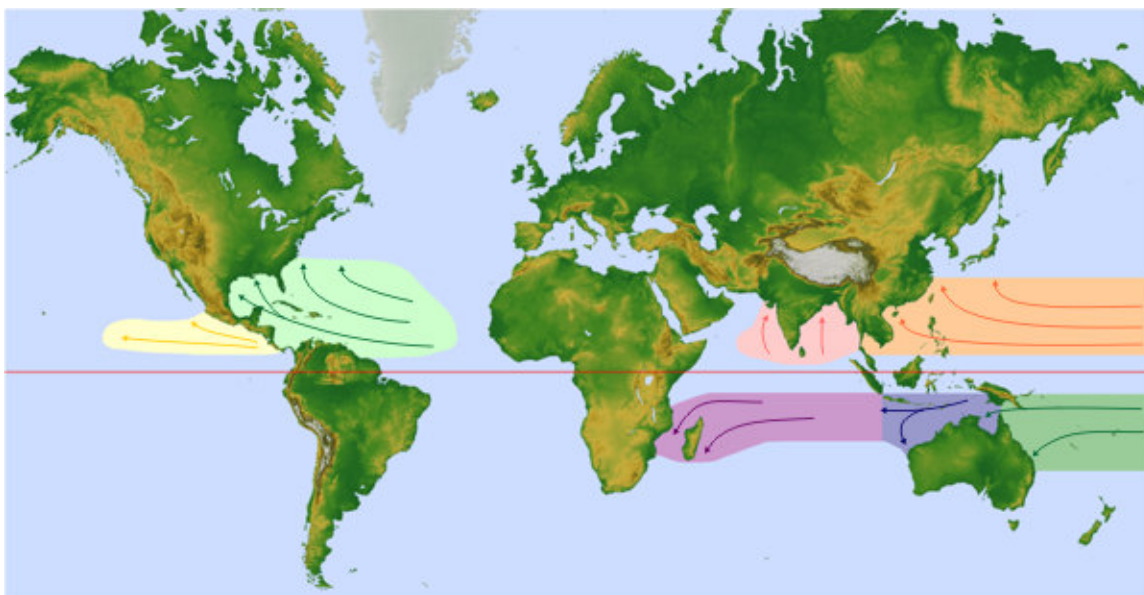


Life Cycle of a Hurricane

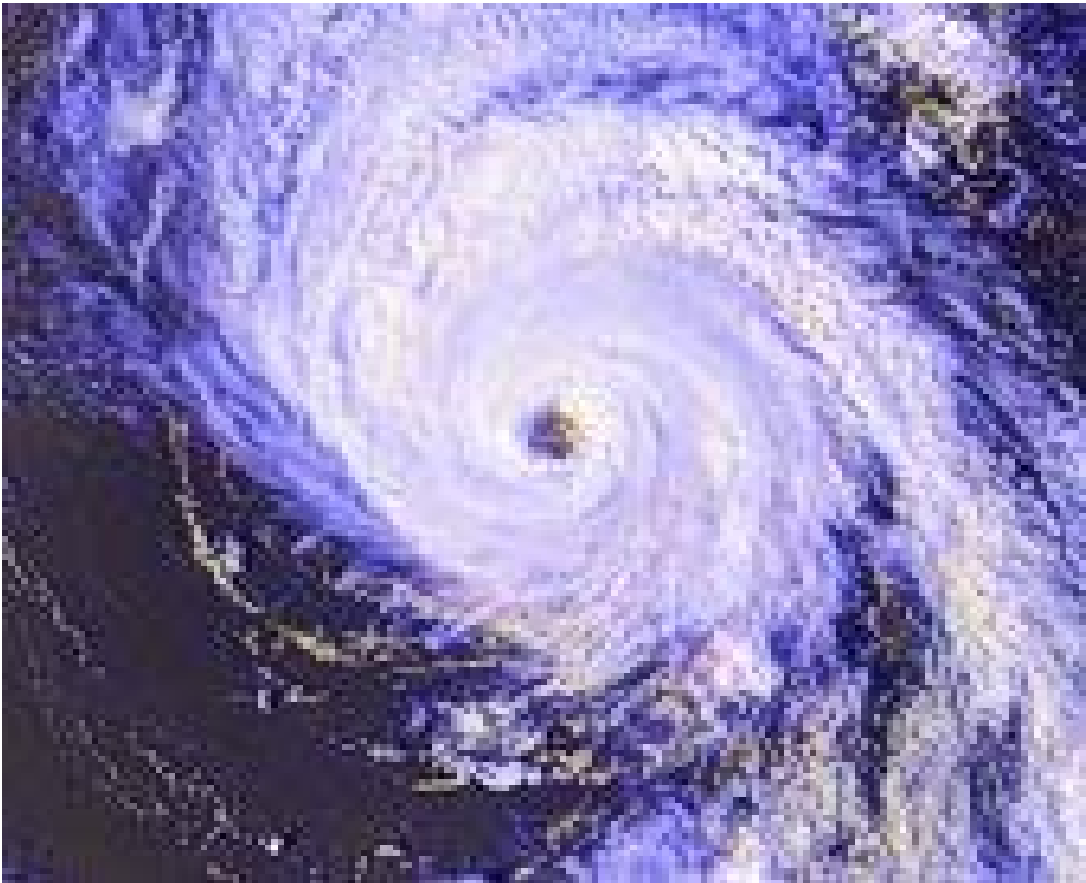
by Amy Schnetzler, Meteorological Intern

Is it a tropical storm or hurricane that is moving offshore the coast of Florida? Is there a difference between the two? These may be a few questions you may have as hurricane season approaches this June. The answer is yes, there is a difference. There are four distinct phases in the life cycle of a hurricane. The genesis of these storms generally lay between the equator and 30°, in the tropics or sub-tropics. Storms that develop in the northern hemisphere begin as easterly waves moving west off the coast of Africa.



The first phase, known as a tropical disturbance, has organized convection with a diameter 200-600 km. This system will have a non-frontal migratory characteristic and have maintained its identity for at least 24 hours. It may or may not be associated with a detectable perturbation of the wind field. Disturbances associated with perturbations in the wind field and progressing through the tropics from east to west are know as a tropical depression, which is the second phase in the life cycle. A tropical depression is a tropical cyclone that has a maximum sustained wind average (using the U.S. 1 minute average standard) of 33 kts (17 m/s) and have a closed circulation. If the tropical storm has stronger winds, it is no longer classified as a depression.

Phase three is the transition to a tropical storm. Maximum sustained surface winds (again, using the 1 minute US average) ranges from 34 kts to 63 kts (17.5 m/s to 32.5 m/s). The convection in tropical storms is usually more concentrated near the center with outer rainfall organizing into distinct bands. A fully developed hurricane, phase four of the life cycle, will occur when winds exceed 64 kts (33 m/s). Hurricanes are further designated by categories on the Saffir-Simpson Scale that range from 1 to 5. Hurricanes that have a classification of categories 3, 4, and 5 are known as major or intense and have organized pronounced circulation.



For more information on tropical weather systems, including hurricanes, you might be interested in:

http://www.srh.noaa.gov/jetstream//tropics/tropics_intro.htm