

Hazard Identification, Risk Assessment and Consequence Analysis

	Public	Responders	COG	Property, Facilities, Infrastructure	Environment	Economic Condition of the Jurisdiction	Public Confidence in the Jurisdiction's Governance
(U) Hurricanes/Coastal Storms	In 2016, Hurricane Matthew had a FEMA \$52.2 million Individual Assistance impact on the state and was only a Category I hurricane upon landfall. The public may face extreme consequences from Hurricanes and coastal storms. Hurricanes have the potential to injure and kill people, destroy residences and businesses, and interrupt water, power, and sewer services necessary to return to a normal way of life. Regardless if citizens have insurance or receive assistance, the recovery process from a major hurricane may be very costly and take weeks, months, or years to complete. Many long-term recovery groups are still very active and working recovery efforts as a result of Hurricane Matthew.	Debris removal and emergency response costs as a result of Hurricane Matthew in 2016 were in excess of \$190 million statewide. Responders may face extreme difficulties when responding to a hurricane or coastal storm event. Hurricanes can down trees and power lines, destroy critical infrastructure such as local EOCs, fire stations, and hospitals, and damage bridges, roadways, and government buildings critical for response and recovery operations. Responders may have to rescue citizens isolated without resources. Responders should be aware of their risks at all times.	In an extreme event, such as a major Hurricane, there may be an instance when the State EOC is impacted. If the State EOC is damaged or the delivery of utilities is interrupted, it may be necessary to move to the Alternate EOC location or function from another location to maintain operations during the event. See COG/COOP plan for additional information.	Hurricane Matthew in 2016 resulted in more than \$70 million in damage to public infrastructure. There are numerous potential consequences that may result from a hurricane or coastal storm. Property along the coast and in storm surge areas may be severely impacted or destroyed. State facilities along the coast have been identified and mitigation projects have been created. Critical infrastructure such as utilities, roadways, bridges, hospitals, EOCs, Police/Fire/EMS stations may be damaged or destroyed in an event. Public Assistance grants are available to restore critical infrastructure to pre-disaster function capacity, and design. Mitigation grants can reduce their overall risk and hazard consequence.	Consequences to the environment include erosion of critical dunes, impacts to sensitive coastal ecosystems, downed trees and vegetation, and polluted waterways from the runoff of debris and hazardous materials. Debris piles can pose public health and safety risks and must be managed in accordance with state and local ordinances. The SC Dept. of Health & Environmental Control (SCDHEC) will take the lead on the monitoring and cleanup of any adverse environmental impacts. The SC Forestry Commission has plans to deal with tree debris and timber harvesting.	Hurricane Hugo was a \$7 billion impact on the State. It was the largest, most costly disaster at that time. If Hugo hit today, it would cost upwards of \$13 billion. The economic impact to affected jurisdictions would be significant. In any hurricane event, the impact to tourism is millions of dollars a day. It may take several years to recoup the economic costs of a singular hurricane event. In 2016, Hurricane Matthew had a FEMA estimated \$338.9 million Public Assistance impact on the State and was only a Category I hurricane upon landfall. Federal grants can aid in recovery efforts and alleviate the overall economic impact of a hurricane.	To ensure the public is prepared for a hurricane, SCEMD has completed the following: 1) Annual Hurricane Guide distributed in local newspapers and available on the website, 2) Surveys capturing behavioral patterns are mailed out to coastal residents to gauge their level of preparedness and willingness to evacuate, 3) Every 10 years a Hurricane Evacuation Study is completed to update our storm surge zones and evacuation zones, 4) SCEMD prepares for hurricane season with a statewide media campaign, and 5) In the event of a hurricane, the PIO section has premade materials for use in SCEMD's comprehensive social media program. All of these programs are in place to instill public confidence in government, even in times of a disaster. For more information, see USC's Behavioral analysis and the HES draft study.
