

East Central Florida Severe Weather Climatology: An Update for 2011 through 2020

Megan Tollefsen

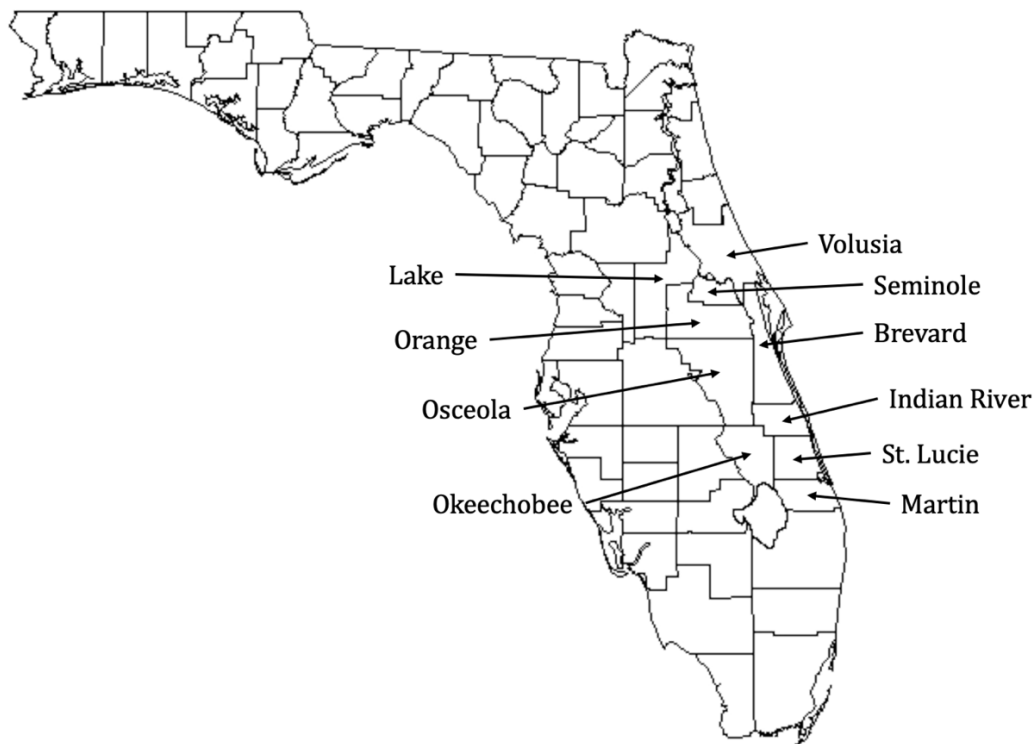
The National Weather Service Melbourne's previous intern, Jonathan Guseman, produced a detailed summary on the severe weather climatology of the Melbourne WFO starting in 1950 and going through 2011. Since then, 10 more years have passed and plenty of severe weather has occurred within the NWS Melbourne WFO.

The previous climatological [report](#) focused on three primary severe weather impacts: tornadoes, hail, and convective wind gusts. This update will also focus on the same three severe weather impacts. The range of time for this update starts on January 1st, 2011, and ends on December 31st, 2020. Tornadoes are rated on the Enhanced Fujita scale (0-5). For this duration of time, there were no tornadoes that occurred within the NWS Melbourne WFO that had a rating of an EF3 or higher, and therefore, these ratings do not show up in the graphs. Hail reports are included for stones that were 0.75 inches in diameter and greater. Convective wind reports were included for gusts of 50 knots (approximately 58 mph) and greater.

Data for this climatological update was pulled from the Storm Events Database¹. The data was then compiled into an Excel spreadsheet, and the various graphs within this report were created using Excel.

The document is split into two distinct sections. The first section will show the East Central Florida climatology while the second section will show a breakdown by the ten counties within the NWS Melbourne WFO.

