



Brevard County Emergency Management -

HAZARD SUMMARIES

AN LMS CROSSWALK

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Hazard Summary

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Hazard Summary

Hazard	Frequency of Occurrence
<p>Hurricane/Storm Effects (includes hazard –specific effects : High Winds, Storm Surge, Coastal Erosion, Flood Tornadoes, Thunderstorms/Lightning)</p> <p>LMS pp. 39-73</p>	<input checked="" type="checkbox"/> Once a year or more <input type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input type="checkbox"/> 500 years or less <input type="checkbox"/> Greater than 500 years
<p>Hurricane and storms effects can produce high winds, storm surge, flooding, tornadoes, thunderstorms and lightning. Some of these hazards have the highest likelihood and largest potential damage impacts of all hazards covered in this summary. The probability for more hurricane and storm effects to strike the peninsula of Florida and consequently the Brevard County area must be considered very high, a once a year or more occurrence. The greatest threats are storm surge along the barrier islands, wind damage to homes, businesses and coastal lands, inland flooding and mass casualty. While it is possible for the county to be hit by a category 4 or 5 hurricane, it is very unlikely based on past trends that have seen Florida’s northeastern region mainly receiving tropical depressions/storms and categories 1-3. Impacts from these storms can include tree and natural environment destruction, infrastructure and house damage or collapse, downed power lines, blocked roads, flooding, and massive amounts of storm-generated debris. All structures are susceptible to impacts of hurricanes, especially buildings in floodplains, low lying areas and unsound housing or mobile homes. Because this county has experienced hurricanes and/or storms with associated hazards annually it can be assumed to occur again with a similar frequency.</p>	
Impacts	
Public and Responders	<ul style="list-style-type: none"> • Public - This hazard would prompt evacuation of large parts of the developed areas on the east side of the county. For non-evacuated areas, structural damage would cause thousands of injuries and fatalities. • Responders – High risk of injury; if winds exceed 40 mph responders cannot safely respond to incidents.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> • Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster. • Local governments may have to shut down non-essential functions for the duration of the event. • Staffing difficulties are possible (personnel may be unable to report to work due to debris and roadway damage)
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> • Restoration of power and telecommunications may take weeks to complete hindering recovery of other critical facilities and infrastructure.
Delivery of Services	<ul style="list-style-type: none"> • Wide spread disruption and destruction of critical infrastructure would hinder commerce and delivery of services. The restoration of power and telecommunications may take weeks to complete.
Public’s Confidence in Jurisdiction’s Governance	<ul style="list-style-type: none"> • Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> • Businesses would be impacted not only because of potential destruction of buildings, but also potential destruction of product which could cause customer bases to go elsewhere.
Environment	<ul style="list-style-type: none"> • Widespread habitat destruction would be expected, causing a decrease in wildlife populations and quality of life.

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Sea Level Rise</p> <p>LMS pp. 77-80</p>	<p><input type="checkbox"/> Once a year or more</p> <p><input type="checkbox"/> 25 years or less</p> <p><input type="checkbox"/> 100 years or less</p> <p><input checked="" type="checkbox"/> 500 years or less</p> <p><input type="checkbox"/> Greater than 500 years</p>
<p>The greatest impacts from climate change on sea level rise include storm surge and coastal flooding. Sea level rise and climate change also affect atmospheric and hydrologic patterns which in turn impact other hazards like inland flood (increased rainfall periods), drought (decreased rainfall periods), and wildfire (exacerbated by vegetative fuel growth in periods of higher rainfall and then burn risk in drier periods). During the last century, sea level has risen approximately 6-9 inches worldwide and 9 inches along the coast of East Central Florida. The worst case scenario for Brevard County would be for the actual amount of sea level rise to near the more extreme end of the projections, 2 feet in the next century. The expected damage would be similar to that of coastal erosion with additional of issues related to saltwater intrusion and widespread flooding. The west side of the barrier islands along the canals, and the low-lying parts of Merritt Island (primarily north of the barge canal, east Merritt Island between SR528 and SR520, and south of Pineda Causeway (SR404), are projected to be impacted the hardest by sea level rise.</p>	
Impacts	
Public and Responders	<ul style="list-style-type: none"> Public- Sea level rise and climate change affect atmospheric and hydrologic patterns which in turn impact other hazards like inland flood (increased rainfall periods), drought (decreased rainfall periods), and wildfire (exacerbated by vegetative fuel growth in periods of higher rainfall and then burn risk in drier periods), all of which pose a serious threat to the public and may cause more frequent smaller events for first responders.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> The expected damage would be similar to that of coastal erosion with additional of issues related to saltwater intrusion and widespread flooding. The west side of the barrier islands along the canals, and the low-lying parts of Merritt Island (primarily north of the barge canal, east Merritt Island between SR528 and SR520, and south of Pineda Causeway (SR404), are projected to be impacted the hardest by sea level rise. Secondarily, the homes, condominiums, and structures located directly on the beach or immediately adjacent to the lagoon will feel more impacts from flooding and strong, persistent wind events due to sea level rise.
Delivery of Services	<ul style="list-style-type: none"> Moderate impact to the delivery of services Delivery of Services impact dependent on roadways that may be closed due to the hazard.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> High density shoreline areas can be very costly to protect; therefore, it is important that decisions be made concerning the protection of developed and undeveloped land before it becomes too expensive or impossible to protect. To determine the areas needing protection, coastal managers should look for relative sea level rise in specific areas.
Environment	<ul style="list-style-type: none"> Would adversely affect crops and land through flooding, as well as cause an influx of wildfires.