(U) Floods	The 2015 floods in South Carolina had a FEMA estimated \$202.2 million Individual Assistance impact on the State. The public may face extreme consequences from flooding and/or flash floods. Floods have the potential to injure and kill people, especially those who drive through flooded roadways. Floods can destroy residences and businesses, and interrupt water, power, and sewer services necessary to return to a normal way of life. Regardless if citizens have flood insurance or receive assistance, the recovery process from a flood may be very costly and take weeks, months, or years to complete. Many long-term recovery groups are still very active and working recovery efforts as a result of the 2015 floods.	Debris removal and emergency response costs as a result of the 2015 floods were in excess of \$58 million statewide. Responders may face extreme difficulties when responding to a flood event. Floods can destroy homes, businesses, and critical infrastructure such as local EOCs, fire stations, and hospitals. Floods can wash out bridges and roadways, as well as destroy government buildings critical for response and recovery operations. Responders may have to perform swift water rescues to citizens trapped in flooded areas. Responders should be aware of their risks at all times.	The State EOC is not located in a SFHA; however, many access roads may be impacted by flooding. In an extreme flood event, there may be an instance when the State EOC is inaccessible. If the State EOC is isolated or the delivery of utilities is interrupted, it may be necessary to move to the Alternate EOC location or function from another location to maintain operations during the event. See COG/COOP plan for additional information.	The 2015 floods in South Carolina resulted in more than \$60 million in damage to public infrastructure. There are numerous potential consequences that may result from a flood. Property in the floodplain or other low-lying areas may be severely impacted or destroyed. State facilities within or near floodplains have been identified in this plan and mitigation ideas have been created. Critical infrastructure such as utilities, roadways, bridges, and Police/Fire/EMS stations may be damaged or destroyed in an event. Public Assistance grants are available to restore critical infrastructure to pre-disaster function capacity, and design. Mitigation grants can reduce their overall risk and hazard consequence.	Environmental consequences to flooding are vast. Flooding may erode river beds, causing sediments to enter the waterways, clogging our water management systems & waterways downstream. Floods can bring hazardous materials or pollution into waterways via runoff. Riparian ecosystems are negatively impacted with the introduction of sediments, pollutants & nutrients. SC DHEC will monitor the waterways and riparian areas for any adverse	As a result of the 2015 floods, \$155 million was made available as part of Disaster Housing Assistance. Another more than \$190 million was made available as part of Public Assistance grants. The additional impact of flooding on transportation, agriculture, business continuity, and government services is substantial. Mitigation practices can reduce the impact of flooding on our economy. It is also important that citizens and businesses purchase flood insurance so they can be operational in a short amount of time. Federal grants can aid in recovery efforts and alleviate the overall economic impact of a hurricane.	Education and awareness are key components to maintaining public confidence in government during a disaster. In conjunction with FEMA, NOAA, USACE, SC Department of Natural Resources, and the Department of Insurance, the State provides information on floods and flood insurance to the public. During the NFIP mapping process, citizens are invited to participate and learn about flood risks. Many citizens have NOAA weather radios to alert them of potential flooding. SCEMD has premade media products for their social media campaign if there is an event
(U) Severe Thunderstorms	The public may face some minor consequences from a severe thunderstorm. Thunderstorms have the potential to injure and/or kill people, damage residences and businesses, and interrupt power service. These impacts are very minimal compared to hurricanes, floods, and earthquakes. Recovery from a thunderstorm event may take several weeks.	Responders may face some difficulties when responding to a thunderstorm event. Trees may be down, blocking critical roadways and access points. Power lines may also be down in roadways or on private property creating a dangerous situation. Localized flooding may require swift water rescues.	SCEMD does not anticipate any issues maintaining operations and the delivery of services following a severe thunderstorm. In a catastrophic event, SCEMD has a COOP Plan in place that could be activated and implemented at any time. See COG/COOP plan for additional information.	Consequences to property, facilities, and infrastructure from severe thunderstorms are minimal. Downed trees and power lines are typical consequences from thunderstorms. Roofs and windows of homes and businesses may be damaged. Power service to residences and critical facilities may be impacted in the short term.	Severe thunderstorms in South Carolina have historically had few consequences to the environment. In some cases, these storms can down trees and vegetation and cause localized flooding. Please see the "Floods" above. No major consequences to the environment are expected.	Consequences to the economic condition of the State will be minimal. The state has hundreds of thunderstorm each year. While the annual cost of damage to property and infrastructure may be great, individual events are usually minimal. Individual events cost an average of only \$13,700.	Public confidence in government will not be impacted by severe Thunderstorm Events. In the case of a catastrophic storm, SCEMD has premade media products for distribution on our webpage (www.scmd.org) or on our social media outlets (@scemd). NOAA weather radios will also send out important information to citizens so they can educate themselves and find resources after the event
