

# East Central Florida Severe Weather Climatology

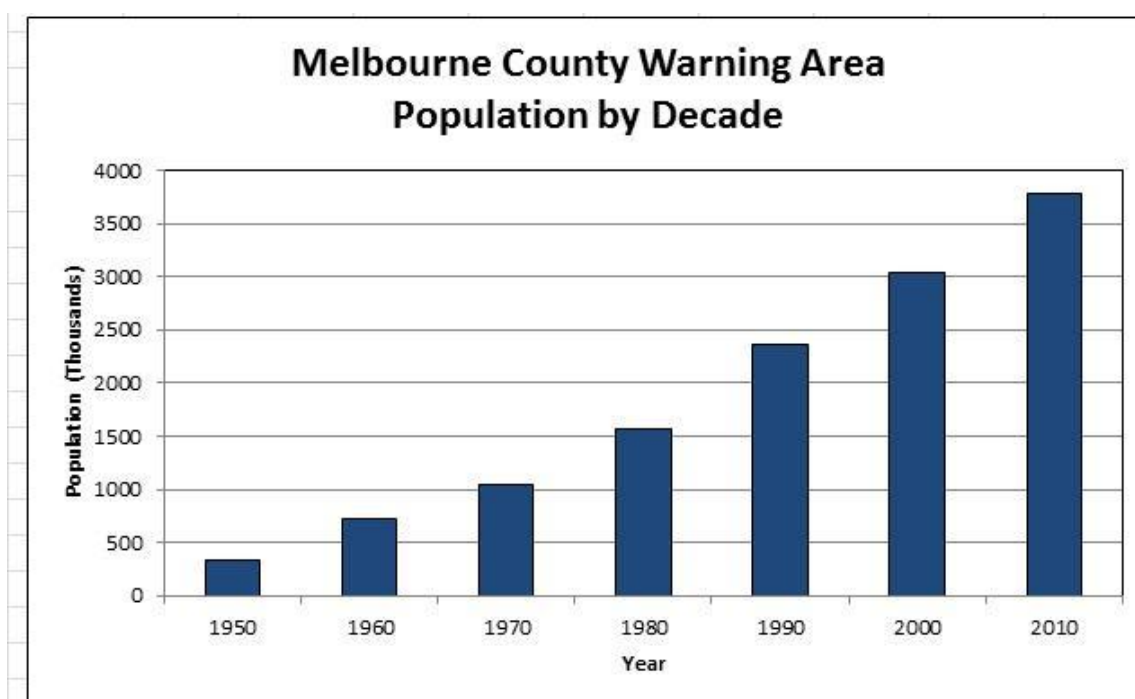
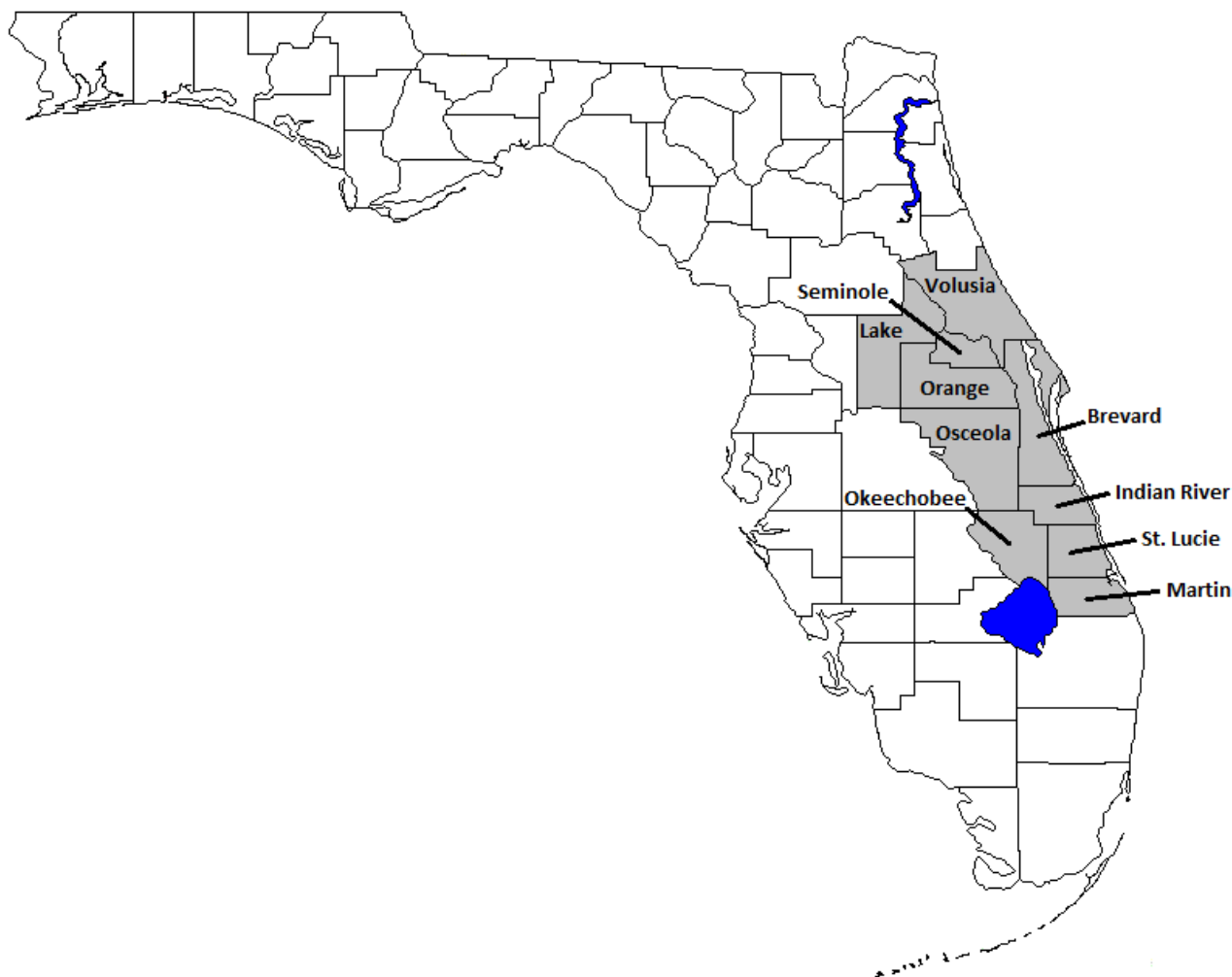
Jonathan Guseman

The purpose of this document is to graphically depict and analyze all documented severe weather occurrences across the National Weather Service (NWS) Melbourne, Florida County Warning Area (CWA). The data presented within this document were taken from the *Storm Data* archive<sup>1</sup>. Tornado data are documented for the period 1950-2011, while hail and wind data cover the period 1955-2011.

Hail reports are included for stones of penny size (3/4") diameter or greater, and wind reports contain events where convective wind gusts reached 58 mph or greater. Tornadoes are ranked in accordance with the (enhanced) Fujita Scale (0-5). The tornado graphs and charts do not include F5s since there has never been a documented event of this magnitude within East Central Florida. It is important to remember that these graphs and charts do not represent every severe weather event which has occurred within East Central Florida, since many events have undoubtedly taken place in unpopulated areas or have gone unreported<sup>2</sup>. The NWS Forecast Office in Melbourne opened in 1989, so this likely explains the rapid increase of hail and wind reports after this time period.

The first section of this document shows an area-wide climatology, encompassing events across all of East Central Florida. The second section provides a county specific climatology for each of the ten counties in the NWS Melbourne CWA.

## Melbourne County Warning Area



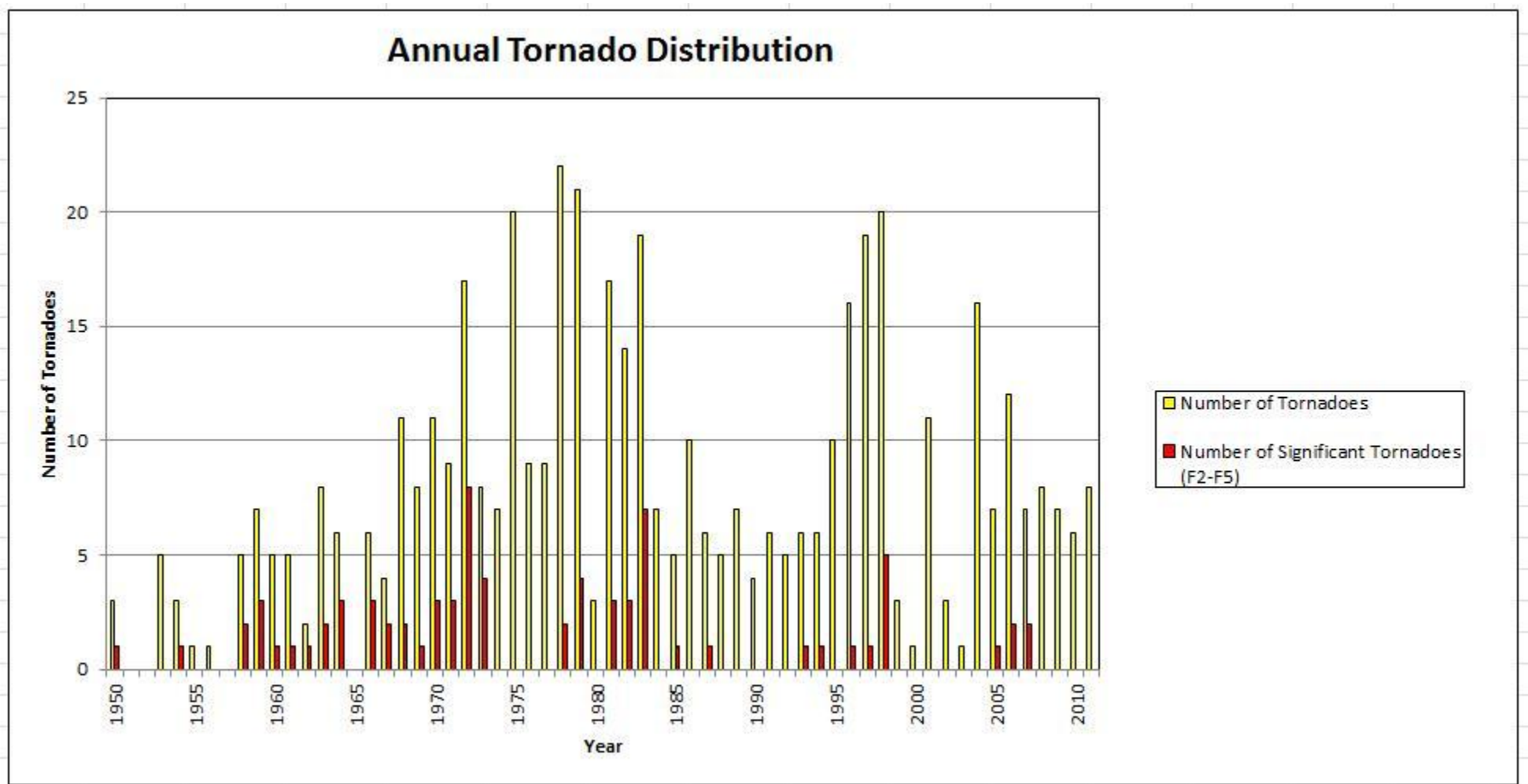
<sup>1</sup>All provided meteorological data were taken from the *Storm Data* archive available at: <http://www.ncdc.noaa.gov/stormevents/> – The data can also be found in a yearly compiled format from the *Severe Weather Database Files (1950-2011)* available at: <http://www.spc.noaa.gov/wcm/>

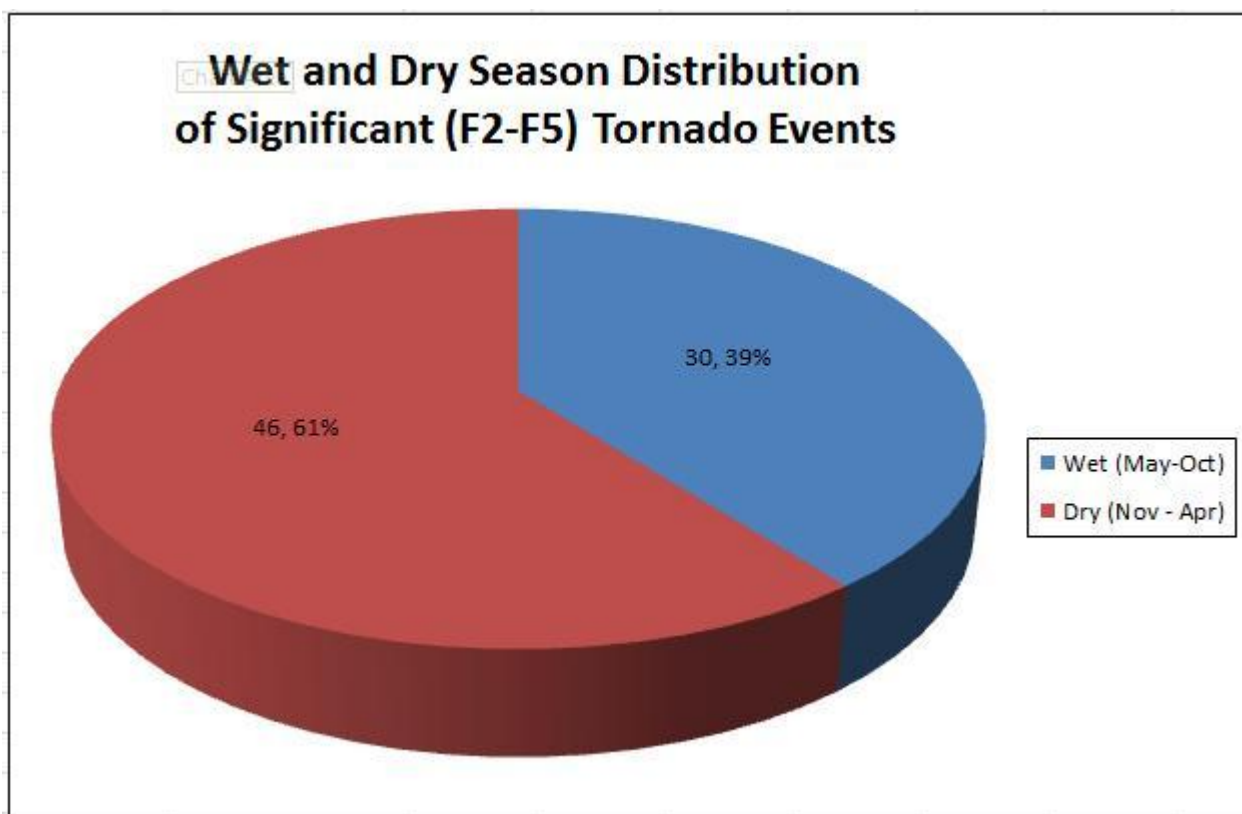
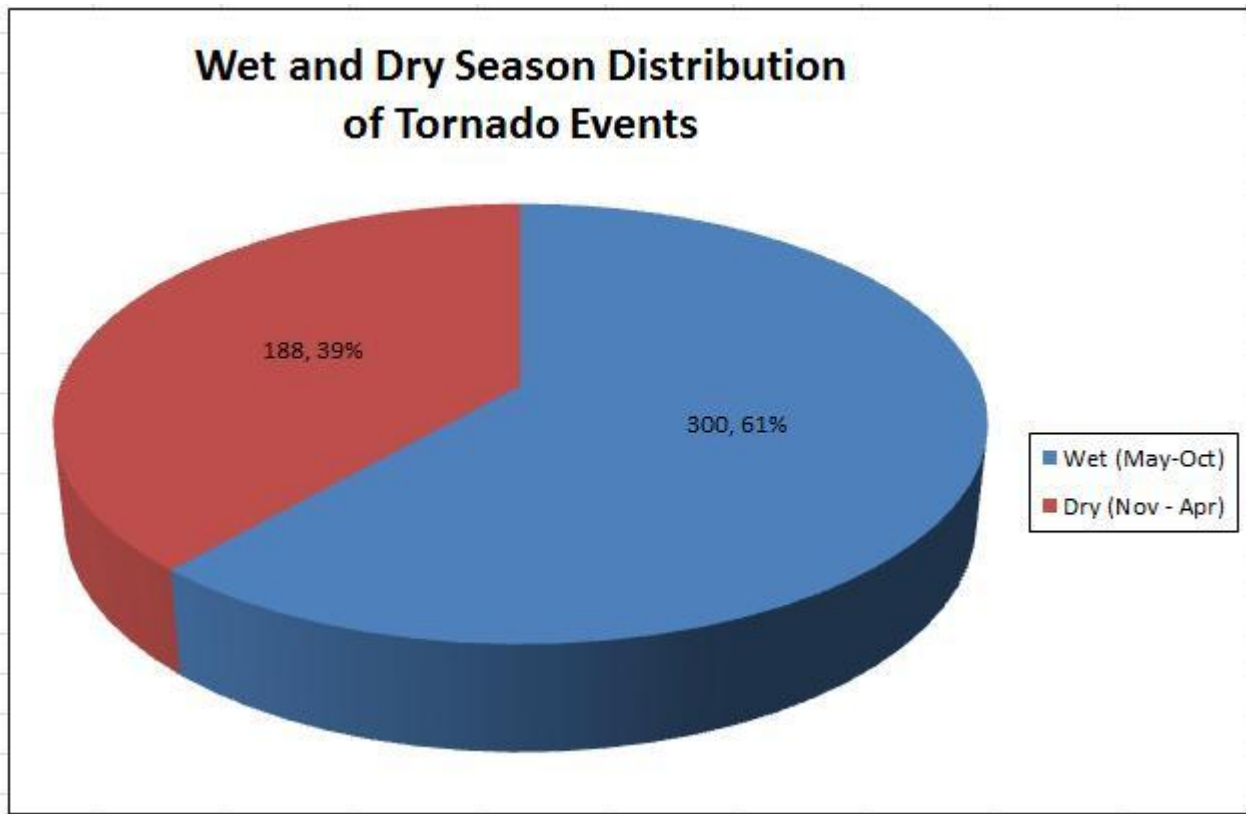
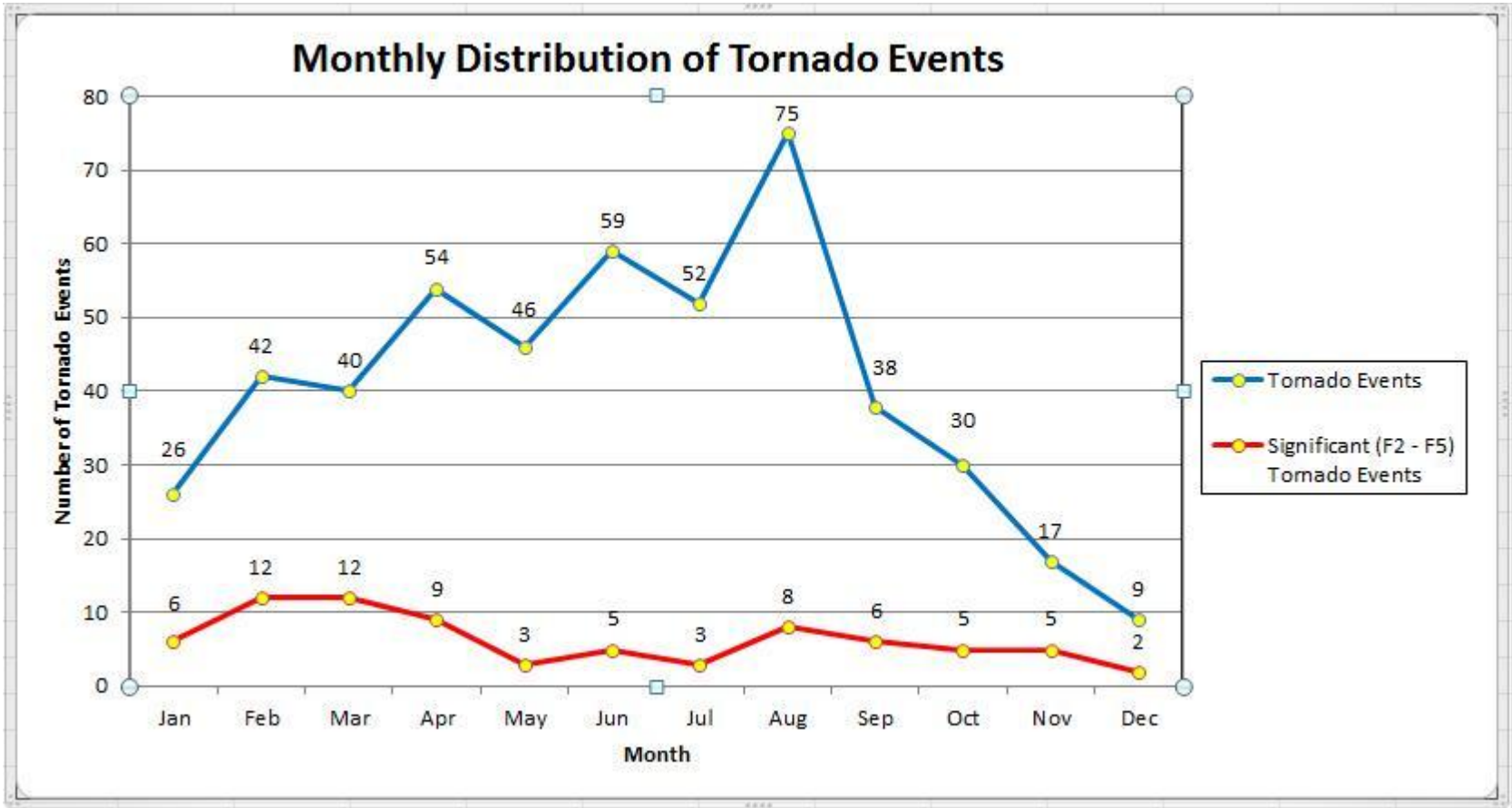
<sup>2</sup>Census data was provided by the U.S. Census Bureau available at: <http://www.census.gov/>

\*The Storm Prediction Center's (SPC) SeverePlot program was used to create a few of the following figures: <http://www.spc.noaa.gov/climo/online/sp3/plot.php>

# Melbourne County Warning Area Climatology

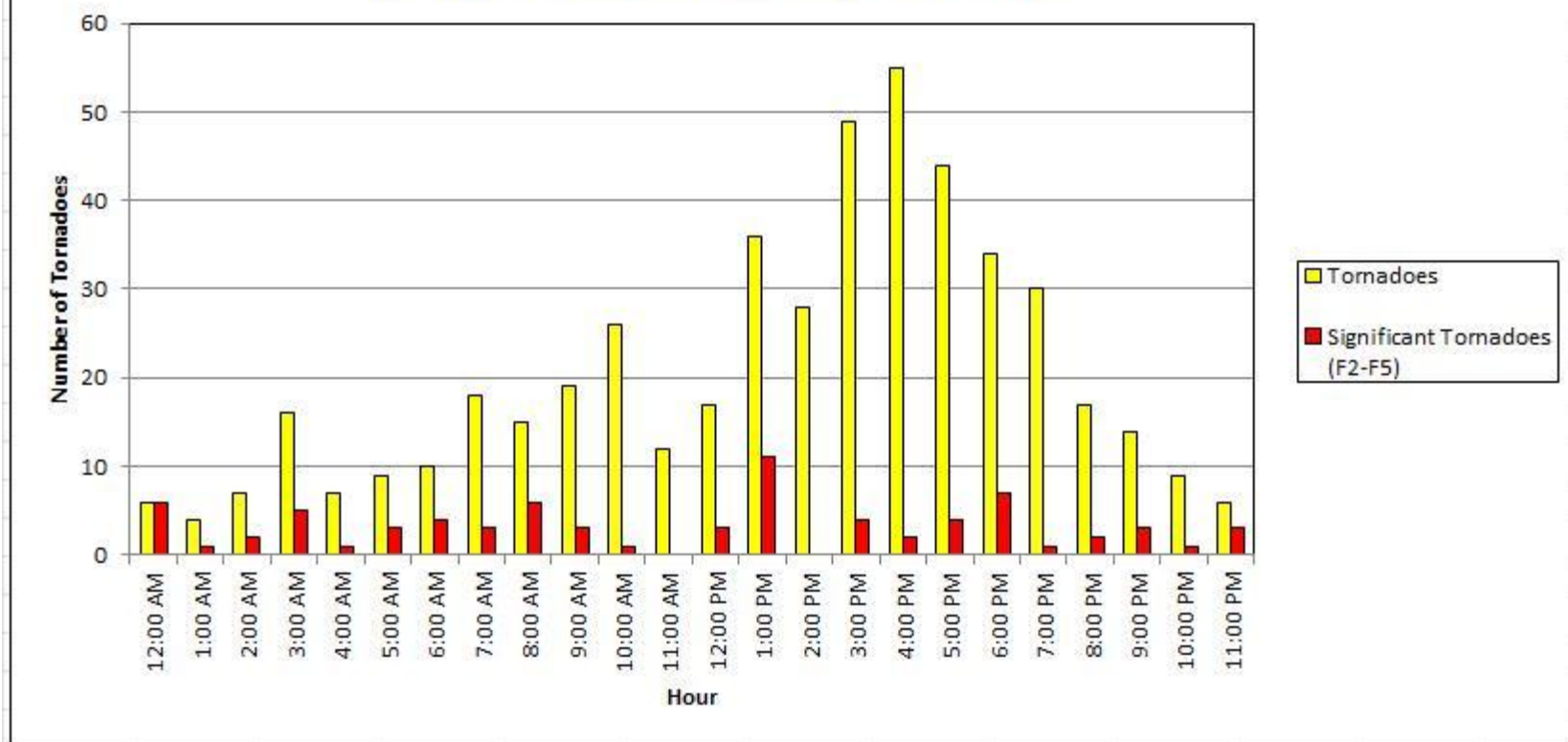
## Tornado Tracks from 1950-2011



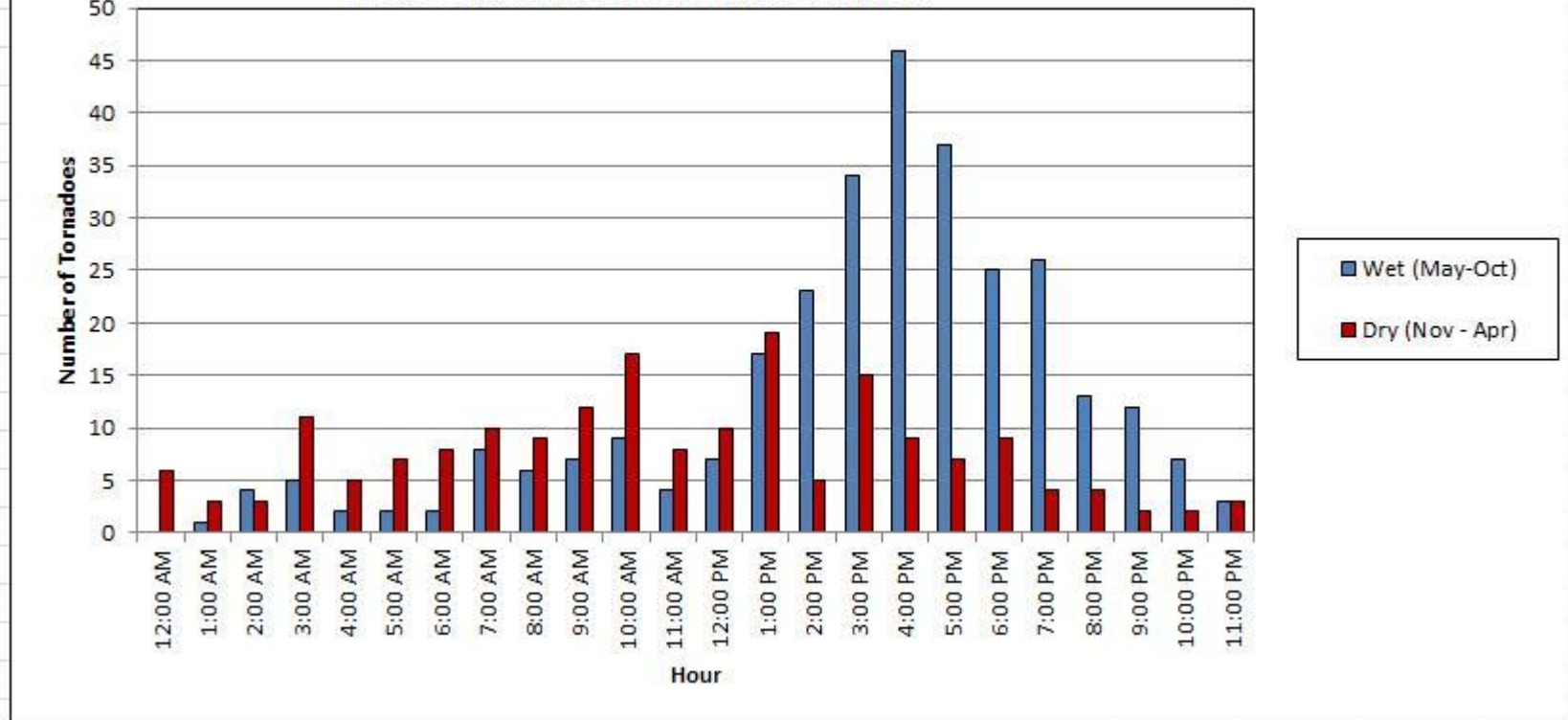




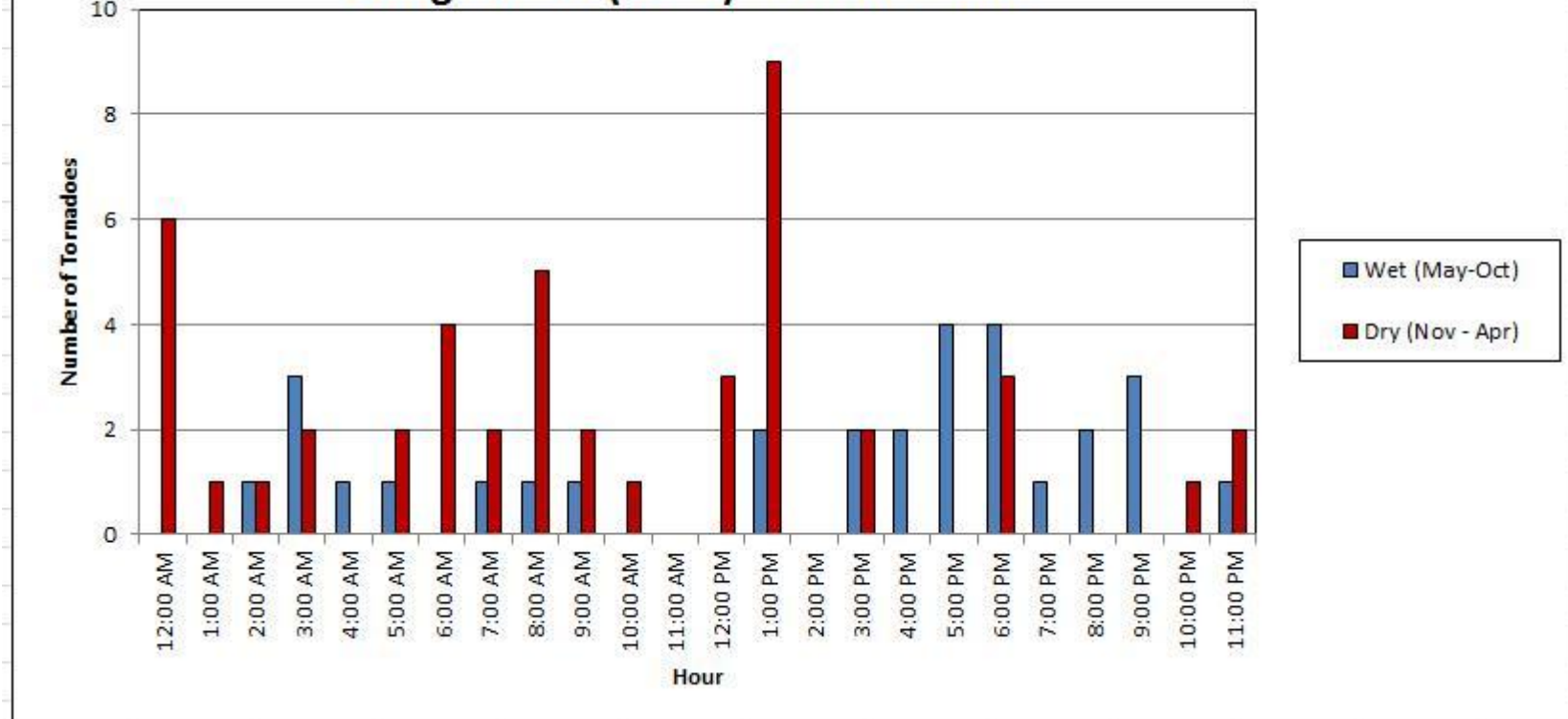
### Hourly Distribution of Tornado Events