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Drought</p> <p>LMS pp. 86-91</p>	<input type="checkbox"/> Once a year or more <input checked="" type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input type="checkbox"/> 500 years or less <input type="checkbox"/> Greater than 500 years
<p>Since 1900, nine drought cycles (typically of two-year periods) have occurred in Florida. Most often, the area of impact was regional rather than Statewide. Most summer seasons have micro-heat waves based on a geographic area of Florida. Florida averages 12 heat-related fatalities annually. In 1993 and 1999, 241 and 68 fatalities, respectively, were the result of heat waves affecting the southeastern United States.</p>	
Impacts	
Public and Responders	<ul style="list-style-type: none"> • Public- Medium to High risk of losing crops and plants, as well as a decrease in available water to the public. • Responders- High risk of wildfires starting when a drought is occurring, which could lead to injury.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> • Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> • Low impact to property, facilities, and infrastructure • Heat-sensitive components may be compromised
Delivery of Services	<ul style="list-style-type: none"> • Low impact to the delivery of services • Non-essential services (e.g., park and recreational area watering, public property watering) may be suspended
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> • Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> • 23% of Brevard County is agricultural-usable for citrus; all of this would be economically at risk in the case of a drought.
Environment	<ul style="list-style-type: none"> • Would bring about an increased risk in wildfires, which would negatively impact the local environment.

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Severe Winter Storms</p> <p>LMS pp. 81-83</p>	<input type="checkbox"/> Once a year or more <input type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input type="checkbox"/> 500 years or less <input checked="" type="checkbox"/> Greater than 500 years
<p>A severe winter storm for Brevard County would be an event producing unusually low and prolonged temperatures which may be accompanied by ice or sleet storms. Because Brevard lies on the cusp of the Semi-Tropical and Tropical climate zones, it is conducive growing a wide variety of fruits and vegetables. However, the climate that supports such unique vegetative diversity also makes it susceptible to extreme temperature changes. When extremely cold, the effects the county can be seen in areas that grow more tropical fruits. Extreme Winter Storms, although unlikely, could damage the electric power distribution system. Extended power outages, more than three days, during unusually cold weather would require sheltering and feeding of large numbers of people. Currently Brevard opens cold weather shelters when temperatures are 45 degrees or below. There may be fatalities among those who are unable to travel to or access shelters, principally the economically disadvantaged and the elderly. The probability of a severe winter storm in Brevard County is considered rare with a greater than 500 year occurrence. The last severe winter weather event with record lows, 24 degrees, was in December of 2010. There have been no instances of severe winter weather since 2010.</p>	
Impacts	
Public and Responders	<ul style="list-style-type: none"> • Public - Increased risk of hypothermia, as well as risk of cold weather conditions to those without proper household heating • Responders - Provide sheltering when temperatures drop below 45 degrees.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> • Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> • Has the potential to damage the electric power distribution system, causing widespread power outages. • Will potentially kill many crops.
Delivery of Services	<ul style="list-style-type: none"> • Transportation disruptions may occur, as many in Brevard are not used to icy roadway conditions.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> • Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> • Business closures and significant damages to the county's citrus and horticultural industries would result in substantial economic impacts.
Environment	<ul style="list-style-type: none"> • Severe winter storms will damage or kill a considerable amount of vegetation, with agricultural crops, citrus, and ornamental flowers.