Melbourne County Warning Area

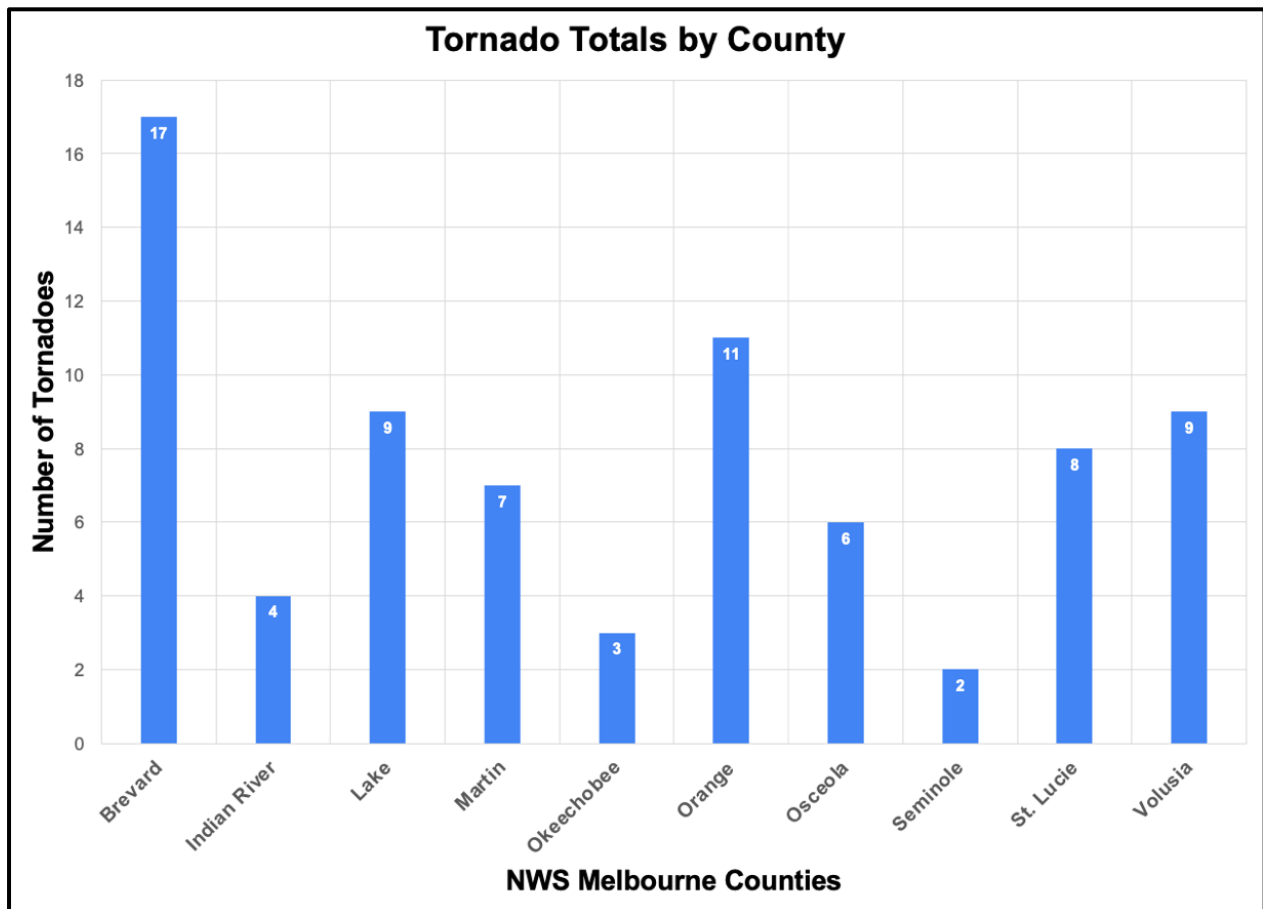


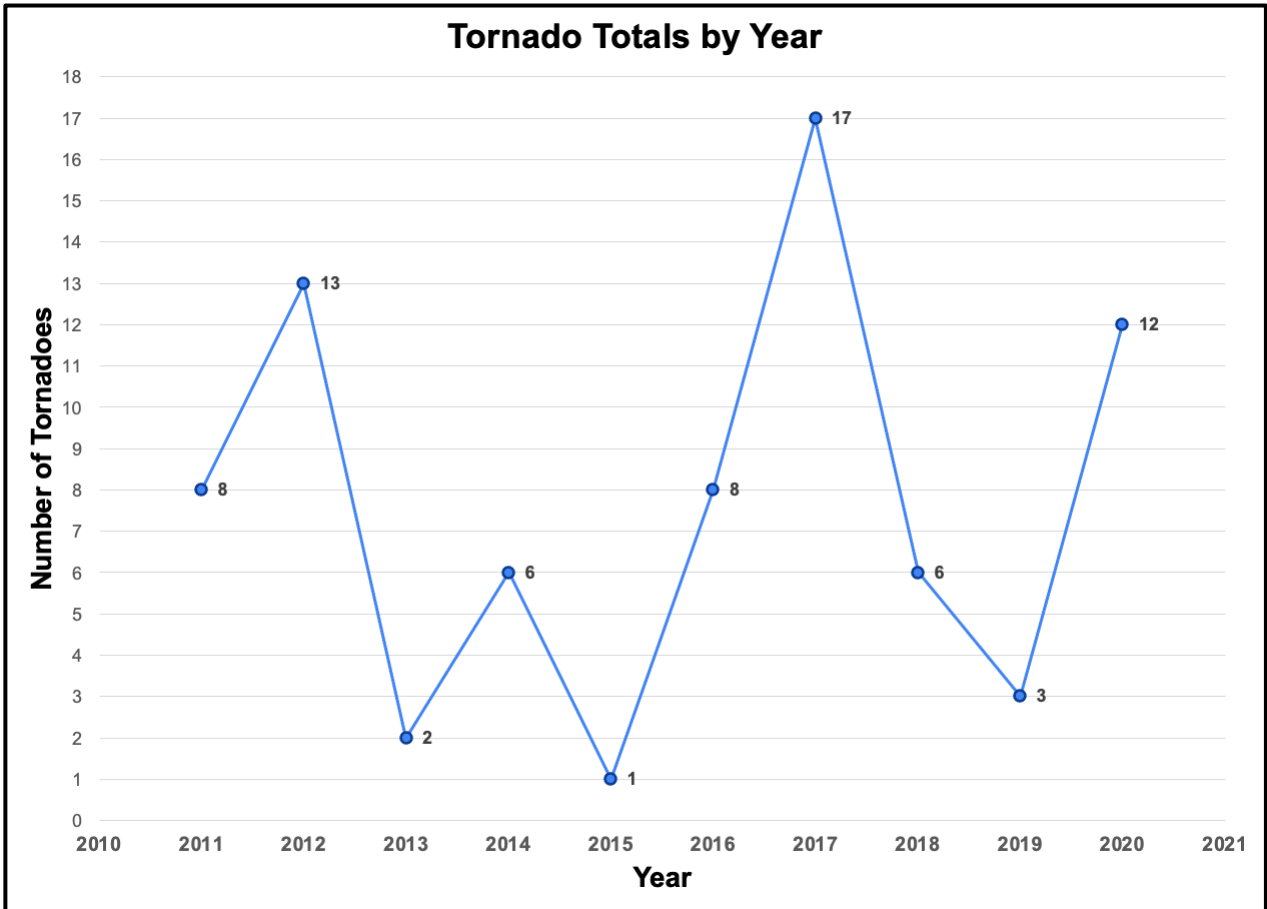
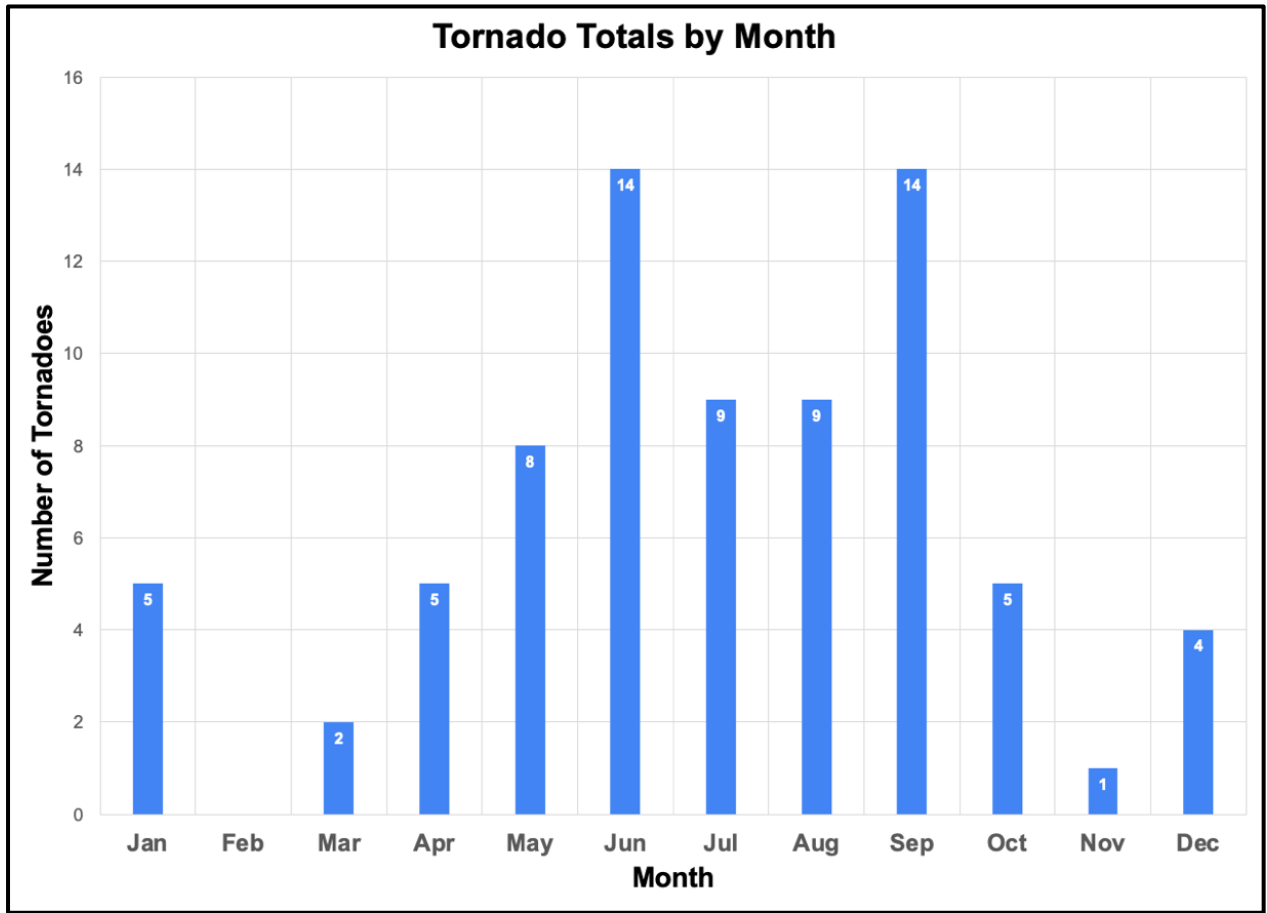
¹ The Storm Events Database archive can be accessed at <https://www.ncdc.noaa.gov/stormevents/>.

Part 1: Melbourne County Warning Area Climatology

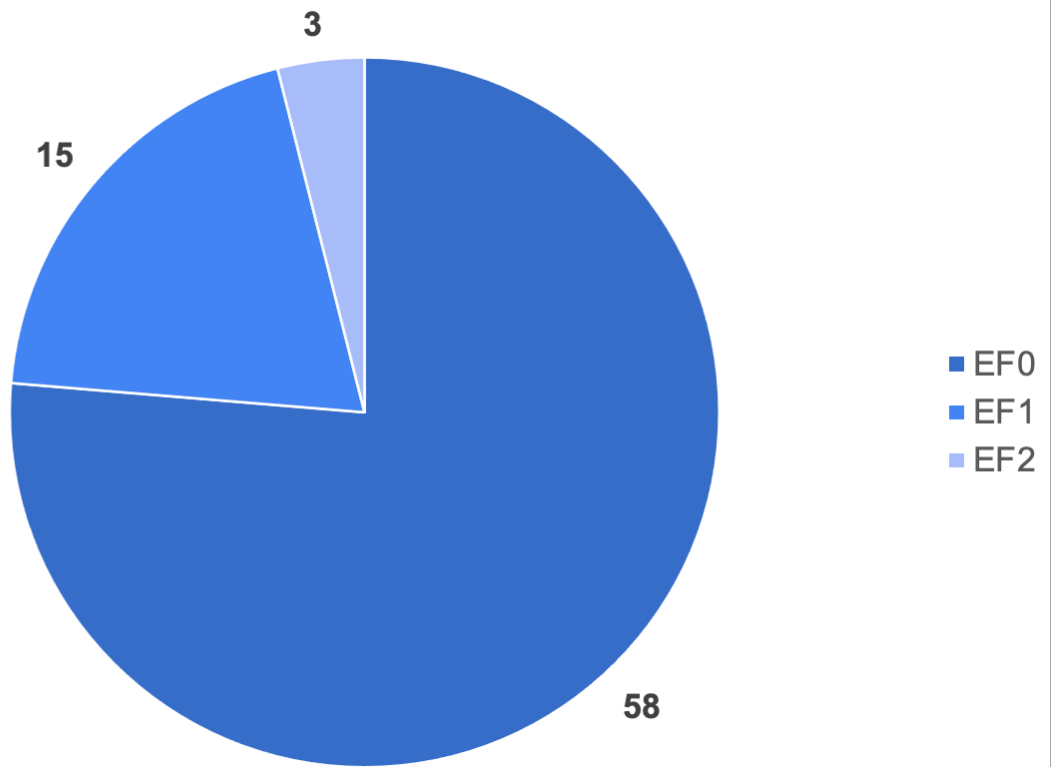
Tornado Overview

The period of time from January 1st, 2011, to December 31st, 2020, had a total of 76 tornadoes within the NWS Melbourne WFO. Brevard County saw the greatest number of tornadoes over this time period. The months of June and September saw the greatest number of tornadoes over this period, and 2017 had the greatest number of tornado occurrences. The strength of these tornadoes never surpassed an EF2, with 3 tornadoes during the period being categorized as an EF2. As for injuries and deaths associated with tornadoes, there were a total of 4 injuries attributed to tornadoes within the NWS Melbourne area, and no deaths.



