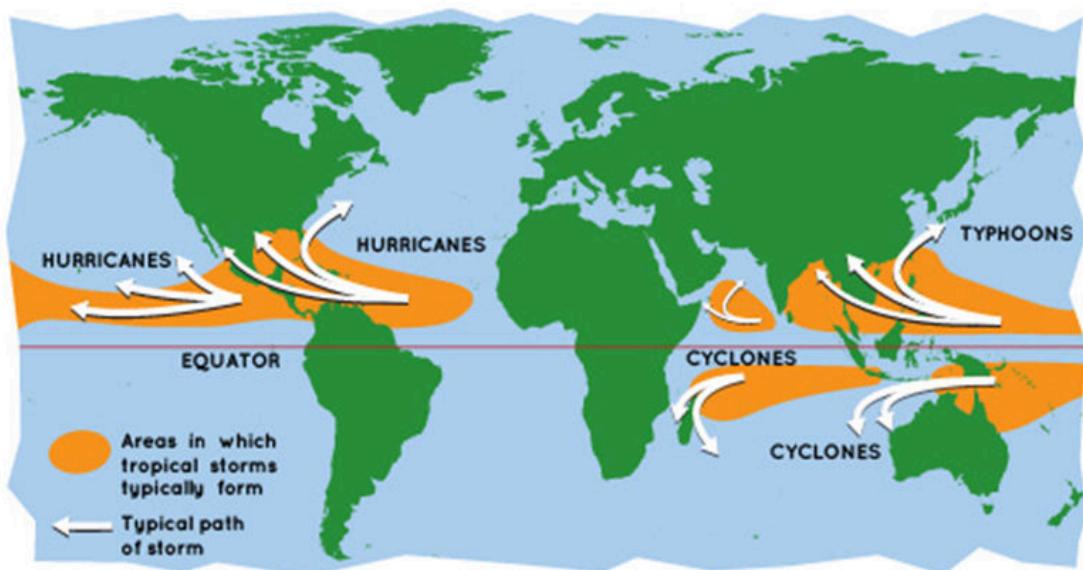


# A Changing Climate in SWFL: Hurricanes

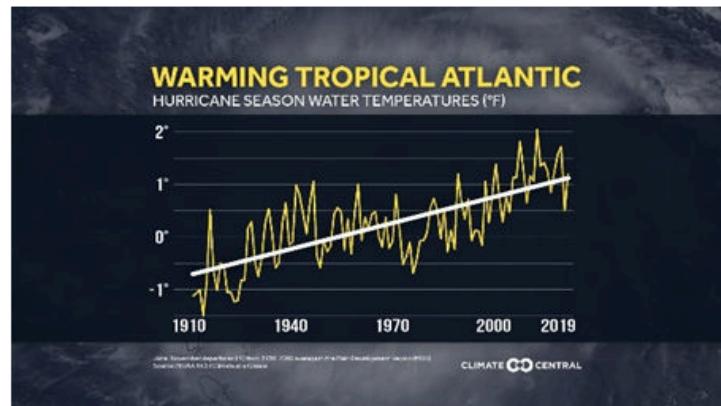
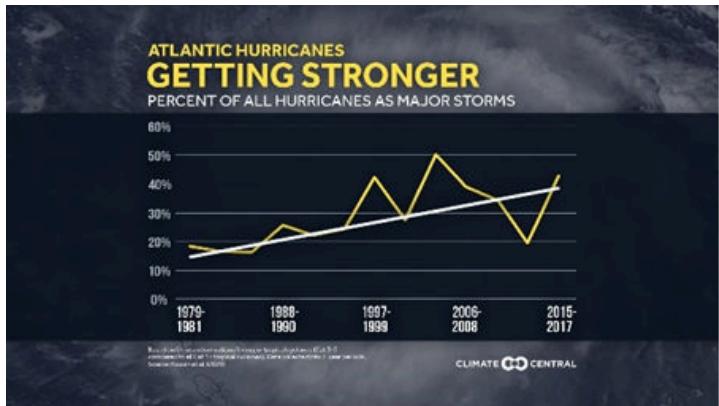
Hurricanes are a natural phenomenon that most Floridians are well-acquainted with. These storms form near the equator where they are fueled by warm ocean waters at temperatures of 80° Fahrenheit or above.



*Areas where tropical cyclones tend to form. Tropical cyclones that form in the North Atlantic and the central or eastern North Pacific are alternatively called hurricanes, while those in the Northwest Pacific are called typhoons.*

*Image credit: NASA Space Place*

However, the nature of hurricanes has been shifting under the influence of climate change. Rising average sea surface temperatures have caused the proportion of more intense hurricanes – those at Category 3 or above – to creep up over time.



*Image credits: Climate Central*

[Recent studies](#) highlight other potential changes to hurricane behavior. Storms appear to travel more slowly on average than in past decades due to a possible slowing of the winds that drive them forward. And, they may be taking longer to weaken once over land as they retain more moisture, or “fuel,” from warm seas. The likelihood of a hurricane to rapidly intensify – which refers to an increase in wind speed of 35 miles per hour or more within 24 hours – appears to be increasing, giving people less time to respond and ensure their safety.

Scientists don’t point to single storms as being caused solely by climate change, instead examining its influence on hurricane characteristics over time. However, Hurricane Ian which significantly impacted Southwest Florida in September of 2022, has many of the hallmarks of these trends.



*Hurricane Ian over Florida on September 28, 2022. Image Credit: [NASA Earth Observatory](#)*

Ian ambled its way across Florida at an average speed of 8-9 miles per hour (as compared to 2004’s Hurricane Charley which traveled a very similar path across the state at speeds between 15-25 miles per hour). Ian also went through at least two periods of rapid intensification over the course of its lifetime. Scientists estimated that Hurricane Ian produced 10% more rain because of the influence of climate change. All these factors led to record levels of storm surge and flooding in the region.