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Extreme Heat</p> <p>LMS pp. 84-86</p>	<input type="checkbox"/> Once a year or more <input checked="" type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input type="checkbox"/> 500 years or less <input type="checkbox"/> Greater than 500 years
<p>While extended extreme heat events are not as common, the State of Florida routinely experiences excessive heat outlooks, watches, and warnings/advisories throughout the State.</p>	
<i>Impacts</i>	
Public and Responders	<ul style="list-style-type: none"> • Public- extreme heat affects those who do not have the ability to stay inside during extreme heat events. Increases the vulnerability of the elderly, very young, and those who have medical conditions that cause heat sensitivity. • Responders- Try to supply an air conditioned environment to the homeless and elderly citizens without proper air conditioning.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> • Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> • Negligible impact to property, facilities and infrastructure
Delivery of Services	<ul style="list-style-type: none"> • Low impact to the delivery of services
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> • Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> • High impact to tourism, agri-business, public utilities, and other industries tasked with caring for the population or providing services for comfort
Environment	<ul style="list-style-type: none"> • Low impact • A reduction in ground water supplies creates a situation conducive to sinkholes • Non-domesticated animals will be directly impacted, Flora may die off

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Wildfire</p> <p>LMS pp. 92-97</p>	<input type="checkbox"/> Once a year or more <input checked="" type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input type="checkbox"/> 500 years or less <input type="checkbox"/> Greater than 500 years
<p>A wildland fire or wildfire is any free burning uncontrollable wildland fire not prescribed for the area which consumes the natural fuels and spreads in response to its environment. The most at-risk locations are areas where development has occurred or is occurring at the edge of previously undeveloped vegetated areas, such as forests, grasslands, wetlands, etc. This characteristic is prevalent in the jurisdictions with lands in a corridor largely defined by I-95 on the west and US 1 on the east, with some smaller areas located in other parts of the county. In spring 2011, the Iron Horse Fire burned nearly 17,500 acres across Brevard and Volusia counties and destroyed one mobile home and two hunting camps. Two firefighters were injured putting out the hot spots and heavy smoke forced the closure of Interstate 95 between State Road 442 and SR-46 for a period of time.</p>	
Impacts	
Public and Responders	<ul style="list-style-type: none"> • Public- High risk of sustaining property damage, as well as damage to overhead utilities. Possibility of displacement. • Responders- High risk of injury due to the health impacts of smoke.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> • Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> • Medium Risk • Could lead to the destruction of homes and local businesses, as well as closure of roads and major highways due to smoke.
Delivery of Services	<ul style="list-style-type: none"> • Moderate impact to the delivery of services • Delivery of Services impact dependent on road closure caused by the wildfire. •
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> • Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> • Local businesses would be economically impacted not only because of potential destruction of buildings, but also potential destruction of product.
Environment	<ul style="list-style-type: none"> • Pollutes the air, causing decreased quality of life, and destroys animals and their habitats.

Hazard Summary

Hazard	Frequency of Occurrence
<p>Agricultural Infestation and Disease</p> <p>LMS pp. 98-99</p>	<input type="checkbox"/> Once a year or more <input checked="" type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input type="checkbox"/> 500 years or less <input type="checkbox"/> Greater than 500 years
<p>Florida's natural ecosystems are increasingly coming under attack by invading exotic species which displace native species, thereby degrading the diversity of floral and faunal resources.</p>	
	Impacts
Public and Responders	<ul style="list-style-type: none"> Public- Infestation of certain species impacts the local crops and wildlife in Brevard County, effecting citizens.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> Commercial growers are extremely vulnerable to financial ruin from exotic pest infestation.
Delivery of Services	<ul style="list-style-type: none"> Low, but possible, risk to temporarily disrupt government services.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> In the case of a major infestation, certain crops in the county could become scarce, driving up the market price as well as sending the farmers into financial distress.
Environment	<ul style="list-style-type: none"> If the infestation isn't dealt with, it could lead to the wide spread death of crops, as well as the spread of disease.