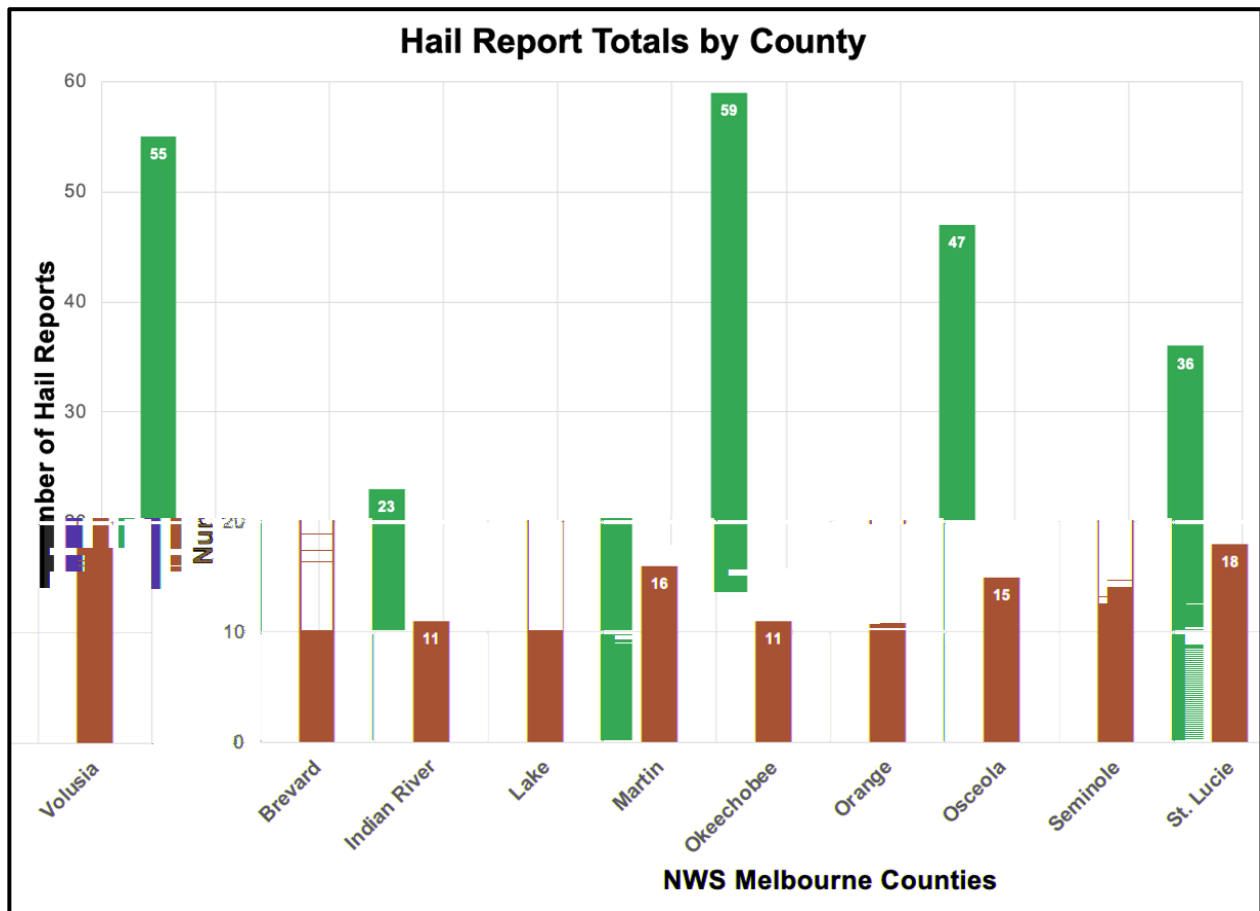


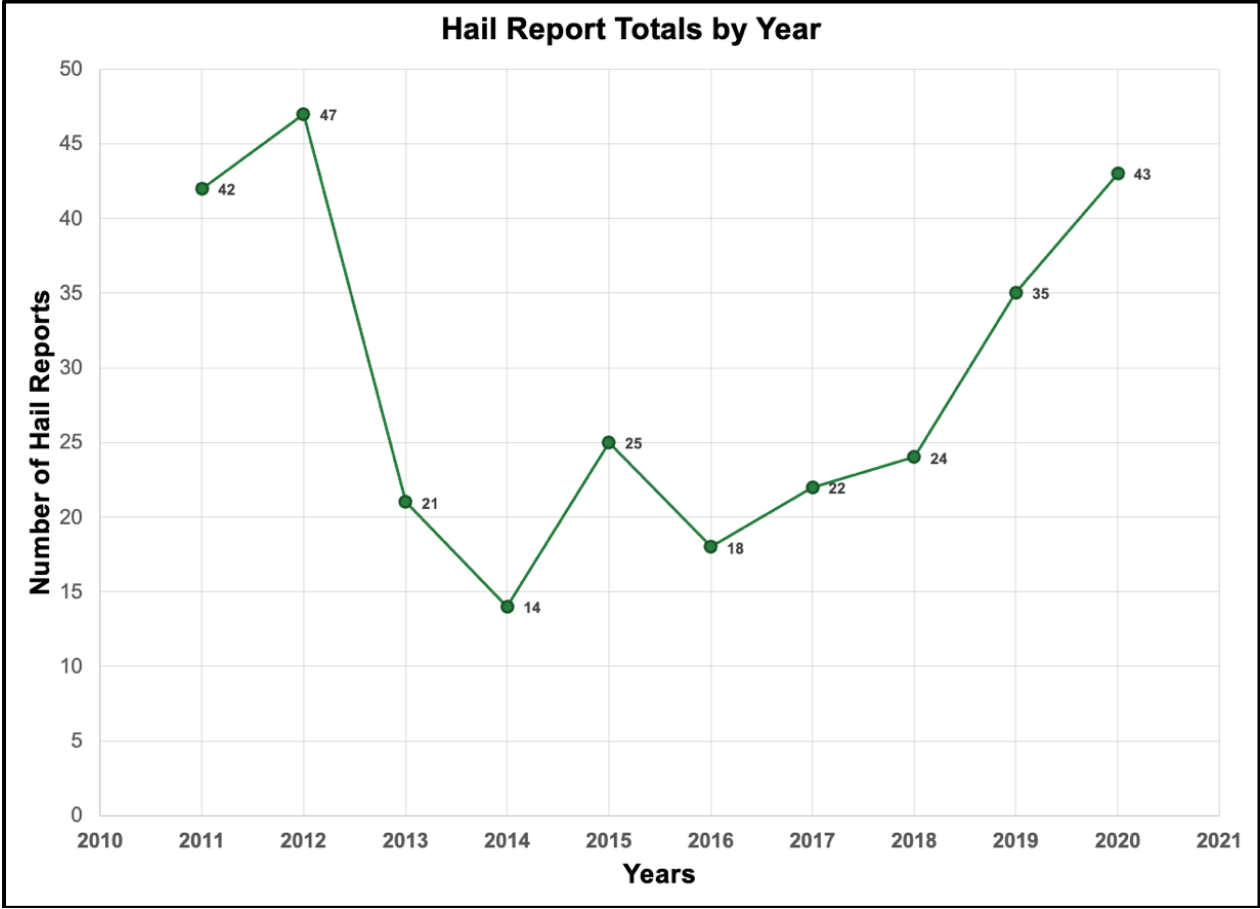
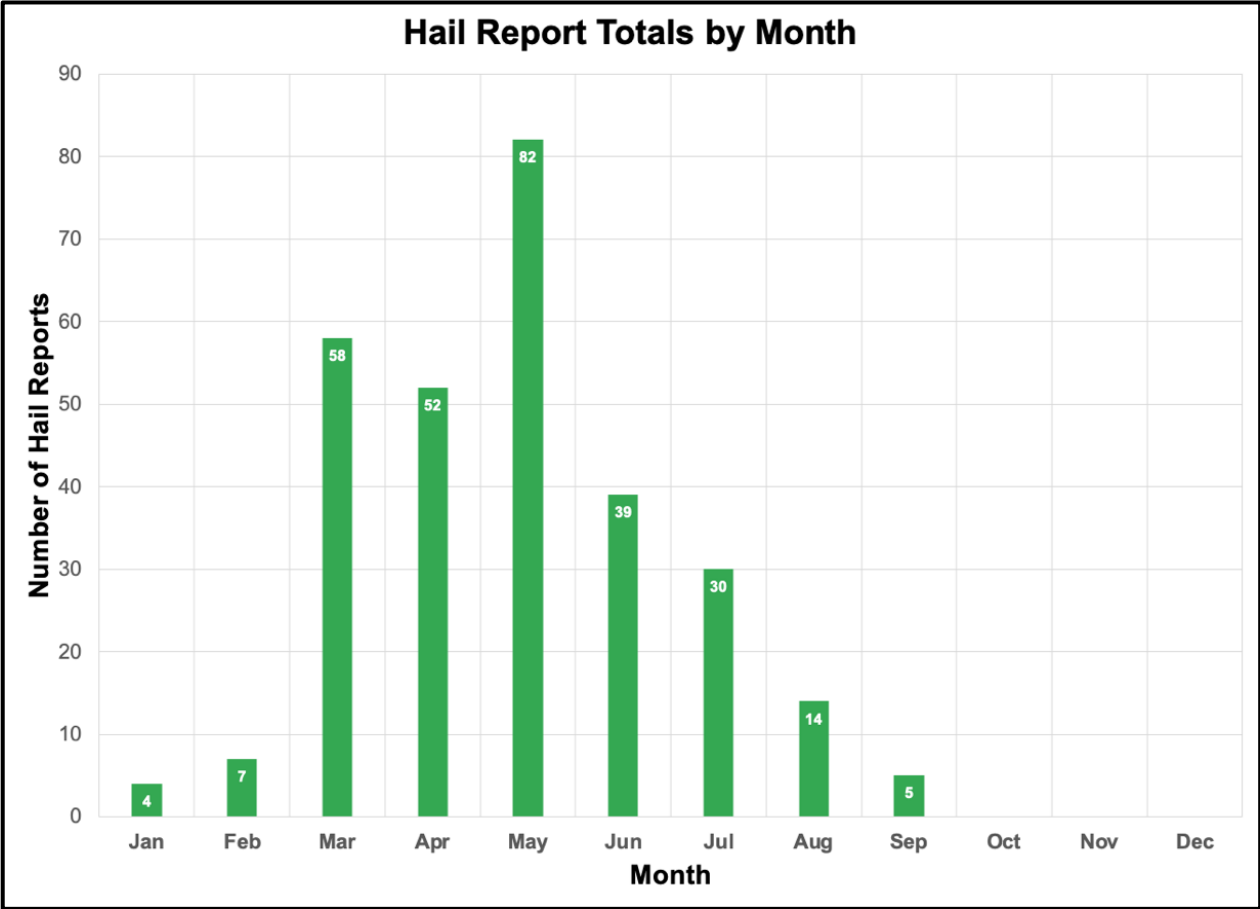
Tornado Totals by EF Scale Value



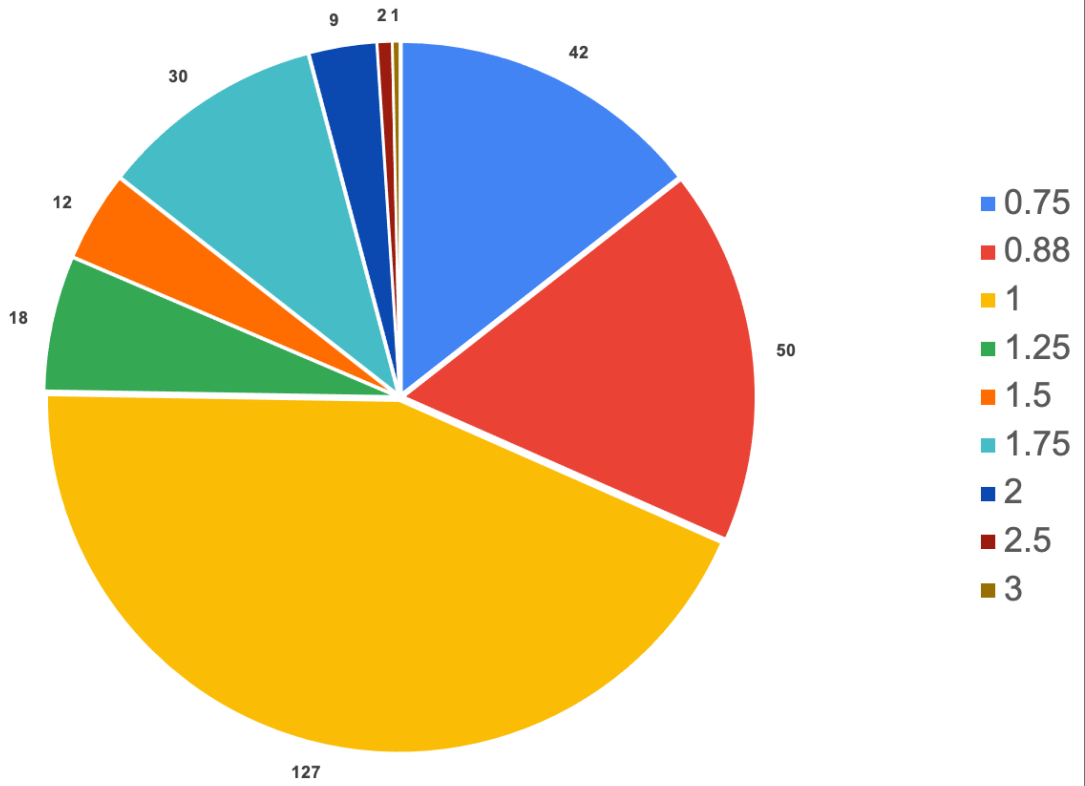
Hail Overview

The period of time from January 1st, 2011, to December 31st, 2020, had a total of 291 hail reports within the NWS Melbourne CWA. Orange County saw the greatest number of hail reports over this time period. The month of May saw the greatest number of hail reports, and 2012 had the greatest number of hail reports over the period. The diameter of hail stone that was the most reported was 1 inch. There were no injuries or deaths associated with hail within the NWS Melbourne WFO.