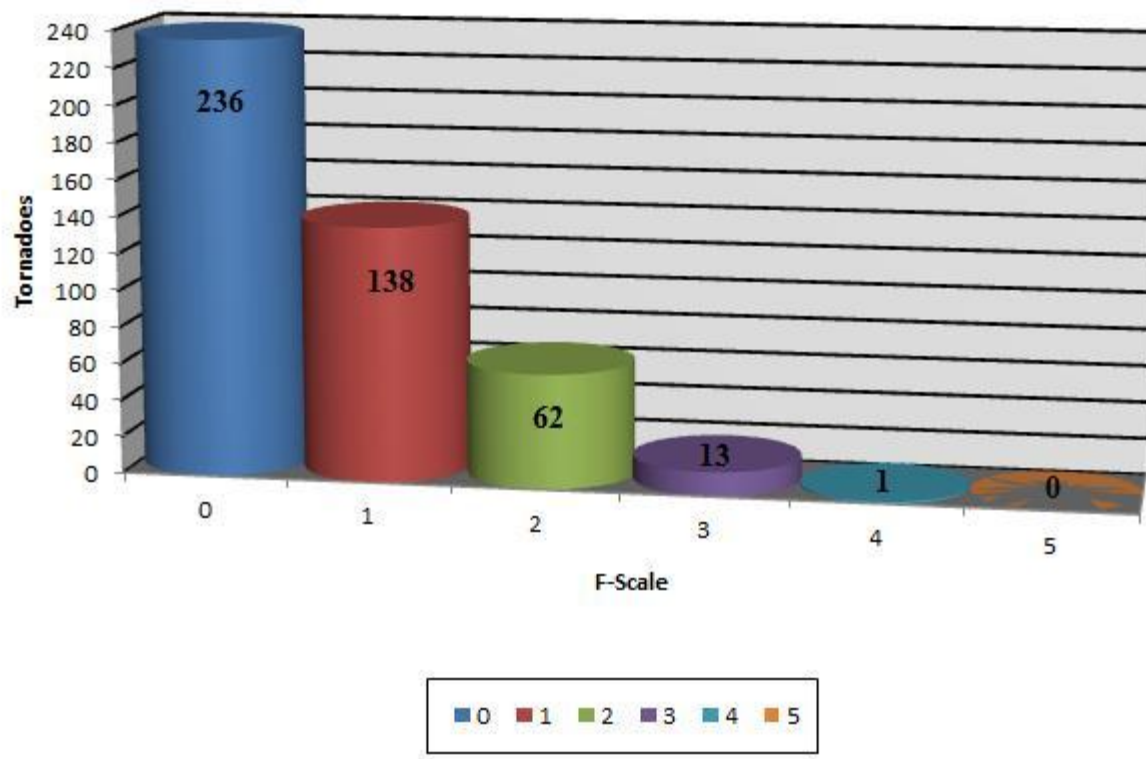
### Wet and Dry Season Hourly Distribution of Tornado Events



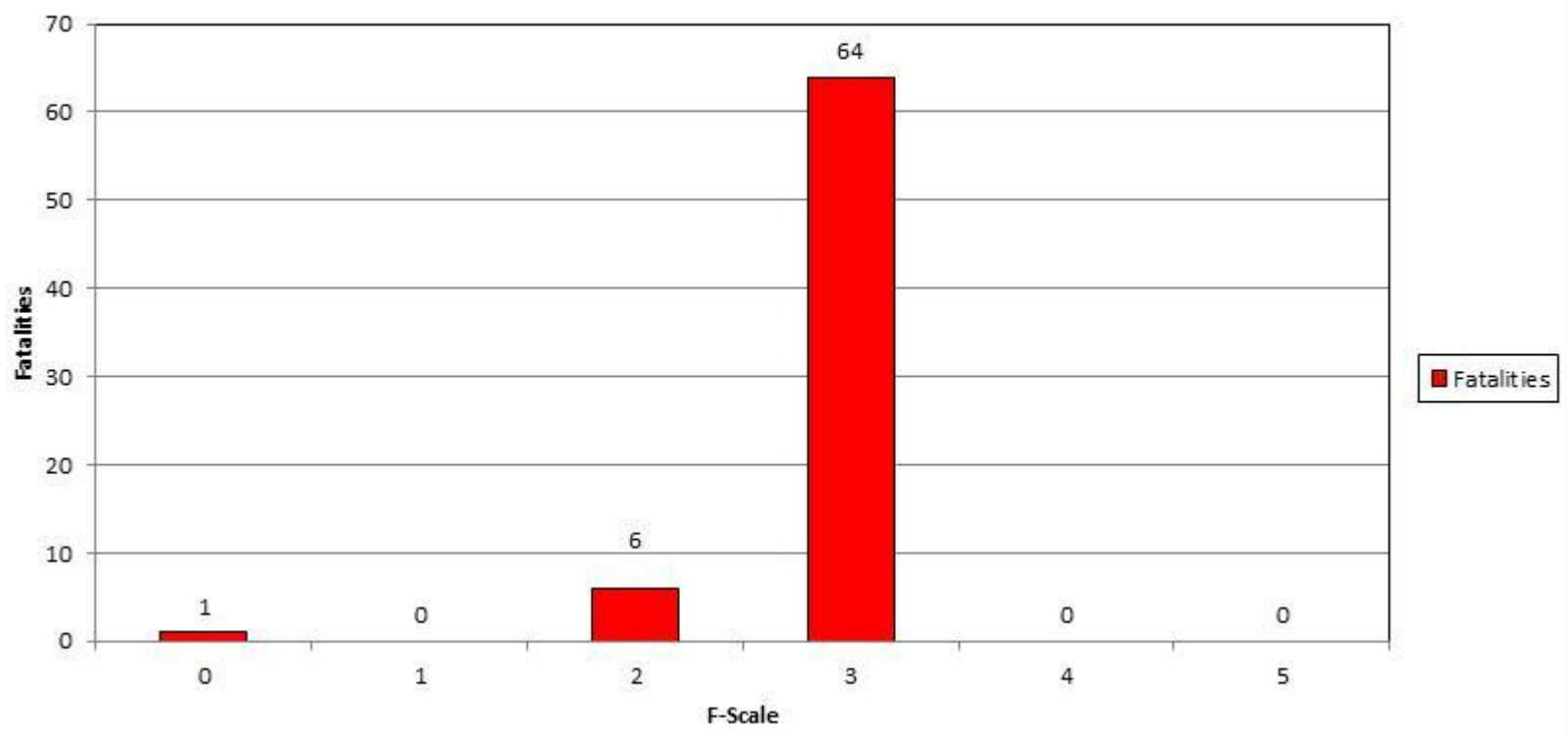
### Wet and Dry Season Hourly Distribution of Significant (F2-F5) Tornado Events

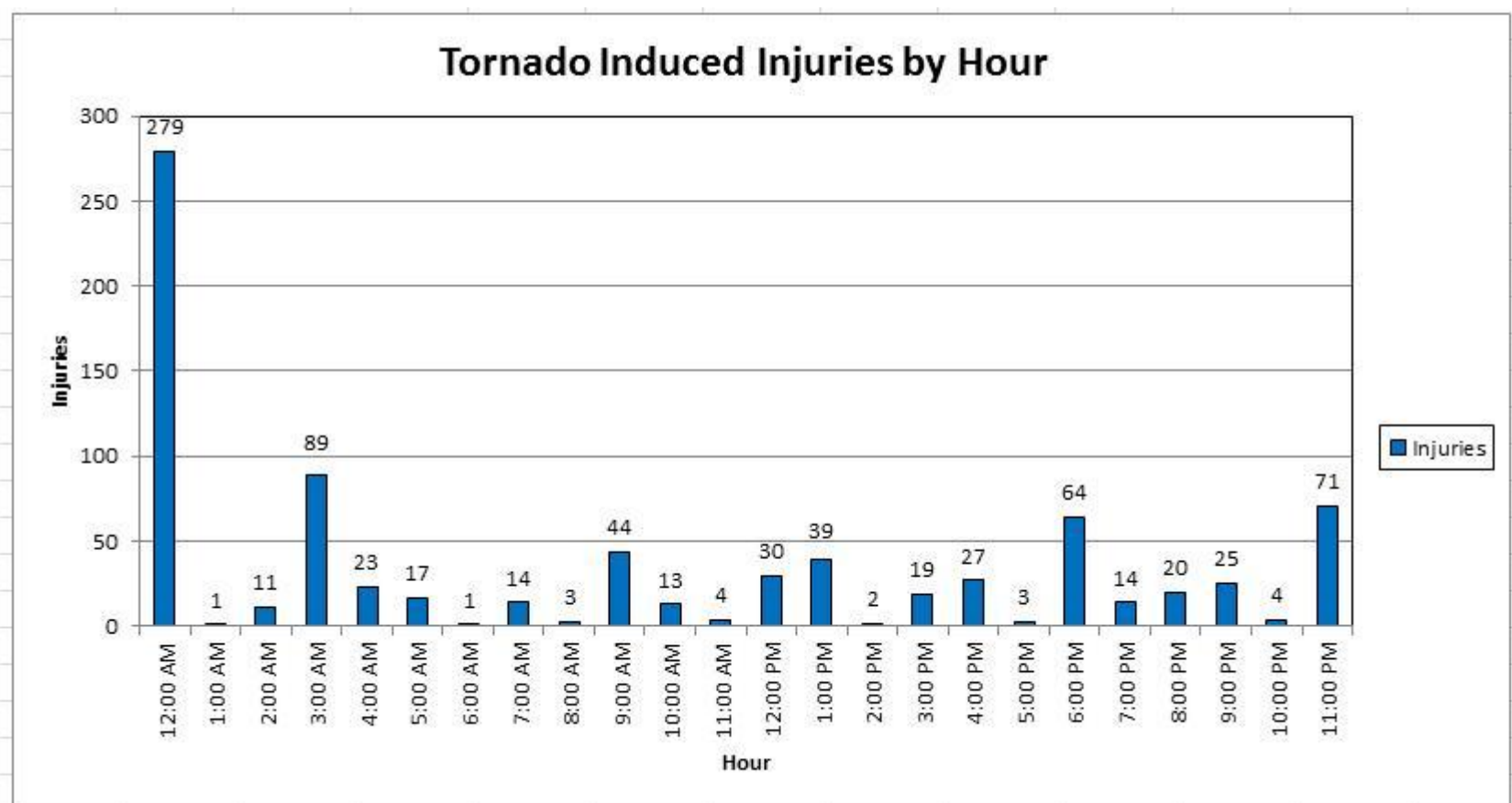
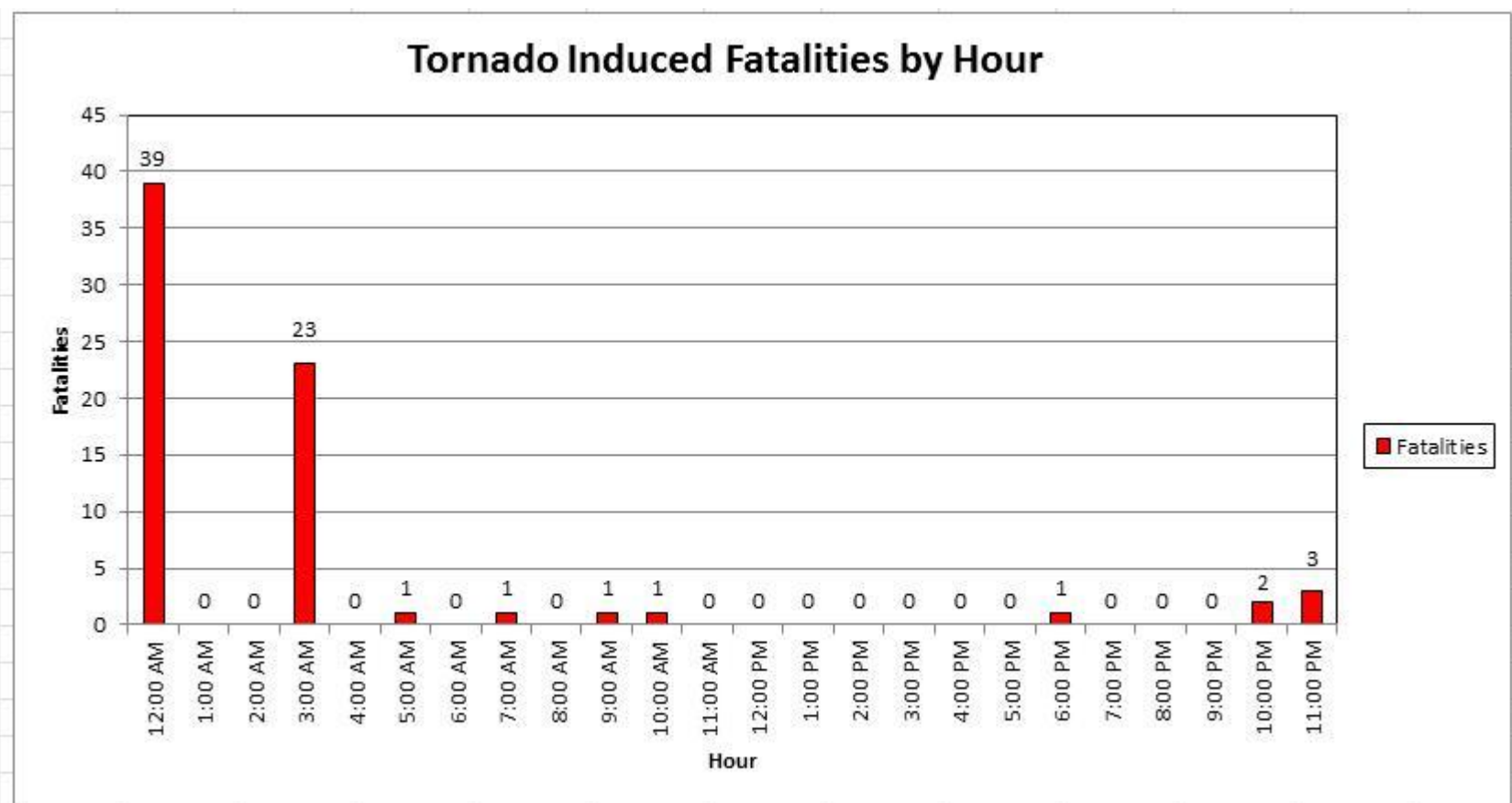
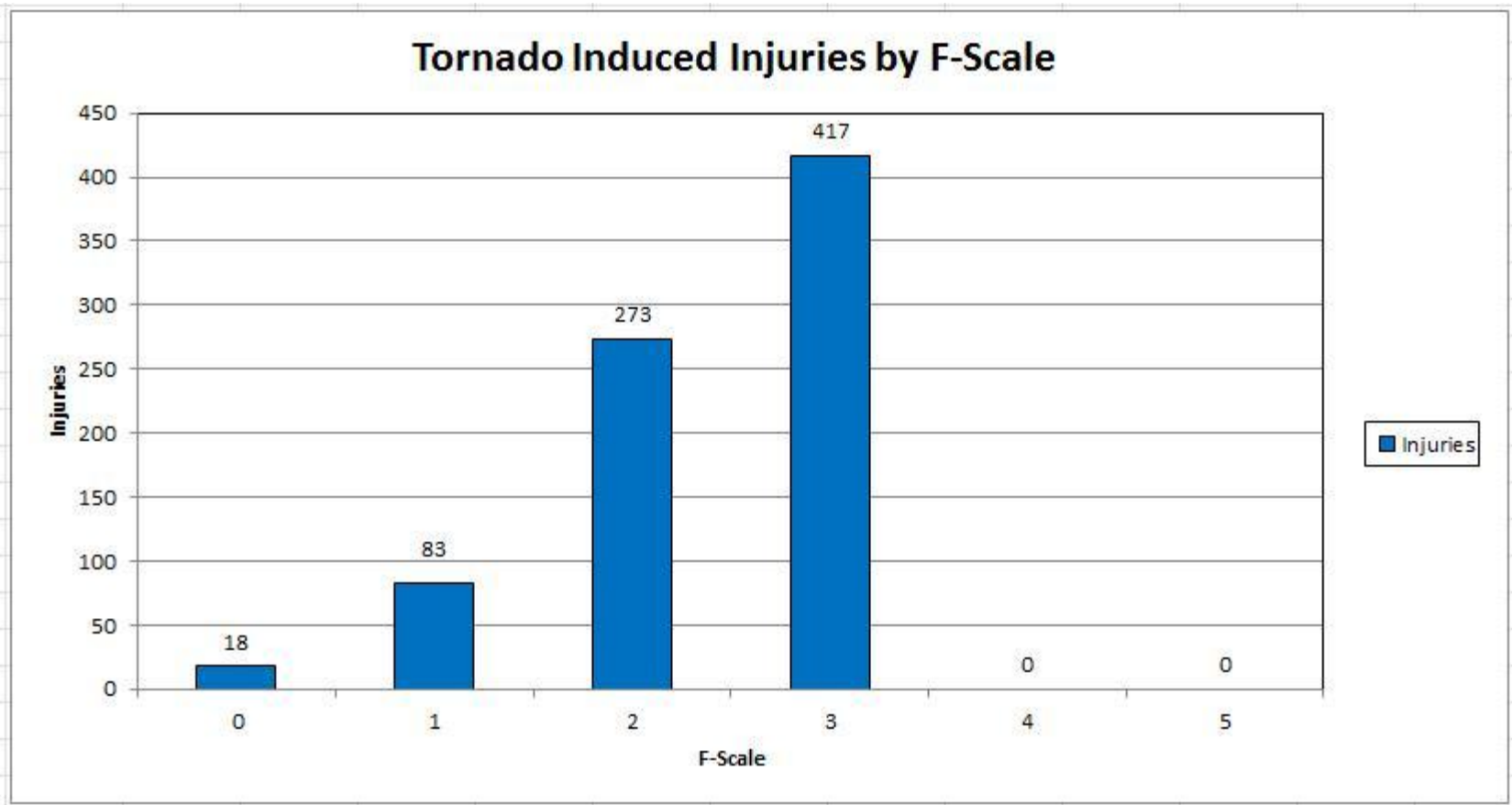


### Tornadoes by F-Scale

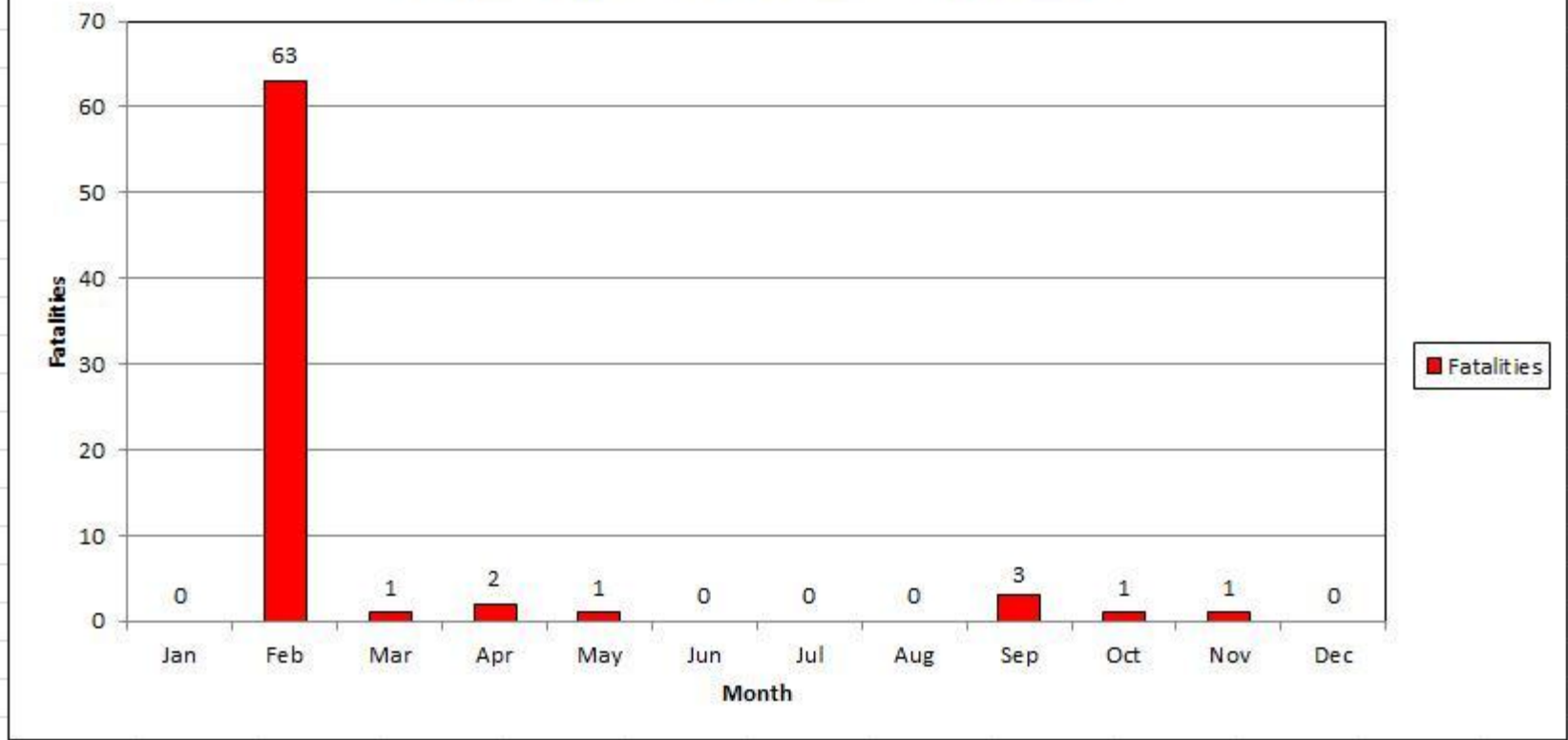


### Tornado Induced Fatalities by F-Scale

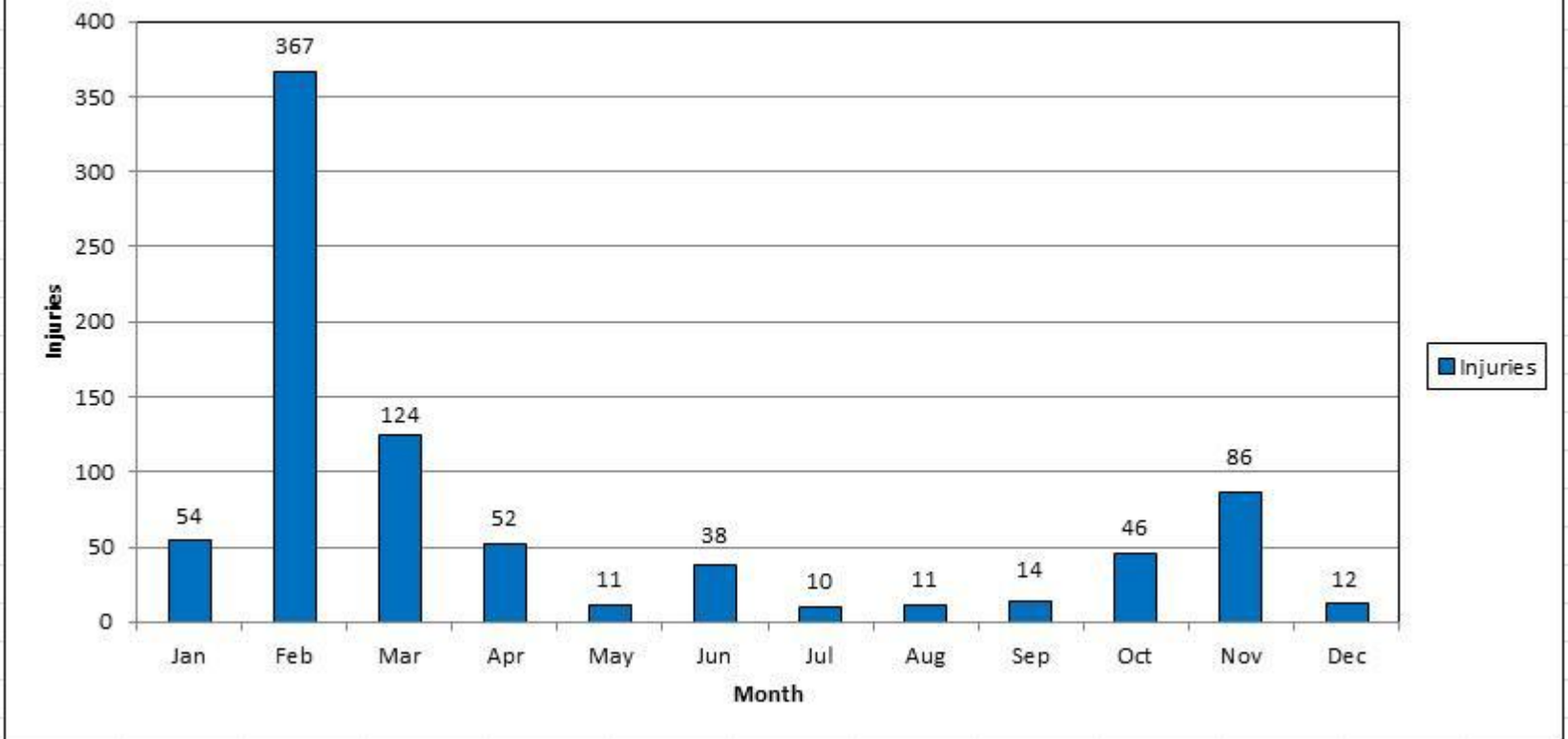




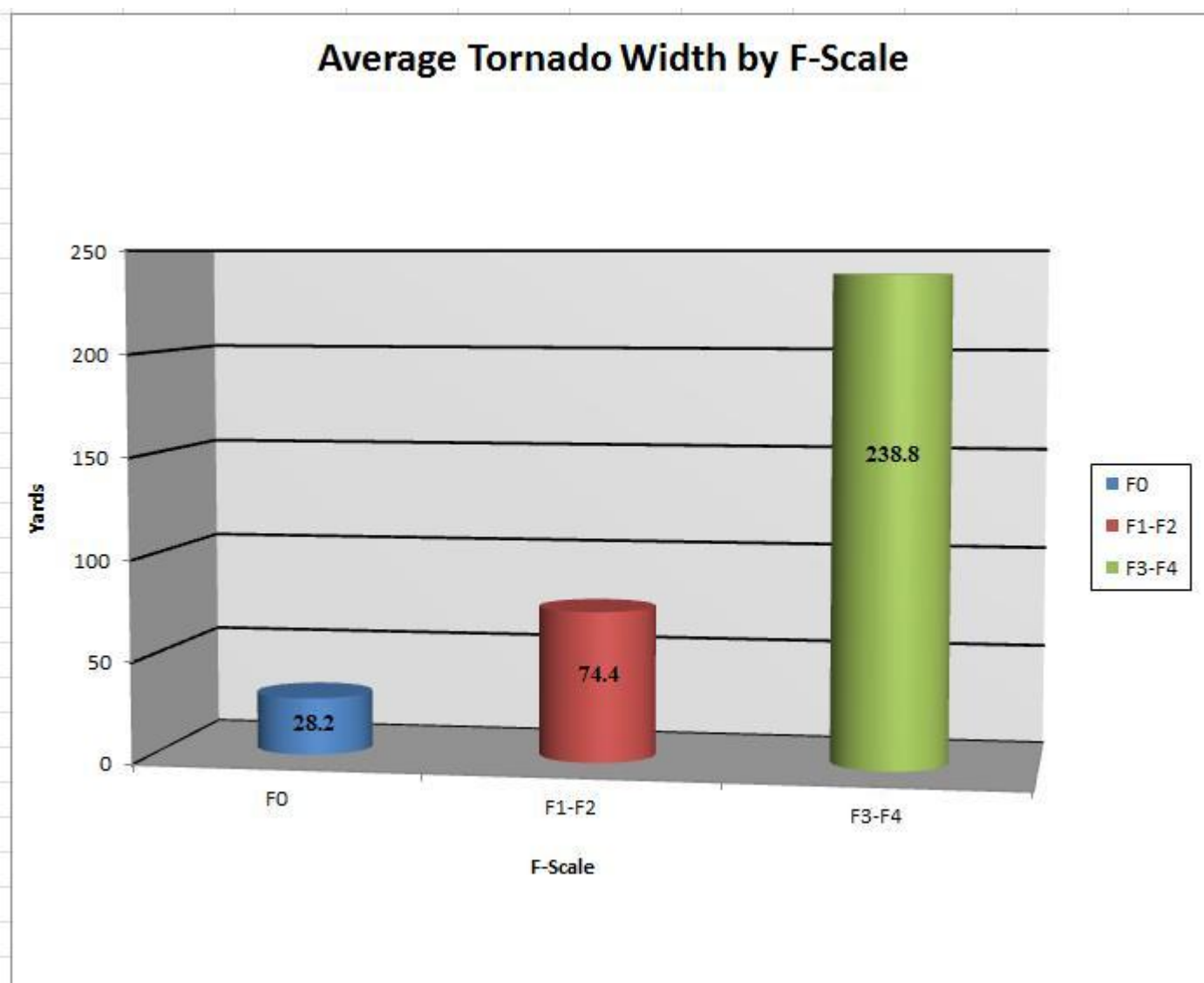
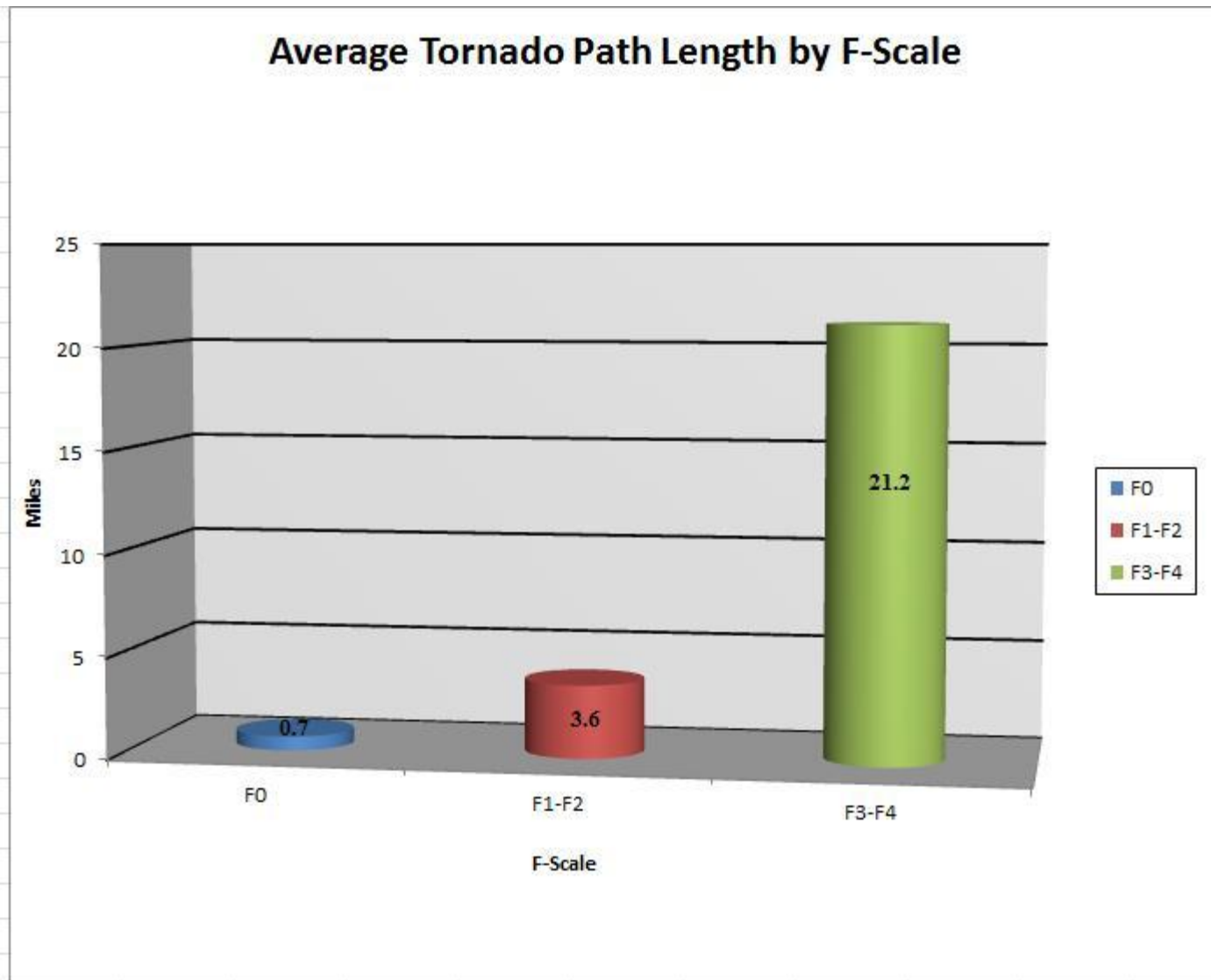
### Tornado Induced Fatalities by Month



