Charleston has seen its fair share of hurricanes over its 350-year history on the South Carolina coast. In more recent memory, we remember the destructiveness of Hurricane Hugo in 1989. As with most storms, Charlestonians returned home or emerged from their safe places to survey the damage and record it for history through written and photographic record.

We may think we know hurricanes because they are an active part of our lives in South Carolina, but do you know how and why they form?

Tropical Disturbance
Surface winds meet around an area of low pressure.

Tropical Depression
Circulating winds form an identifiable center of low pressure.

Tropical Storm
Circulating winds start moving forward at a speed of 39 mph+

Hurricane
Circulating winds start moving forward at a speed of 74 mph+

The Saffir-Simpson Hurricane Wind Scale places the storms into five categories based on the wind speed.

1. Sea surface temperature (SST) set to 80°F or greater.
2. Vertical temperature profile (the air above the warm water must be cooler than the SST).
3. The air between the cool vertical temperature and the warm waters must be humid.
4. Must be at least 300 miles from the equator for the Coriolis Force to push the winds into a circular motion.
5. Low wind shear.

Coastal Warning Display Signals
Weather stations may display symbols along the coast to warn people of an approaching hurricane.

The Coralie Force, from the rotation of the Earth, pushes up on the storms, keeping them from dropping too far south.

The Subtropical Ridge is a center of high pressure that the storms hug as they move westward. If the ridge remains closer to Africa, the storm will follow the curve up into the open north Atlantic. However, if the ridge is too far west, the storm follows the curve to North America and will make landfall.

Global winds, called trade winds, push the storms off the coast of Africa into the Atlantic Ocean.

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Recipe
The Perfect Hurricane

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