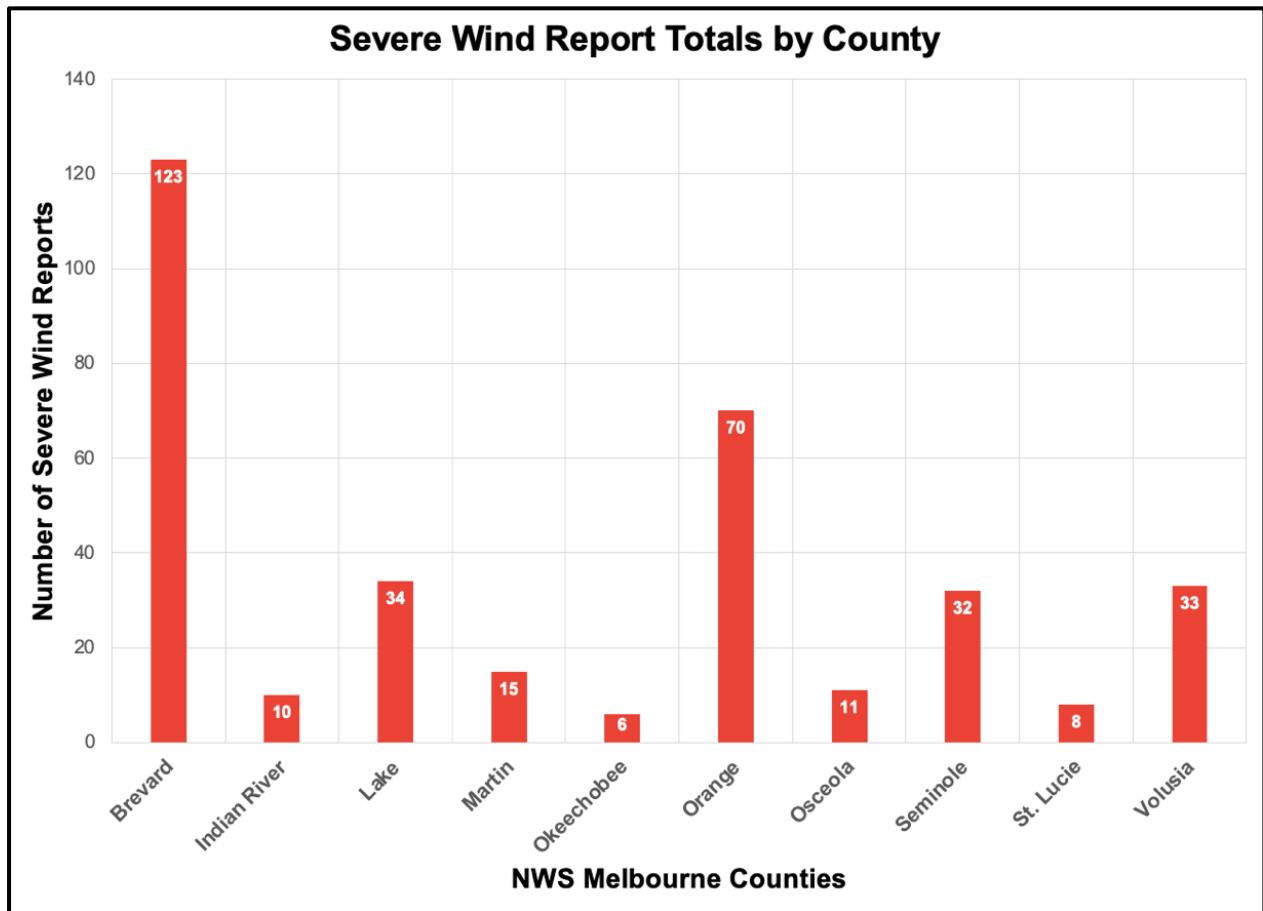


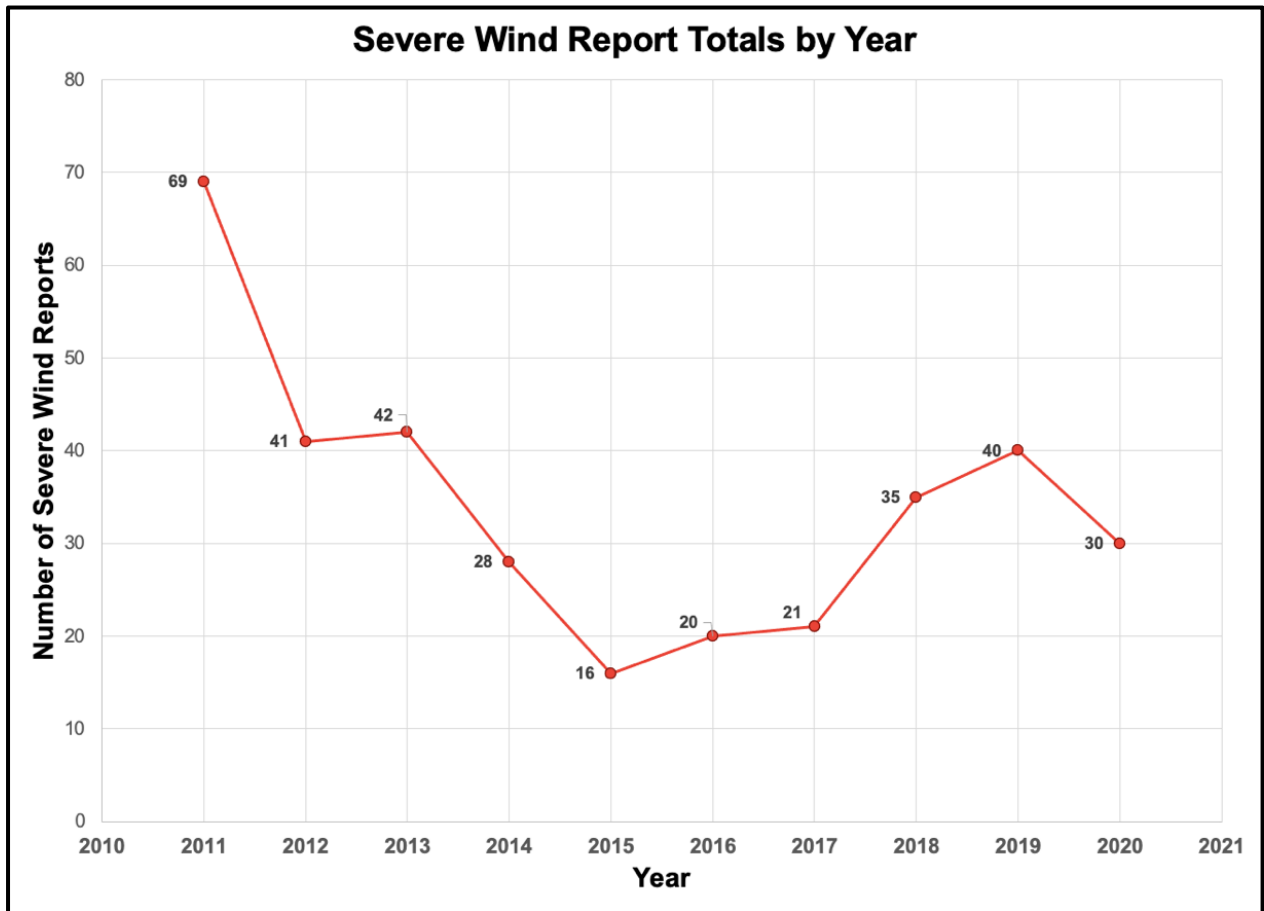
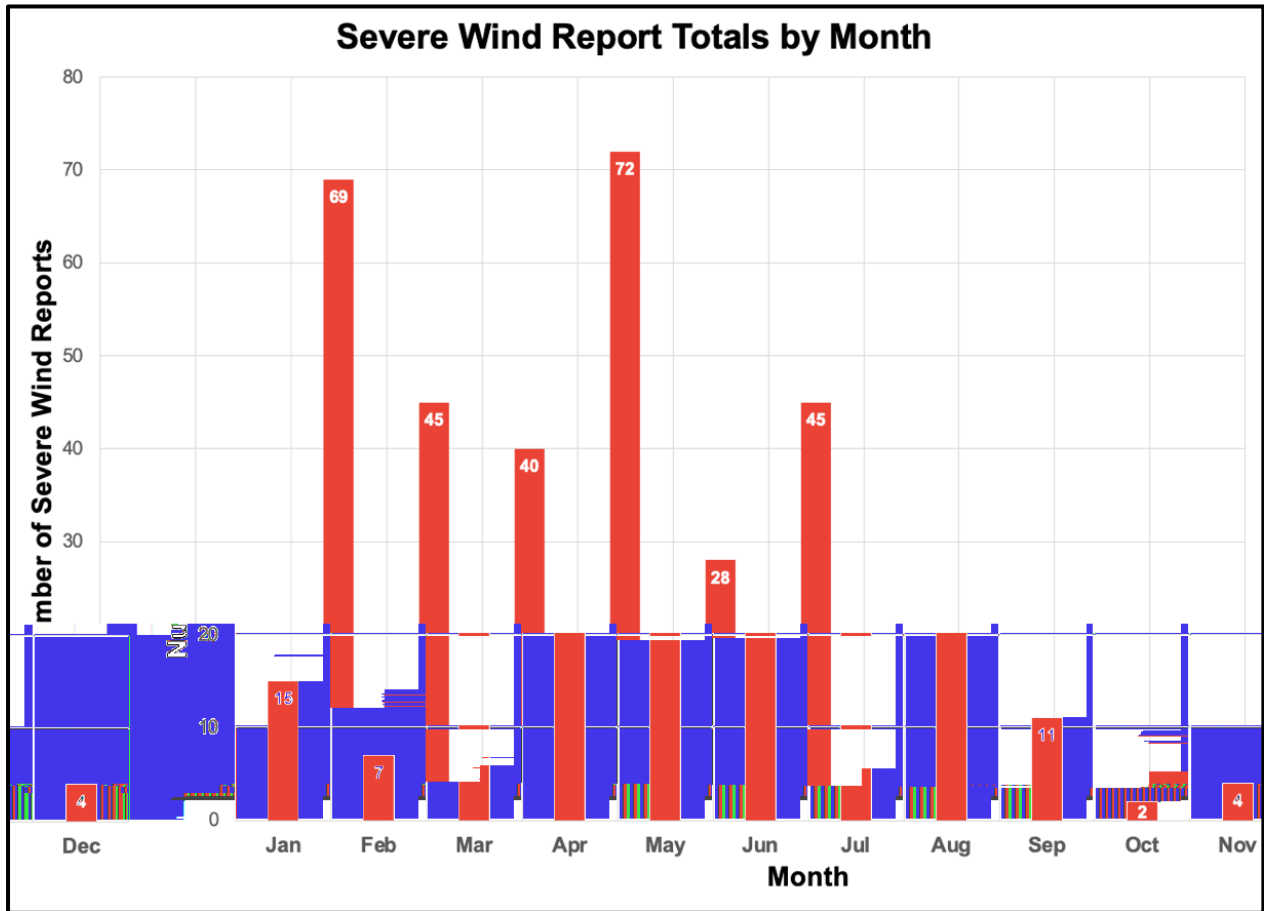
Hail Totals by Diameter (in)