### Tornado Induced Injuries by Month





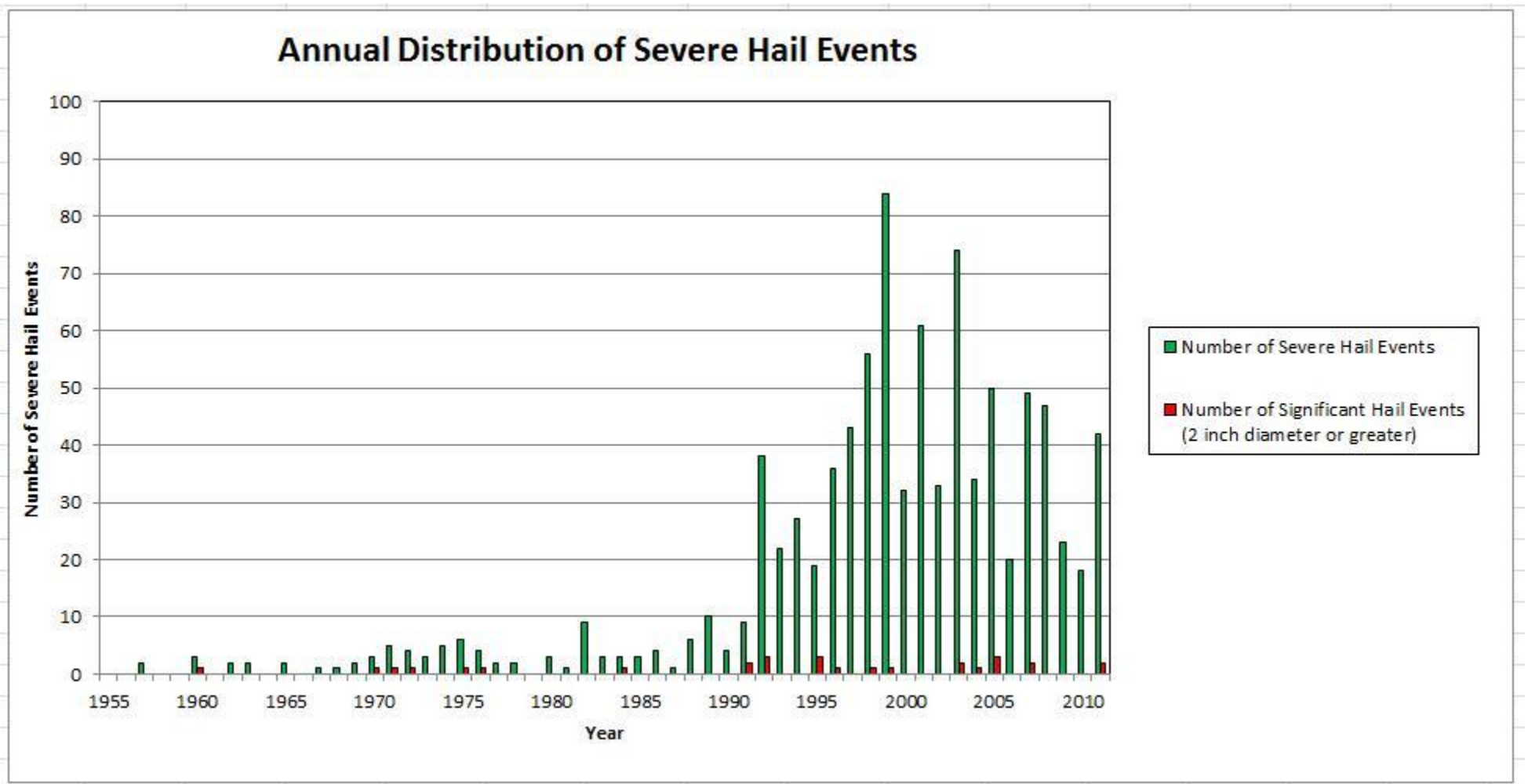
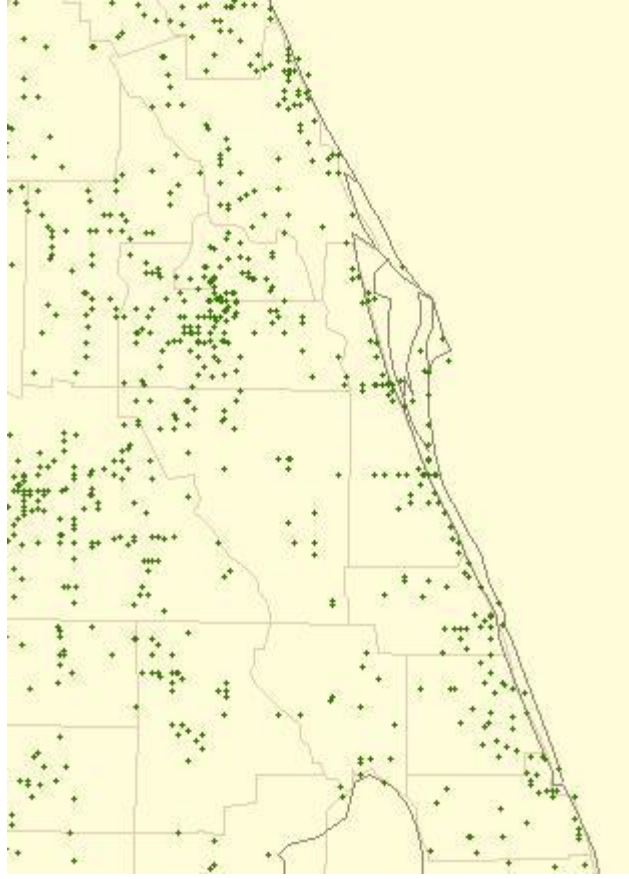


### Deadliest Tornado Events

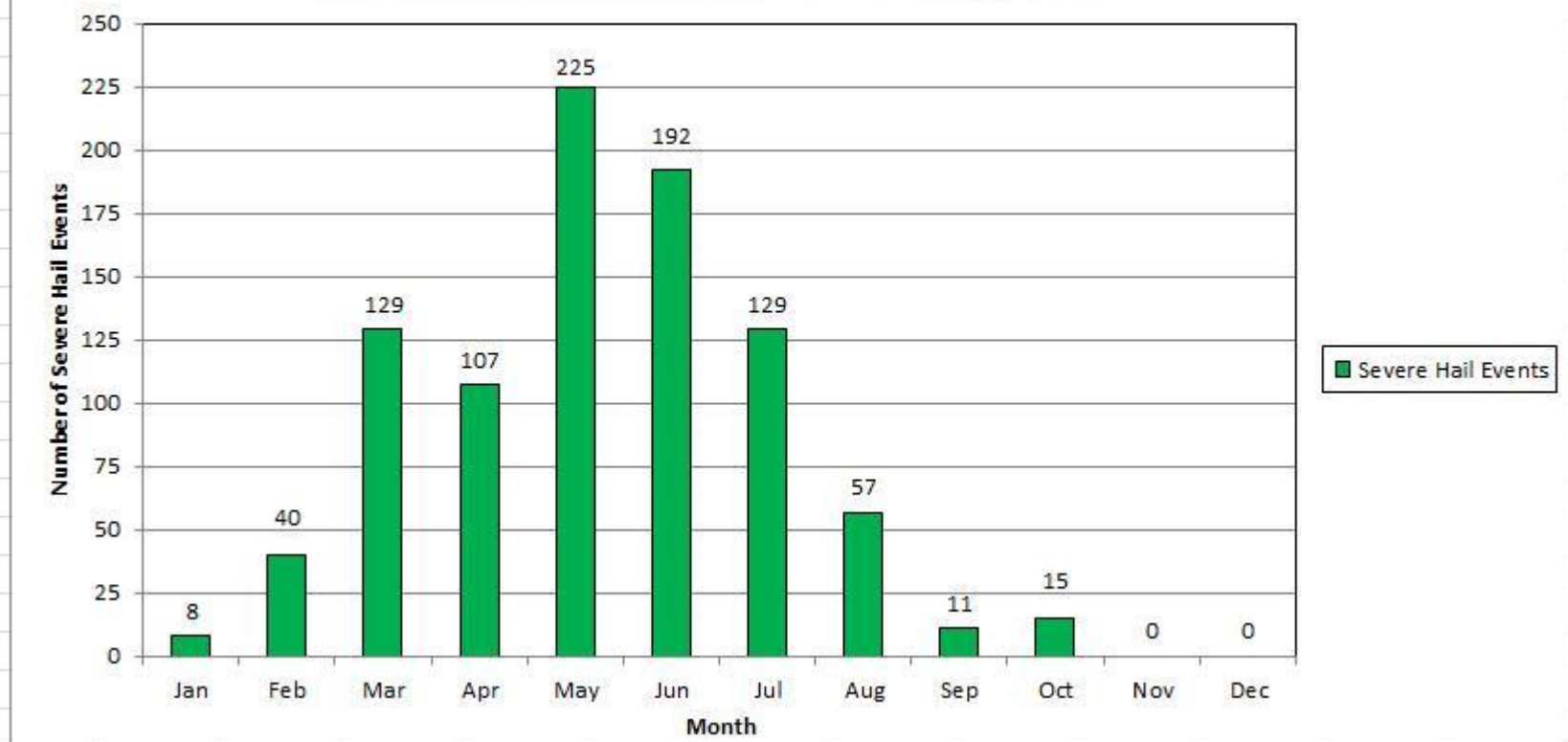
Rank	Date	County(s)	F-Scale	Fatalities
1	February 22, 1998	Osceola & Orange	3	25
2	February 22, 1998	Seminole & Volusia	3	13
3	February 2, 2007	Lake & Volusia	3	13
4	February 2, 2007	Lake	3	8
5	February 22, 1998	Lake & Orange	3	3



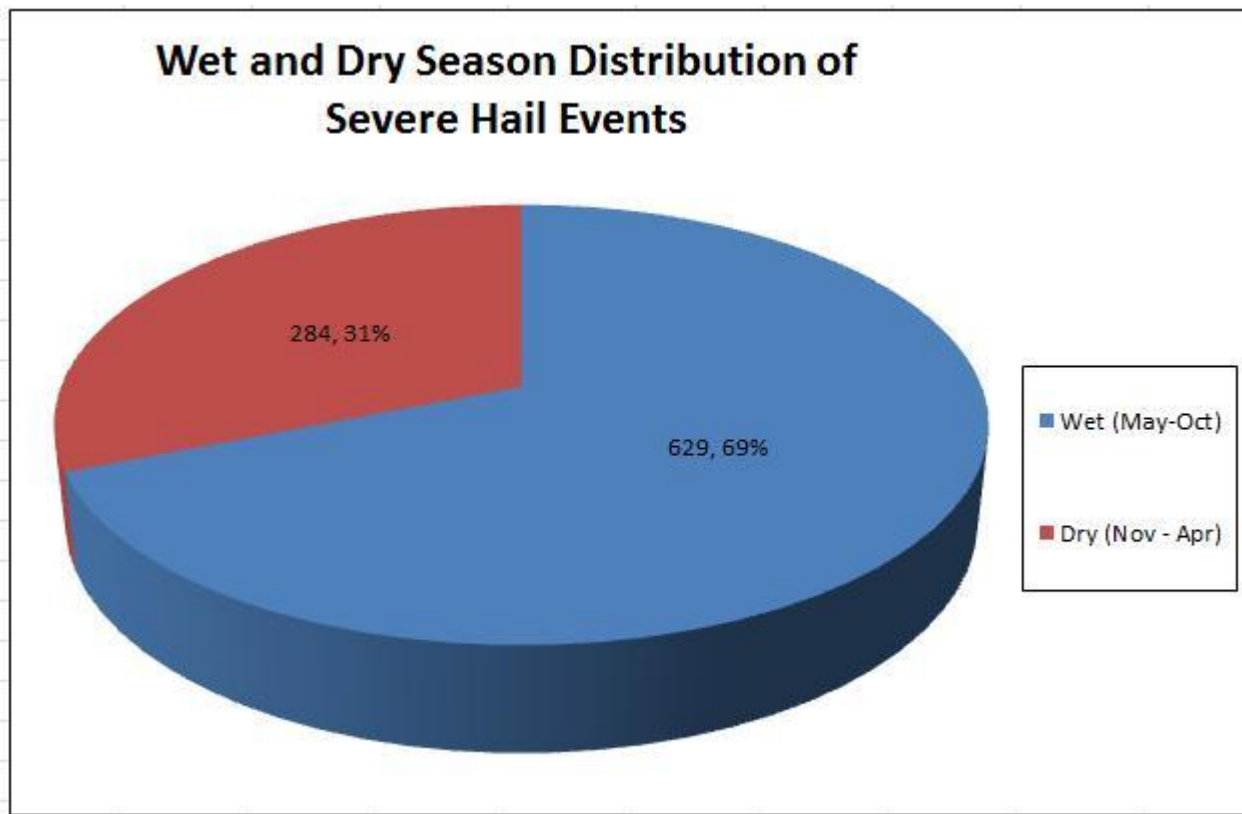
# Severe Hail Events from 1955-2011



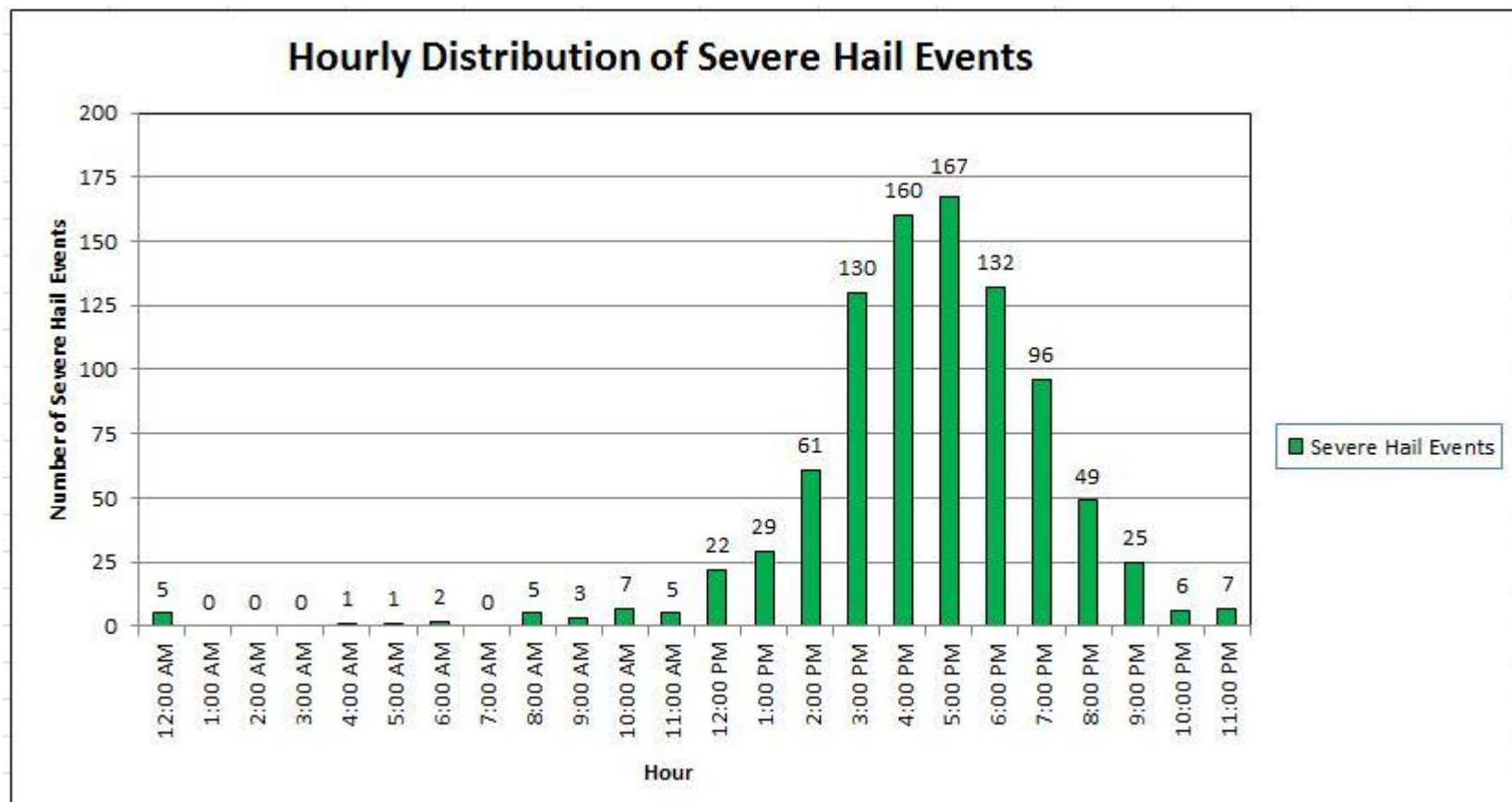
### Monthly Distribution of Severe Hail Events

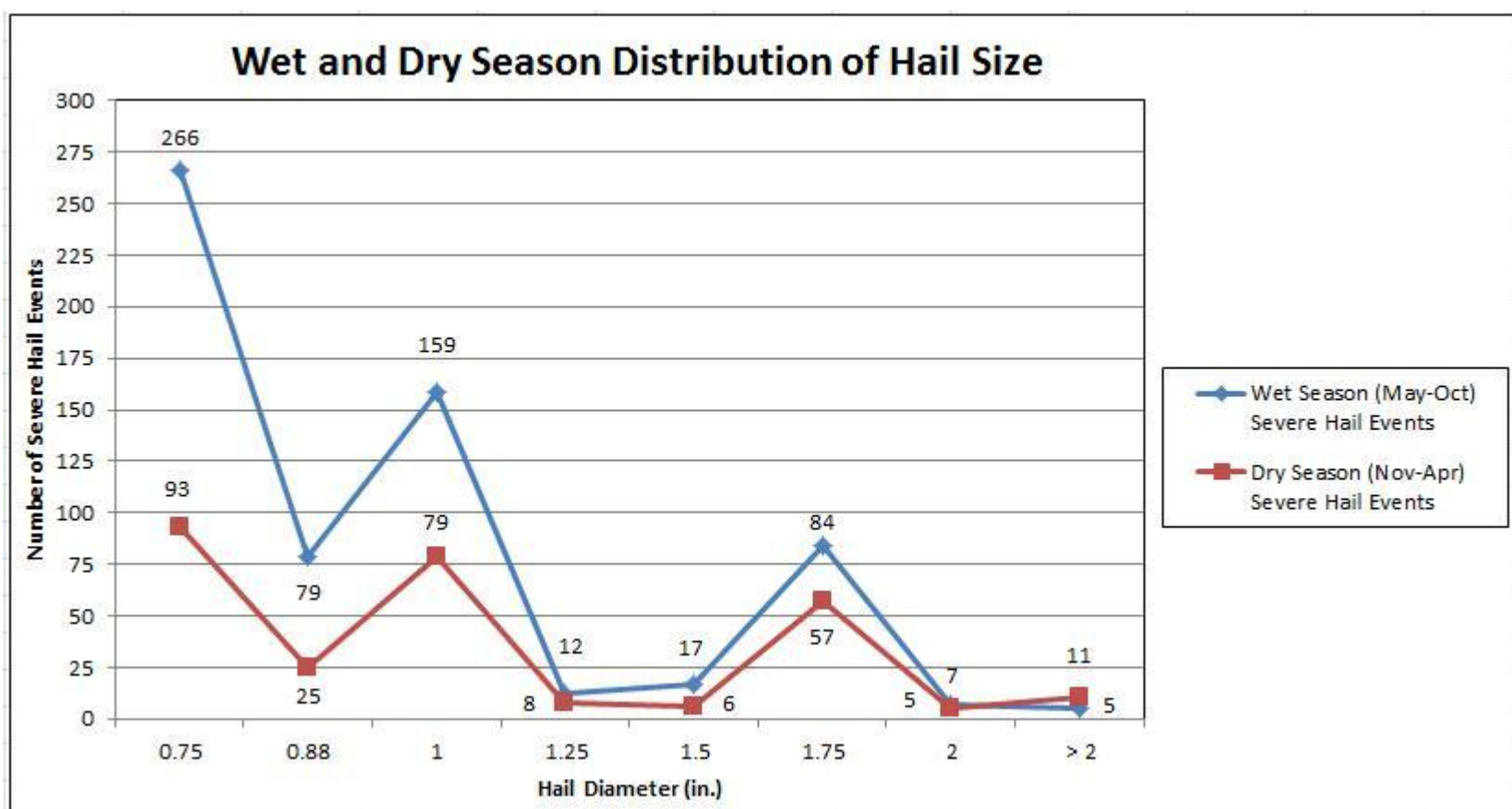
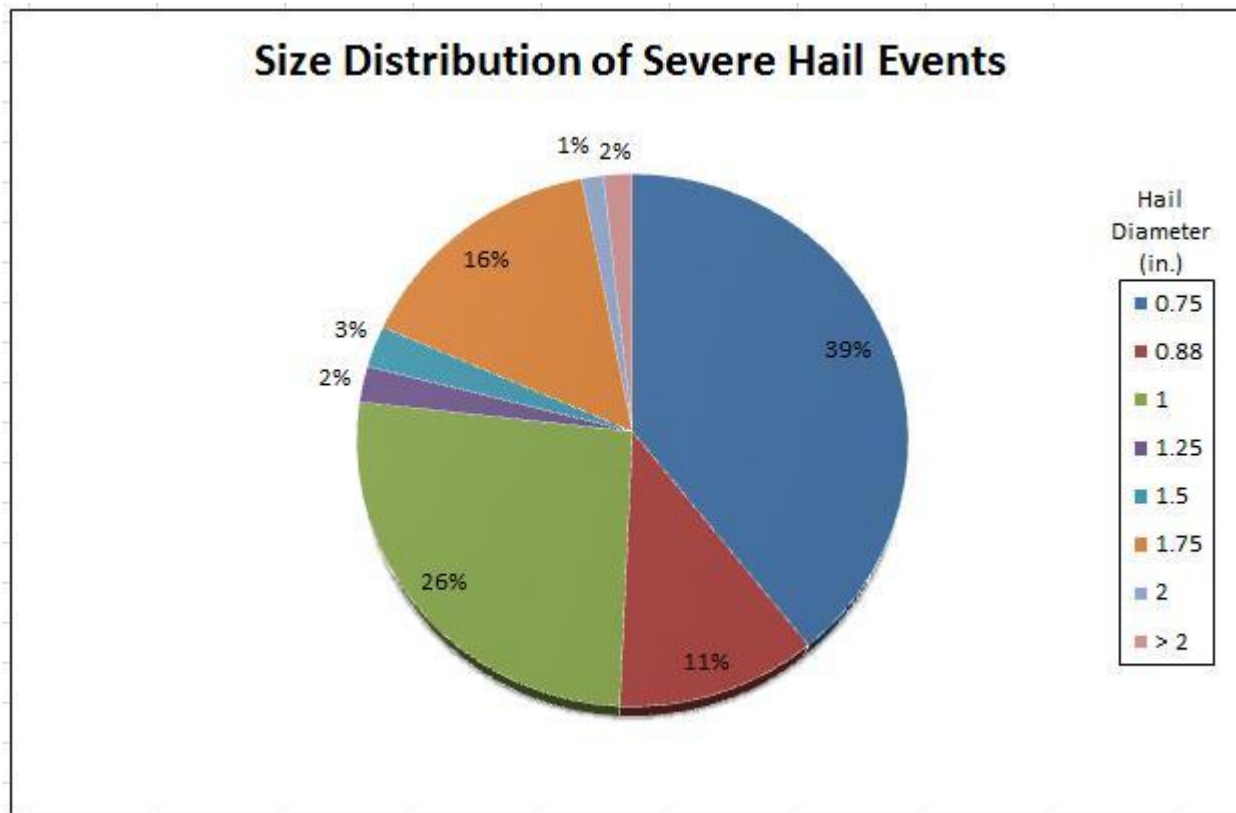


### Wet and Dry Season Distribution of Severe Hail Events



### Hourly Distribution of Severe Hail Events



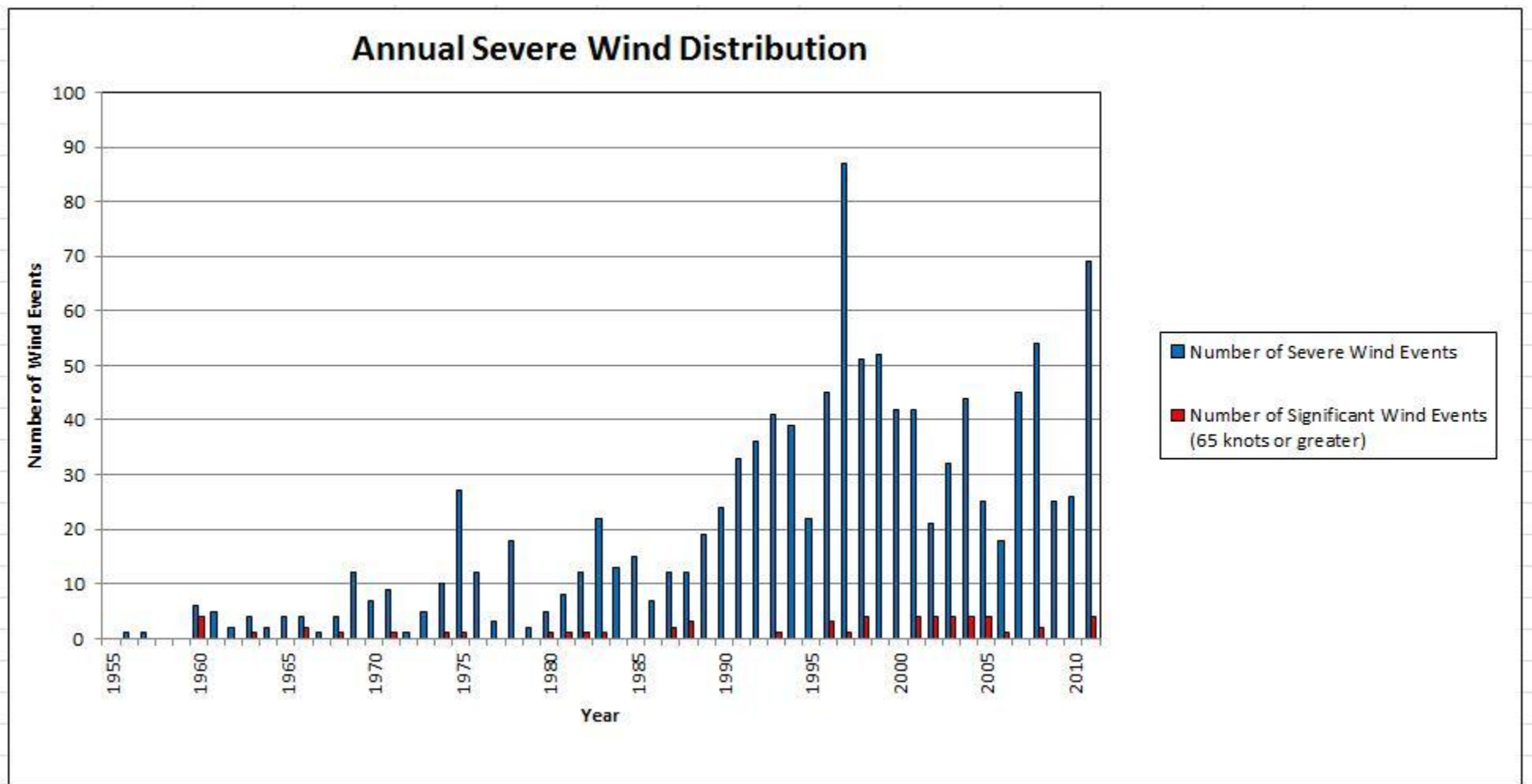
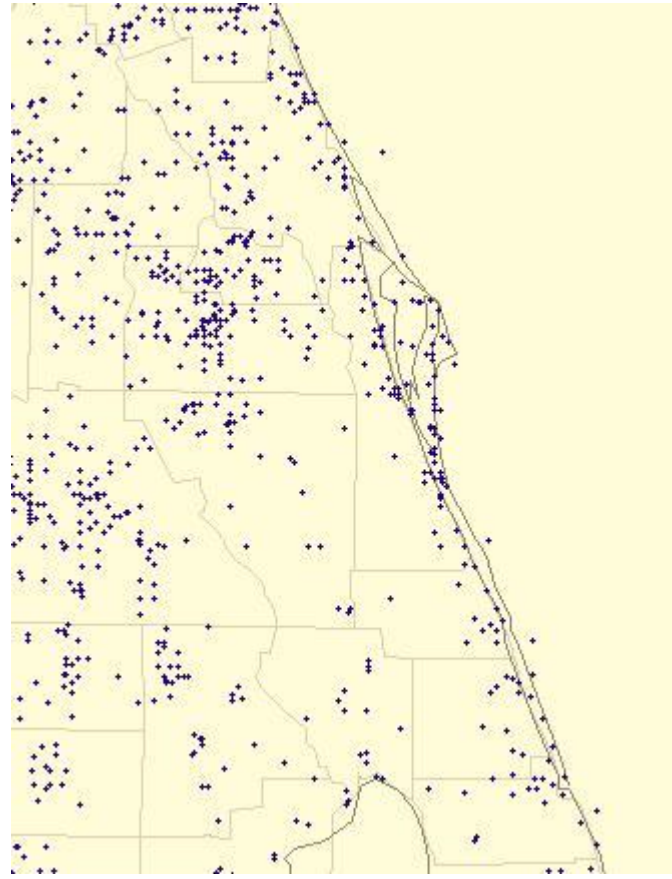


