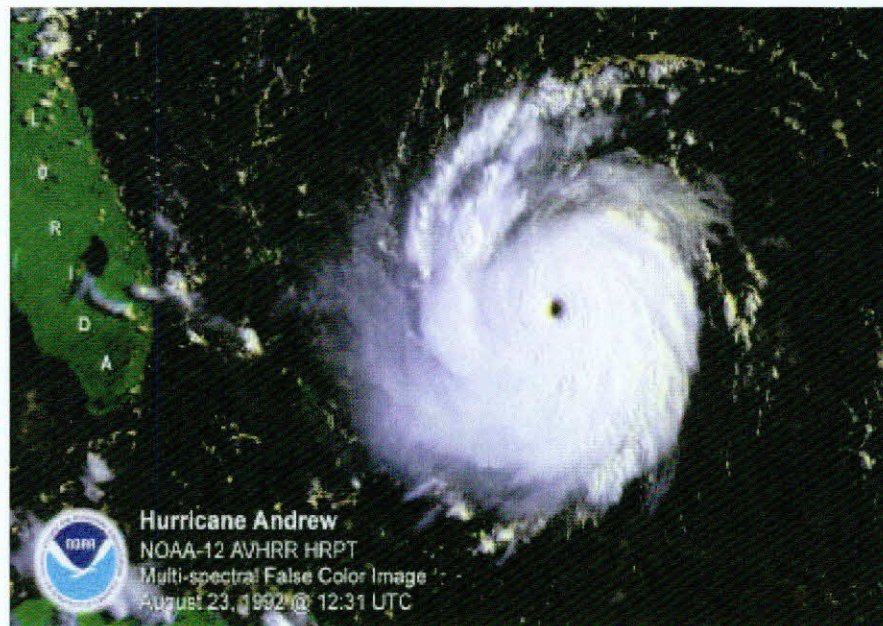


# HERBIE WILES INSURANCE

Presents Important Information  
For The  
2011 Hurricane Season



Note: There are many helpful guides available today to assist with hurricane preparedness and several were accessed in the development of this report for Ocean Village Club members. Two of the main sources for this report are the U.S. Department of Commerce, which has an excellent hurricane preparedness guide, as well as the St. Johns County website, which provided information specific to the Ocean Village Club locale. This report is meant as a service to the members of the Ocean Village Club from your local agent, Herbie Wiles Insurance of St. Augustine, Florida and we make no representation or claim to be an expert in any field other than insurance.

# What is a Tropical Cyclone?

Tropical cyclones are among nature's most powerful and destructive phenomena. If you live in an area prone to tropical cyclones, you need to be prepared. Even areas well away from the coastline can be threatened by destructive winds, tornadoes and flooding from these storms. How great is the danger? For 1970-2010, the average numbers per year were as follows:

- **Atlantic Ocean, Caribbean or Gulf of Mexico:** 11 tropical storms, 6 of which became hurricanes
- **East Pacific Ocean:** 15 tropical storms, 8 of which became hurricanes
- **Central Pacific Ocean:** 4 tropical storms, 2 of which became hurricanes

Over a typical 2-year period, the U.S. coastline is struck by an average of 3 hurricanes, 1 of which is classified as a major hurricane.

While hurricanes pose the greatest threat to life and property, tropical storms and depressions also can be devastating. Floods from heavy rains and severe weather, such as tornadoes, can cause extensive damage and loss of life. For example, Tropical Storm Allison produced over 40 inches of rain in the Houston area in 2001, causing about \$5 billion in damage and taking the lives of 41 people.

Tropical cyclones forming between 5 and 30 degrees North latitude typically move toward the west. Sometimes the winds in the middle and upper levels of the atmosphere change and steer the cyclone toward the north and northwest. When tropical