(U) Tornadoes	All of South Carolina is at risk to tornadoes. The public could face serious consequences from a touchdown. Tornadoes can be deadly. From 1950 - 2009, there have been 56 tornado-related casualties and hundreds of injuries. Common consequences are damage to homes and businesses, interruption of utility services, and devastation to the local economy.	Responders will face significant difficulties responding to a tornado touchdown. Search & rescue operations may be required. Communication systems may be destroyed. Road signs and landmarks may be missing when trying to navigate to citizens in need. Power lines, debris, and trees may block roadways and access points. Responders should exercise extreme caution.	SCEMD does not anticipate any issues maintaining operations and the delivery of services in the event of a tornado in the state. If there is a widespread tornado outbreak, or if the SEOC is directly hit by a tornado, it may be necessary to move to the Alternate EOC location or function from another location to maintain operations during the event. See COG/COOP plan for additional information.	All property in South Carolina is at risk to tornadoes. The consequences to property, facilities, and infrastructure from a tornado may be catastrophic. Depending on the scale of the tornado, damage could be minimal or cataclysmic. Historically, South Carolina's greatest magnitude tornado was an EF4. An EF4 can cause devastating damage, level well constructed homes and buildings, overturn trains, and throw heavy vehicles. Public infrastructure and utilities would be demolished.	Because of the vast range of wind speeds associated with tornadoes, consequences to the environment vary greatly. Even an EF0 (65-85mph) can uproot trees and vegetation. In stronger tornadoes, debris will be tossed miles away from the source, potentially entering our waterways. Hazardous materials may escape if vehicles are damaged or storage tanks are compromised. SC DHEC would monitor the environment for adverse impacts.	Tornadoes are typically a local disaster. The State's economy may only be minimally impacted by a tornado event since the annualized losses from tornado events in SC is \$8,603,000 (Table 6.18). If a large outbreak occurred, there could be a greater economic effect. If a small community was hit by a severe tornado, the entire community & local economy could be devastated. Local assistance through VOADs, especially the American Red Cross, would be utilized.	Public confidence in government will not likely be impacted by a tornado event. If there is a statewide tornado outbreak, SCEMD has premade media products for distribution on the agency webpage (www.scmd.org) or on social media outlets (@scemd). NOAA weather radios will also send out important information to citizens so they can educate themselves and find resources after the event. Some local communities have tornado sirens and community safe rooms to protect their citizens.

(U) Wildfire	The public will feel the direct consequences of a wildfire if their home or place of employment is in the wildfire impact zone. Homes and businesses may be destroyed in a fire, utility service could be interrupted, and access to roadways may be limited. The public may also be impacted by air pollution from the wildfires. While the 2016 Pinnacle Mountain wildfire had a more than \$4 million impact on the state, it fortunately did not impact any homes.	Responders will be directly impacted by a wildfire. Wildfires may change directions quickly as the wind and environmental elements change. Wildfires are often difficult to control and may take numerous resources to do so. Inhalation of fumes may pose a health risk to firefighters. Response costs for the 2016 Pinnacle Mountain wildfire were in excess of \$4 million.	SCEMD does not anticipate any issues maintaining operations and the delivery of services during a wildfire. In an event that directly impacts the SEOC, the State has a COOP Plan in place that could be activated and implemented at any time. See COG/COOP plan for additional information.	Property, facilities, and infrastructure in the wildfire zone will be significantly impacted. Homes and businesses may be destroyed in a fire, utility service could be interrupted, and access to roadways may be limited.	Although wildfires are a natural process, the environment may be negatively impacted. Not only are trees impacted by these fires, so are the native species of plants and animals. The smoke and ash from the fires can pollute waterways and our air. The SC Forestry Commission and SC DHEC will monitor the air and water quality in an event.	Wildfires are typically a local disaster and the State's economy should not be impacted. If a large fire does occur and cannot be controlled quickly, there could be a greater economic effect. If a small community was hit by a wildfire, the local economy could be devastated. Local assistance through VOADs, especially the American Red Cross, would be utilized.	Public confidence in government will likely not be impacted by a wildfire event. If a large wildfire occurs that cannot be quickly controlled, SCEMD has premade media products for distribution on the agency webpage (www.scmd.org) or on social media outlets (@scemd). NOAA weather radios will also send out important information to citizens so they can educate themselves and find resources after the event.