### Largest Hail Stones

Rank	Date	County	Diameter (in.)
1	March 25, 1992	Orange	3
2	February 13, 1995	Indian River	3
3	February 13, 1995	St. Lucie	3
4	April 7, 2005	Orange	2.75
5	May 3, 2007	St. Lucie	2.75
6	June 23, 1970	Orange	2.75
7	February 7, 1971	Volusia	2.75
8	May 7, 1975	St. Lucie	2.75
9	May 31, 1976	Seminole	2.75
10	March 17, 2003	Brevard	2.5
11	March 3, 1991	Volusia	2.5
12	June 19, 1995	Volusia	2.5
13	April 28, 2011	Okeechobee	2.5

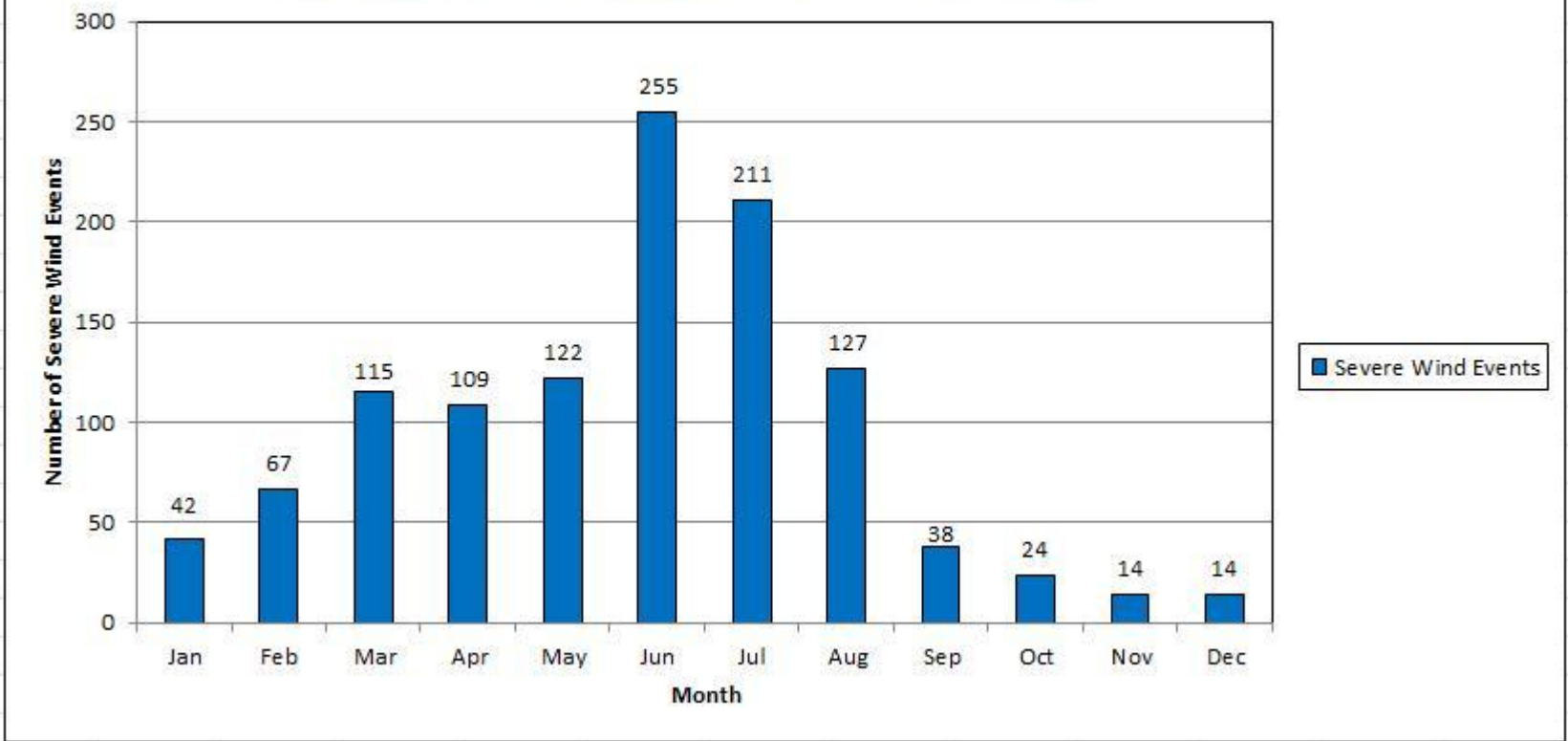


# Severe Wind Events from 1955-2011

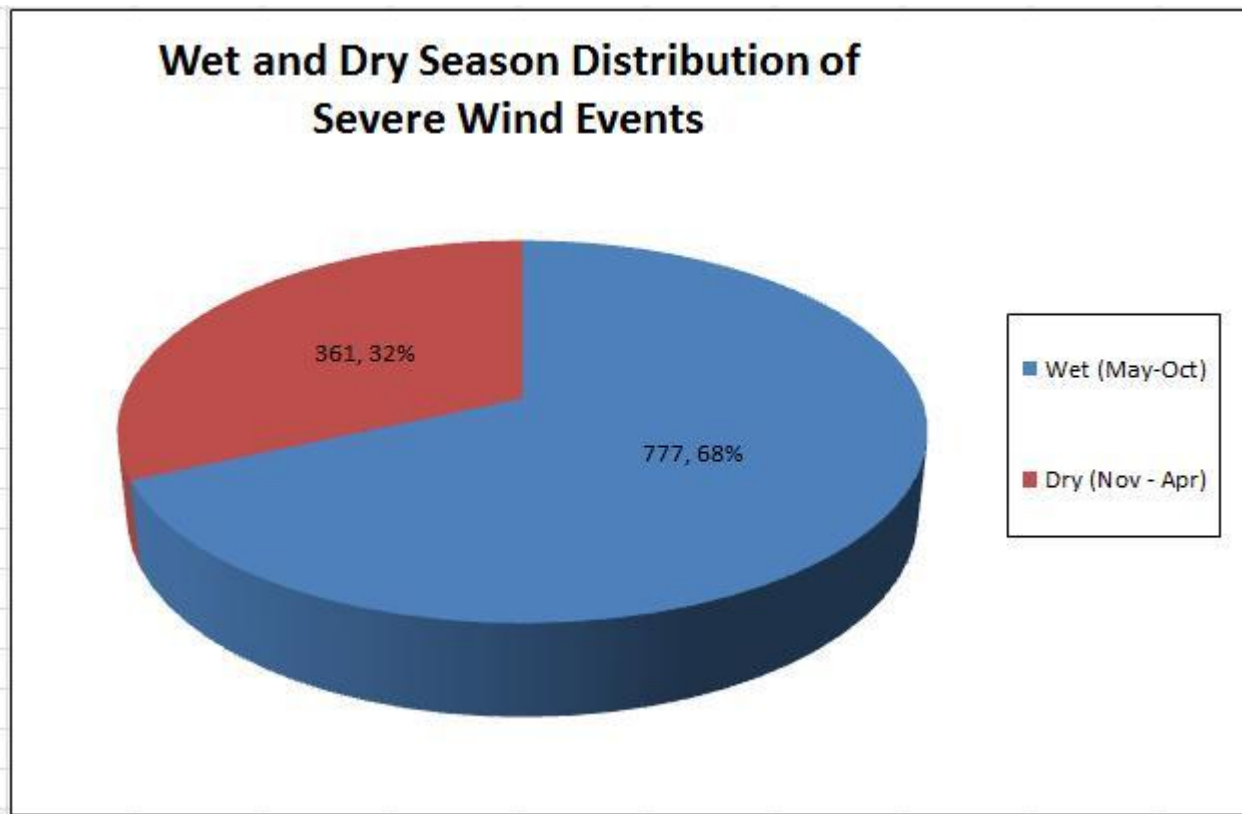




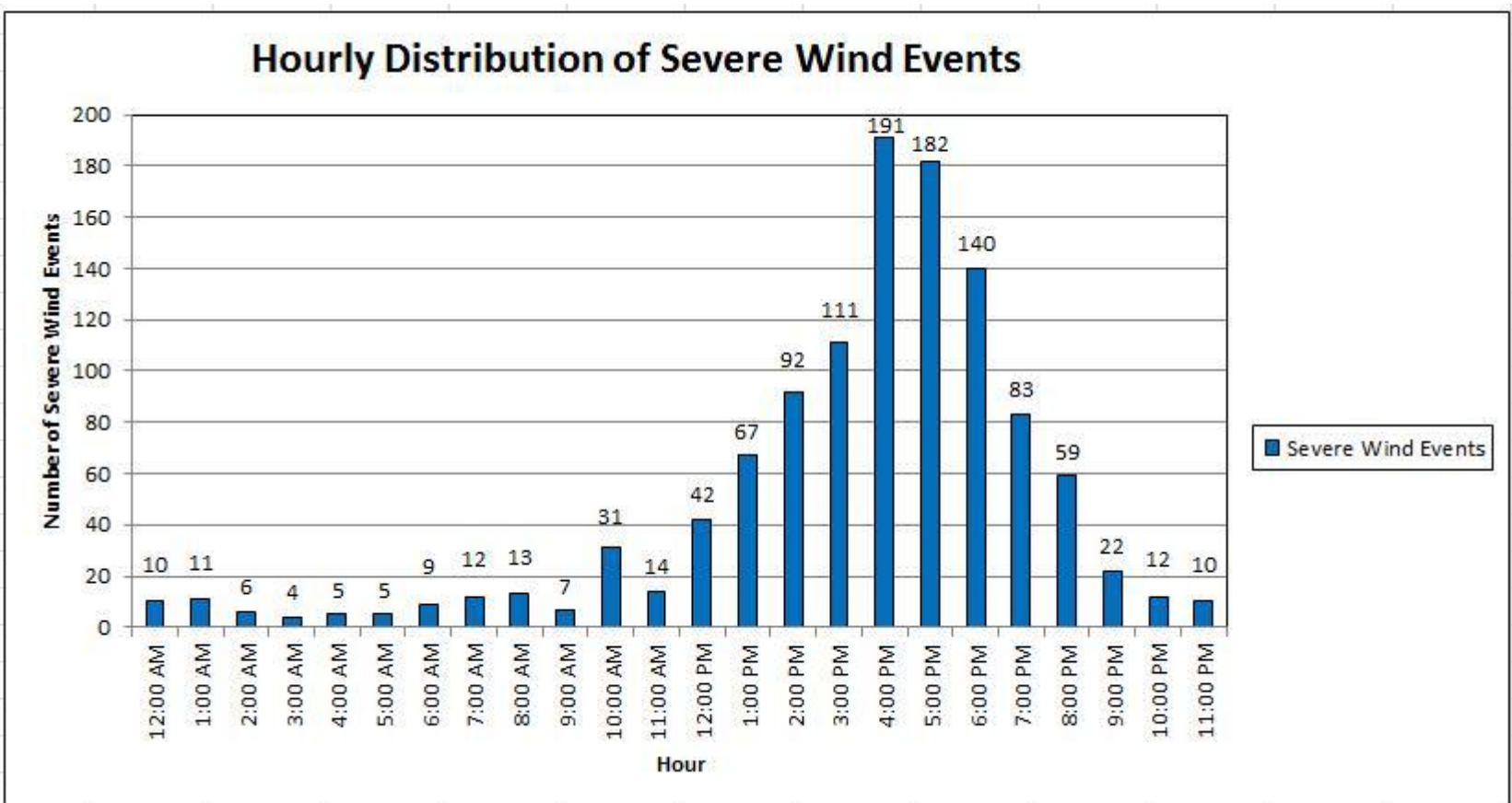
### Monthly Distribution of Severe Wind Events



### Wet and Dry Season Distribution of Severe Wind Events



### Hourly Distribution of Severe Wind Events



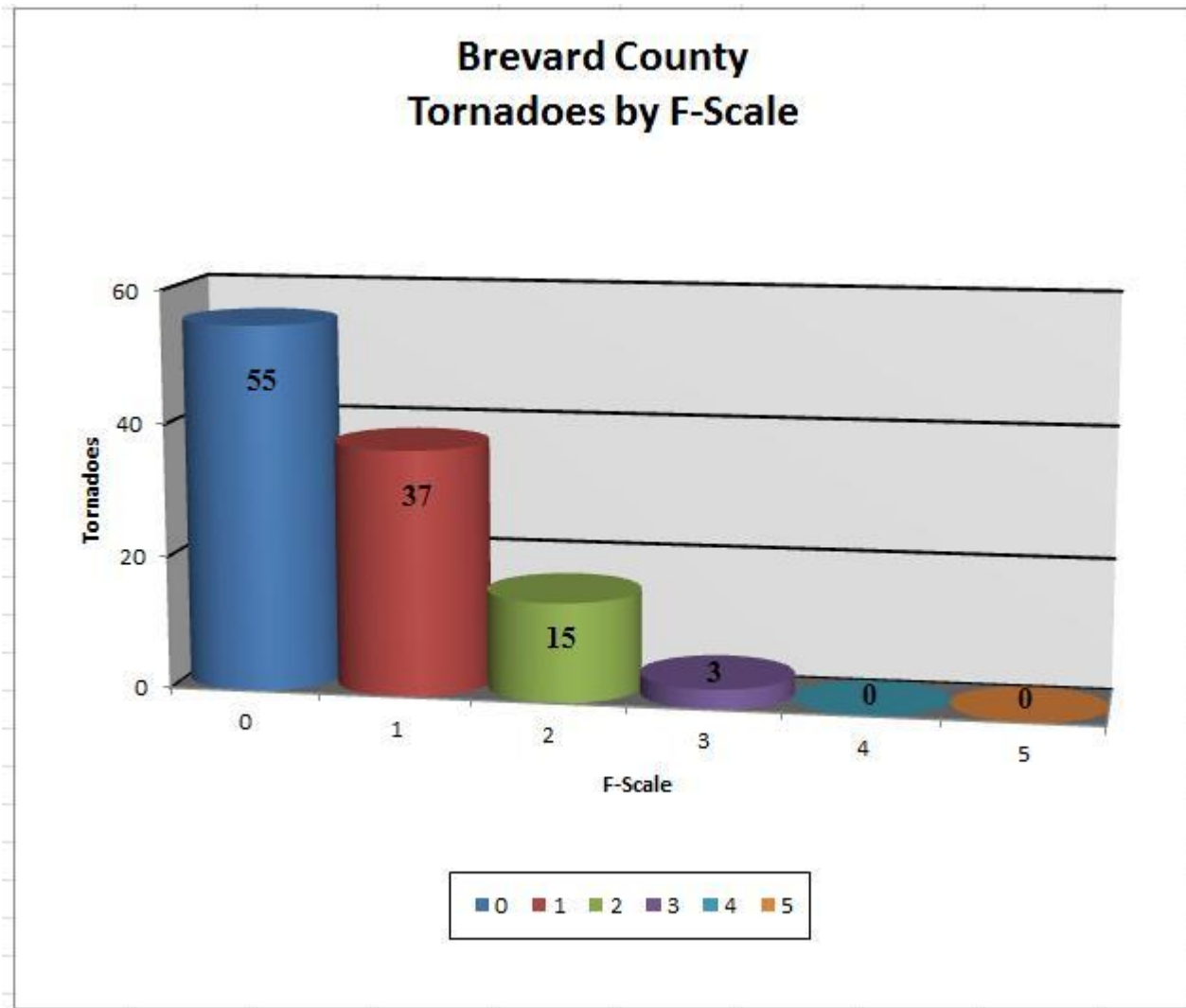
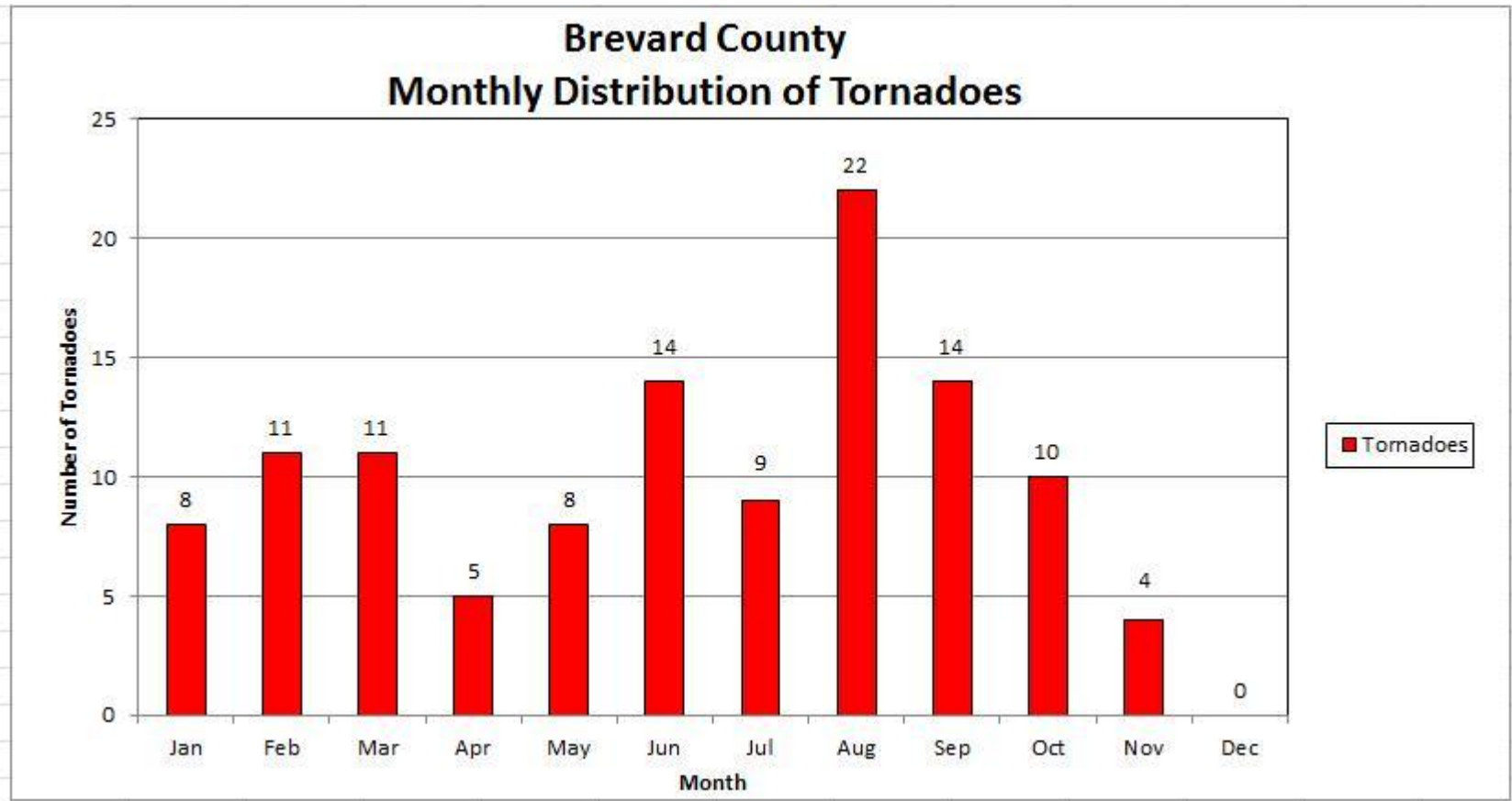
### Highest Convective Wind Speeds

Rank	Date	County	Speed (knots)	Speed (mph)
1	July 9, 1968	Brevard	85	98
2	June 30, 1980	Brevard	84	97
3	March 6, 2008	Martin	84	97
4	March 15, 1960	Brevard	80	92
5	April 3, 2002	Okeechobee	80	92
6	October 21, 2002	Brevard	80	92
7	March 19, 2003	Volusia	80	92
8	April 4, 1966	Orange	78	90
9	July 23, 2003	Brevard	77	89
10	March 29, 1987	Lake	75	86
11	April 15, 1987	Martin	75	86
12	May 8, 1966	Volusia	75	86

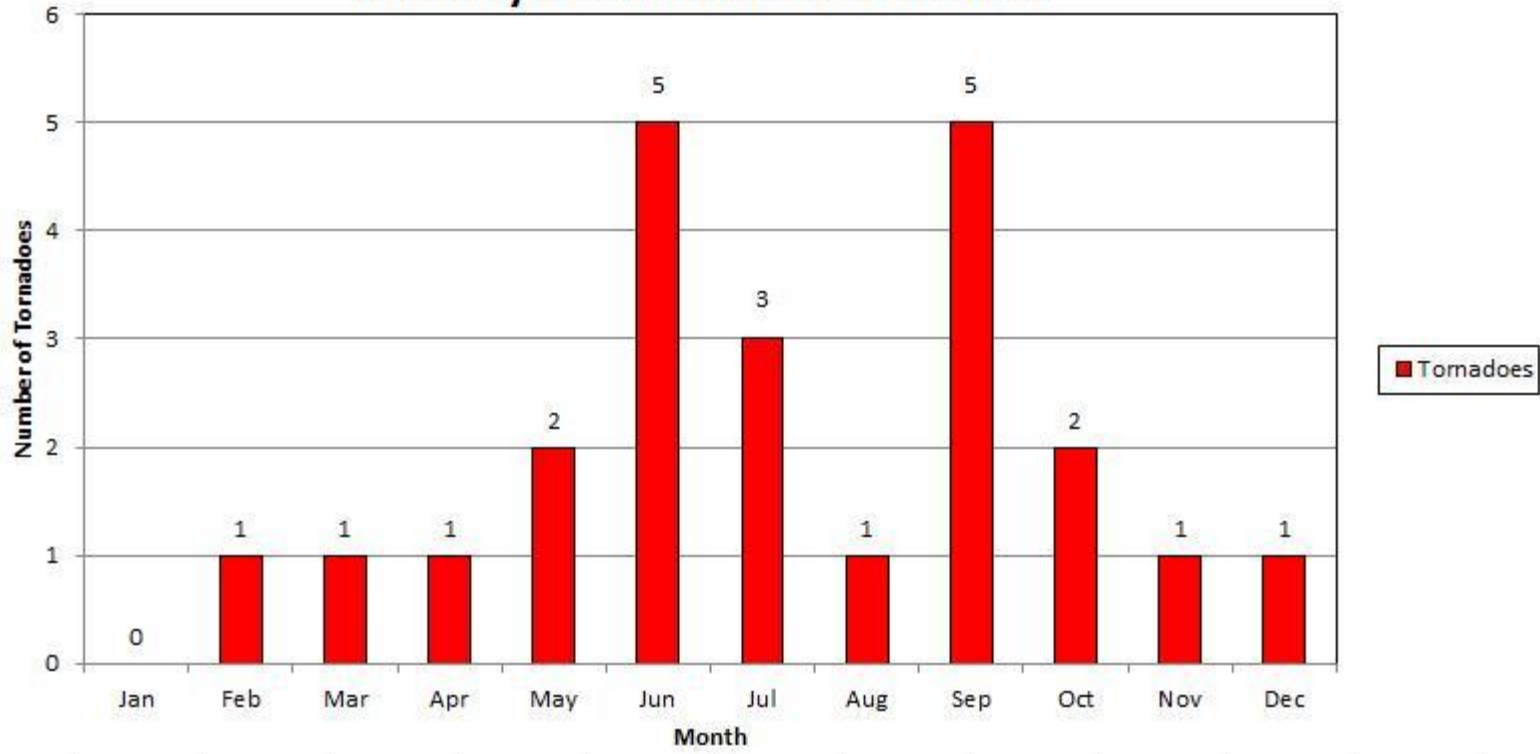
### Single Day Highest Rainfall Amounts

Site	Date	1 Day Rainfall
Daytona Beach	October 10, 1924	12.85"
Orlando	September 16, 1945	8.43"
Melbourne	August 2, 1995	9.06"
Vero Beach	January 21, 1957	8.82"