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Seismic Hazards</p> <p>LMS pp. 101</p>	<input type="checkbox"/> Once a year or more <input type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input type="checkbox"/> 500 years or less <input checked="" type="checkbox"/> Greater than 500 years
<p>Seismic events were more common approximately 30–100 years ago, ranging from slight tremors to a 6 on Modified Metrically intensity scale.</p>	
	<i>Impacts</i>
Public and Responders	<ul style="list-style-type: none"> Nowhere in Brevard County is there a more than .02g Seismic Zone, rendering the county a reasonably safe area from this hazard. Therefore, earthquake hazards have not been a significant consideration for the mitigation planning process by Brevard Prepares or any of the participating jurisdictions
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> Nowhere in Brevard County is there a more than .02g Seismic Zone, rendering the county a reasonably safe area from this hazard. Therefore, earthquake hazards have not been a significant consideration for the mitigation planning process by Brevard Prepares or any of the participating jurisdictions
Delivery of Services	<ul style="list-style-type: none"> Nowhere in Brevard County is there a more than .02g Seismic Zone, rendering the county a reasonably safe area from this hazard. Therefore, earthquake hazards have not been a significant consideration for the mitigation planning process by Brevard Prepares or any of the participating jurisdictions
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> Nowhere in Brevard County is there a more than .02g Seismic Zone, rendering the county a reasonably safe area from this hazard. Therefore, earthquake hazards have not been a significant consideration for the mitigation planning process by Brevard Prepares or any of the participating jurisdictions
Environment	<ul style="list-style-type: none"> Nowhere in Brevard County is there a more than .02g Seismic Zone, rendering the county a reasonably safe area from this hazard. Therefore, earthquake hazards have not been a significant consideration for the mitigation planning process by Brevard Prepares or any of the participating jurisdictions

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Land Subsidence/ Sinkhole</p> <p>LMS pp. 101</p>	<input type="checkbox"/> Once a year or more <input type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input type="checkbox"/> 500 years or less <input checked="" type="checkbox"/> Greater than 500 years
<p>This hazard does not affect Brevard County to any great extent. Mapping indicates little risk for Brevard County. Risk of sinkhole activity for the entire county is low. Therefore, subsidence hazards have not been a significant consideration for the mitigation planning process by Brevard Prepares or any of the participating jurisdictions.</p>	
Impacts	
Public and Responders	<ul style="list-style-type: none"> This hazard does not affect Brevard County to any great extent. Mapping indicates little risk for Brevard County. Risk of sinkhole activity for the entire county is low.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> This hazard does not affect Brevard County to any great extent. Mapping indicates little risk for Brevard County. Risk of sinkhole activity for the entire county is low.
Delivery of Services	<ul style="list-style-type: none"> This hazard does not affect Brevard County to any great extent. Mapping indicates little risk for Brevard County. Risk of sinkhole activity for the entire county is low.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> This hazard does not affect Brevard County to any great extent. Mapping indicates little risk for Brevard County. Risk of sinkhole activity for the entire county is low.
Environment	<ul style="list-style-type: none"> This hazard does not affect Brevard County to any great extent. Mapping indicates little risk for Brevard County. Risk of sinkhole activity for the entire county is low.

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Tsunami</p> <p>LMS pp. 102-103</p>	<input type="checkbox"/> Once a year or more <input type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input type="checkbox"/> 500 years or less <input checked="" type="checkbox"/> Greater than 500 years
<p>Tsunamis, the potentially devastating waves that can follow seismic events are threats to any coastal region. Florida has 1,197 miles of coastline, more than any of the lower 48 States. Causes in this area include a seismic shift in the Puerto Rico Trench part of the tectonic plates between the Caribbean, North America, and South America. Tsunamis that would affect this area could also be caused by undersea landslides creating an Atlantic ocean-wide tsunami (a.k.a. Tele-tsunami). A Tele-tsunami could also originate from the Azores-Gibraltar Fracture Zone.</p>	
	<i>Impacts</i>
<i>Public and Responders</i>	<ul style="list-style-type: none"> Although tsunamis are an unpredictable, with an unknown and rare occurrence, due to the location of Brevard County, it is vulnerable to tsunami activity; therefore, Brevard County must be prepared for the potential threat.
<i>Continuity of Operations and Program Operations</i>	<ul style="list-style-type: none"> Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
<i>Property, Facilities, and Infrastructure</i>	<ul style="list-style-type: none"> Jurisdictions within the tsunami danger zone include: Cape Canaveral, Cocoa Beach, Satellite Beach, Melbourne Beach, Indian Harbour Beach, Indialantic, and Unincorporated Brevard. There are approximately 24,741 businesses and residences east of Highway A1A in those jurisdictions.
<i>Delivery of Services</i>	<ul style="list-style-type: none"> Disruption of services will occur for businesses located within the Tsunami's effective range.
<i>Public's Confidence in Jurisdiction's Governance</i>	<ul style="list-style-type: none"> Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
<i>Economic Condition</i>	<ul style="list-style-type: none"> High risk to affect future tourism economy, as well as businesses and housing within the Tsunami's susceptible range.
<i>Environment</i>	<ul style="list-style-type: none"> The danger zone for a tsunami in Brevard County is only 300 feet, so environmental damage would most likely be minimal.