(U) Drought/Extreme Heat	Consequences of drought and extreme heat on the public are not always direct. Farmers will be the most directly impacted by drought. If they do not produce crops, the public's food supply is impacted. If water restrictions are implemented by government, residential lawns and gardens will be impacted.	Responders will not be impacted by drought. In extreme heat, caution should be exercised for first responders.	SCEMD will not have any issues continuing operations and delivering services during drought or extreme heat. See COG/COOP plan for additional information.	Persistent drought can directly impact the water/wastewater, energy, and food/agriculture sectors within South Carolina. Furthermore, all sectors of CI/KR may be impacted by cross-sector dependencies and cascading impacts from the loss of water, agricultural, and energy services.	Environmental consequences of drought & extreme heat are significant. Drought reduces the availability of water, reduces crop yields, & impacts our local ecosystems. In addition, there are several indirect consequences. For instance, the 1998 - 2002 drought contributed to the southern pine beetle epidemic.	Drought has the potential to significantly impact the State's economy. Agriculture represents one of the largest industries in South Carolina. Loss of agriculture crops would significantly hurt the economy, especially in rural farming communities.	Public confidence in government will likely not be impacted by a drought or extreme heat event. Droughts are common in South Carolina. Insurance and assistance programs are widely available to farmers. The Department of Agriculture and SCDNR run drought programs to promote education and techniques for farming in drought conditions. SC DNR also runs the State Drought Response Committee which meets monthly to discuss drought matters. (SC Drought Status)
(U) Hail	Consequences of hail on the public include possible injuries and, in rare cases, death. Hail may damage homes and businesses. Because hail is a product of thunderstorms, see "Severe Thunderstorms" for more consequences to the public.	Consequences of hail on responders is minimal. Hail is typically a very brief event due to physics of the atmospheric conditions that are required to make hail. Responders should remain inside during hail storms. Because hail is associated with thunderstorms, see "Severe Thunderstorms" for more information.	SCEMD will not have any issues continuing operations and delivering services during hail events. See COG/COOP plan for additional information.	Hail has the potential to damage property, facilities, and infrastructure. Large hail can puncture roof tops, windshields, vehicles, windows, and other outdoor structures. Because hail is associated with thunderstorms, see "Severe Thunderstorms" for more information.	There are no known direct consequences on the environment from Hail. See "Severe Thunderstorms" for more information.	Consequences to the economic condition of the State will be minimal to non-existent. The state has several hail events each year. The annual cost of damage to property and infrastructure is approximately \$875,679. Most of the damages from hail are covered under homeowners insurance, & therefore do not impact the state or local economy.	Public confidence in government will not be impacted by a hail event. See "Severe Thunderstorms" for more information.
(U) Winter Storms	Consequences to the public from winter weather include treacherous road conditions, freezing temperatures, and the potential loss of power. In some cases, fatalities and injuries have been recorded. Government may choose to close offices to reduce the consequences of winter weather on the public. By limiting people on the road, lives are saved.	Debris removal and emergency response costs from the 2014 ice storm totaled more than \$239 million statewide. Debris in roadways poses the greatest hurdle for response operations during an once storm. Responders face many consequences from winter weather. They must navigate dangerous roadways and work in freezing conditions. Ice and snow may bring down trees and power lines, causing widespread power outages.	Program operations will continue during winter weather event. If there is a power outage, SCEMD has redundant power, IT, and communication systems in place to maintain operations. SCEMD will continue to coordinate the statewide response throughout the entire winter weather event. If the State EOC is damaged, it may be necessary to move to the Alternate EOC location or function from another location to maintain operations during the event. See COG/COOP plan for additional information.	The 2014 ice storm resulted in more than \$22 million in damages to public infrastructure. Property, facilities, and infrastructure may be impacted by winter weather. Collapsed roofs, downed power lines, vegetative debris in roadways, and damage to water/wastewater facilities may take several days or weeks to fix.	Consequences to the environment from winter weather include downed trees/branches, localized flooding from snow melt, and below freezing temperatures. These low temperatures can significantly impact livestock and the growth of vegetation and crops in the State.	The 2014 ice storm had a total impact of more than \$269 million statewide. The economic condition of the state may be impacted by a widespread winter weather event. Ice and snow are very dangerous. Many citizens will not venture out of their homes to purchase food or goods.	Public confidence in government will likely not be impacted by a winter weather event. Winter weather is a common issue in SC, one that citizens are used to experiencing. During statewide winter weather events, SCEMD has premade media products for distribution on the webpage (www.scmd.org) or on social media outlets (@scemd). NOAA weather radios will also send out important information to citizens so they can educate themselves and find resources during the event.