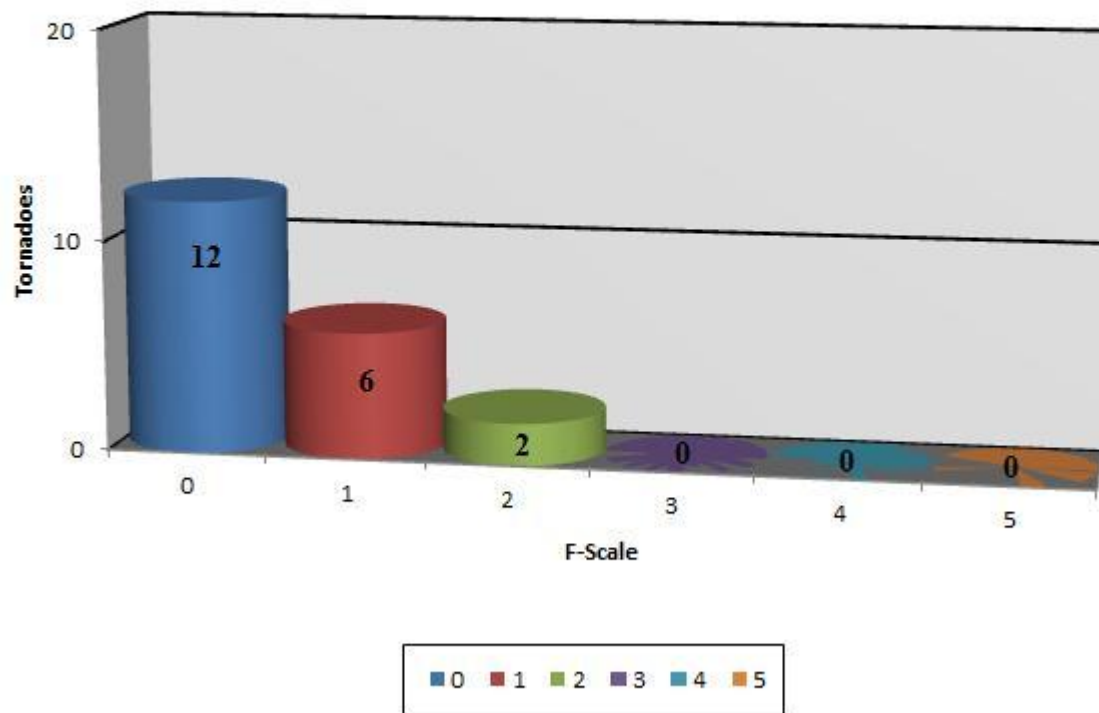
# County Specific Climatology



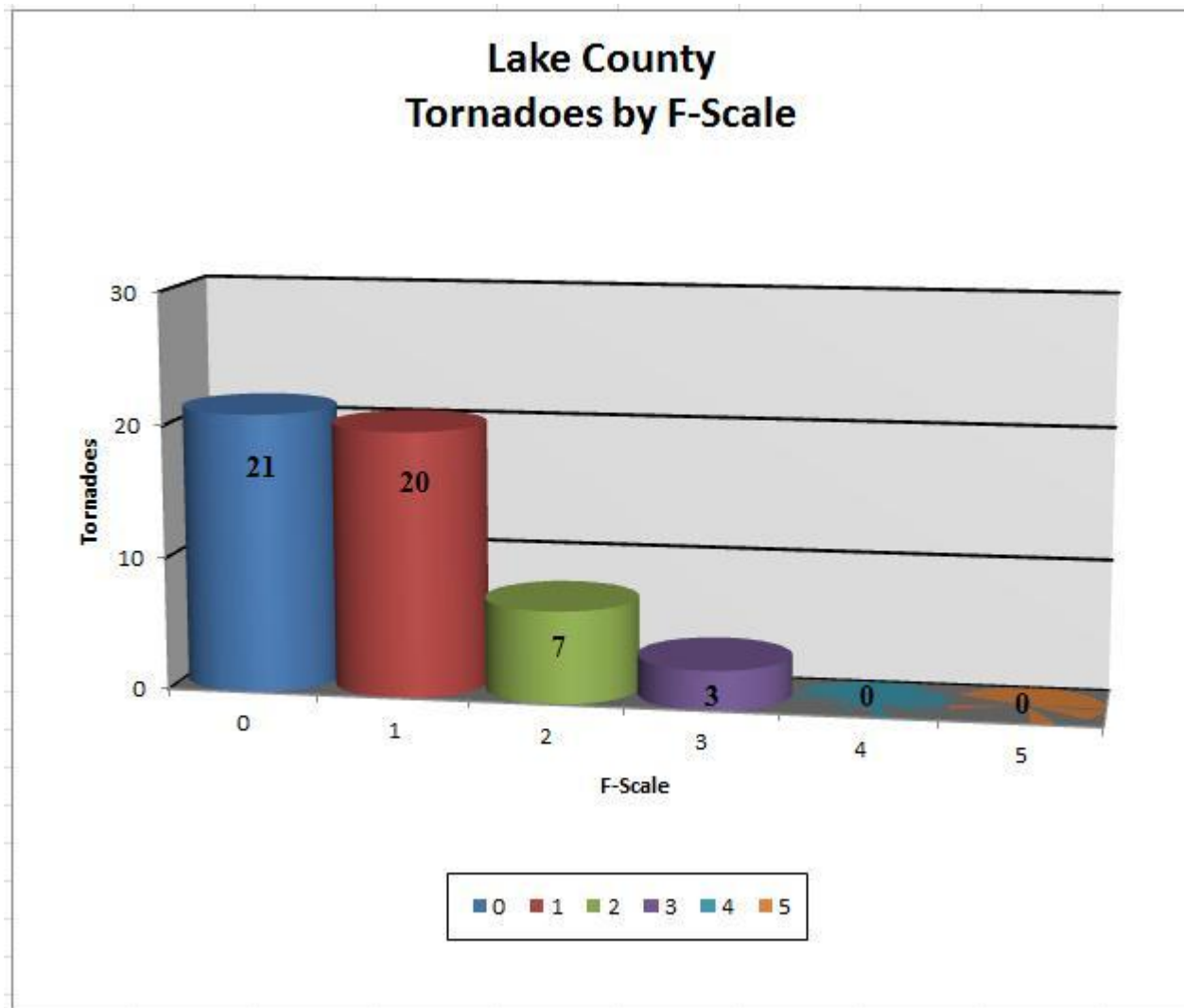
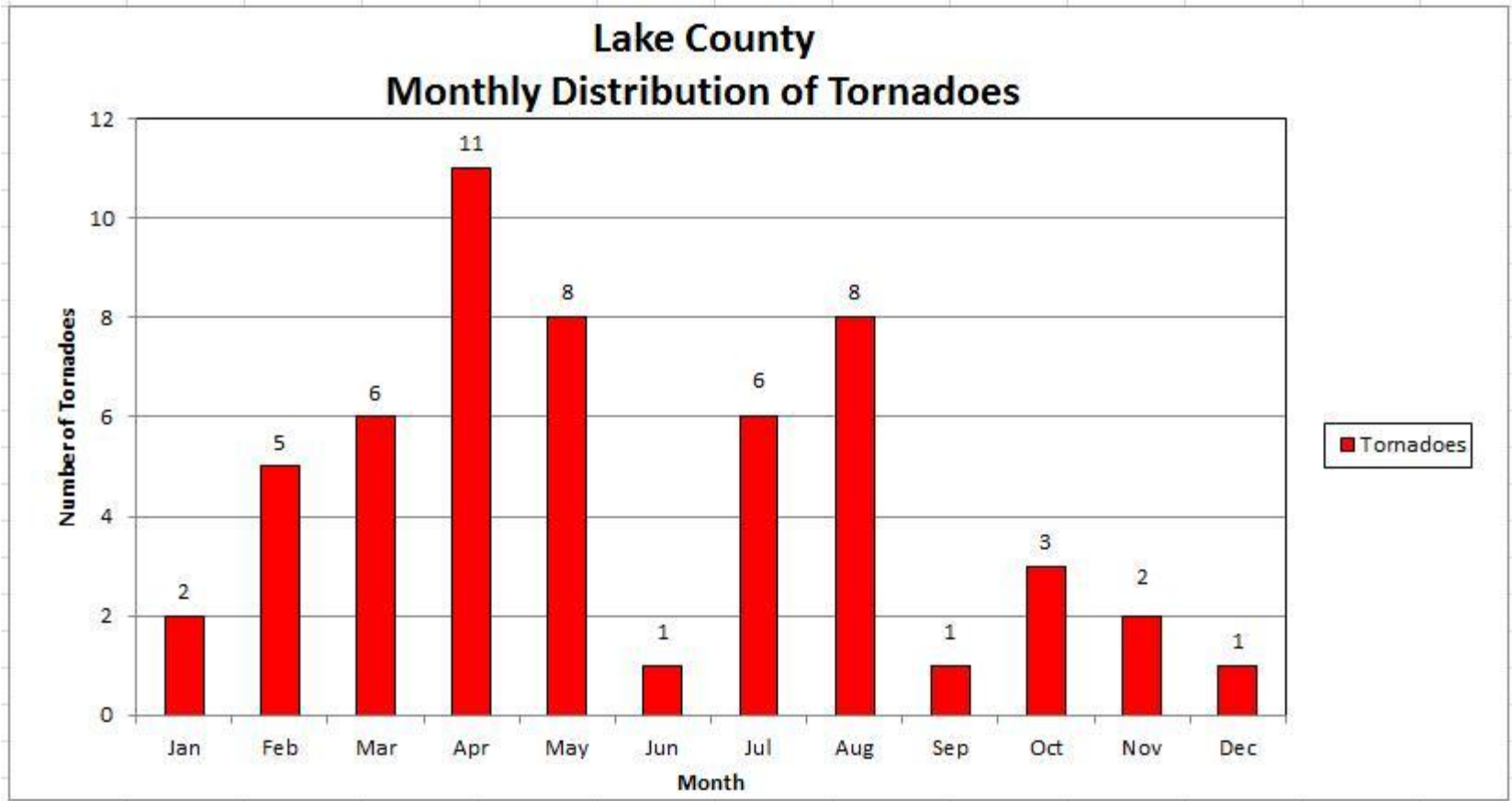
### Indian River County Monthly Distribution of Tornadoes



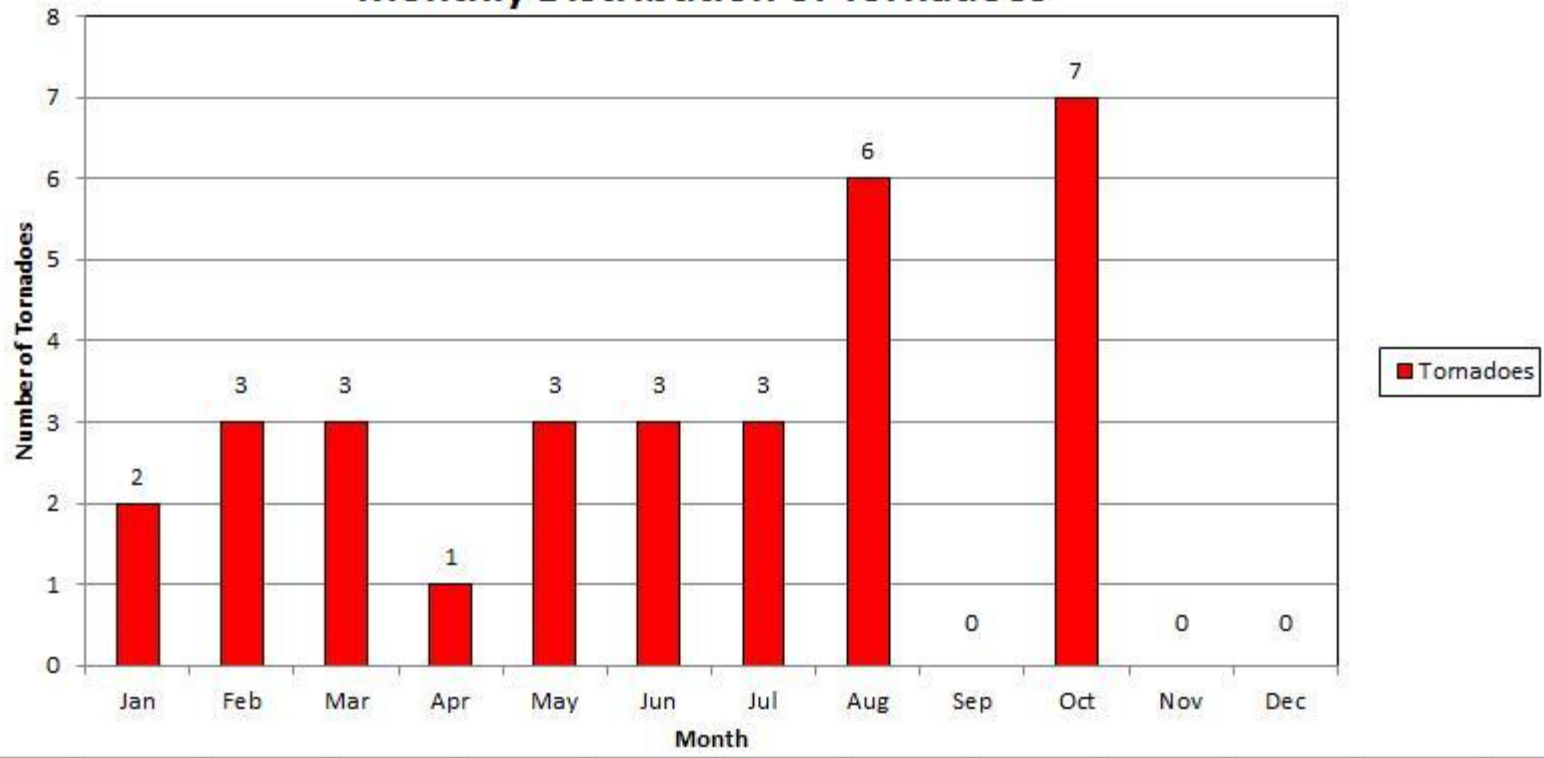
### Indian River County Tornadoes by F-Scale



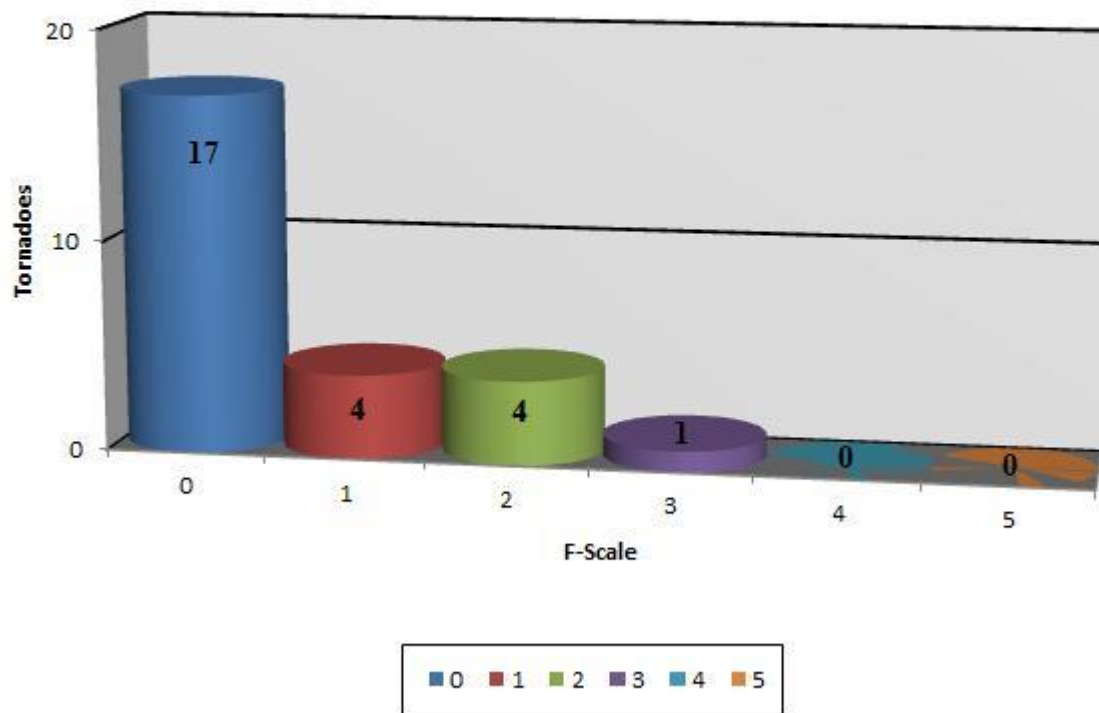




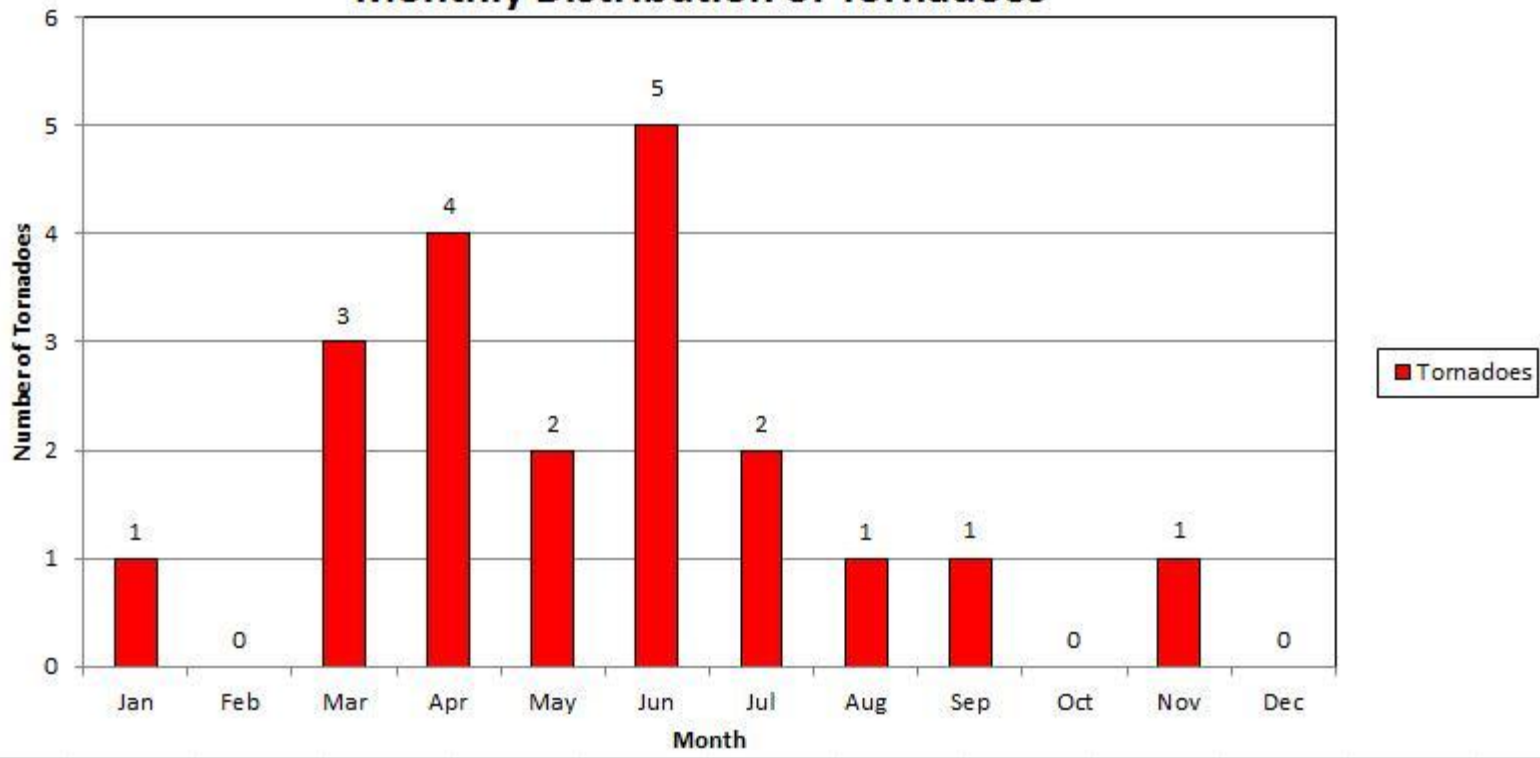
### Martin County Monthly Distribution of Tornadoes



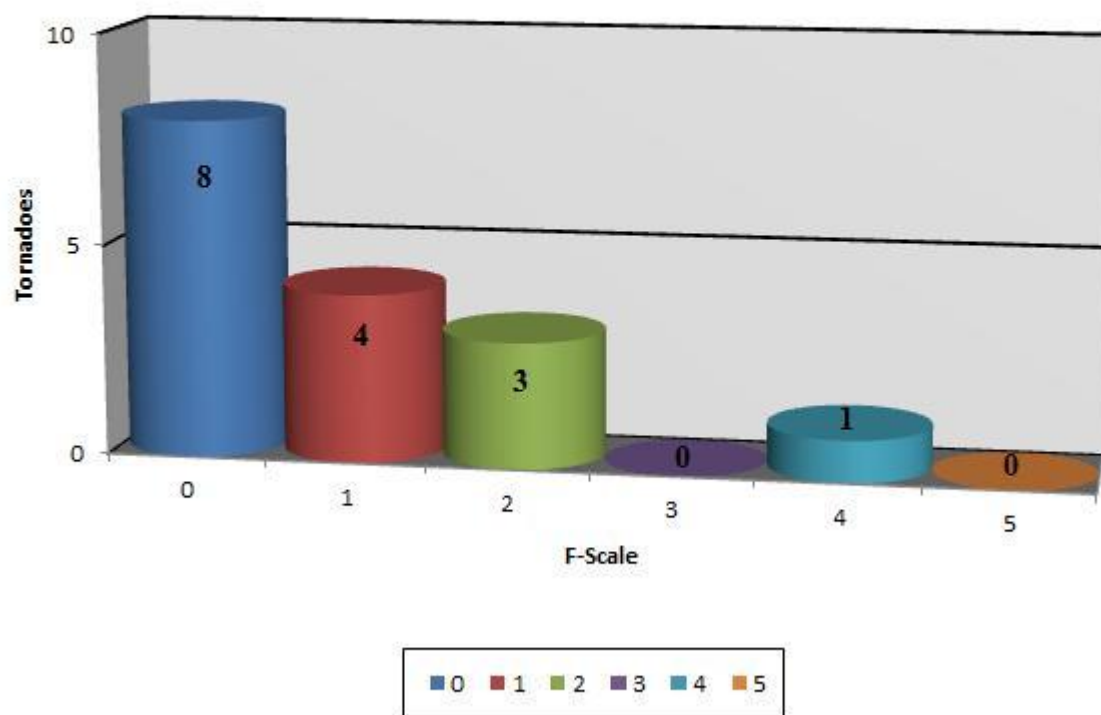
### Martin County Tornadoes by F-Scale



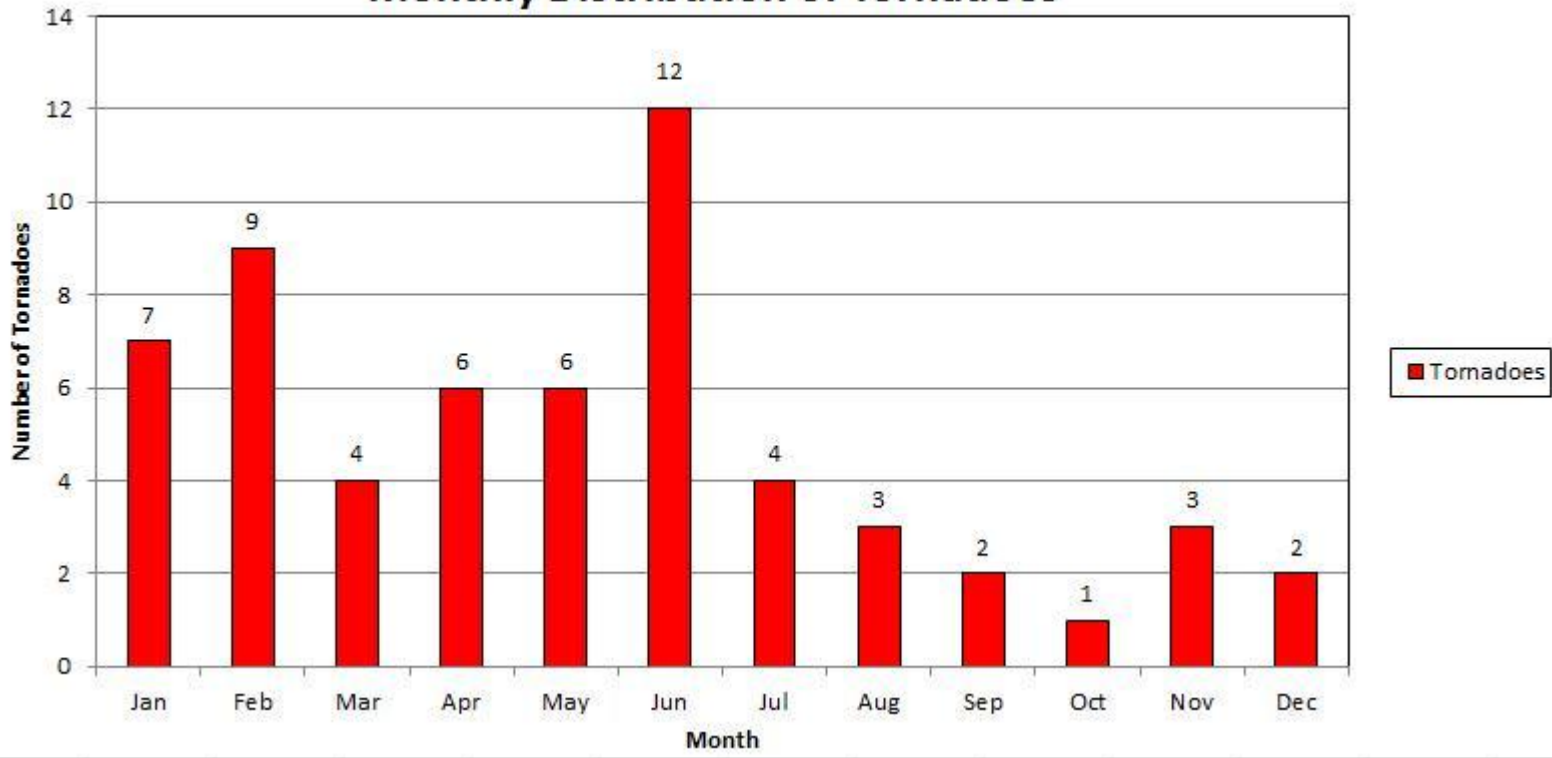
### Okeechobee County Monthly Distribution of Tornadoes



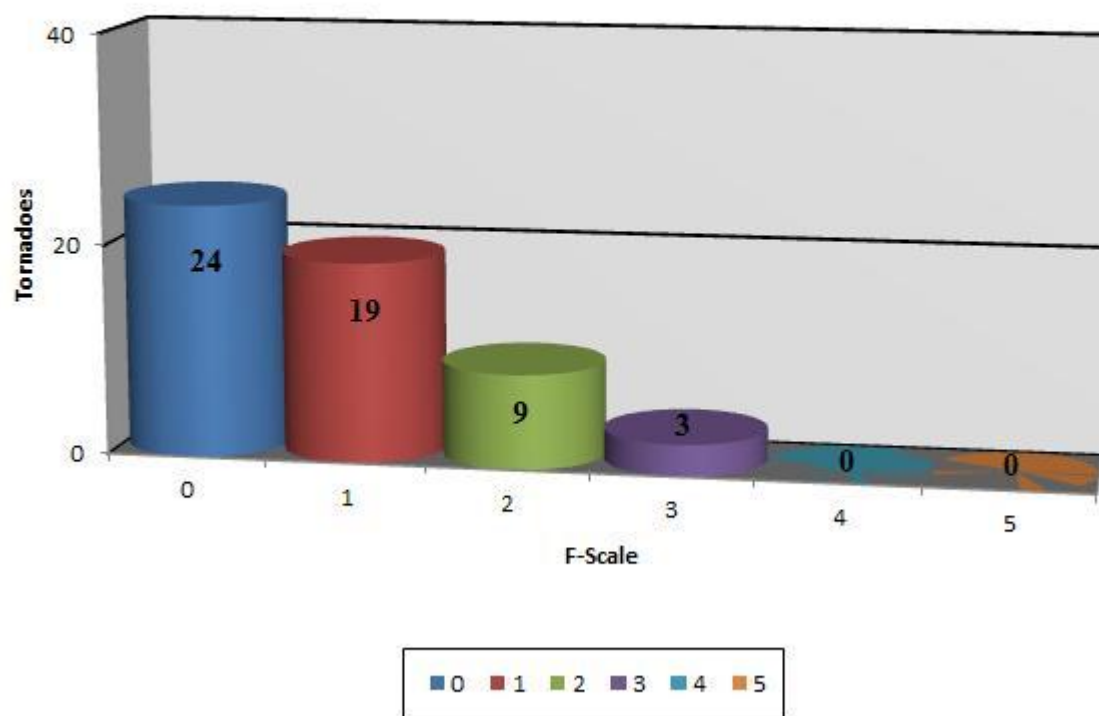
### Okeechobee County Tornadoes by F-Scale