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Invasive Species</p> <p>LMS p. 100</p>	<input type="checkbox"/> Once a year or more <input checked="" type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input type="checkbox"/> 500 years or less <input type="checkbox"/> Greater than 500 years
<p>Florida's natural ecosystems are increasingly coming under attack by invading exotic species which displace native species, thereby degrading the diversity of floral and faunal resources. Florida has ecosystems not found in the other 47 contiguous states, and it also has more non-native species than any state other than Hawaii. EDDMapS notes 176 separate invasive plant species found in Brevard County to date. Example pest plants include hydrilla, old world climbing fern, melaleuca and Brazilian Pepper. Many of the listed species are distributed throughout the county and are found in natural and disturbed landscapes.</p>	
Impacts	
Public and Responders	<ul style="list-style-type: none"> Public- Learn to recognize these species, and report them to the proper control agencies. Responders- Keep invasive species under control based on guidelines set by your agency.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> Possible effect on local property and fauna, these species are destructive enough to be considered pests.
Delivery of Services	<ul style="list-style-type: none"> Little to no risk to temporarily disrupt government services.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> Low risk to economy, but possibility of invasive species effecting crops on local farms, driving prices up.
Environment	<ul style="list-style-type: none"> If the infestation isn't dealt with, it could lead to the wide spread death of crops, as well as displacement of natural species.

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Space Weather/ Geomagnetic Storms</p> <p>LMS p. 101</p>	<p><input type="checkbox"/> Once a year or more</p> <p><input type="checkbox"/> 25 years or less</p> <p><input type="checkbox"/> 100 years or less</p> <p><input type="checkbox"/> 500 years or less</p> <p><input checked="" type="checkbox"/> Greater than 500 years</p>
<p>The sun is the main source of space weather. Sudden bursts of plasma and magnetic field structures from the sun's atmosphere called coronal mass ejections (CME) together with sudden bursts of radiation, or solar flares, all cause space weather effects on Earth.</p>	
Impacts	
Public and Responders	<ul style="list-style-type: none"> • Responders- run diagnostic tests on telecommunication, navigation and surveillance satellites, as well as global positioning systems.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> • Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> • Known to damage satellites and other high tech systems, as well as cause radio blackouts.
Delivery of Services	<ul style="list-style-type: none"> • Possible impact on delivery of services, due to GPS and satellite interruptions.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> • Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> • Little to no risk to local economy due to frequency of occurrence, however, if it did occur countywide systems would be affected including emergency radio services and every person or business that relies on telecommunication navigation and GPS causing widespread economic failure.
Environment	<ul style="list-style-type: none"> • Geomagnetic Storms can produce elevated radiation aboard aircrafts flying at high altitudes. Although these risks are small.