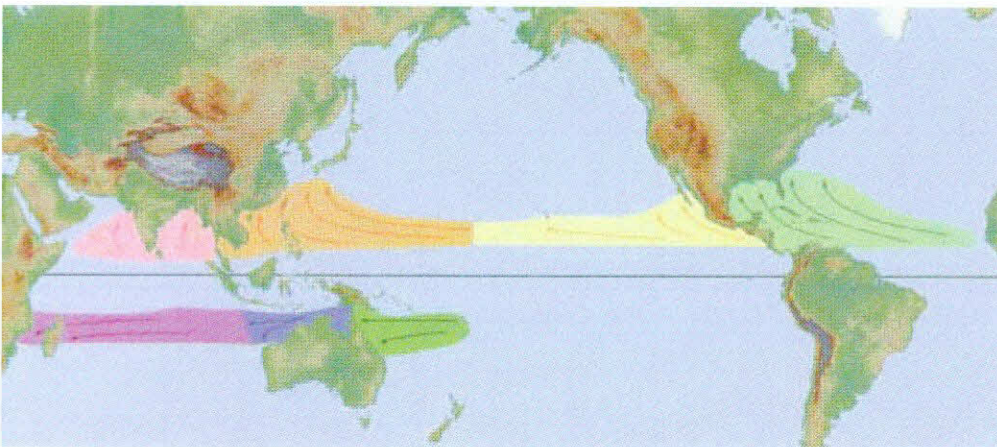
## Understanding the Terminology

*A tropical cyclone is a rotating, organized system of clouds and thunderstorms that originates over tropical or subtropical waters and has a closed low-level circulation. Tropical cyclones rotate counterclockwise in the Northern Hemisphere. They are classified as follows:*

- **Tropical Depression**—A tropical cyclone with maximum sustained winds of 38 mph (33 knots) or less.
- **Tropical Storm**— A tropical cyclone with maximum sustained winds of 39 to 73 mph (34 to 63 knots).
- **Hurricane**—A tropical cyclone with maximum sustained winds of 74 mph (64 knots) or higher. In the western North Pacific, hurricanes are called typhoons; similar storms in the Indian Ocean and South Pacific Ocean are called cyclones.
- **Major Hurricane**—A tropical cyclone with maximum sustained winds of 111 mph (96 knots) or higher, corresponding to a Category 3, 4 or 5 on the Saffir-Simpson Hurricane Wind Scale.

cyclones reach latitudes near 30 degrees North, they often move northeast.

Hurricane seasons and their peaks are as follows:



- **Atlantic and Caribbean:** June 1 to November 30 with peak season mid-August to late October.
- **Central Pacific (Hawaii):** June 1 to November 30 with peak season from July to September.
- **East Pacific:** May 15 to November 30
- **Western North Pacific:** Tropical cyclones can strike year round

*Tropical cyclone formation regions with mean tracks/NWS JetStream Online School*

# Saffir-Simpson Hurricane Wind Scale

The Saffir-Simpson Hurricane Wind Scale is a 1 to 5 rating based on a hurricane's sustained wind speed. This scale estimates potential property damage. Hurricanes reaching Category 3 and higher are considered major hurricanes because of their potential for significant loss of life and damage. Category 1 and 2 storms are still dangerous, however, and require preventative measures. In the western North Pacific, the term "super typhoon" is used for tropical cyclones with sustained winds exceeding 150 mph.

## Saffir-Simpson Hurricane Wind Scale for the Continental United States

Scale Number (Category)	Sustained Winds (MPH)	Types of Damage Due to Hurricane Winds	Hurricanes
1	74-95	<b>Very dangerous winds will produce some damage:</b> Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.	<b>Dolly (2008) on South Padre Island, Texas</b>
2	96-110	<b>Extremely dangerous winds will cause extensive damage:</b> Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.	<b>Frances (2004) in coastal Port St. Lucie, Florida</b>
3	111-130	<b>Devastating damage will occur:</b> Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.	<b>Ivan (2004) in coastal Gulf Shores, Alabama</b>
4	131-155	<b>Catastrophic damage will occur:</b> Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.	<b>Charley (2004) in coastal Punta Gorda, Florida</b>
5	>155	<b>Catastrophic damage will occur:</b> A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.	<b>Andrew (1992) in coastal parts of Cutler Ridge, Florida</b>



Wind damage from Hurricane Charley, August 2004, Orlando, FL/Orlando Sentinel, copyright 2004

For more information on the Saffir-Simpson Hurricane Wind Scale, go to:

[www.nhc.noaa.gov/aboutsshs.shtml](http://www.nhc.noaa.gov/aboutsshs.shtml)

For more information on the Saffir-Simpson Hurricane Wind Scale as it affects Hawaii, go to:

[www.prh.noaa.gov/cphc/pages/aboutsshs.php](http://www.prh.noaa.gov/cphc/pages/aboutsshs.php)