(U) Lightning	Consequences of lightning on the public include possible injuries and, in rare cases, death. Lightning may strike homes and businesses, potentially sparking a fire or damaging electrical systems. Because lightning is a product of thunderstorms, see "Severe Thunderstorms" for more consequences to the public.	Consequences of lightning on responders are minimal. Lightning may spark building and housing fires, requiring immediate response. When possible, responders should remain inside if there is lightning. Because lightning is associated with thunderstorms, see "Severe Thunderstorms" for more information.	SCEMD will not have any issues continuing operations and delivering services during lightning events. In the event of a lightning strike to the building, SCEMD has a backup power generator, redundant communication systems, and has a IT failover system in place. The SEOC and State Warning Point have backup UPS systems for their computers (facility manager). See COG/COOP plan for additional information.	Lightning has the potential to damage property, facilities, and infrastructure. Lightning can spark fires and destroy electrical systems. In South Carolina, the annual estimated damage from lightning since 1950 is \$2.6 million. Because lightning is associated with thunderstorms, see "Severe Thunderstorms" for additional information.	Consequences to the environment from lightning are minimal. The greatest impact is lightning-generated fires. In the case of a fire, see "Wildfires" for more information. Also see "Severe Thunderstorms" since lightning is associated with this hazard type.	Consequences to the economic condition of the State will be minimal to non-existent. The state has several lightning events each year (average of 22.7 events per year). The annual cost of damage to property and infrastructure is approximately \$2.6 million. Most of the damage resulting from lightning strikes are covered under homeowners insurance, & therefore do not impact the state or local economy.	Public confidence in government will not be impacted by a lightning event. See "Severe Thunderstorms" for more information.
(U) Coastal Erosion	The public faces numerous consequences to coastal erosion. Coastal erosion plagues many of the public beaches in South Carolina. In addition to the loss of public beaches, private property and homes have been destroyed. Piers and homes have fallen into the ocean in some rare instances. Since 2015 Public Assistance grants have made more than \$25 million available to renourish beaches and repair other areas damaged by coastal erosion.	Responders will not be impacted by coastal erosion.	SCEMD will not have any issues continuing operations and delivering services due to coastal erosion. The SEOC and Warning Point are located 100 miles from the coastline. See COG/COOP plan for additional information.	Properties, facilities, and infrastructure along the coastline may be impacted by coastal erosion. Coastal erosion can cause homes and piers to fall into the ocean. Critical utilities in some small coastal towns may be impacted if the beaches erode and water is able to inundate their systems.	There are several consequences to the environment from coastal erosion. Coastal erosion by wind or water can deplete the coastal ecosystems. Protective dunes on the shore may be reduced or washed away in hurricanes and high surf. Eroded sands and soil can enter water and sewer systems, causing issues for the public and environment.	Coastal erosion is very costly and can burden local economies. The State of South Carolina has spent more than \$200 million on renourishment projects. Local communities and the State are committed to funding renourishment because the beaches bring in tourists and boost the economy.	Public confidence in government should not be impacted by coastal erosion. Rapidly eroding beaches remain a high priority for renourishment. The state provides support to the local governments as they seek out federal funds for renourishment. The SC DHEC Ocean and Coastal Resource Management Agency (OCRM) helps communities write beach management plans to reduce future losses of coastline from erosion.