### Orange County Monthly Distribution of Tornadoes

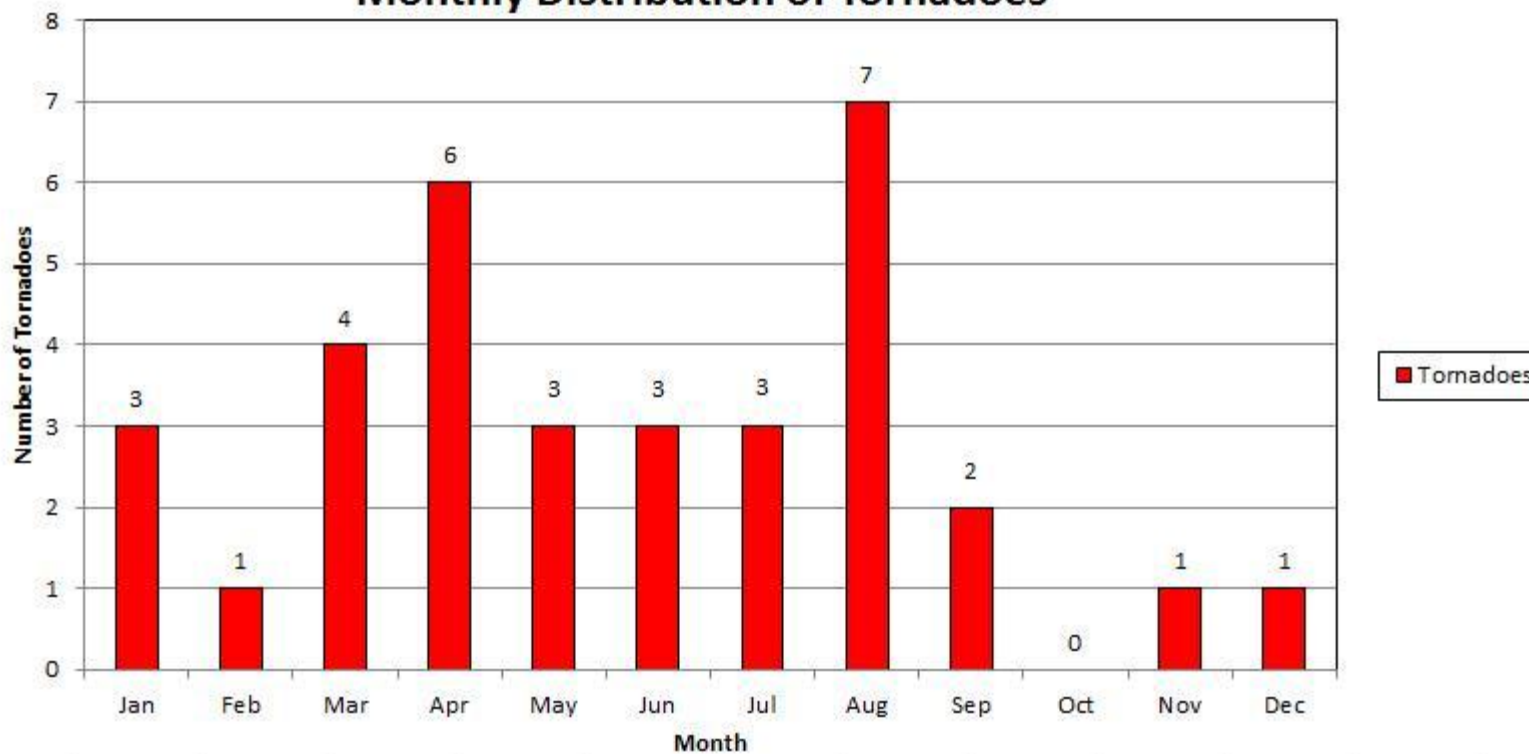


### Orange County Tornadoes by F-Scale

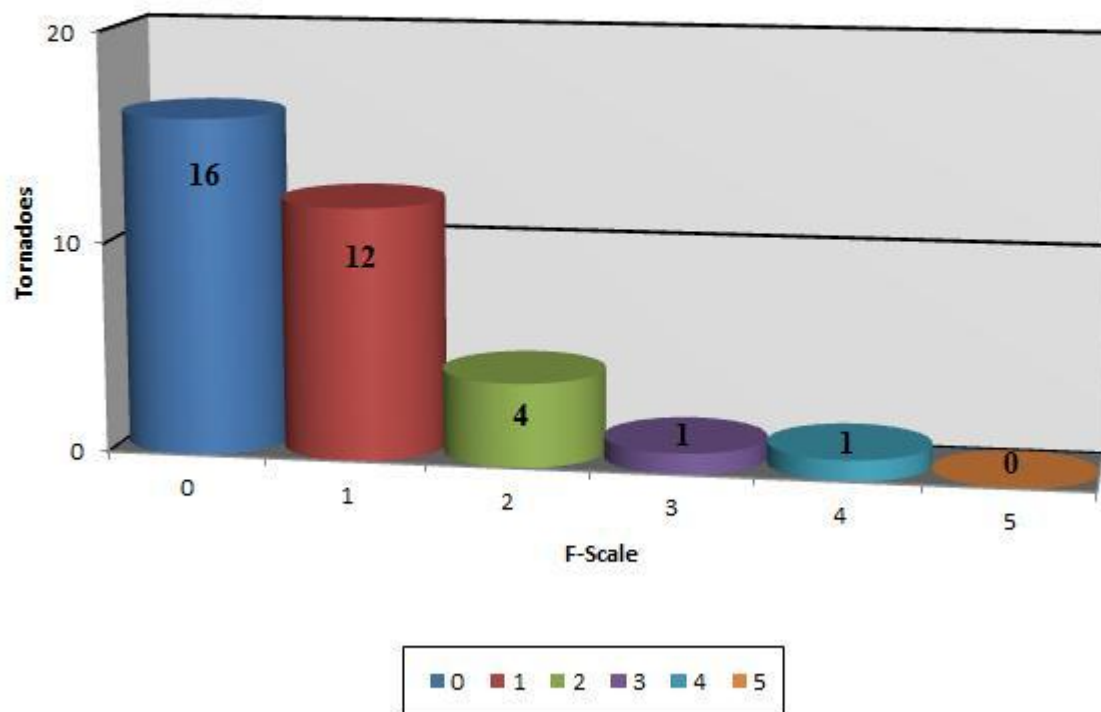


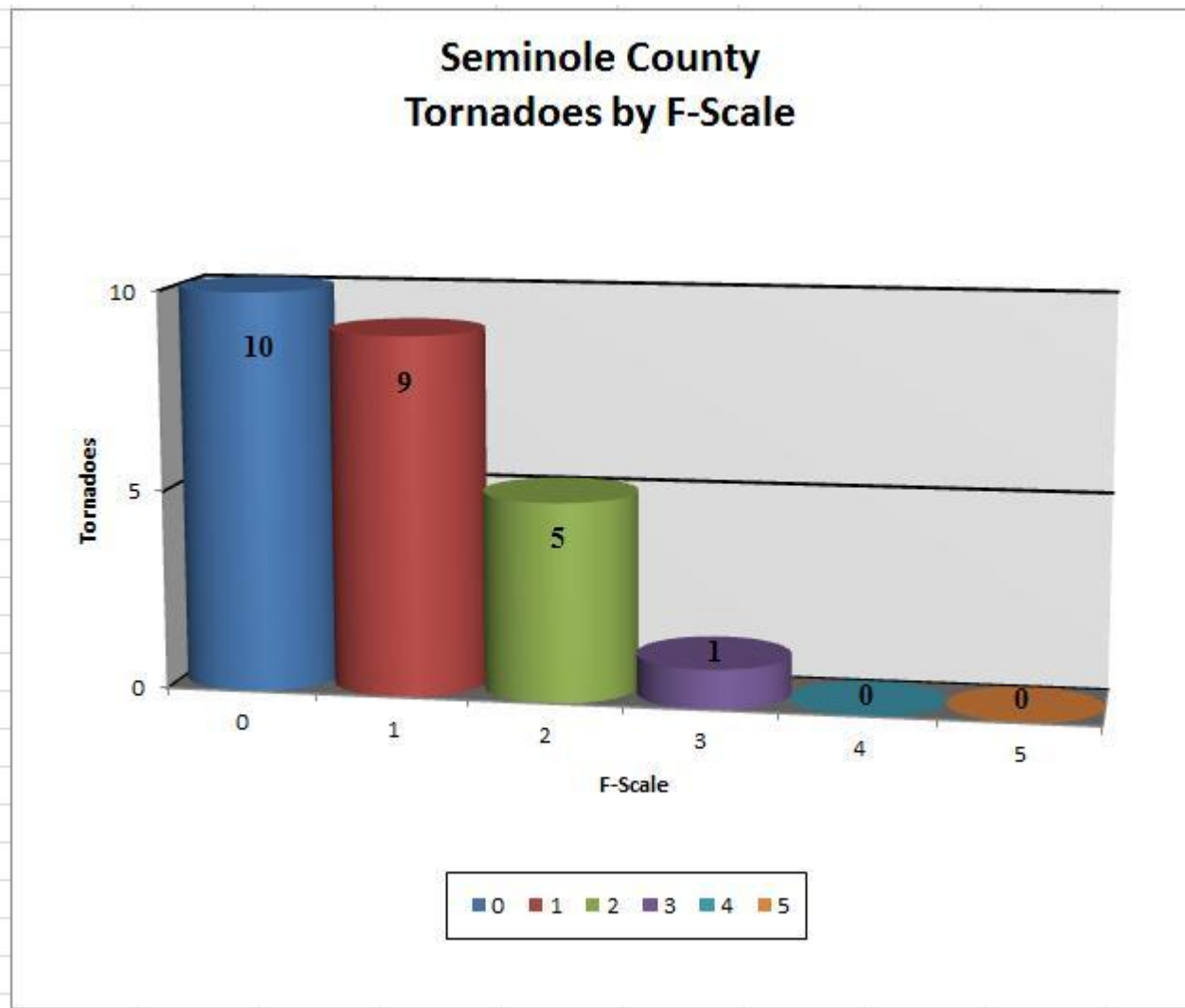
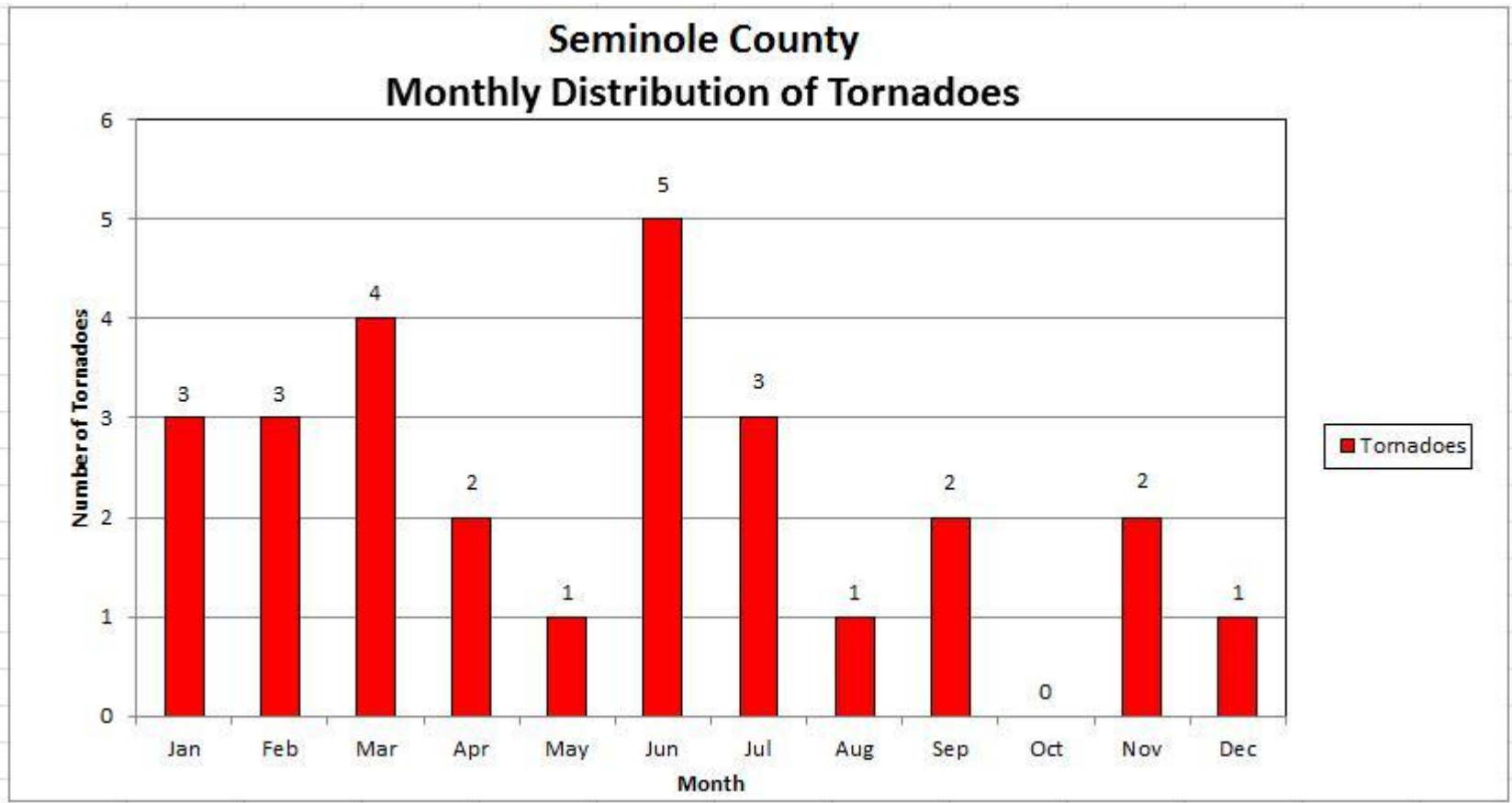


### Osceola County Monthly Distribution of Tornadoes

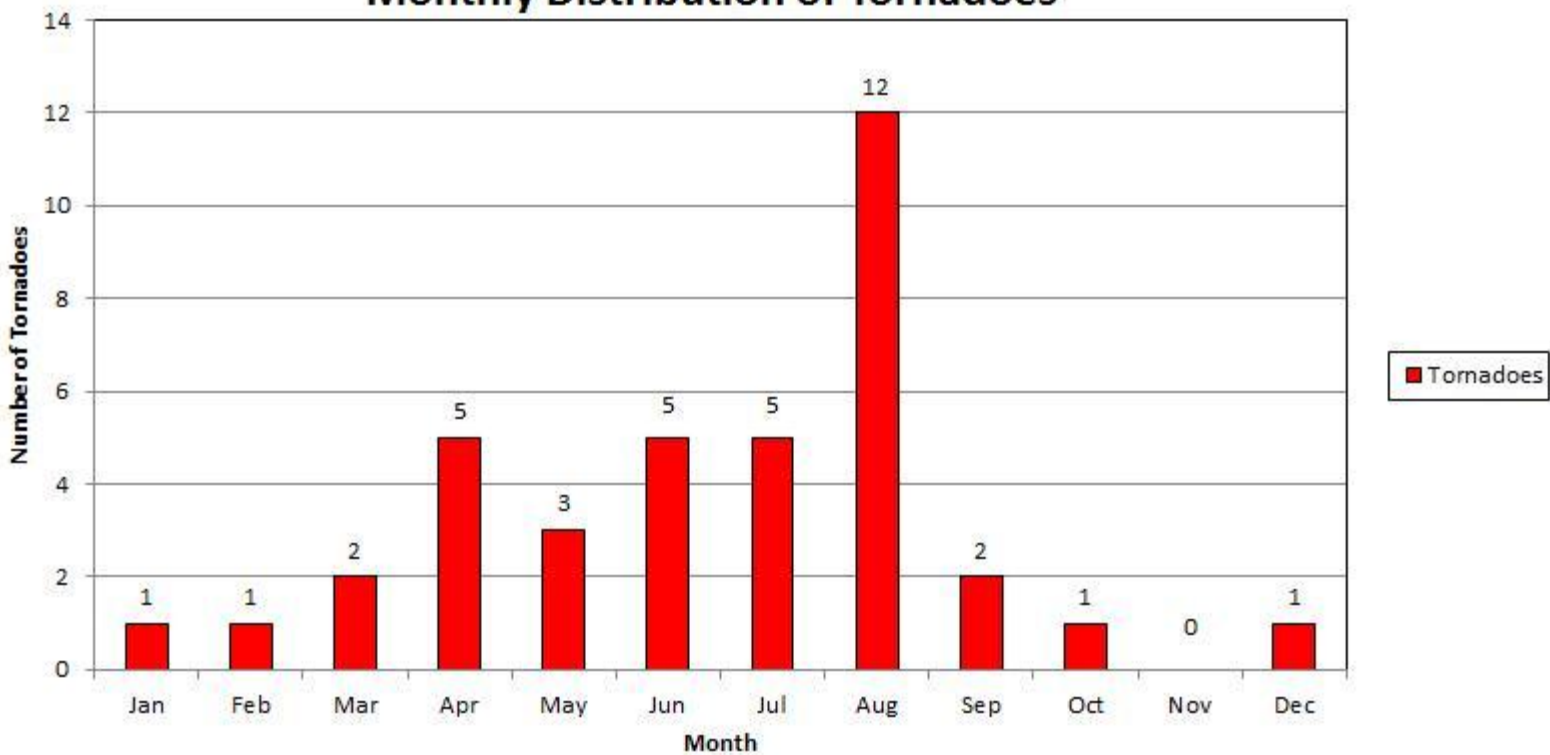


### Osceola County Tornadoes by F-Scale

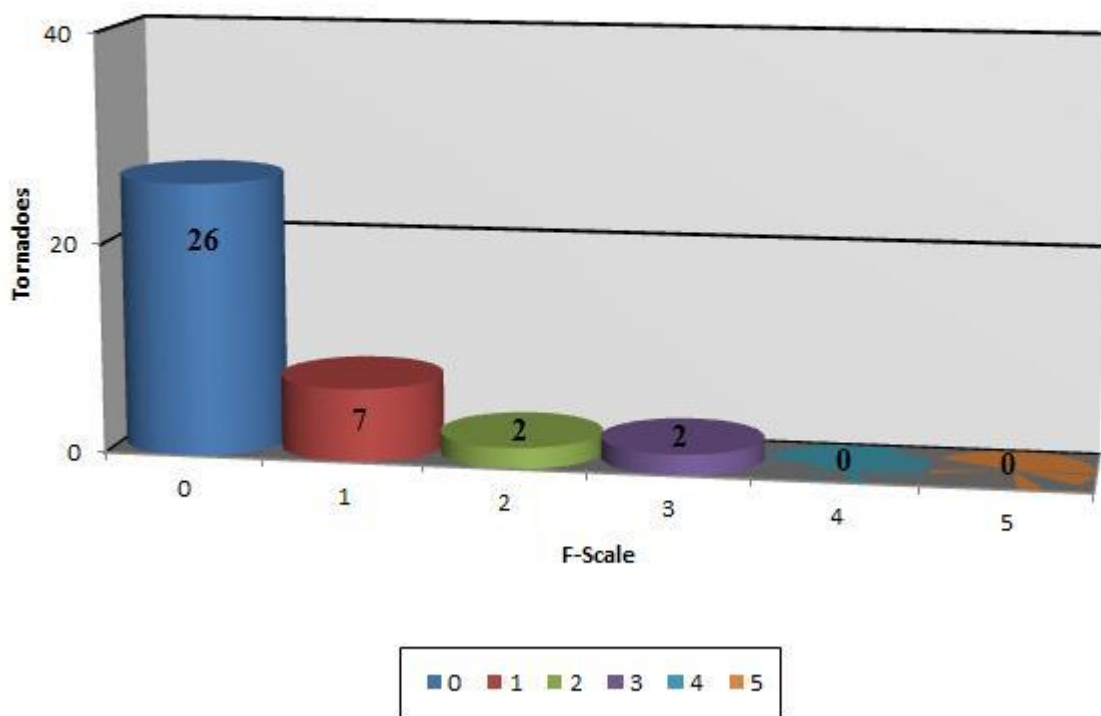




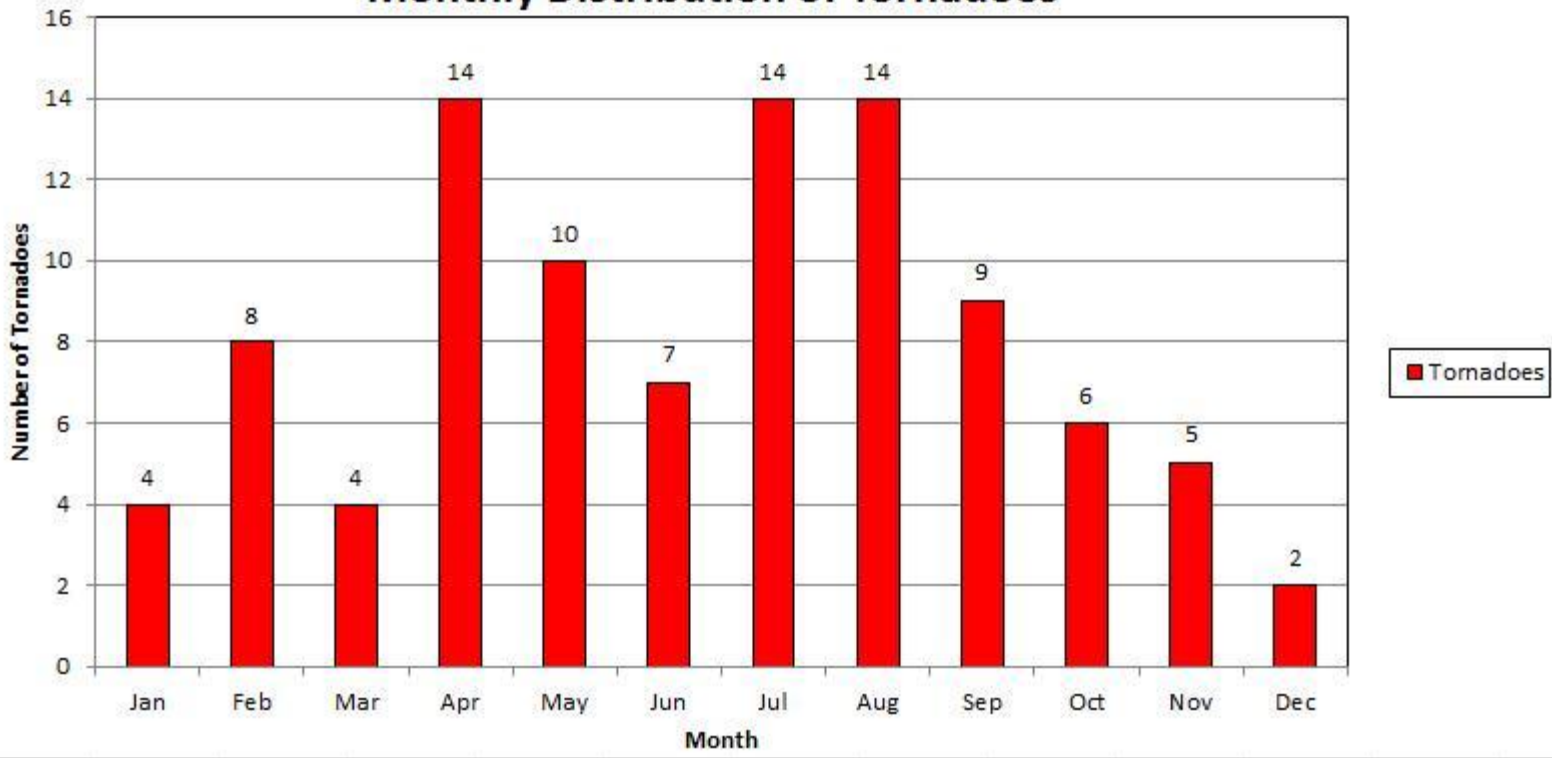
**St. Lucie County  
Monthly Distribution of Tornadoes**



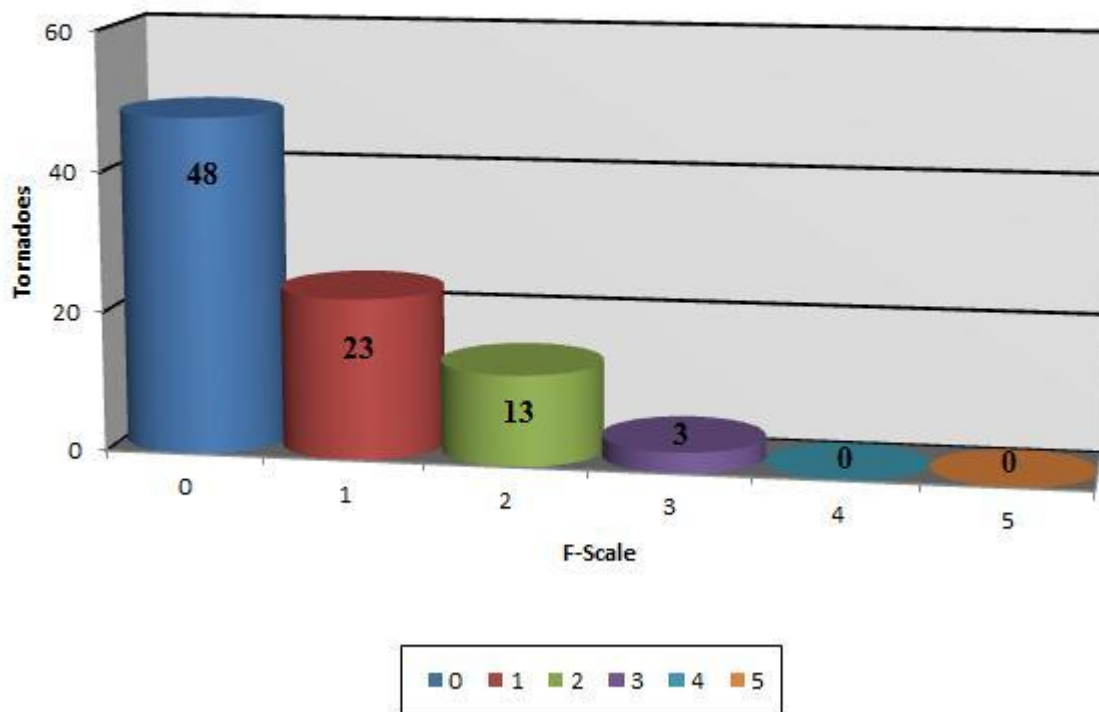
**St. Lucie County  
Tornadoes by F-Scale**



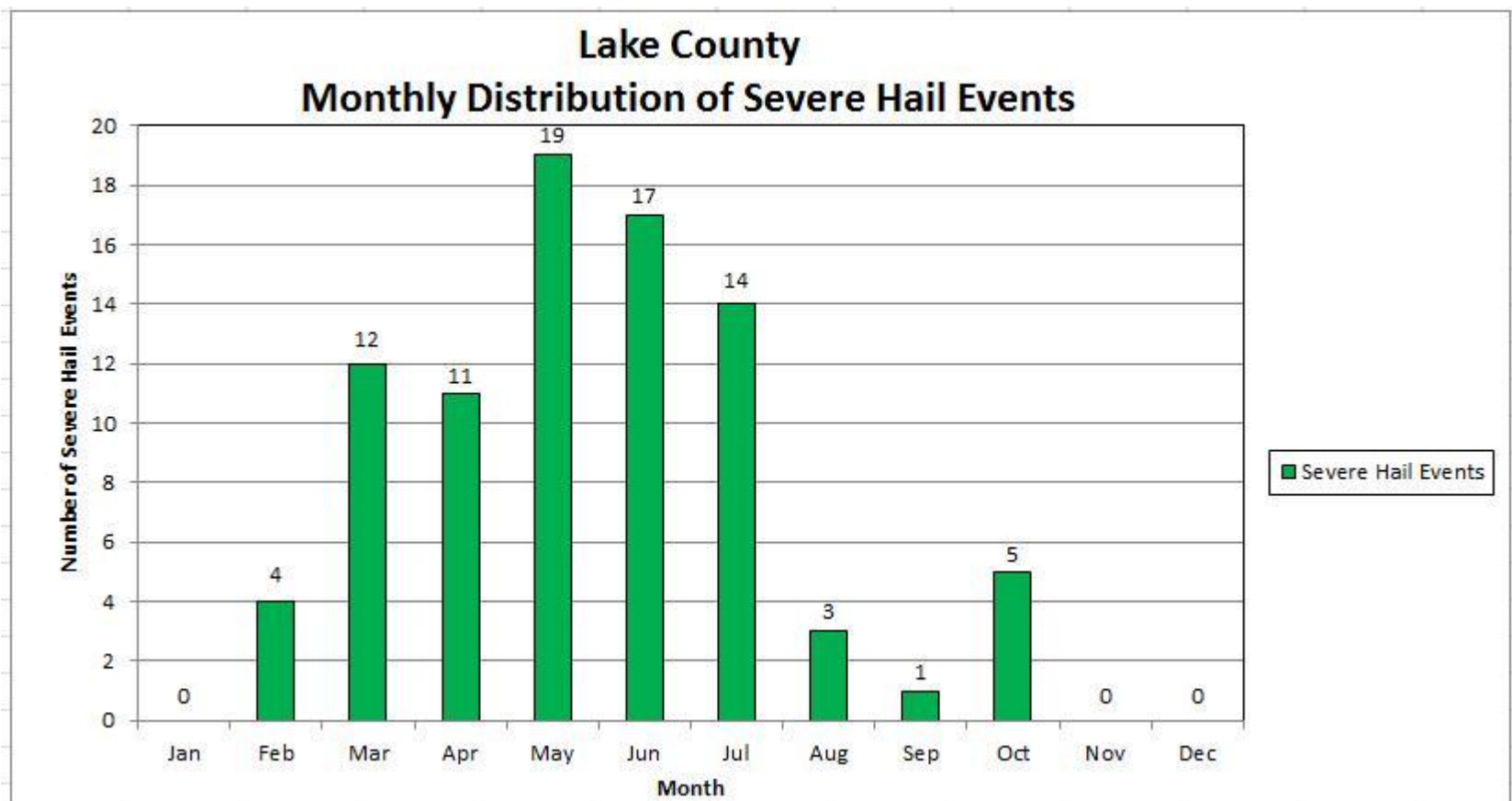
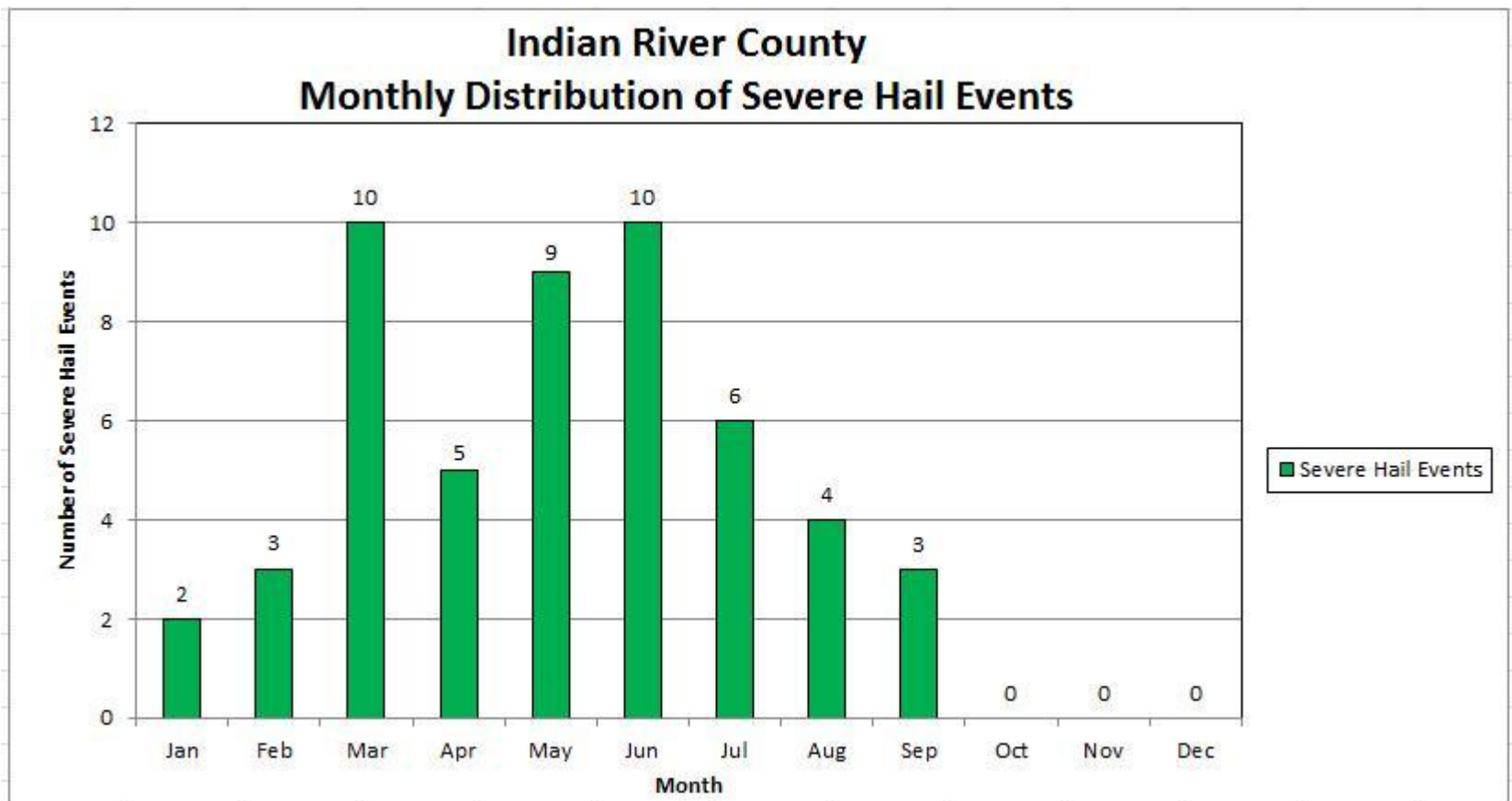
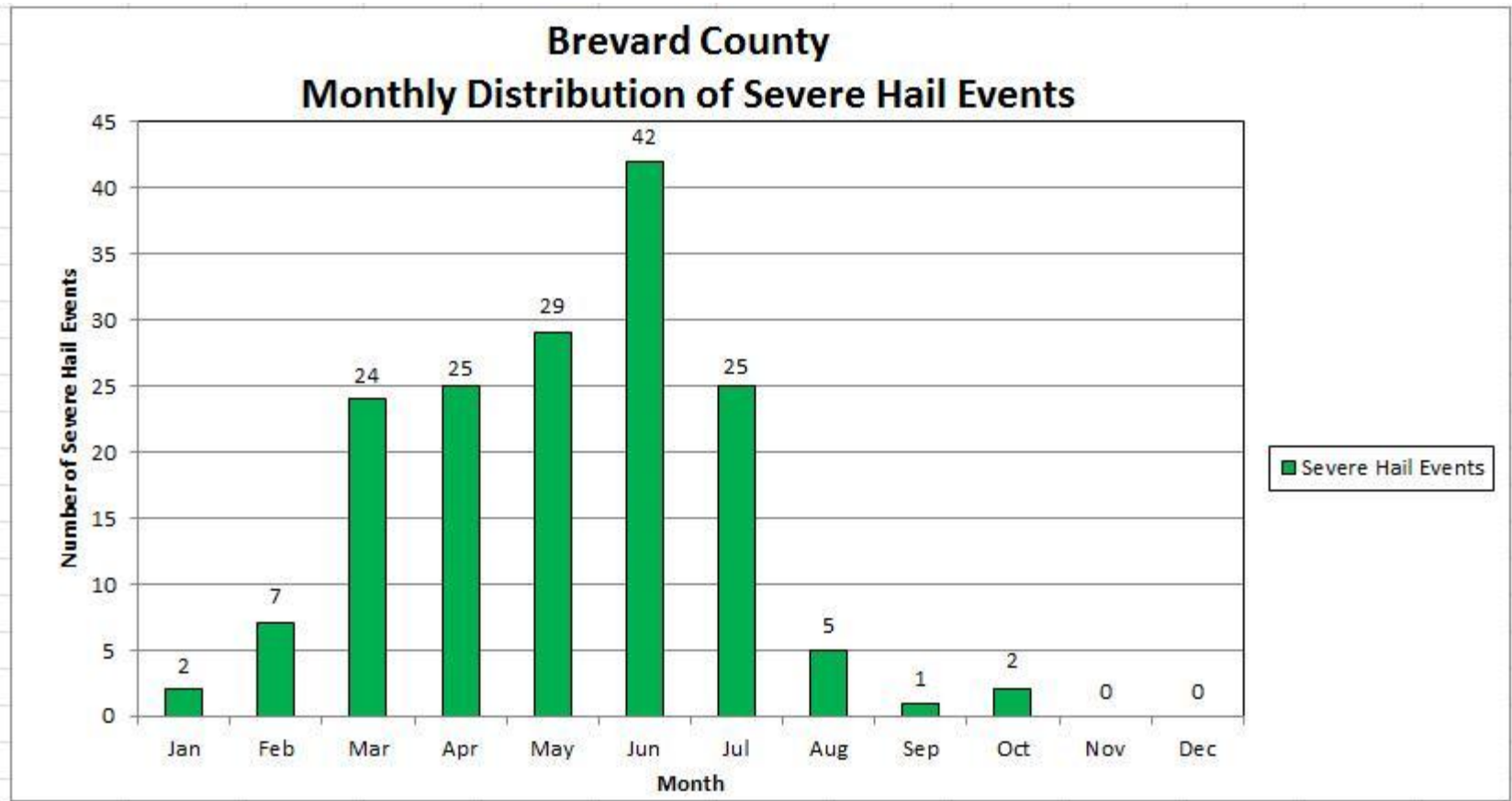
### Volusia County Monthly Distribution of Tornadoes

