The '2D Maps' tab is selected, and the 'Regime 1' dropdown is open, showing options like '24-Hour', '12-Hour', '5-Hour Running', '6-Hour', '3-Hour Running', and '3-Hour'.
- Step 2:** The '12-Hour' option is selected, and the 'Regime 2' dropdown is open, showing options like 'SE CONUS 12hr', 'Florida 12hr', 'NWS Tampa Bay 12hr', 'NWS Melbourne 12hr', 'NWS Jacksonville 12hr', 'NWS Miami/Keys 12hr', 'NWS Tallahassee 12hr', and 'NWS Mobile 12hr'.
- Step 3:** The 'NWS Tampa Bay 5hr-run' option is selected, and the 'Regime 3' dropdown is open, showing options like 'SE CONUS 5hr-run', 'Florida 5hr-run', 'NWS Melbourne 5hr-run', 'NWS Jacksonville 5hr-run', 'NWS Miami/Keys 5hr-run', 'NWS Tallahassee 5hr-run', and 'NWS Mobile 5hr-run'.
- Step 4:** The final map is displayed, showing the 'Mean Surface Pressure Pattern' and '1000-700mb Mean Vector Flow'. The map includes a color scale for precipitation probability (POP %) and a vector flow plot.



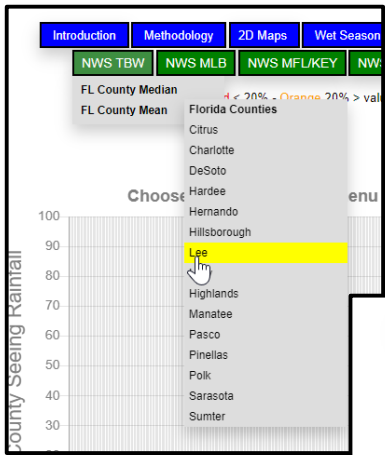
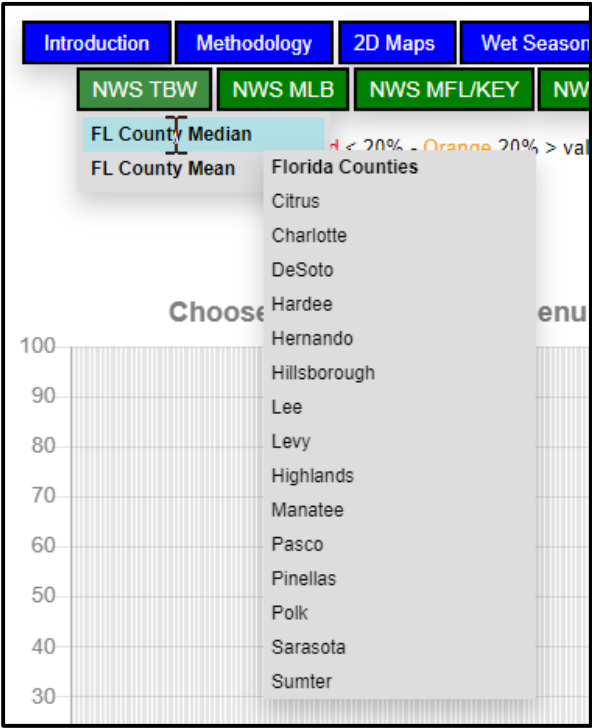
Wet Season Graphs

1) Hover over the WFO area of interest. A dropdown menu will appear for you to choose Median data or Mean data.