Hazard Summary

Hazard	Frequency of Occurrence
<p>Dam/Levee Failure</p> <p>LMS pp. 104-107</p>	<p><input type="checkbox"/> Once a year or more</p> <p><input type="checkbox"/> 25 years or less</p> <p><input type="checkbox"/> 100 years or less</p> <p><input type="checkbox"/> 500 years or less</p> <p><input checked="" type="checkbox"/> Greater than 500 years</p>
<p>A dam failure is defined as an uncontrolled release of a reservoir. The causes of dam failures can be divided into three groups: dam overtopping, excessive seepage and structural failure of a component. Despite efforts to provide sufficient structural integrity and to perform inspection and maintenance, problems can develop that can lead to failure.</p>	
	Impacts
Public and Responders	<ul style="list-style-type: none"> • Public- Clear the immediate disaster area and be on the lookout for any updates on the situation. • Responders- the St. John's River Water Management District will coordinate with the Florida Department of Environmental Protection for any emergency repairs.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> • Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> • There are approximately 127 miles of levees in the upper basin, of which 92 miles are federal flood protection levees and 35 miles are District levees. Approximately 30 miles of these levees lie within the jurisdictional boundaries of Brevard County.
Delivery of Services	<ul style="list-style-type: none"> • Little to no risk to temporarily disrupt government services.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> • Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> • Low risk to economy, but possibility if businesses are in the area of the dam failure.
Environment	<ul style="list-style-type: none"> • Low risk to the environment.

Hazard Summary

Hazard	Frequency of Occurrence
<p>Hazardous Materials (includes hazard –specific effects : Bulk Fuel Tank, Radiological Release, Rail Transportation Incident & Oil spill) LMS pp. 108-109</p>	<p><input type="checkbox"/> Once a year or more <input type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input checked="" type="checkbox"/> 500 years or less <input type="checkbox"/> Greater than 500 years</p>
<p>782 hazardous materials events were reported to the State Watch Office from July 2011 to June 15, 2012. 6.8 percent of these reports involved evacuation of individuals from the area of impact.</p>	
Impacts	
Public and Responders	<ul style="list-style-type: none"> • Public- Can cause acute or chronic health effects, damage to property, serious injury, and even death. • Responders- Extremely High Risk, would require mass decontamination, as well as a lengthy and complicated clean up and restoration effort.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> • Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> • High impact to property, facilities, and infrastructure, the hazardous material could potentially leach into the soil and affect the water supply. It could potentially take months or years to fully clean up a hazardous material release or spill.
Delivery of Services	<ul style="list-style-type: none"> • Low, but possible, risk to temporarily disrupt government services.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> • Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> • There are also potential short-term and long-term economic impacts
Environment	<ul style="list-style-type: none"> • High impact to those areas directly affected by the hazardous materials, low to medium risk outside of immediate disaster zone.

Hazard Summary

Hazard	Frequency of Occurrence
<p>Communications Systems Failure</p> <p>LMS pp. 113-114</p>	<p><input type="checkbox"/> Once a year or more</p> <p><input checked="" type="checkbox"/> 25 years or less</p> <p><input type="checkbox"/> 100 years or less</p> <p><input type="checkbox"/> 500 years or less</p> <p><input type="checkbox"/> Greater than 500 years</p>
<p>Communication failure is defined as the severe interruption or loss of private and or public communications systems, including but not limited to transmission lines, broadcast, relay, switching and repeater stations as well as communications satellites, electrical generation capabilities, and associated hardware and software applications necessary to operate communications equipment.</p>	
	Impacts
Public and Responders	<ul style="list-style-type: none"> • Responders - Number one priority is to get communications up and running as soon as possible. Make sure to issue statements to calm the public while working together with multiple agencies to solve the problem.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> • Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> • A communications failure would affect essential facilities and the day to day operations of local government as well as the business community. Sites of concern would range from dispatch agencies, satellite uplink and downlink sites, internet service provider sites, and the telecommunication industry switching sites. Interruptions in day to day communications would create problems for businesses, public agencies, citizens and emergency services.
Delivery of Services	<ul style="list-style-type: none"> • Disruption in communications would lead to an interruption in services, depending on the medium by which it is provided.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> • Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> • Problems encountered by Brevard County and its municipalities would range from minor inconveniences to loss of production and revenues for businesses.
Environment	<ul style="list-style-type: none"> • No significant impact on the local environment.