<p>(U//FOUO) Dam Failure</p>	<p>The public will feel the direct consequences of a high-hazard dam failure. Low and significant hazard dams do not pose a threat to life safety, although roadways may be inundated. If a high hazard dam fails, there will be numerous casualties. For more specific information on high hazard dams and the consequences to the public, see the Site Specific Dam Plans.</p>	<p>Responders face many consequences from dam failures. A dam failure could inundate thousands of acres of land, limiting access to citizens requiring assistance. In some cases, it may take a day or more for the dam inundation waters to reach downstream threatened areas. First responders may have to help citizens in an evacuation. See "Flooding" for more information on consequences to Responders.</p>	<p>In an extreme event, such as a high hazard dam failure, there may be an instance when the State EOC is impacted. If the State EOC is damaged or the delivery of services is interrupted, it may be necessary to move to the Alternate EOC location or function from another location to maintain operations during the event. See COG/COOP plan for additional information.</p>	<p>Property, facilities, and infrastructure will be significantly impacted by a dam failure. Especially in the event of a high-hazard dam failure, homes, businesses, industries, and infrastructure will be inundated with flood waters. In SC, there is approximately \$3.1 billion in infrastructure located in high hazard dam inundation areas. The effects of a flood on property can be catastrophic. See "Flooding" for more information.</p>	<p>There are numerous consequences to the environment from a dam failure, including the erosion of river banks, introduction of contaminants into the waterways, and biological impacts from animals trapped in the flood. Dam failures have similar consequences as flash flooding and flooding on the environment. See "Flooding" for more information on the consequences to the environment.</p>	<p>Dam failures have the potential to significantly impact the State's economy. For low and significant hazard dams, limited economic impact is expected. For a high hazard dam failure, the impact would be felt statewide. With \$3.1 billion of the state's infrastructure located in the inundation areas, recovery from the event could take years. Hundreds or thousands of citizens could be displaced. Millions of tourism dollars could be lost daily in some instances. All of these factors impact the state's economy.</p>	<p>While South Carolina does have numerous high hazard dams, the State takes a proactive approach to education and outreach. Citizens located in SCANA, Santee-Cooper, and Duke Energy high hazard dam inundation areas are notified of their risk annually. They also receive information on evacuation routes and educational resources. The utilities maintain the dams on a regular basis and SC DHEC and SC EMD participate in the FERC regulation process to ensure all dams are well maintained and exercises are conducted on a regular basis. Due to these measures, public confidence in government is not an anticipated issue in a Dam Failure.</p>
<p>(U) Earthquakes</p>	<p>Consequences to the public from a significant earthquake are numerous. Life safety will be an issue and there is the potential for many casualties. Homes and businesses will be destroyed, roadways and bridges may have failed, power, water, and sewer services may take months to be restored. The historic 1886 Summerville earthquake (7.3) claimed 73 lives and an estimated \$23 million in damage.</p>	<p>Responders face unique consequences from an earthquake event. Earthquakes will damage bridges and roadways, cause land to liquefy, spark fires, and damage hazardous material tanks. Responders will have little communication services available, no power, water, or sewer services, and may not be able to get through to the areas most affected.</p>	<p>In an extreme event, such as a major earthquake, there may be an instance when the State EOC is impacted. If the State EOC is damaged or the delivery of utilities is interrupted, it may be necessary to move to the Alternate EOC location or function from another location to maintain operations during the event. See COG/COOP plan for additional information.</p>	<p>If the historic 1886 earthquake were to happen in modern times, the event is anticipated to be a over a \$7 billion dollar event (Table 6.27). Damage to state facilities would cost \$77 million, impacting over 2,500 facilities.</p>	<p>Environmental consequences from earthquakes are numerous. The ground motion and soil type may cause the ground to liquefy, causing underground storage tanks to surface or fail. Hazardous materials spills are common during earthquakes. In high magnitude earthquakes, trees will fall, underground pipes will break, and fires may spark, all impacting our environment.</p>	<p>The 1886 7.3 M earthquake in Summerville cost \$23 million. An event of that size would cost over \$7 billion dollars today in uninsured losses. The state economy would be severely impacted. The loss of tourism in the Charleston region would add to the economic situation. It would take several years to recover from an event such as this.</p>	<p>Public confidence in government may suffer in the event of an earthquake. It may take several days or weeks to access the hardest hit areas. Debris may block roadways for weeks. Families may have to turn to public shelters if their homes are destroyed. The state has prepared for situations like this. The State Earthquake Plan is available for public display on SCEMD's webpage. SCEMD publishes an earthquake guide annually describing the risks to the public. In the event of an earthquake, their PIO section has premade materials for use in the comprehensive social media program. All of these programs are in place to instill public confidence in government, even in times of a disaster</p>