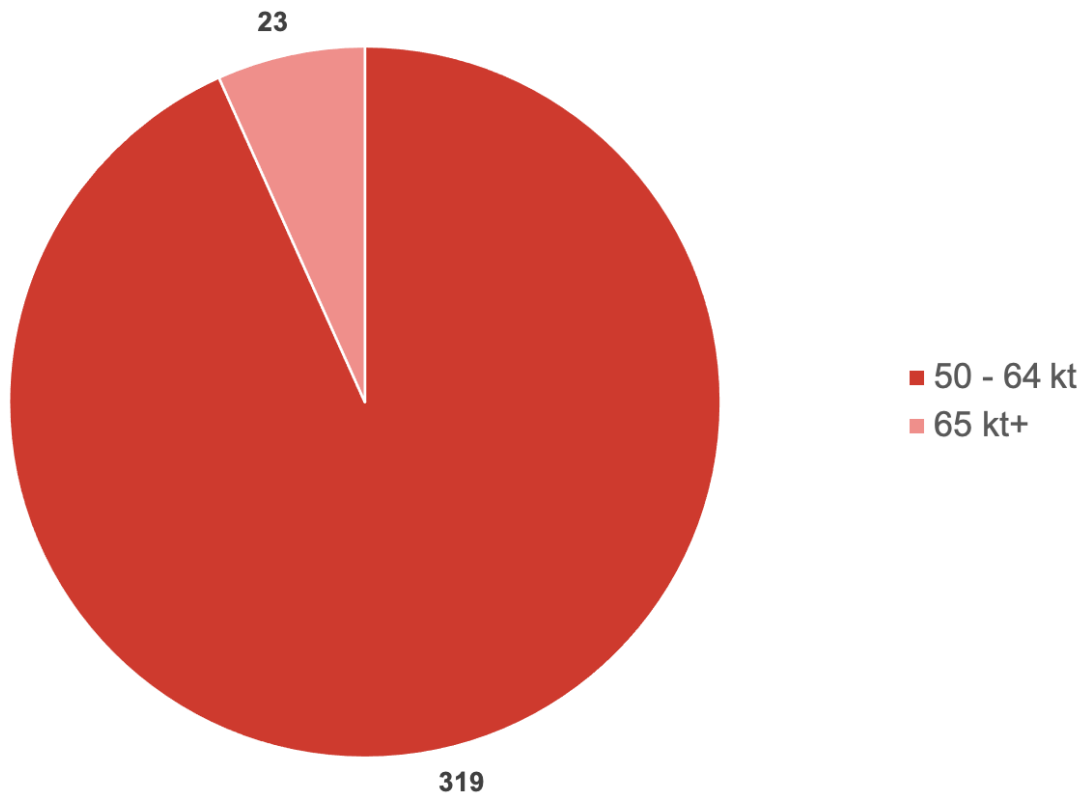
Severe Wind Overview

The period of time from January 1st, 2011, to December 31st, 2020, had a total of 342 severe wind reports within the NWS Melbourne CWA. Brevard County saw the greatest number of severe wind reports over this time period. The month of June saw the greatest number of reports over this period, and 2011 had the greatest number of severe wind reports. Out of the 342 severe wind reports, 23 reports had gusts of 65 knots or greater. As for injuries and deaths associated with severe wind gusts, there were a total of 6 injuries attributed to severe wind within the NWS Melbourne area, and no deaths.





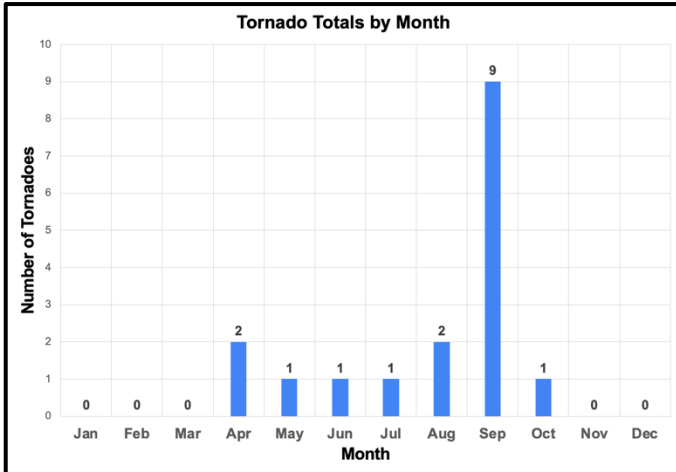
Severe Wind Report Totals by Speed



Part 2: NWS Melbourne County Climatology

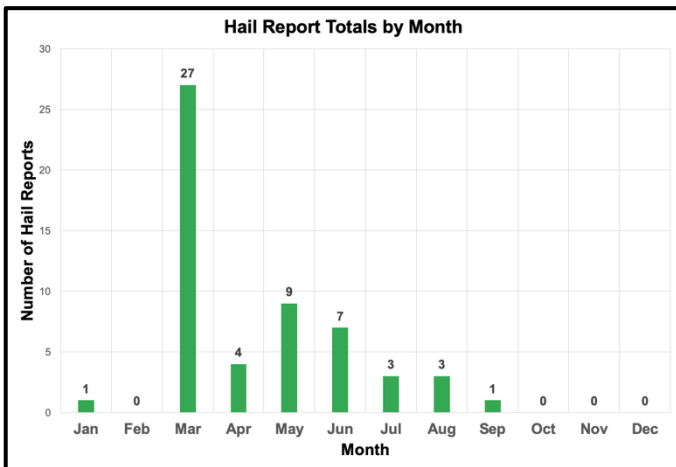
Brevard

Tornado Overview



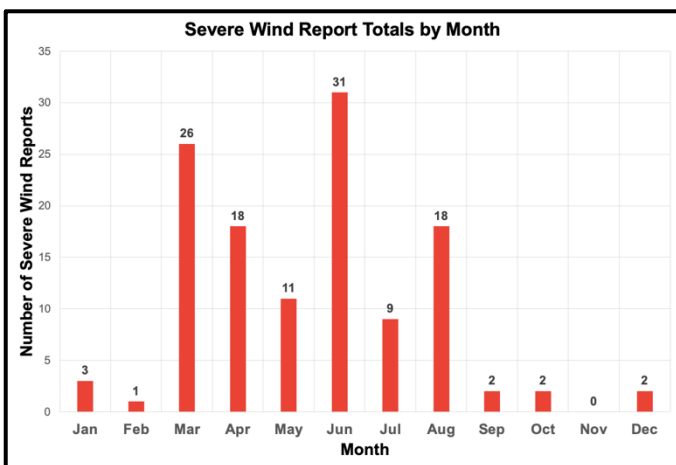
Brevard County experienced a total of 17 tornadoes from 2011 to 2020. There were 10 EF0 tornadoes, 6 EF1 tornadoes, and 1 EF2 tornado during this period of time. Between 2011 and 2020, September was the month with the greatest number of tornadoes, with 2017 having the greatest number of tornado occurrences (9 tornadoes).

Hail Overview



Brevard County had a total of 55 hail reports from 2011 to 2020, ranging from 0.75 inches to 2 inches in diameter. Between 2011 and 2020, March was the month with the greatest number of hail reports, with 2018 having the greatest number of hail reports (18 reports).

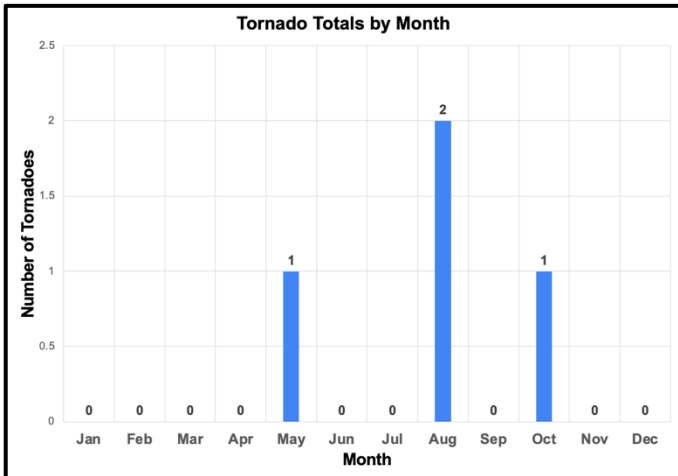
Severe Wind Overview



Brevard County had a total of 123 severe wind reports from 2011 to 2020. 8 of these reports involved winds 65 knots (~74 miles per hour) and greater. The other 115 severe wind reports fell between 50 knots (~58 miles per hour) and 64 knots (~73 miles per hour). Between 2011 and 2020, June was the month with the greatest number of severe wind reports, with 2011 and 2012 having the greatest number of reports (both years had 24 reports).

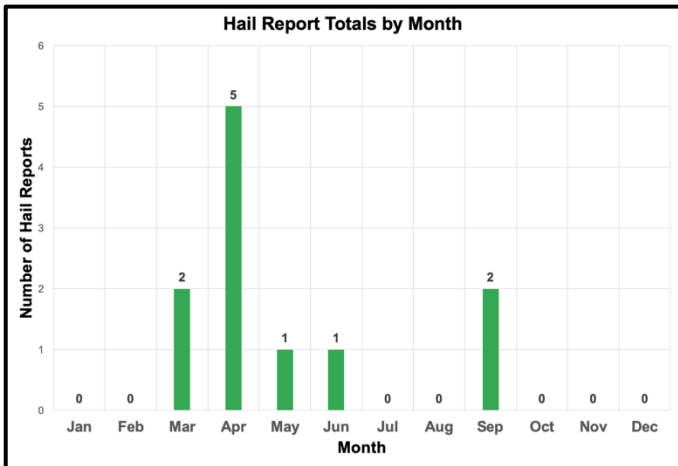
Indian River

Tornado Overview



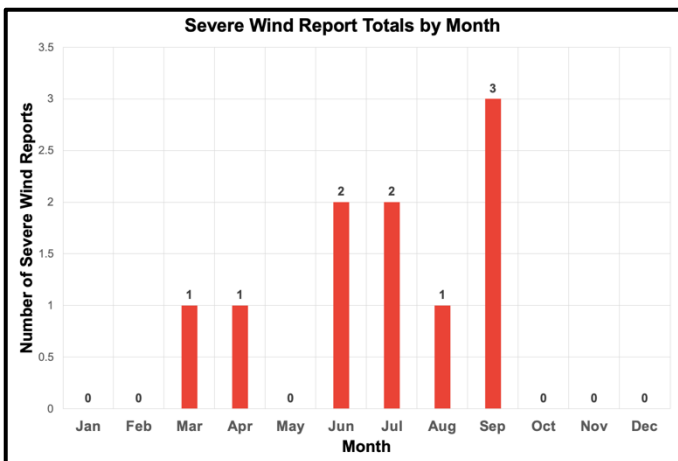
Indian River County experienced a total of 4 tornadoes from 2011 to 2020. There were 3 EF0 tornadoes and 1 EF1 tornado during this period of time. Between 2011 and 2020, August was the month with the greatest number of tornadoes, with 2011, 2012, 2016, and 2017 all having a single tornado occurrence.

Hail Overview



Indian River County had a total of 11 hail reports from 2011 to 2020, ranging from 0.75 inches to 1.25 inches in diameter. Between 2011 and 2020, April was the month with the greatest number of hail reports, with 2012 having the greatest number of hail reports (3 reports).