Hazard Summary

Hazard	Frequency of Occurrence
<p>Prolonged Utility Failure</p> <p>LMS pp. 114-115</p>	<p><input checked="" type="checkbox"/> Once a year or more</p> <p><input type="checkbox"/> 25 years or less</p> <p><input type="checkbox"/> 100 years or less</p> <p><input type="checkbox"/> 500 years or less</p> <p><input type="checkbox"/> Greater than 500 years</p>
<p>Power failure can result from a variety of related causes, including sagging lines due to hot weather, flashovers from transmission lines to nearby trees and incorrect relay settings. According to the electric utility industry's trade association, the potential for such disturbances is expected to increase with the profound changes now sweeping the electric utility industry.</p>	
	Impacts
Public and Responders	<ul style="list-style-type: none"> To address times when generating capacity is tight, or falls below consumer demand due to State or local emergencies, the Florida Electrical Emergency Contingency Plan was developed. Alerts have been created to give early warning of potential electricity shortfalls and bring utilities, emergency management officials and the general public to a state of preparedness.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> Power failure can have the following potential impacts on Brevard County: electrical power outage, surface and air transportation disruption, potable water system loss or disruption, sewer system outage, and telecommunication system outage.
Delivery of Services	<ul style="list-style-type: none"> Power failure would interrupt services briefly, but not in a serious way.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> A prolonged utility failure could cause economic hardship, depending on the length of the outage, but most businesses would be fine because of emergency plans in place for this specific situation.

Hazard Summary

Environment	<ul style="list-style-type: none"> No significant impact on the local environment.
Hazard	Frequency of Occurrence
Terrorism LMS pp. 116-117	<input type="checkbox"/> Once a year or more <input type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input checked="" type="checkbox"/> 500 years or less <input type="checkbox"/> Greater than 500 years
Florida has many targets of opportunity for Terrorists—political, industrial, historical, and military. South Florida experienced an Anthrax outbreak in 2001. In addition, several terrorist plots directed at Florida residents have been thwarted in recent years.	
Impacts	
Public and Responders	<ul style="list-style-type: none"> Public- High risk to both health and safety of the public, including damage to government and residential buildings, as well as possible danger from the release of hazardous materials. Responders- High risk of being affected, both by hazardous materials, as well as ballistics or explosives.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> Would be completely dependent on what was targeted, and the magnitude of the attack
Delivery of Services	<ul style="list-style-type: none"> Depending on what the type of attack was, Delivery of Services would come to a crawl or even a possible halt, a cyber-attack could even stop the mailing system.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> Long term economic impacts of a terrorist attack depending on the severity, many businesses would have to close or relocate.
Environment	<ul style="list-style-type: none"> In the case of terrorists using a CBRNE, there would be widespread environmental ruin in the area affected.

Hazard Summary

Hazard	Frequency of Occurrence
<p>Pandemic/Epidemic</p> <p>LMS pp. 117-118</p>	<input type="checkbox"/> Once a year or more <input checked="" type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input type="checkbox"/> 500 years or less <input type="checkbox"/> Greater than 500 years
<p>Pandemics typically occur in waves lasting anywhere from six to eight weeks. As immunity is developed within a population, the virus will recede for a period of 8-12 weeks. The virus will then reemerge slightly mutated for another wave lasting six to eight weeks. This process repeats during a pandemic two to three times.</p>	
	Impacts
Public and Responders	<ul style="list-style-type: none"> Public- Listen to local and state health officials, and take all the necessary steps to be protected against the disease. Responders- Provide all relevant information to the public, and make sure to use quarantines and antibiotics to stop the spread of disease.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> No significant impact on infrastructure, except for local hospitals which would all become over crowded.
Delivery of Services	<ul style="list-style-type: none"> Any medical services that would be routinely supplied would most likely be interrupted because of the pandemic.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> Temporary health care facilities and field hospitals would have to be activated and staffed by professionals from outside the county. Overall, the human and economic consequences of the event would be very substantial.
Environment	<ul style="list-style-type: none"> No significant impact on the environment.

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Mass Casualty</p> <p>LMS pp. 118</p>	<input checked="" type="checkbox"/> Once a year or more <input type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input type="checkbox"/> 500 years or less <input type="checkbox"/> Greater than 500 years
<p>A mass casualty incident (MCI) is any incident in which emergency medical services resources, such as personnel and equipment, are overwhelmed by the number and severity of casualties.</p>	
	<i>Impacts</i>
Public and Responders	<ul style="list-style-type: none"> • Public- do not panic, and wait for clear instructions from the firstresponders before you act. • Responders- Make sure to know the severity of the incident before arriving on scene.
Continuity of Operations and Program Operations	<ul style="list-style-type: none"> • Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
Property, Facilities, and Infrastructure	<ul style="list-style-type: none"> • Depending on the type of Mass Casualty Incident, the county could experience a loss of materials used in nuclear plants, or a decline in tourism, if the accident involved a cruise ship.
Delivery of Services	<ul style="list-style-type: none"> • Size/severity of the event would dictate its effect on delivery of services.
Public's Confidence in Jurisdiction's Governance	<ul style="list-style-type: none"> • Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
Economic Condition	<ul style="list-style-type: none"> • As with any large scale disaster, we would see a decline in tourism that might stunt the county economically.
Environment	<ul style="list-style-type: none"> • Minor impact to environment if disaster is chemical in nature.