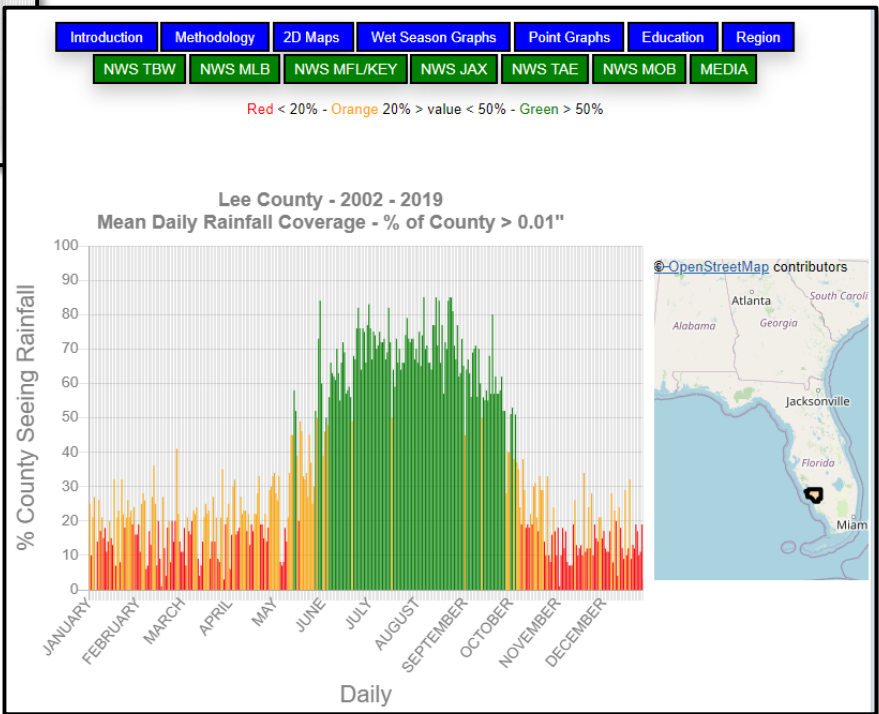
Choosing the “Media” tab will allow you to display data from geographic regions corresponding to the various Florida media markets.

1) Hover over your choice of data type and a list of the WFO counties will appear.

2) Choose the county of interest and the website will build your website graph based on your choices.



Example: NWS TBW -> FL county Mean -> Lee County will build the display shown below. The county of interest will also highlight on the right-side map.



Introduction

Methodology

2D Maps

Wet Season Graphs

Point Graphs

Education

Region

24-Hourly

12-Hourly

5-Hr Run

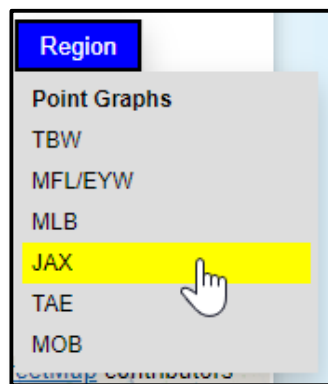
6-Hourly

3-Hr Run

3-Hourly

Point Graphs

Defaults on load to the **Tampa Bay County Warning Area**. Use the Blue Region Tab to switch to desired WFO/Region.

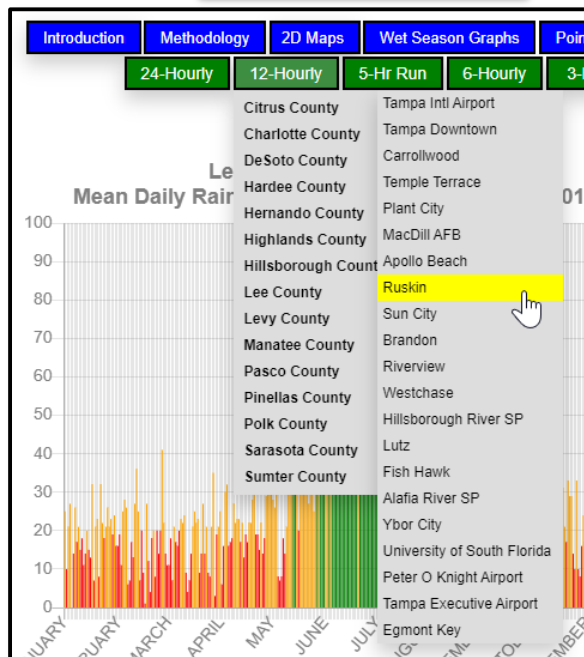


1) Hover over the green button for the temporal resolution of interest.

2) Hover over the county of interest from the dropdown menu.

