

Natural Hazard Analysis

Earthquakes – The U.S. Geological Survey National Seismic Mapping Project locates Hernando County in the 1%g (peak acceleration) area. The State Division of Emergency Management does not require local Comprehensive Emergency Management Plans to address earthquakes as a hazard that is likely to affect our residents and visitors. Therefore, an earthquake assessment is not included in this plan.

Tsunamis – According to FEMA 386-2 CD, Florida has a relatively low tsunami risk and The State Division of Emergency Management does not require local plans to address tsunamis as a hazard.

Coastal and Riverine Erosion – Hernando County's coastline is part to the "Nature Coast of Florida". Almost all the coast consists of estuaries/marshes of native grasses/vegetation. Only one very small man made beach on Pine Island can be affected by coastal erosion.

The Withlacoochee River flows from southeast to northwest, and is very slow moving, winding and narrow. Erosion is not considered to be a hazard in need of mitigative measures.

Landslides / Sinkholes – According to the USGS Hernando County has less than 1.5% susceptibility for a landslide incident. However, sinkholes are a common, naturally occurring geologic phenomenon and one of the predominant landforms in Florida. Many of the lakes in Florida were formed by sinkholes.

Sinkholes are depressions or holes in the land surface that occur throughout west central Florida. They can be shallow or deep, small or large, but all are a result of dissolving the underlying limestone. Hydrologic conditions, including lack of rainfall, lowered water levels, or conversely, excessive rainfall in a short period of time, can all contribute to sinkhole development.

Sinkholes can be classified as geologic hazards, sometimes causing extensive damage to structures and roads, resulting in costly repairs. Sinkholes can also threaten water supplies by draining unfiltered water from streams, lakes and wetlands, directly into the aquifer.

Hurricanes and Coastal Storms – A hurricane is a severe tropical storm that forms in the southern Atlantic Ocean, Caribbean Sea, or the Gulf of Mexico. Hurricanes develop in warm, tropical waters, where moisture is plentiful, and winds are light. A hurricane can produce violent winds, incredible waves, torrential rains and floods. Other coastal storms produce similar, yet lesser effects.

Hurricanes are categorized by the Saffir-Simpson hurricane scale:

Category	Wind Speed	Storm Surge	Damage
1	74 – 95 mph	4 – 5 feet	Minor
2	96 – 110 mph	6 – 8 feet	Moderate
3	111 – 130 mph	9 – 12 feet	Major
4	131 – 155 mph	13 – 18 feet	Extensive
5	156 mph >	18 feet >	Catastrophic

Note: Storm surges for Hernando County are forecasted to be 2 – 3 feet higher due to the gradual gradient/slope of our coastline.

Severe Storms / Tornadoes – Tornadoes are one of nature’s most violent storms. A tornado is a rapidly rotating column of air extending from a thunderstorm to the ground. Tornadoes come in all shapes and sizes, and can occur anywhere in the United States, at any time of the year. In southern states, peak tornado season is March through May.

Tornadoes are categorized by the Fujita scale:

Category	Damage	Wind Speed
F0	Minor	< 72 mph
F1	Moderate	73 – 112 mph
F2	Significant	113 – 157 mph
F3	Severe	158 – 206 mph
F4	Devastating	207 – 260 mph
F5	Incredible	206 >

Hernando County is located in FEMA Wind Zone III (200 mph), therefore an assessment for an F3 event must be accomplished.

Floods – Floods are the most common and widespread of all natural disasters, except fire. A flood, as defined by the National Flood Insurance Program is: “A general and temporary condition of partial or complete inundation of 2 or more acres of normally dry land area or of 2 or more properties from:

- Overflow of inland or tidal waters,
- Unusual and rapid accumulation or runoff of surface waters from land source, or
- A mudflow.

Floods can be slow or fast rising, but generally develop over a period of days.

Wildfires – Wildfires can erupt at any time of the year from a variety of causes, including arson, lightning, and debris burning. Florida's wildfire season normally runs from December to June, with the largest/greatest number of acres burned peaking in May.

In April and May Florida has a dry spell. This is because the frontal passages from the north and west are no longer moving through the state and the summer thunderstorm activity has not yet started.

Dam / Levee Failure – There are no dams or levees in Hernando County.

Drought / Heat Wave – A drought is a period of abnormally dry weather which persists long enough to produce serious hydrologic imbalance such as crop damage, water shortage, etc. The severity of the drought depends on the degree of moisture deficiency, the duration and the size of the affected area.

There are 4 ways to define drought:

Meteorological – a measure of departure of precipitation from normal. Due to climatic differences, what is considered a drought in one location may not be a drought in another location.

Agricultural – refers to a situation when the amount of moisture in the soil no longer meets the needs of a particular crop.

Hydrological – occurs when surface and subsurface water supplies are below normal.

Socioeconomic – refers to what occurs when physical water shortage begins to affect people.

Winter Storms / Freezes – Winter storms do not impact Hernando County in any significant manner, however, freezes do occur several times each year. Temperatures in the 20s can last for as long as 6 – 8 hours from December – March.