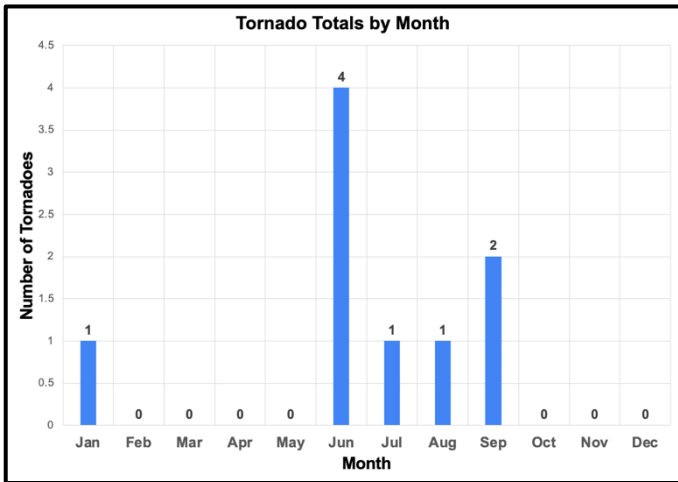
Severe Wind Overview



Indian River County had a total of 10 severe wind reports from 2011 to 2020. 1 of these reports involved winds 65 knots (~74 miles per hour) and greater. The other 9 severe wind reports fell between 50 knots (~58 miles per hour) and 64 knots (~73 miles per hour). Between 2011 and 2020, September was the month with the greatest number of severe wind reports, with 2011 having the greatest number of reports (3 reports).

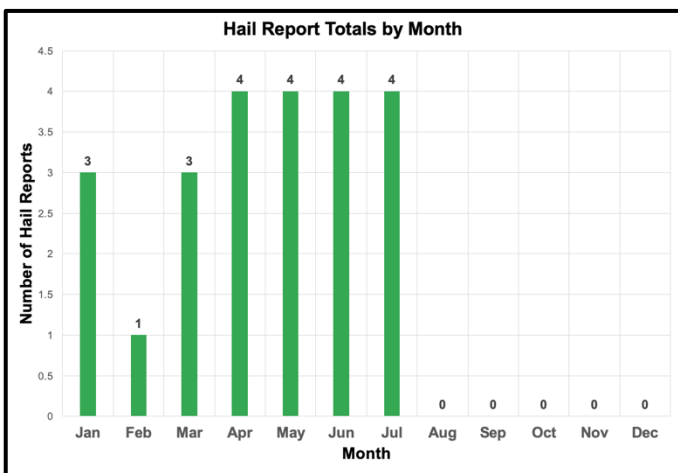
Lake

Tornado Overview



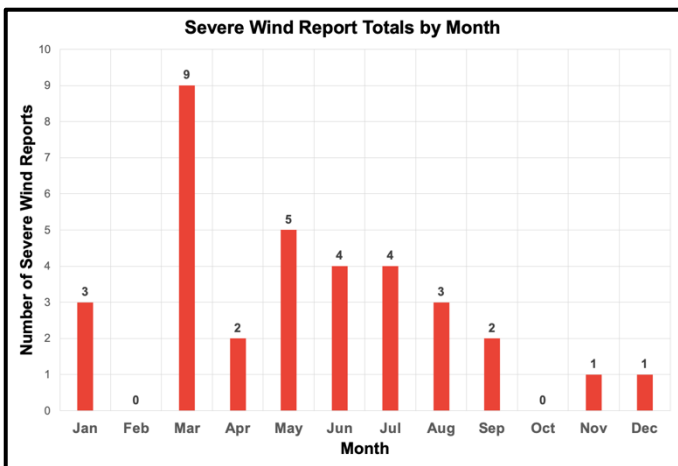
Lake County experienced a total of 9 tornadoes from 2011 to 2020. There were 8 EF0 tornadoes and 1 EF1 tornado during this period of time. Between 2011 and 2020, June was the month with the greatest number of tornadoes, with 2020 having the greatest number of tornado occurrences (3 tornadoes).

Hail Overview



Lake County had a total of 23 hail reports from 2011 to 2020, ranging from 0.75 inches to 1.75 inches in diameter. Between 2011 and 2020, April, May, June, and July were the months with the greatest number of hail reports, with 2017 having the greatest number of hail reports (5 reports).

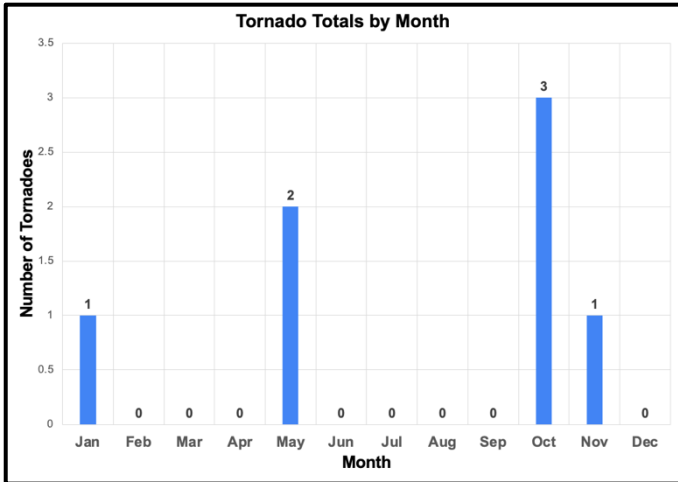
Severe Wind Overview



Lake County had a total of 34 severe wind reports from 2011 to 2020. 4 of these reports involved winds 65 knots (~74 miles per hour) and greater. The other 30 severe wind reports fell between 50 knots (~58 miles per hour) and 64 knots (~73 miles per hour). Between 2011 and 2020, March was the month with the greatest number of severe wind reports, with 2016 having the greatest number of reports (7 reports).

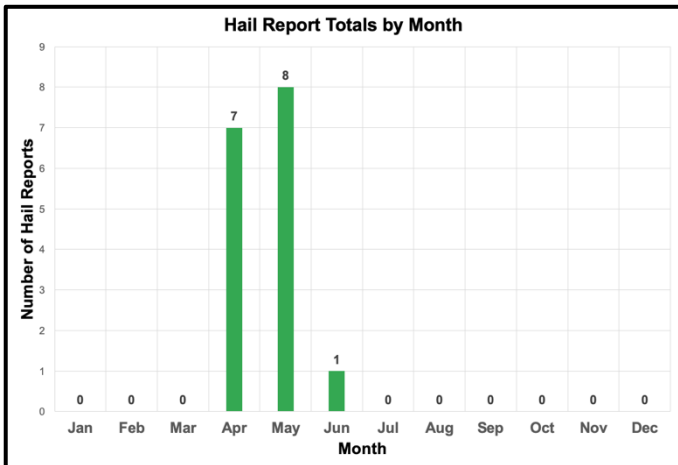
Martin

Tornado Overview



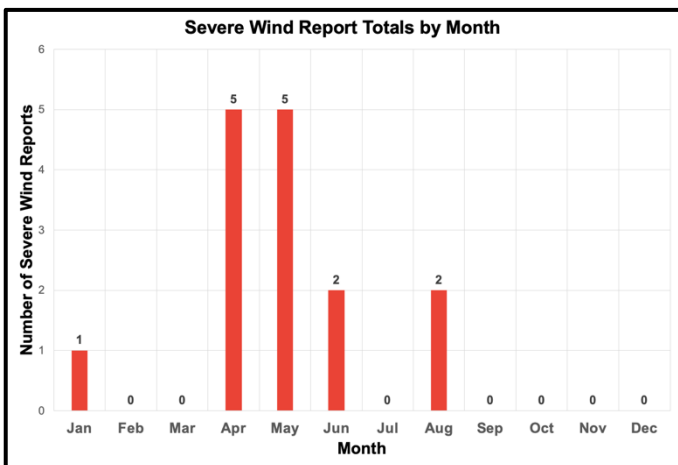
Martin County experienced a total of 7 tornadoes from 2011 to 2020. There were 6 EF0 tornadoes and 1 EF1 tornado during this period of time. Between 2011 and 2020, October was the month with the greatest number of tornadoes, with 2011 having the greatest number of tornado occurrences (3 tornadoes).

Hail Overview



Martin County had a total of 16 hail reports from 2011 to 2020, ranging from 0.75 inches to 1.75 inches in diameter. Between 2011 and 2020, May was the month with the greatest number of hail reports, with 2011, 2012, and 2013 having the greatest number of hail reports (all years had 3 reports).

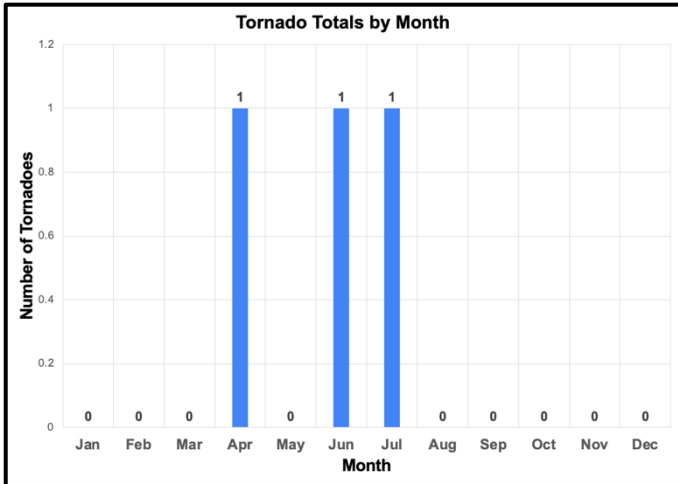
Severe Wind Overview



Martin County had a total of 15 severe wind reports from 2011 to 2020. 1 of these reports involved winds 65 knots (~74 miles per hour) and greater. The other 14 severe wind reports fell between 50 knots (~58 miles per hour) and 64 knots (~73 miles per hour). Between 2011 and 2020, April and May were the months with the greatest number of severe wind reports, with 2011 and 2019 having the greatest number of reports (both years had 4 reports).

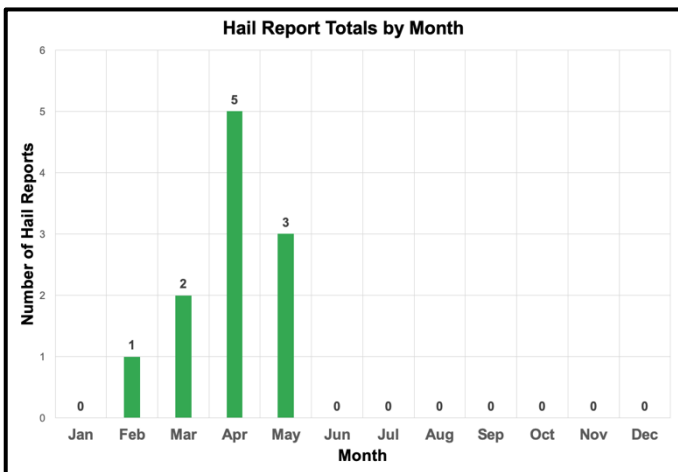
Okeechobee

Tornado Overview



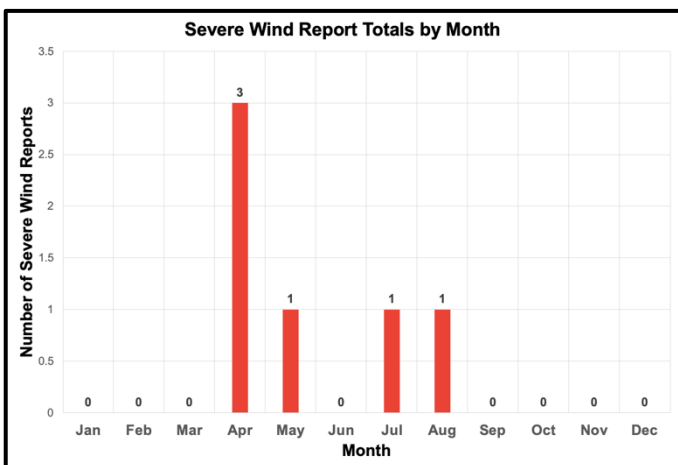
Okeechobee County experienced a total of 17 tornadoes from 2011 to 2020. There were 2 EF0 tornadoes and 1 EF2 tornado during this period of time. Between 2011 and 2020, April, June, and July all had 1 tornado, with 2012, 2014, and 2017 all having a single tornado occurrence.