<p>(U//FOUO) Public Health Emergencies</p>	<p>Consequences to the public from public health emergencies (influenza, plague, food contamination, etc.) are vast. The public may experience temporary illness, long-term illness, or even death. Hospitals and doctor's offices may become crowded, patients may experience long lines, and pharmaceuticals may be limited. In 2009, the nation, the H1N1 pandemic swept the U.S. Vaccinations, medications, and education materials were provided to the public to minimize the impacts of the flu. (CDC H1N1 Flu)</p>	<p>Responders may also feel the consequences of public health emergencies. They may be exposed to the risk and become ill. Responders may have to wear protective gear and receive vaccinations to mitigate their risk. For more information on a Public Health Emergency Response, see Annex 8 of the EOP.</p>	<p>In an extreme event, such as a widespread public health emergency, there may be an instance when the State EOC is impacted. If the State EOC becomes contaminated, it may be necessary to move to our Alternate EOC location or function from another location to maintain operations during the event. For more information, see the SC COOP Plan. For information on the State's response, see the SC EOP and Annex 8.</p>	<p>It is unlikely that the consequences of a public health emergency would impact property, facilities, or infrastructure.</p>	<p>Consequences to the environment from a public health emergency are unlikely. Unless the event is terrorism or HAZMAT related, there will be no direct impact. See HAZMAT below for more information.</p>	<p>The economic condition of the state may be impacted by a widespread public health emergency. If a significant percentage of the population becomes ill, they will not be able to go to work or spend money. The economy will be directly impacted by both of these factors. With vaccinations and early detection of pandemics and other public health issues, the impacts can be minimized.</p>	<p>Public confidence in governance may be minimally impacted by a public health emergency. In South Carolina, DHEC monitors air & water quality, tracks potential influenzas & other contagious viruses/bacteria, and provides education & outreach on health. SC DHEC advertises their 15 Public Health Preparedness Capabilities online to show transparency to the public. SC DHEC also runs hospital preparedness programs and hosts healthcare coalitions & partnerships. In a widespread event, SC DHEC is prepared to meet the needs of the public. Therefore, public confidence in government should only be minimally impacted in a major event. (SCDHEC Public Health Preparedness)</p>
<p>(U//FOUO) HAZMAT (fixed and mobile, FNF)</p>	<p>The public could be immediately impacted by the consequences of a Hazardous Materials (HAZMAT) release/spill/explosion. HAZMAT releases can result from many sources including fixed facilities, roadway, rail, Fixed Nuclear Facilities, or can be intentionally used for harm in a terrorist act. Citizens may be impacted on roadways, at school, in their homes, through their food supply, or in public venues (large stadiums, athletic events, movie theaters, etc.). The consequences of hazardous materials may be illness, injury, or death. (SC DHEC Terrorist Hazards) In a major event (such as a radiological release, explosion, or chlorine spill), citizens may be displaced from their homes until the site is cleaned.</p>	<p>Responders face the immediate consequences of HAZMAT incidents. They must determine the type of material released/spilled, and decide on the appropriate response and cleanup of the material. The state has a variety of response teams to include HAZMAT, RMat (radiological material), National Guard CST, and EOD (Bomb squad). These responders are specially trained to deal with these incidences and they are provided protective gear to reduce their vulnerability to the hazardous materials.</p>	<p>In the event of a HAZMAT release/spill, FNF release, or Terrorist act, there may be an instance when the State EOC is impacted. If the State EOC is damaged or the delivery of services is interrupted, it may be necessary to move to our Alternate EOC location or function from another location to maintain operations during the event. For more information, see the SC COOP Plan, SCORERP, and SC DHEC's Contingency Plan.</p>	<p>Property, facilities, and infrastructure will be significantly impacted by a HAZMAT incident. Especially in the event of an explosion, homes, businesses, industries, and infrastructure may be damaged or destroyed. In addition, most mobile hazmat releases are caused by traffic accidents, which can destroy vehicles, roadways, and signage.