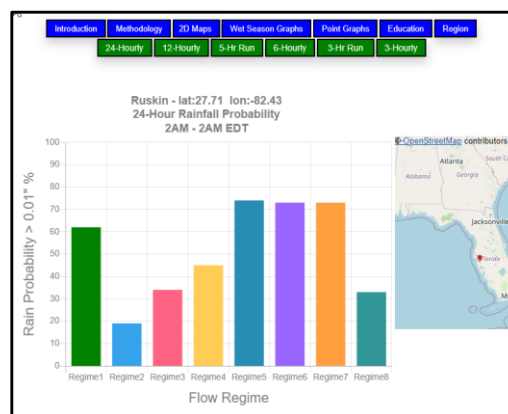
3) Choose your point location within the county from next dropdown menu to the right.

Temporal -> County -> Town/City

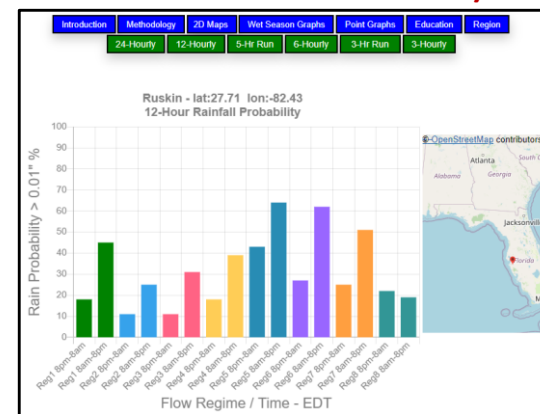


A Few Ruskin, FL Examples:

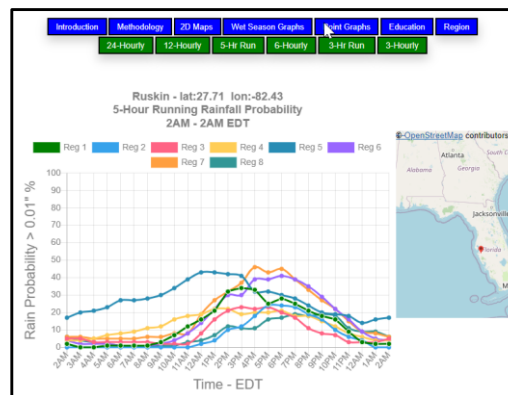
24-Hour | 1 bar for each regime)



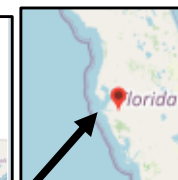
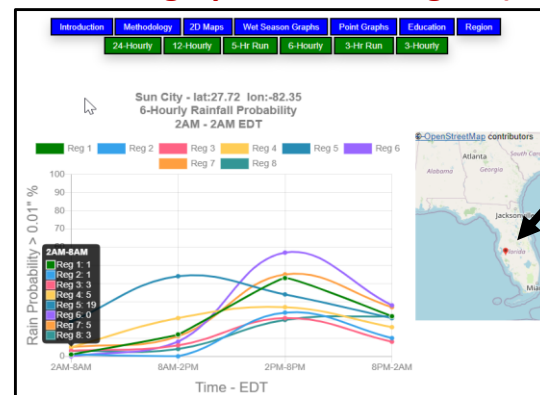
12-Hour | 2 bars for each regime
00Z – 12Z and 12Z – 00Z)



5-Hour running Hourly |
1 line graph for each regime)



6-Hour synoptic |
1 line graph for each regime)



Location shows as pointer on right-side map

Education

A series of educational Youtube videos dealing with various aspects of the Florida warm season, sea-breeze, and resulting thunderstorms.

Videos with a timestamp after the title are completed and viewable. The rest will be added before the site goes fully public in April.

If you are interested in helping create one of these videos or have an idea for an additional video segment, please don't hesitate to contact
bryan.Mroczka@noaa.gov

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

Education is Under Construction. Videos with times are ready to view...

Florida Sea-Breeze Thunderstorm Video Series:

[Introduction to the Video Series](#)

- [1\) Thunderstorm Ingredients \(3:02\)](#)
- [2\) The Formation of the Sea-Breeze & LandBreeze](#)
- [3\) Thunderstorm Formation Along the Sea-Breeze](#)
- [4\) Thunderstorm Patterns via Synoptic Flow Regime & Sea-Breeze Interaction \(3:46\)](#)
- [5\) The "St Pete Storm"](#)
- [6\) Lightning Formation & Lightning Safety](#)
- [7\) Radar Analysis and Warning for Summer Storms](#)