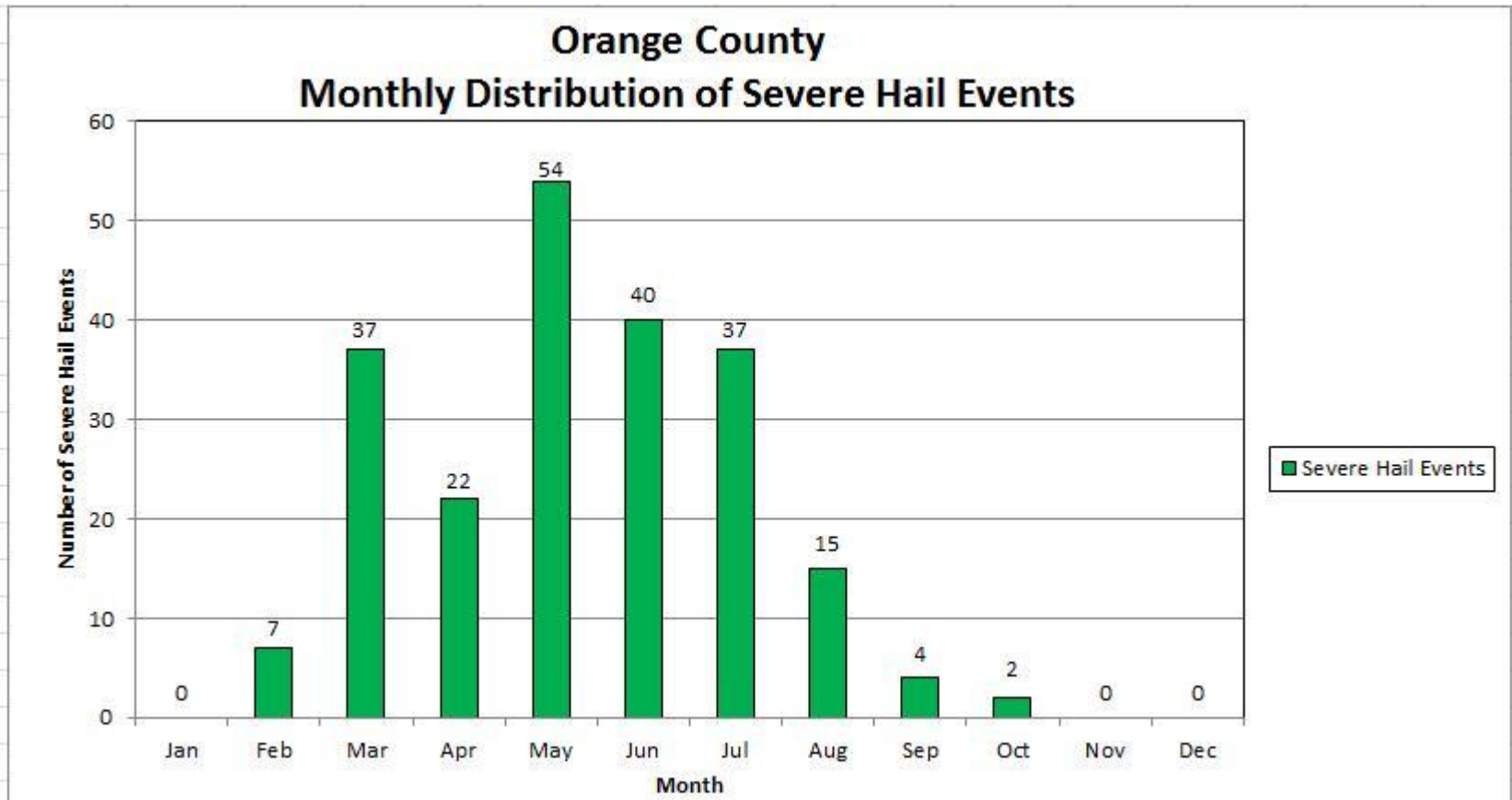
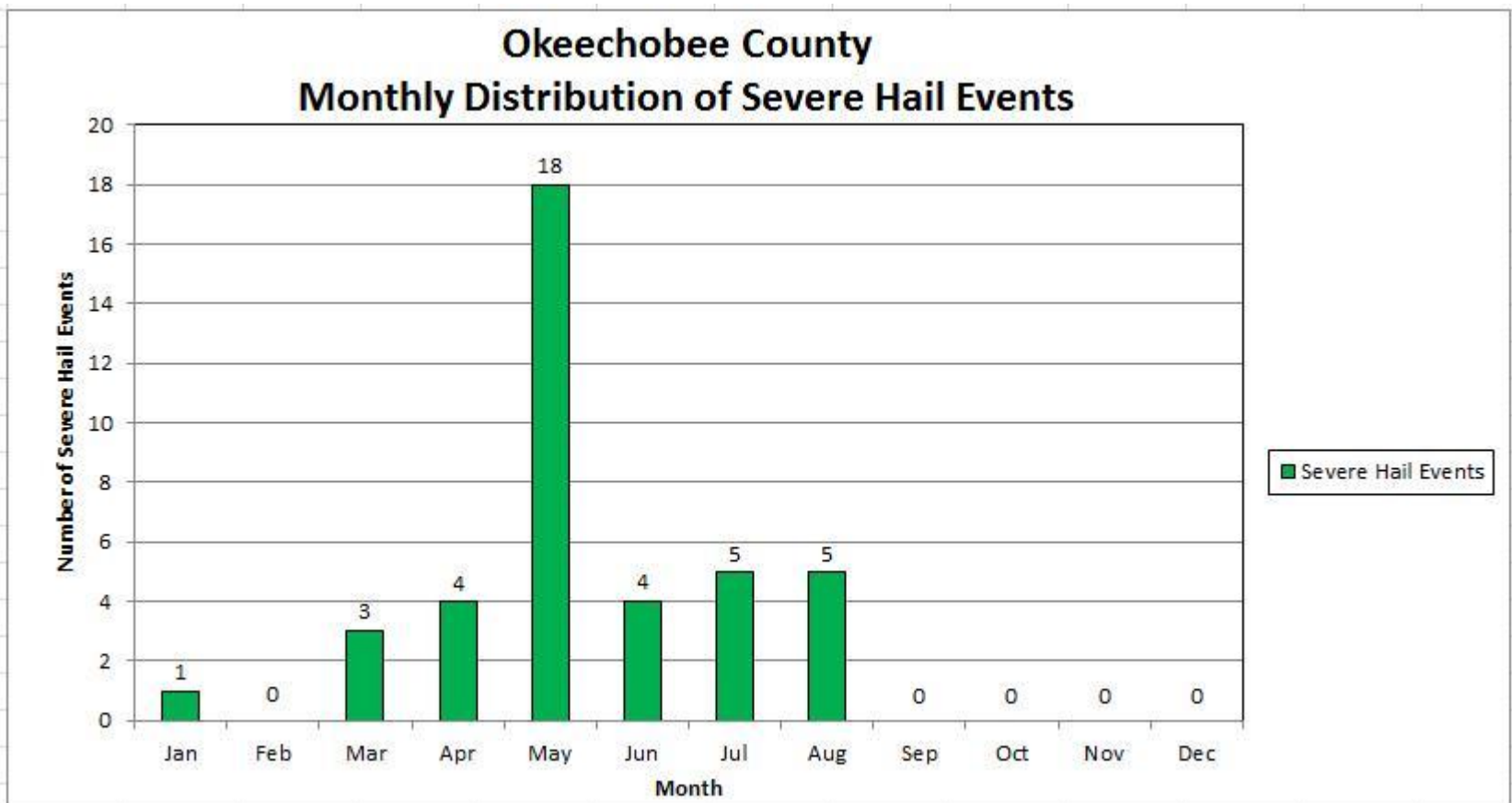
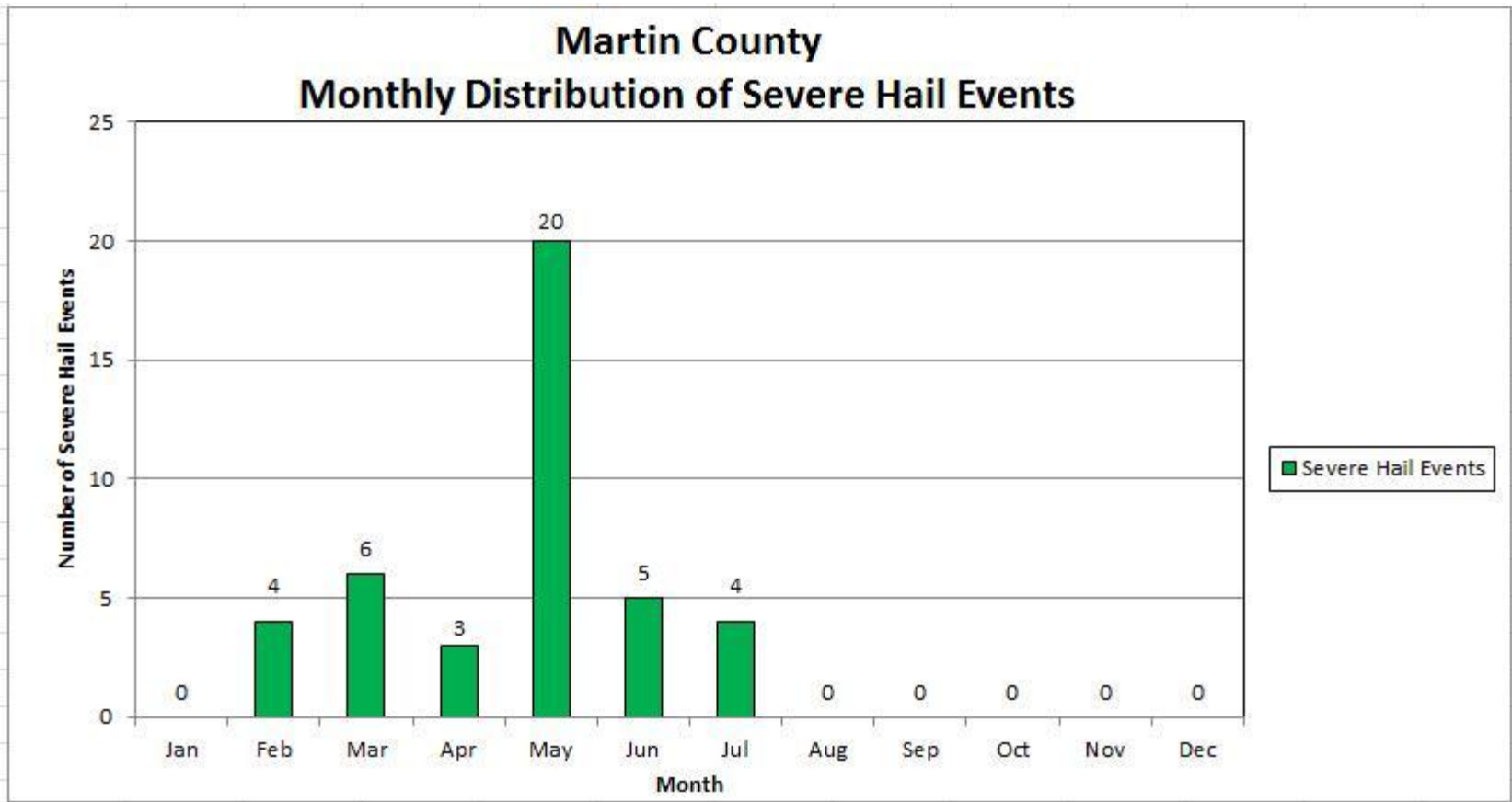


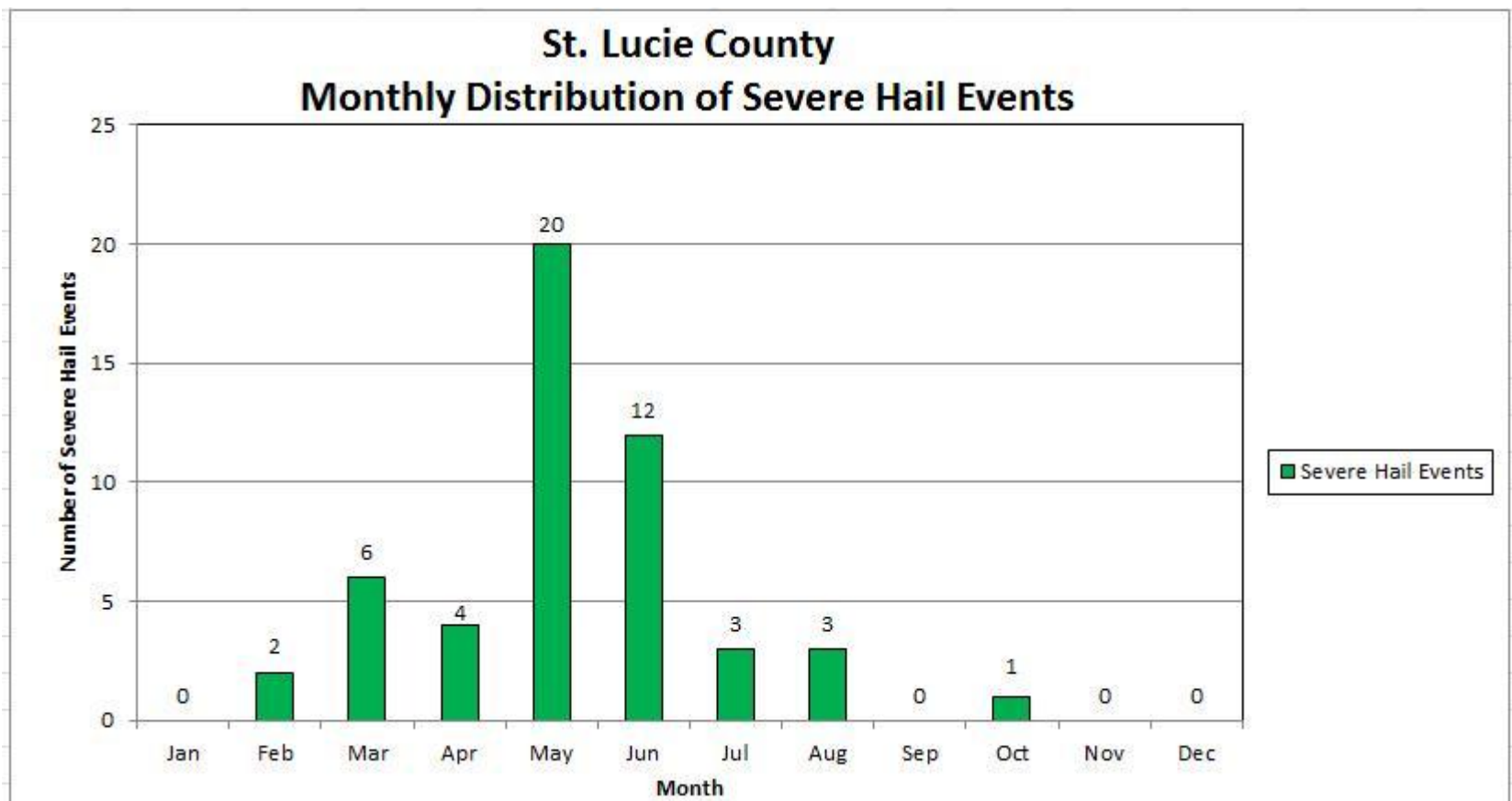
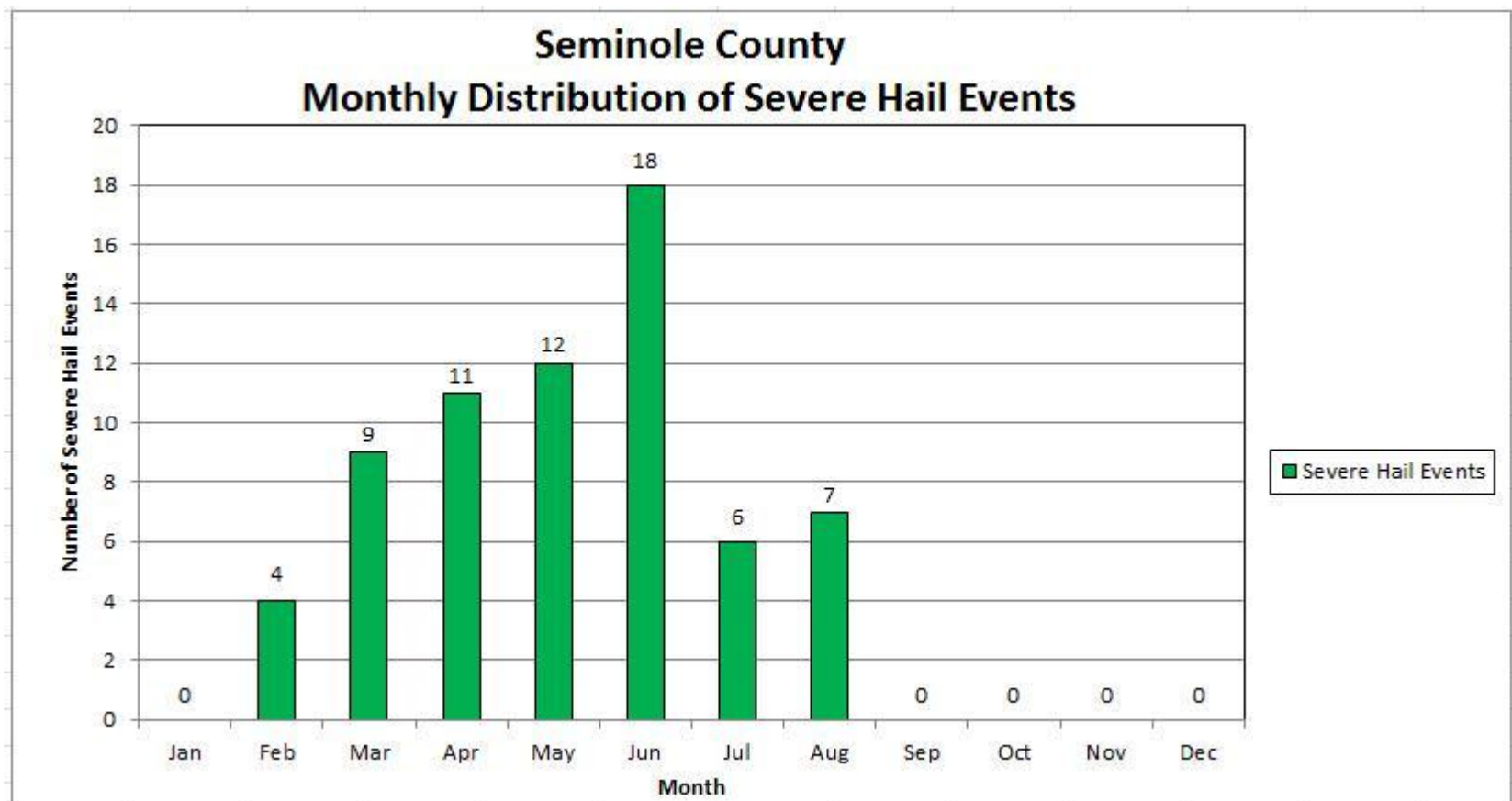
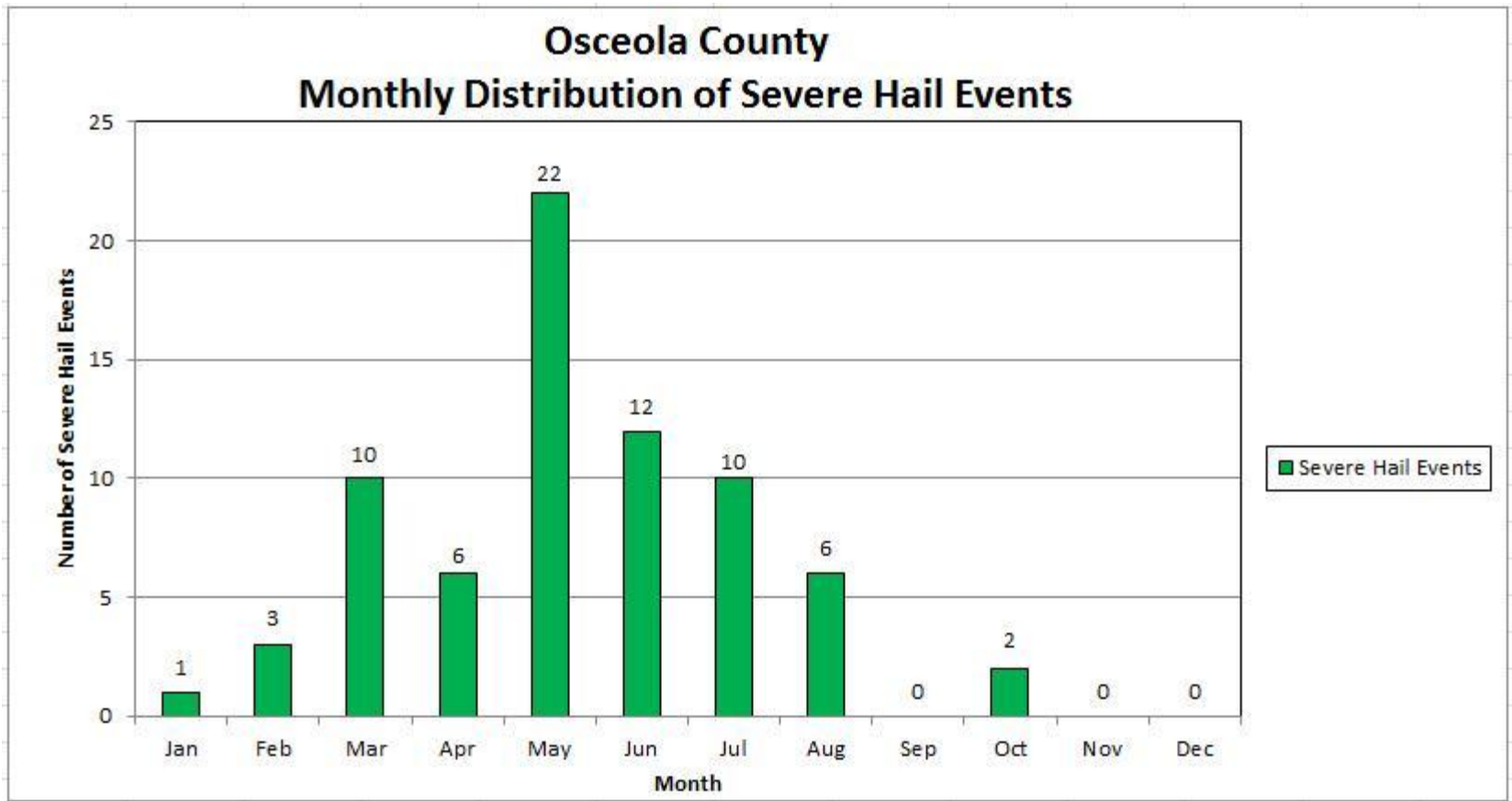
### Volusia County Tornadoes by F-Scale