Hail Overview



Okeechobee County had a total of 11 hail reports from 2011 to 2020, ranging from 0.88 inches to 2.5 inches in diameter. Between 2011 and 2020, April was the month with the greatest number of hail reports, with 2015 having the greatest number of hail reports (3 reports).

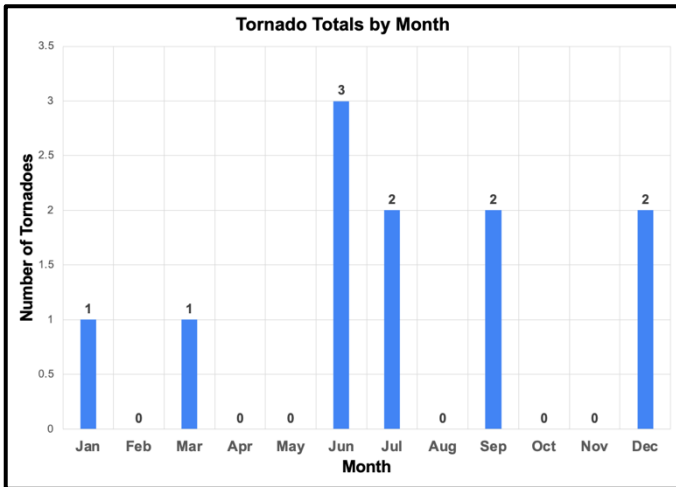
Severe Wind Overview



Okeechobee County had a total of 6 severe wind reports from 2011 to 2020. 1 of these reports involved winds 65 knots (~74 miles per hour) and greater. The other 5 severe wind reports fell between 50 knots (~58 miles per hour) and 64 knots (~73 miles per hour). Between 2011 and 2020, April was the month with the greatest number of severe wind reports, with 2011 and 2012 having the greatest number of reports (both years had 2 reports).

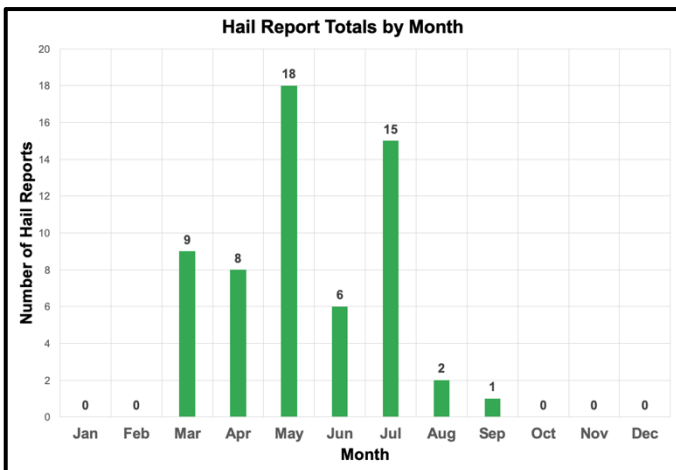
Orange

Tornado Overview



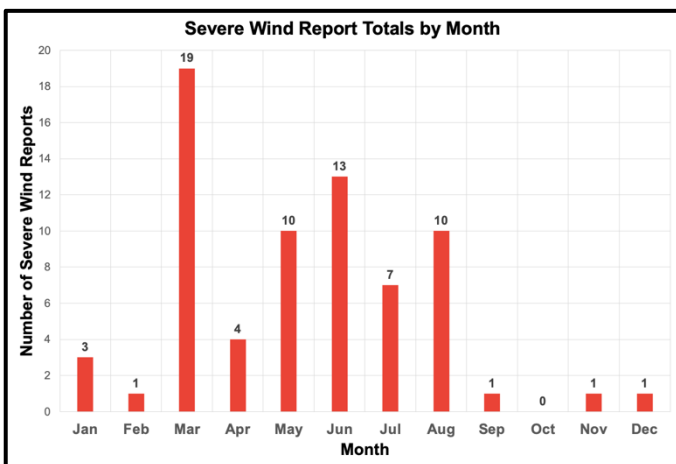
Orange County experienced a total of 11 tornadoes from 2011 to 2020. There were 10 EF0 tornadoes, and 1 EF1 tornado during this period of time. Between 2011 and 2020, June was the month with the greatest number of tornadoes, with 2020 having the greatest number of tornado occurrences (3 tornadoes).

Hail Overview



Orange County had a total of 59 hail reports from 2011 to 2020, ranging from 0.75 inches to 1.75 inches in diameter. Between 2011 and 2020, May was the month with the greatest number of hail reports, with 2011 having the greatest number of hail reports (13 reports).

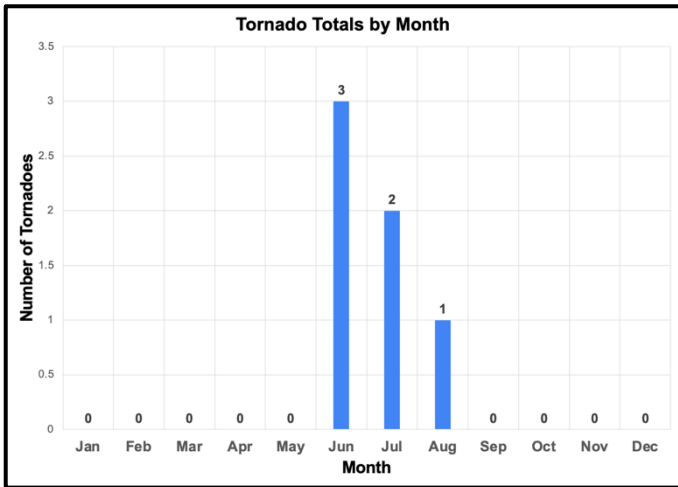
Severe Wind Overview



Orange County had a total of 70 severe wind reports from 2011 to 2020. 4 of these reports involved winds 65 knots (~74 miles per hour) and greater. The other 66 severe wind reports fell between 50 knots (~58 miles per hour) and 64 knots (~73 miles per hour). Between 2011 and 2020, March was the month with the greatest number of severe wind reports, with 2013 having the greatest number of reports (14 reports).

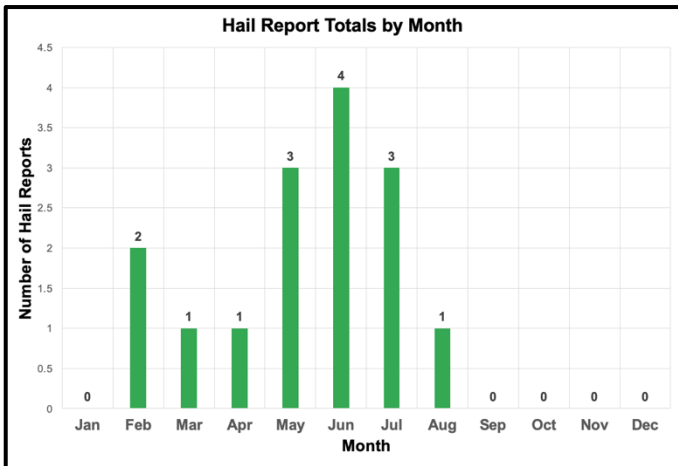
Osceola

Tornado Overview



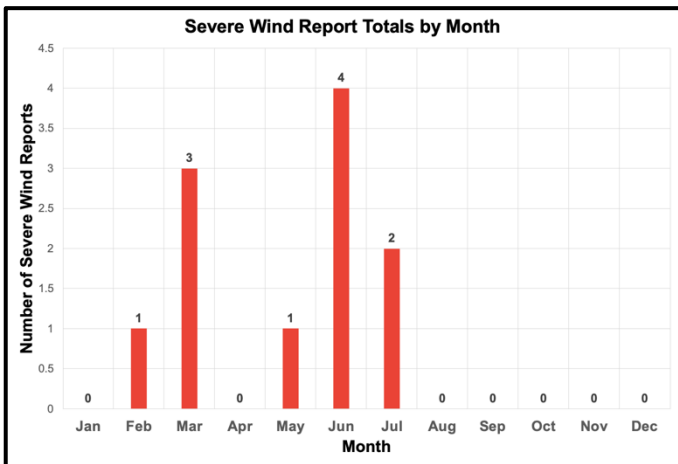
Osceola County experienced a total of 6 tornadoes from 2011 to 2020. All 6 were EF0 tornadoes during this period of time. Between 2011 and 2020, June was the month with the greatest number of tornadoes, with 2012 having the greatest number of tornado occurrences (3 tornadoes).

Hail Overview



Osceola County had a total of 15 hail reports from 2011 to 2020, ranging from 0.75 inches to 1.75 inches in diameter. Between 2011 and 2020, June was the month with the greatest number of hail reports, with 2011 and 2020 having the greatest number of hail reports (both had 3 reports).

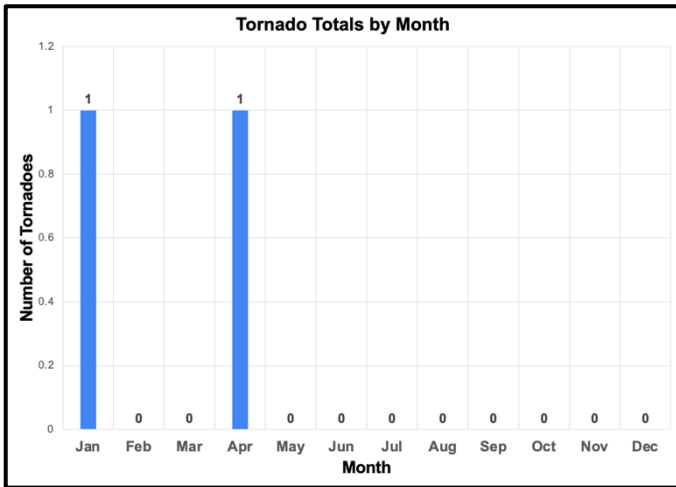
Severe Wind Overview



Osceola County had a total of 11 severe wind reports from 2011 to 2020. 1 of these reports involved winds 65 knots (~74 miles per hour) and greater. The other 10 severe wind reports fell between 50 knots (~58 miles per hour) and 64 knots (~73 miles per hour). Between 2011 and 2020, June was the month with the greatest number of severe wind reports, with 2019 having the greatest number of reports (3 reports).

