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THINGS TO KNOW ABOUT

HURRICANE HAZARD RISKS

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Storm surge is water pushed onshore by the tropical system. It causes the most damage of any of the hurricane hazards.

2

Wind from a hurricane can top 200 mph and cause massive damage to buildings in its path.

3

Inland flooding caused by heavy rain damages homes and can wash out roadways well away from the coast.

4

Tornadoes are common as a hurricane moves ashore. They are not typically long-lived, but they can cause plenty of damage.

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Rip currents and rough seas are common both before and after a hurricane, making swimming or surfing very dangerous.

For more Hurricane Safety Information, visit weather.gov/hurricanesafety

Storm Surge vs. Storm Tide

Storm surge is an abnormal rise of water generated by a storm, over and above the predicted astronomical tides. Storm surge should not be confused with storm tide, which is defined as the water level rise due to the combination of storm surge and the astronomical tide. This rise in water level can cause extreme flooding in coastal areas particularly when storm surge coincides with normal high tide, resulting in storm tides reaching up to 20 feet or more in some cases.

Factors Impacting Surge

Storm surge is produced by water being pushed toward the shore by the force of the winds moving cyclonically around the storm. The impact on surge of the low pressure associated with intense storms is minimal in comparison to the water being forced toward the shore by the wind.

The maximum potential storm surge for a particular location depends on a number of different factors. Storm surge is a very complex phenomenon because it is sensitive to the slightest changes in storm intensity, forward speed, size (radius of maximum winds-RMW), angle of approach to the coast, central pressure (minimal contribution in comparison to the wind), and the shape and characteristics of coastal features such as bays and estuaries.

Adding to the destructive power of surge, battering waves may increase damage to buildings directly along the coast. Water weighs approximately 1,700 pounds per cubic yard; extended pounding by frequent waves can demolish any structure not specifically designed to withstand such forces. The two elements work together to increase the impact on land because the surge makes it possible for waves to extend inland.

Additionally, currents created by tides combine with the waves to severely erode beaches and coastal highways. Buildings that survive hurricane winds can be damaged if their foundations are undermined and weakened by erosion.