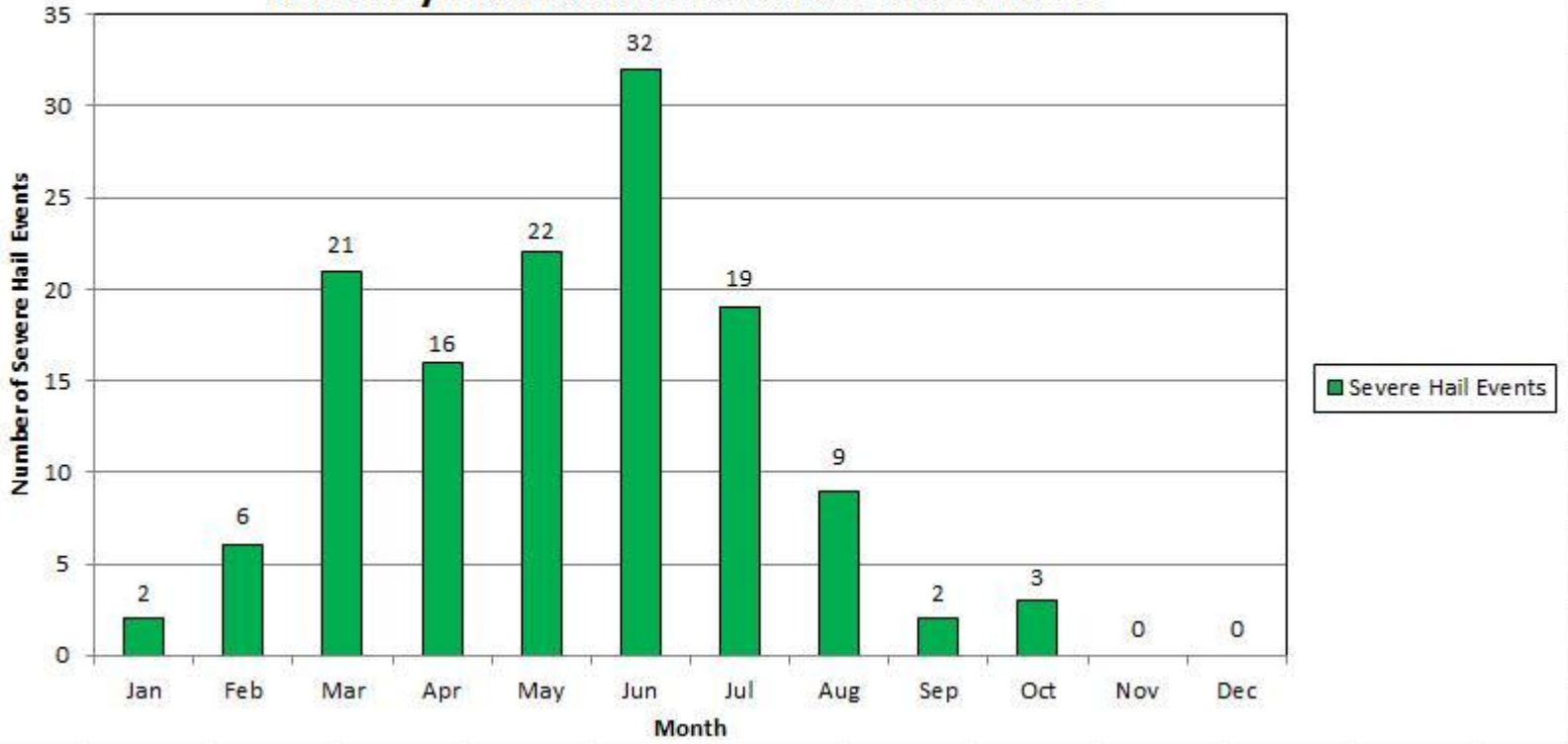






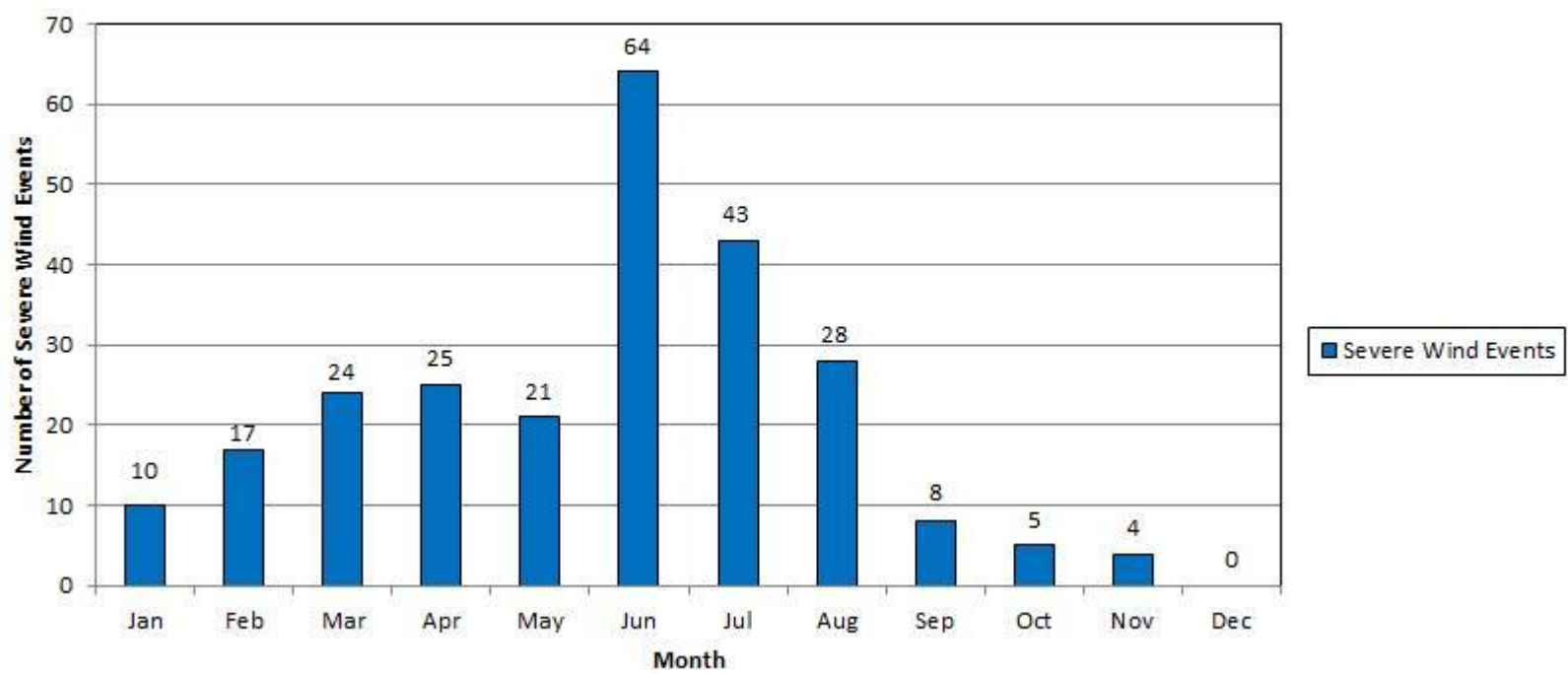


### Volusia County Monthly Distribution of Severe Hail Events

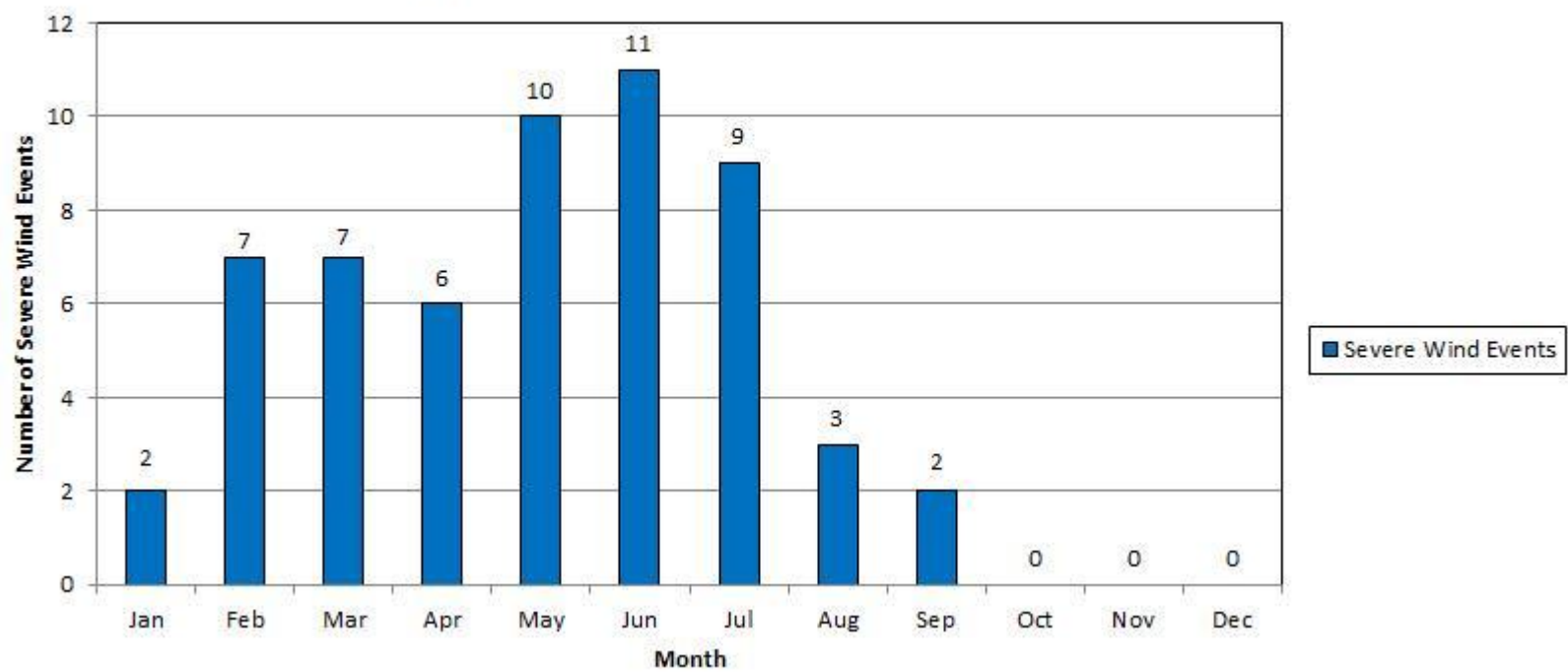




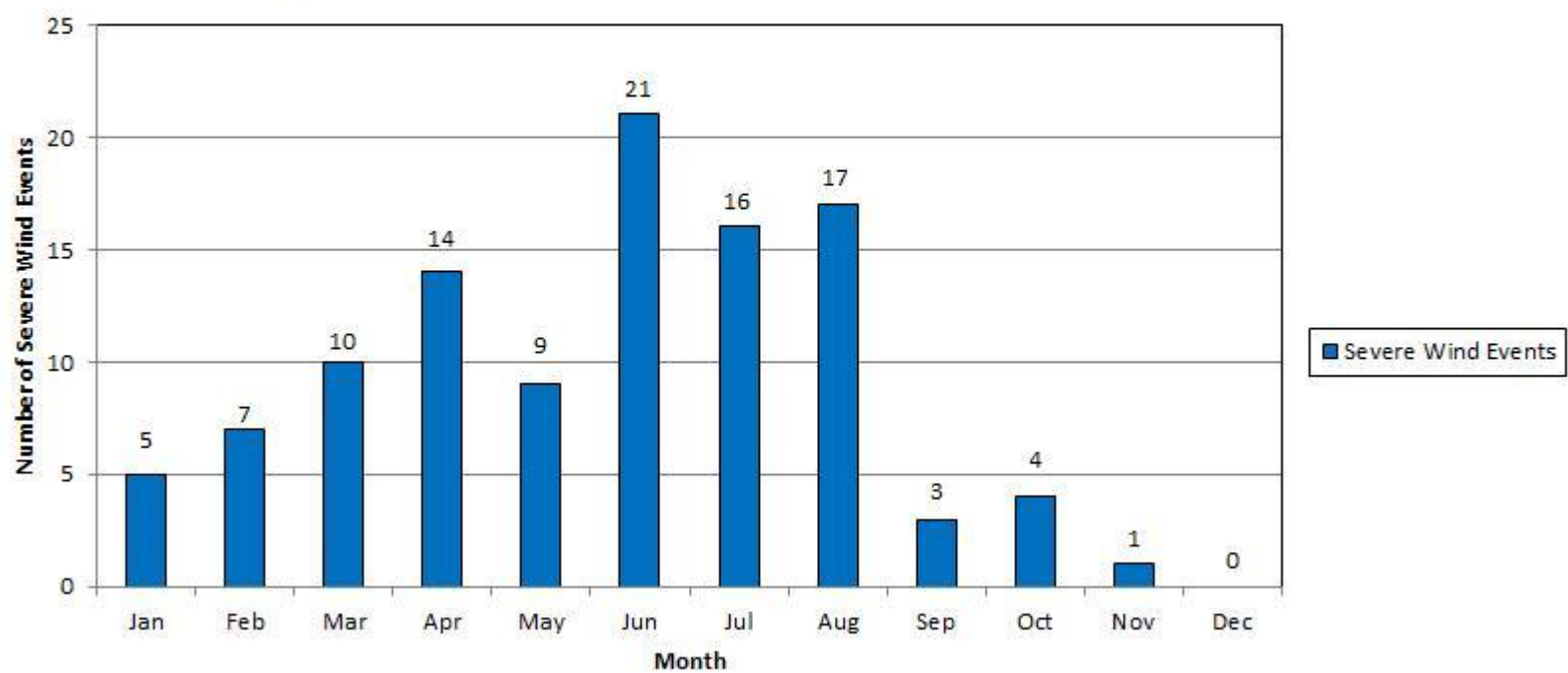
**Brevard County**  
**Monthly Distribution of Severe Wind Events**



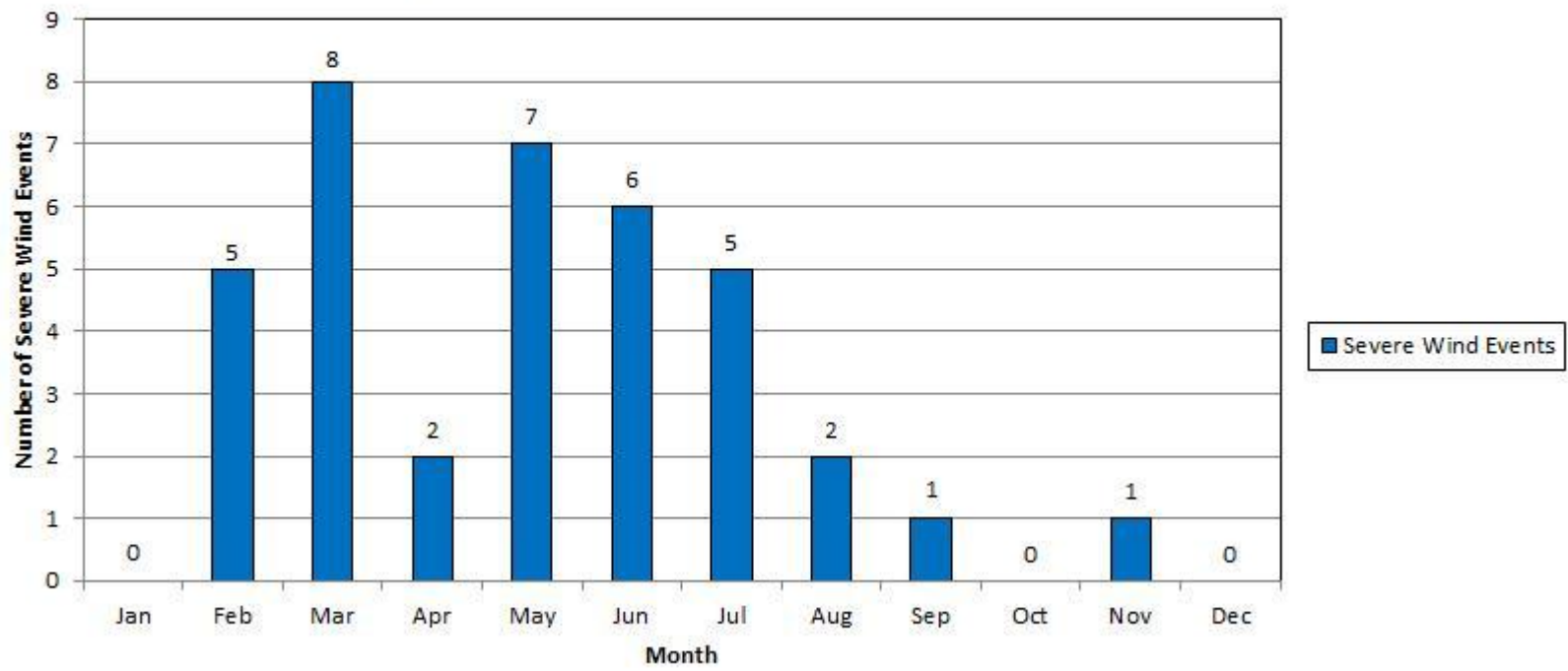
**Indian River County**  
**Monthly Distribution of Severe Wind Events**



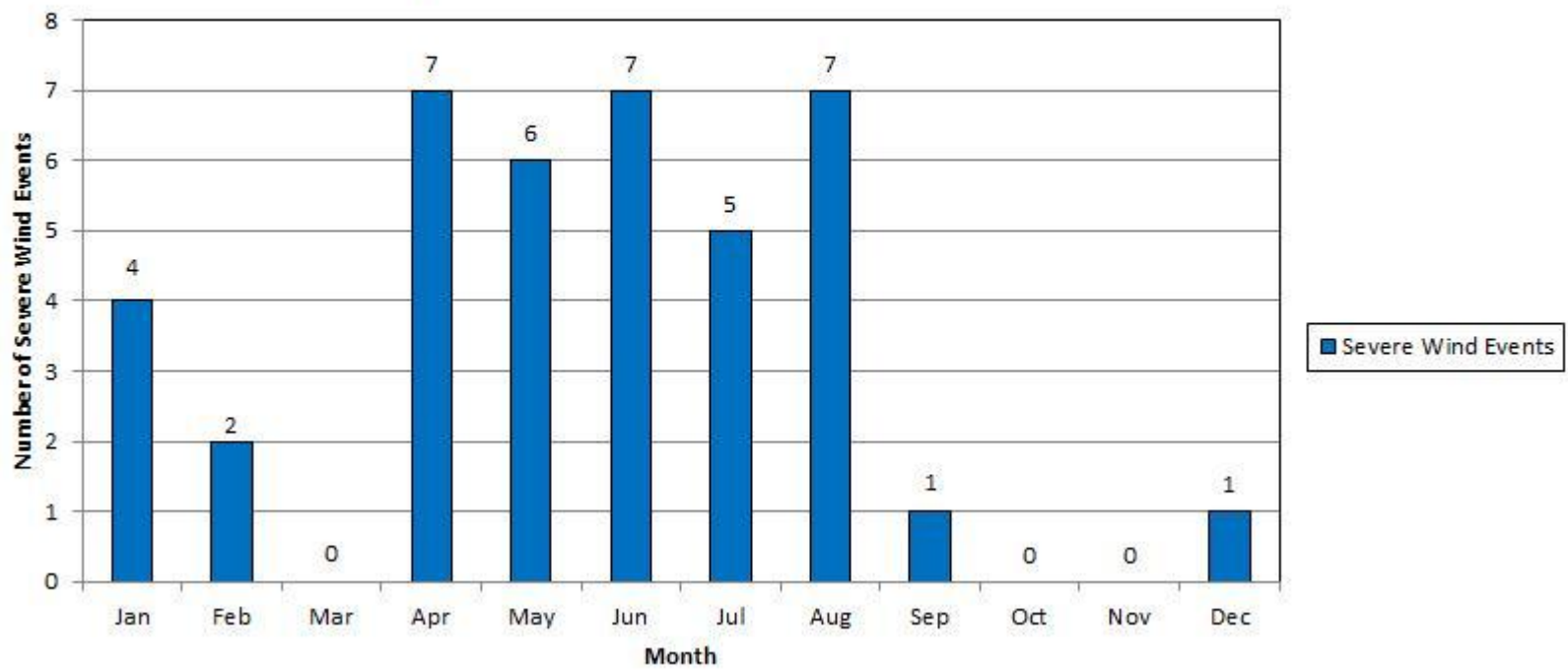
**Lake County**  
**Monthly Distribution of Severe Wind Events**



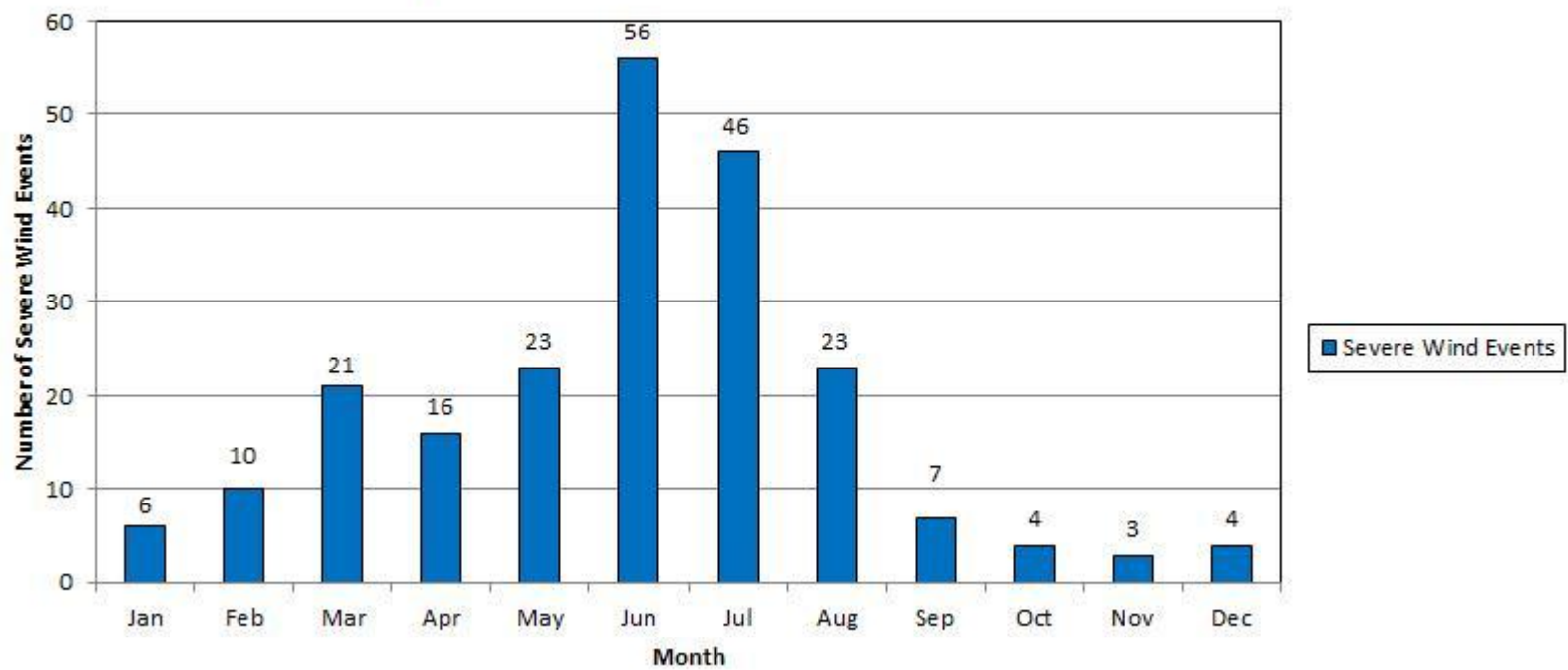
**Martin County**  
**Monthly Distribution of Severe Wind Events**



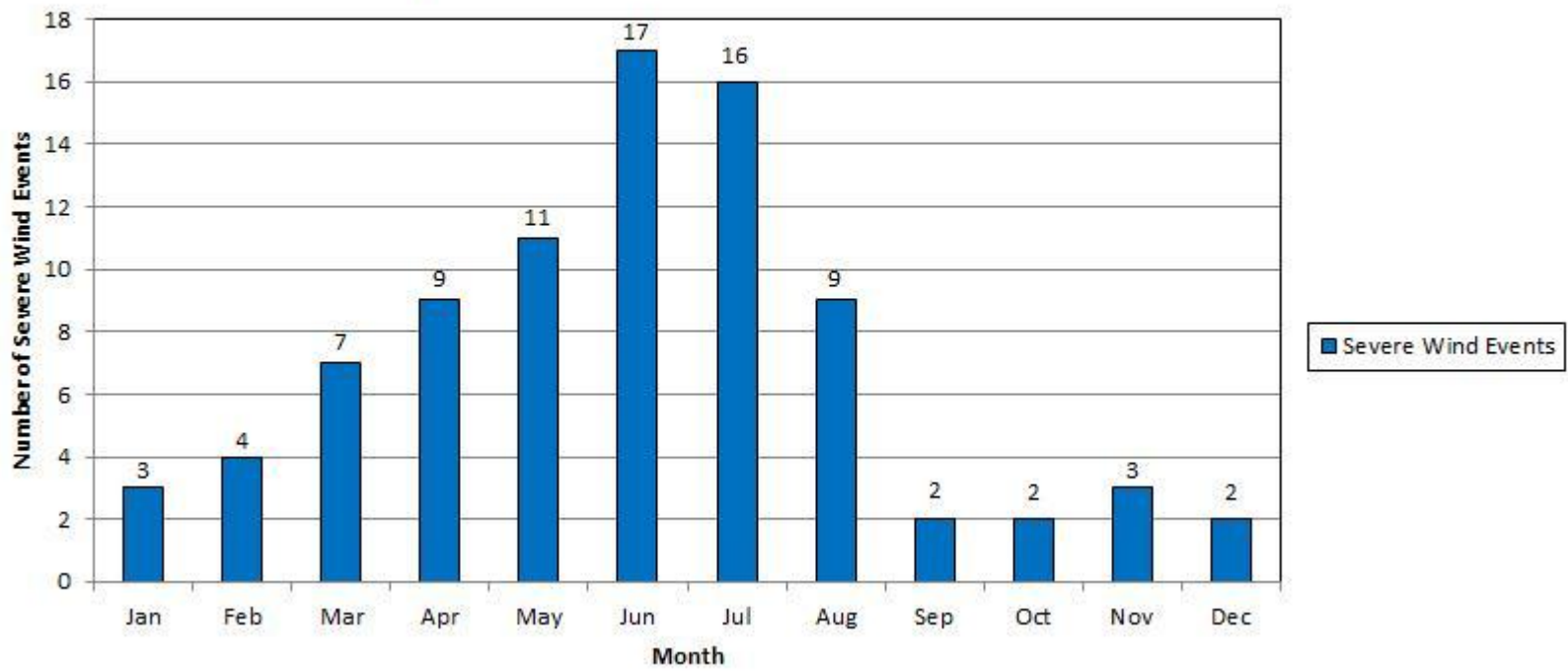
**Okeechobee County**  
**Monthly Distribution of Severe Wind Events**



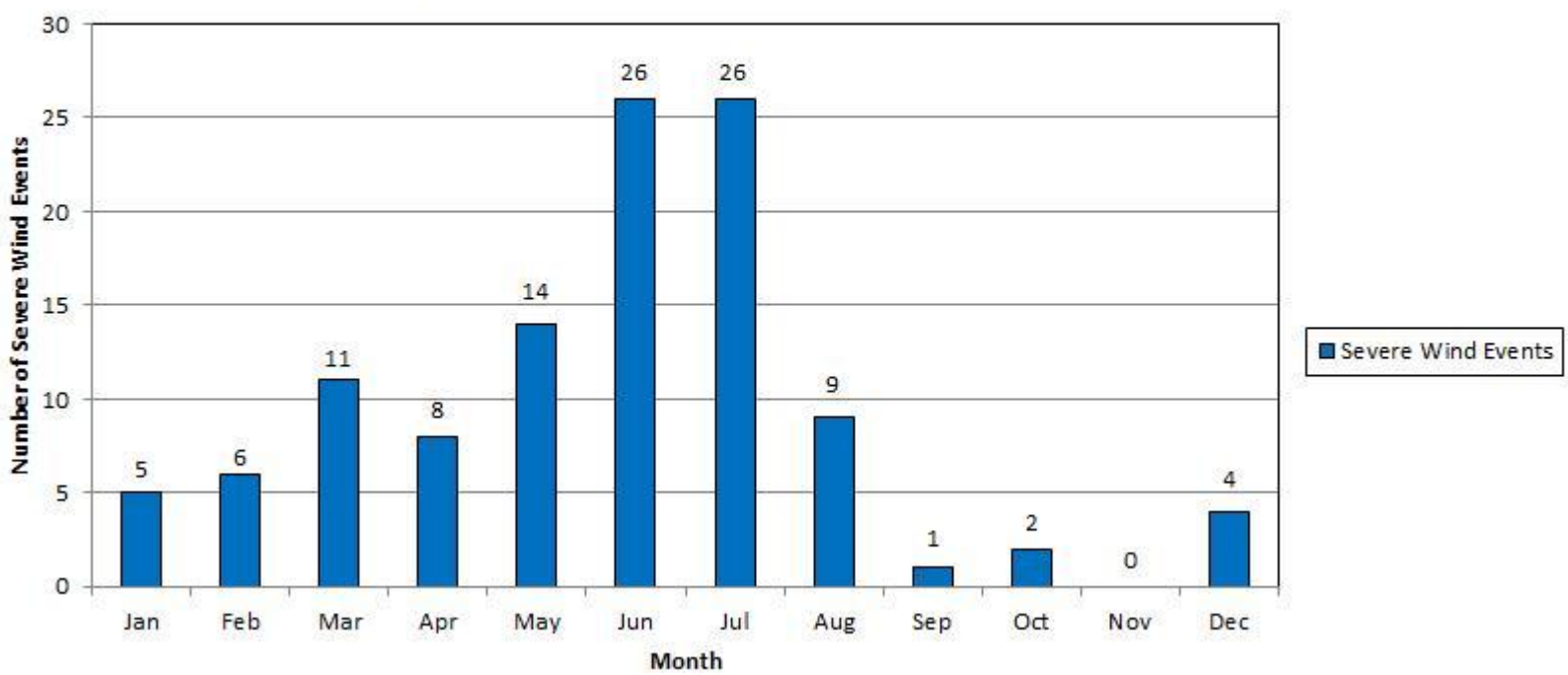
**Orange County**  
**Monthly Distribution of Severe Wind Events**



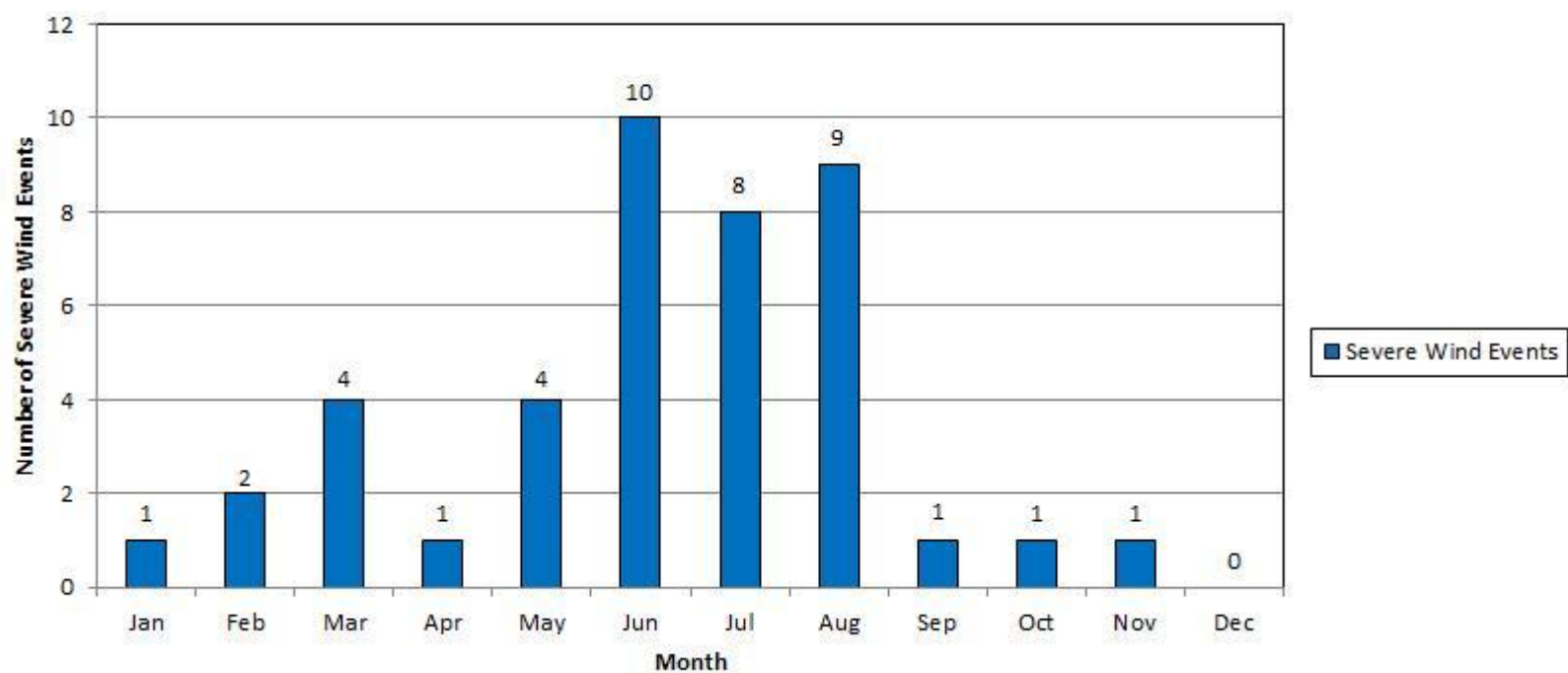
**Osceola County**  
**Monthly Distribution of Severe Wind Events**



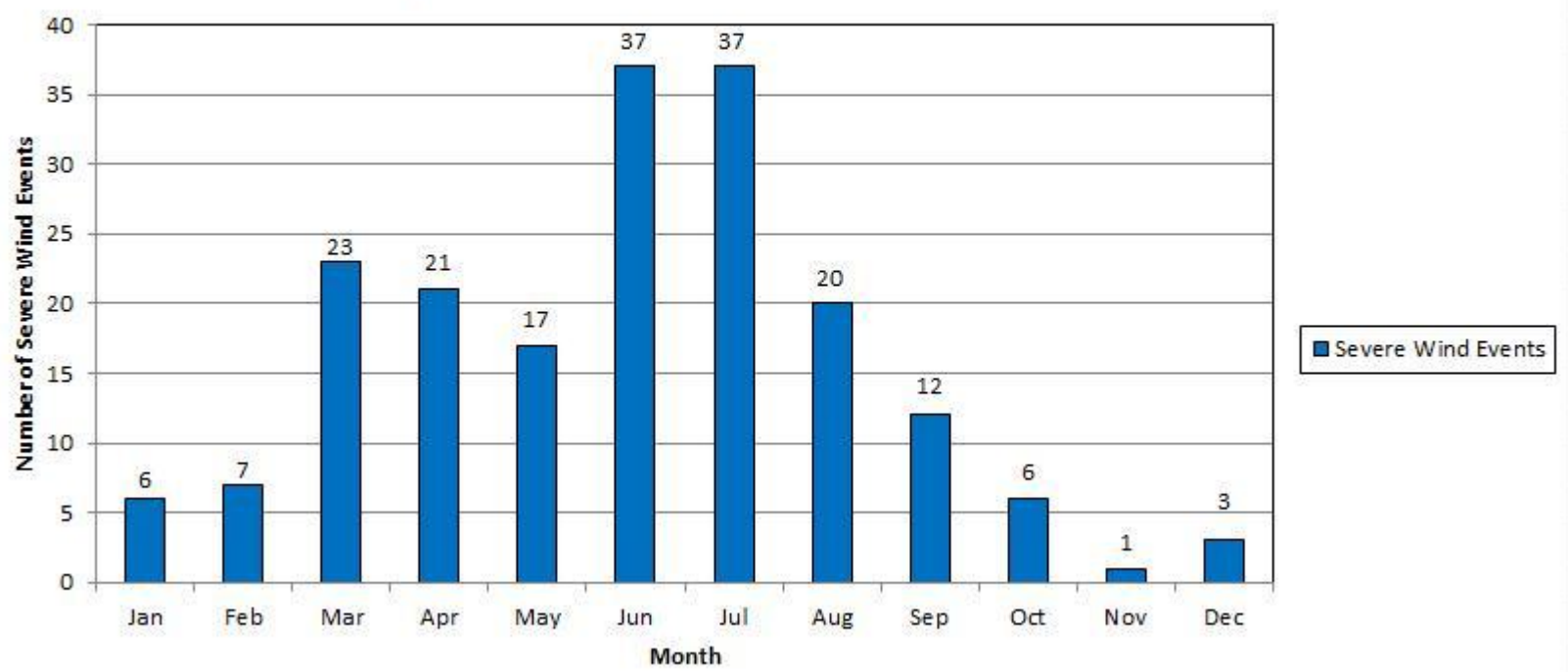
**Seminole County**  
**Monthly Distribution of Severe Wind Events**



**St. Lucie County**  
**Monthly Distribution of Severe Wind Events**



### Volusia County Monthly Distribution of Severe Wind Events



For any questions pertaining to this study on East Central Florida severe weather, please email: [Jonathan.Guseman@noaa.gov](mailto:Jonathan.Guseman@noaa.gov) or [Scott.Spratt@noaa.gov](mailto:Scott.Spratt@noaa.gov)