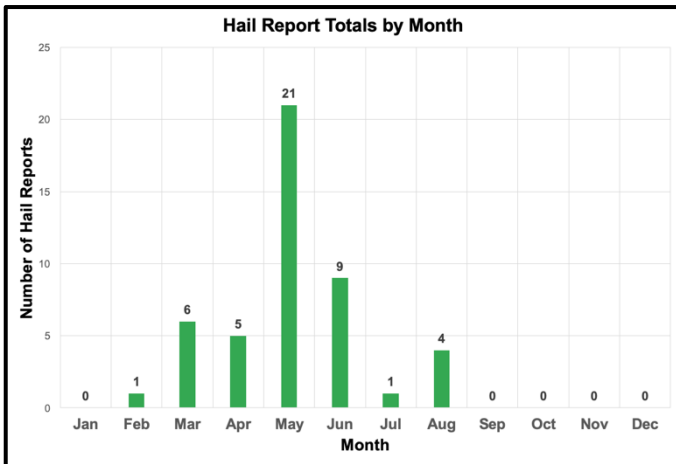
Seminole

Tornado Overview



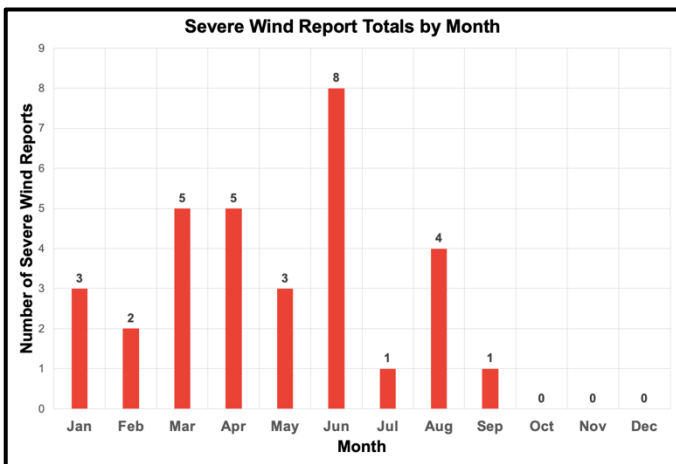
Seminole County experienced a total of 2 tornadoes from 2011 to 2020. Both occurrences were EF0 tornadoes during this period of time. Between 2011 and 2020, January and April both had 1 tornado, with 2019 and 2020 each having a single tornado occurrence.

Hail Overview



Seminole County had a total of 47 hail reports from 2011 to 2020, ranging from 0.75 inches to 3 inches in diameter. Between 2011 and 2020, May was the month with the greatest number of hail reports, with 2020 having the greatest number of hail reports (17 reports).

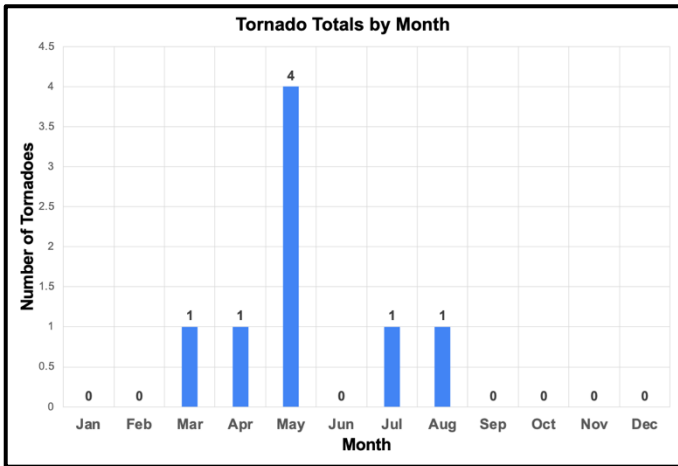
Severe Wind Overview



Seminole County had a total of 32 severe wind reports from 2011 to 2020. 2 of these reports involved winds 65 knots (~74 miles per hour) and greater. The other 30 severe wind reports fell between 50 knots (~58 miles per hour) and 64 knots (~73 miles per hour). Between 2011 and 2020, June was the month with the greatest number of severe wind reports, with 2011 having the greatest number of reports (8 reports).

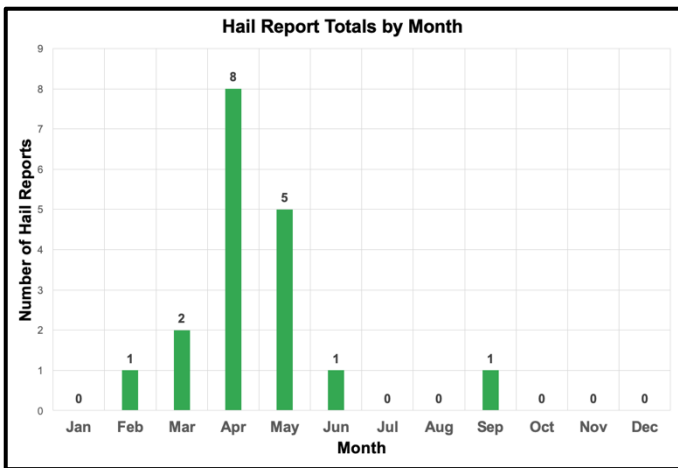
St. Lucie

Tornado Overview



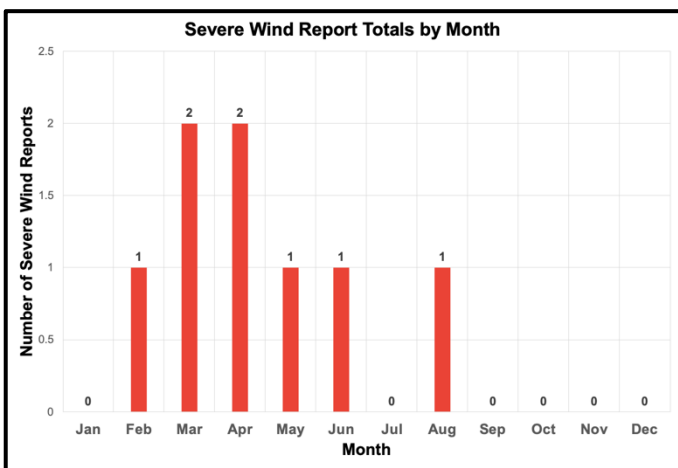
St. Lucie County experienced a total of 8 tornadoes from 2011 to 2020. There were 7 EF0 tornadoes and 1 EF1 tornado during this period of time. Between 2011 and 2020, May was the month with the greatest number of tornadoes, with 2012 having the greatest number of tornado occurrences (3 tornadoes).

Hail Overview



St. Lucie County had a total of 18 hail reports from 2011 to 2020, ranging from 0.75 inches to 1.75 inches in diameter. Between 2011 and 2020, April was the month with the greatest number of hail reports, with 2012 having the greatest number of hail reports (6 reports).

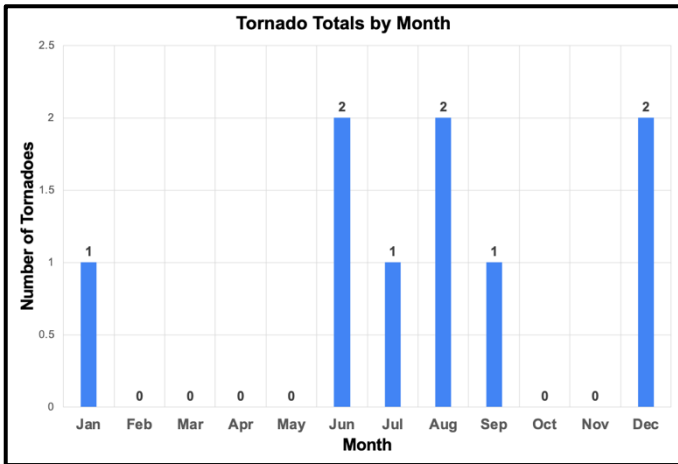
Severe Wind Overview



St. Lucie County had a total of 8 severe wind reports from 2011 to 2020. 1 of these reports involved winds 65 knots (~74 miles per hour) and greater. The other 7 severe wind reports fell between 50 knots (~58 miles per hour) and 64 knots (~73 miles per hour). Between 2011 and 2020, March and April were the months with the greatest number of severe wind reports, with 2012, 2015, and 2019 having the greatest number of reports (all years had 2 reports).

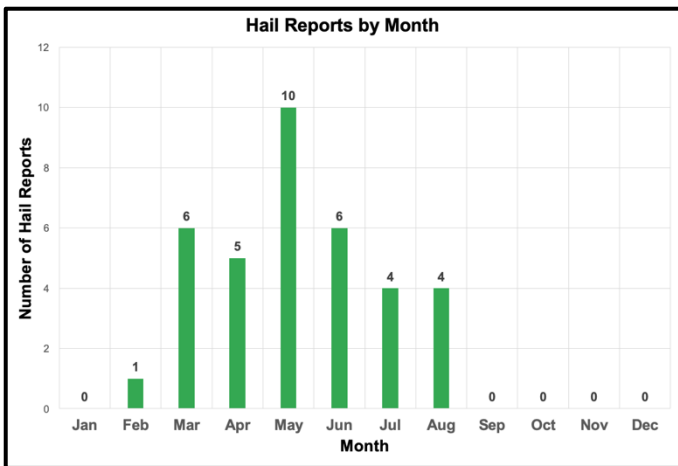
Volusia

Tornado Overview



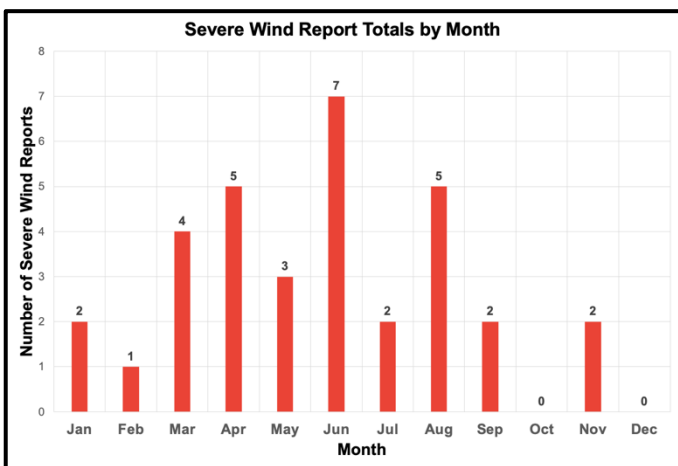
Volusia County experienced a total of 9 tornadoes from 2011 to 2020. There were 4 EF0 tornadoes, 4 EF1 tornadoes, and 1 EF2 tornado during this period of time. Between 2011 and 2020, June, August and December were the months with the greatest number of tornadoes, with 2020 having the greatest number of tornado occurrences (4 tornadoes).

Hail Overview



Volusia County had a total of 36 hail reports from 2011 to 2020, ranging from 0.75 inches to 2 inches in diameter. Between 2011 and 2020, May was the month with the greatest number of hail reports, with 2012 having the greatest number of hail reports (7 reports).

Severe Wind Overview



Volusia County had a total of 33 severe wind reports from 2011 to 2020. None of these reports involved winds 65 knots (~74 miles per hour) and greater. The 33 severe wind reports fell between 50 knots (~58 miles per hour) and 64 knots (~73 miles per hour). Between 2011 and 2020, June was the month with the greatest number of severe wind reports, with 2011 having the greatest number of reports (7 reports).

For any questions regarding this study on East Central Florida severe weather, please email: megan.tollefsen@noaa.gov