# Hurricane Hazards

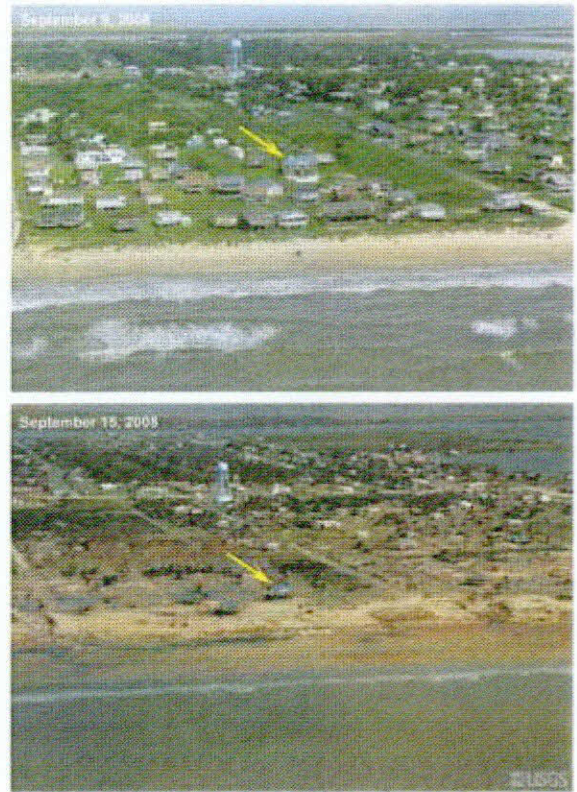
## Storm Surge/Tide

Storm surge and large waves produced by hurricanes pose the greatest threat to life and property along the coast.

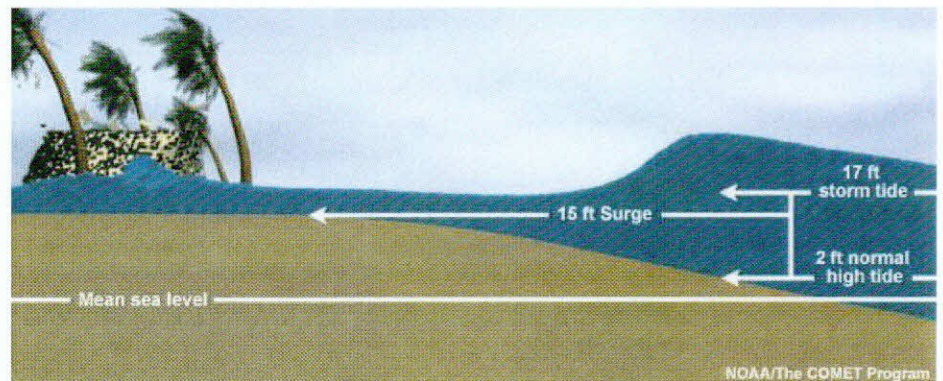
**STORM SURGE** is an abnormal rise of water generated by a storm's winds. Storm surge can reach heights well over 20 feet and can span hundreds of miles of coastline. In the northern hemisphere, the highest surge values typically occur in the right front quadrant of a hurricane coincident with onshore flow; in the southern hemisphere, the left front quadrant. More intense and larger hurricanes produce higher surge. In addition, shallower offshore waters contribute to higher storm surge inundation. Storm surge is by far the greatest threat to life and property along the immediate coast.

**STORM TIDE** is the water level rise during a storm due to the combination of storm surge and the astronomical tide. For example, if a hurricane moves ashore at a high tide of 2 feet, a 15 foot surge would be added to the high tide, creating a storm tide of 17 feet. The combination of high winds and storm tide topped with battering waves can be deadly and cause tremendous property damage along an area of coastline hundreds of miles wide.

The destructive power of storm surge and large battering waves can result in loss of life, buildings destroyed, beach and dune erosion and road and bridge damage along the coast. Storm surge can travel several miles inland. In estuaries and bayous, salt water intrusion endangers public health and the environment.



*Before and after Hurricane Ike on the Bolivar Peninsula, TX, September 2008/USGS*



## Historical Storm Tide Events

- **1900:** Galveston, TX, hurricane, resulted in more than 8,000 deaths, most by storm tide.
- **1969:** Hurricane Camille produced a 24-foot storm tide in Mississippi.
- **1989:** Hurricane Hugo generated a 20-foot storm tide in South Carolina.
- **1992:** Hurricane Iniki produced a 6-foot storm tide on the island of Kauai in Hawaii.
- **2005:** Hurricane Katrina generated a 27-foot storm tide in Mississippi.
- **2008:** Hurricane Ike produced a 20-foot storm tide in Texas.