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Transportation Accidents</p> <p>LMS pp. 118-119</p>	<input type="checkbox"/> Once a year or more <input type="checkbox"/> 25 years or less <input type="checkbox"/> 100 years or less <input checked="" type="checkbox"/> 500 years or less <input type="checkbox"/> Greater than 500 years
<p>Disruption of highway systems, mass transit or commercial and industrial modes of transportation can strangle traffic and can affect the productivity of an urban area. Inter-dependencies exist between transportation and nearly every other sector of the economy. A failure to the transportation infrastructure is defined as a shutdown of a segment of the transportation sector.</p>	
	<i>Impacts</i>
<i>Public and Responders</i>	<ul style="list-style-type: none"> Public- Report any incidents you witness to the local authorities and be sure to stay a safe distance. Responders- Police and medical response will be based on the severity of the incident; all have proper training on this situation.
<i>Continuity of Operations and Program Operations</i>	<ul style="list-style-type: none"> Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
<i>Property, Facilities, and Infrastructure</i>	<ul style="list-style-type: none"> Personal property, such as cars or trucks, are most likely to be damaged in this kind of incident, but corporate owned property like ships and trains cannot be ruled out.
<i>Delivery of Services</i>	<ul style="list-style-type: none"> Most likely to not effect delivery of services except for in the most extreme of cases.
<i>Public's Confidence in Jurisdiction's Governance</i>	<ul style="list-style-type: none"> Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
<i>Economic Condition</i>	<ul style="list-style-type: none"> Disruption of highway systems, mass transit or commercial and industrial modes of transportation can strangle traffic and can affect the productivity of an urban area. Inter-dependencies exist between transportation and nearly every other sector of the economy.
<i>Environment</i>	<ul style="list-style-type: none"> No significant impact on the environment.

Hazard Summary

<i>Hazard</i>	<i>Frequency of Occurrence</i>
<p>Civil Disorder</p> <p>LMS pp.119-120</p>	<p><input type="checkbox"/> Once a year or more</p> <p><input type="checkbox"/> 25 years or less</p> <p><input type="checkbox"/> 100 years or less</p> <p><input type="checkbox"/> 500 years or less</p> <p><input checked="" type="checkbox"/> Greater than 500 years</p>
<p>Civil disorder is the result of groups or individuals within the population feeling, rightly or wrongly, that their needs or rights are not being met, either by the society at large, a segment thereof, or the current overriding political system.</p>	
<i>Impacts</i>	
<i>Public and Responders</i>	<ul style="list-style-type: none"> • Public- Stay inside and be very careful when in close proximity to Civil Disorder, you could be harmed • Responders- Follow the protocol set by your agencies to handle the situation accordingly.
<i>Continuity of Operations and Program Operations</i>	<ul style="list-style-type: none"> • Brevard County and Primary ESF agencies are responsible to provide for continuity of operations and have plans in place to provide essential services following a major disaster.
<i>Property, Facilities, and Infrastructure</i>	<ul style="list-style-type: none"> • The most common type of civil disturbance is riots. Riots can cause extensive social disruption, loss of jobs, death, and property damage. The loss and damages may result from those involved in the action or initiated by authorities in response to the perception of a potential threat.
<i>Delivery of Services</i>	<ul style="list-style-type: none"> • A large scale case of Civil Disorder would cause a huge disruption in the delivery of services.
<i>Public's Confidence in Jurisdiction's Governance</i>	<ul style="list-style-type: none"> • Elected Officials and members of the Policy Group are ultimately held responsible for recovery from a major disaster. Their approval may decline if the recovery is not progressing quickly enough or if emergency response is not timely or done well.
<i>Economic Condition</i>	<ul style="list-style-type: none"> • An economic downturn, if not collapse, would occur if a large scale Civil Disorder took place.
<i>Environment</i>	<ul style="list-style-type: none"> • Impact on environment due to spreading of fires caused by riots.