</p>	<p>The environment is likely to experience significant consequences from a HAZMAT incident. Sensitive ecosystems could be destroyed or significantly disturbed. Hazardous materials can be quickly spread through water, air, or the food supply. (SC DHEC Terrorist Hazards) Once HAZMAT are in our environmental systems, it may take days, weeks, months, or years to clean-up. (State of South Carolina Oil and Hazardous Substances Contingency Plan)</p>	<p>Depending on the size of the incident, the state's economy could experience enormous consequences. As reported by the Huffington Post, the BP oil spill in 2011 has cost approximately \$40 billion to clean up. This would be a worst-case scenario. More common incidents such as HAZMAT spills on highways or releases at chemical facilities impact the economy if an industry or transportation routes are shut down.</p>	<p>Public confidence in governance may be impacted by a HAZMAT incident. In small, localized events, SCEMD does not believe there would be any impact on public confidence. These events happen on a regular basis. In a major chemical release, radiological release, or terrorist incident, citizens may be inclined to lose confidence in governance. In these instances, SCEMD has premade media products for distribution on our webpage (www.scemd.org) or on our social media outlets (@scemd). Nuclear facilities provide educational materials to citizens in the EPZs annually. FNFs also have sirens to alert citizens of an incident. Exercises are completed on a regular basis per federal standards. For more information, see the SCORERP or SCEMD's website.</p>

(U) Structural Fire	The public will be impacted by a structural fire if it impacts their home or place of employment. In a large structural fire nearby roads and methods of transportation may be disrupted. Serious injury or death can occur.	Responders are directly impacted by a structural fire. Responders are at risk when responding to a structural fire. In the event of a large structural fire that spreads, response times may be blocked.	In an event that a structural fire directly impacts the SEOC, the Alternate EOC can be used and the State has a COOP Plan in place that could be activated and implemented at any time. See COG/COOP plan for additional information.	Property, facilities, and infrastructure may be significantly impacted by a structural fire. If the fire is large it may impact several properties.	The environment is unlikely to be impacted by a structural fire, though the area surrounding the fire may be impacted.	Structural fires are typically a local disaster and the State's economy should not be impacted. If a large fire does occur and cannot be controlled quickly, there could be a greater economic effect. If a small community was hit by a structural fire that spreads to several buildings/blocks, the local economy could be devastated. Local assistance through VOADs, especially the American Red Cross, would be utilized.	Public confidence in governance is unlikely to be impacted by a structural fire.
(U) Tsunami	Due to the low probability of a tsunami occurring in South Carolina it is unlikely that the public will be impacted. However, if there is a tsunami the populations living on the coast are at risk. If there is significant warning time less of the public will be impacted than if the tsunami occurs with little warning, such as one generated by a Charleston earthquake.	Due to the inland location, SCEMD does not anticipate any issues maintaining operations and the delivery of services during a tsunami.	Due to the inland location, SCEMD does not anticipate any issues maintaining operations and the delivery of services during a tsunami.	Property, facilities, and infrastructure along the coast are at risk if a tsunami impacts the state. It is very unlikely that there will be a tsunami large enough to impact significant numbers of properties.	There are several consequences to the environment from a tsunami. Protective dunes on the shore may be reduced or washed away. Beaches could be significantly damaged.	If there is a very large tsunami the economy may be impacted. The additional impact of flooding on transportation, agriculture, business continuity, and government services is substantial. However, if there is a minor tsunami it is unlikely that economic conditions of the state will be impacted, though local jurisdictions may be.	Public confidence in governance is unlikely to be impacted by a tsunami. The USGS will use a tsunami warning if there is an earthquake off the coast that may generate a tsunami and SCEMD will share this warning.
(U//FOUO) Active Shooter/Hostile Action	The public is at risk from an active shooter or hostile action event. Typically these events are random so any of the public could be at risk.	Responders are at risk during an active shooter/hostile action event. Responders may be a target. Once the active shooter is down the risk to responders greatly decreases. The state has a variety of teams that are trained to respond to these events and have the necessary equipment.	SCEMD does not anticipate any issues maintaining operations and the delivery of services during an active shooter event. In an event that directly impacts the SEOC, the State has a COOP Plan in place that could be activated and implemented at any time. See COG/COOP plan for additional information.	Property, facilities, and infrastructure may be at risk. Critical facilities/infrastructure may be a purposeful target. An attack on critical infrastructure can cause the infrastructure to be unusable for days to weeks.	It is unlikely that an active shooter/hostile action event will impact the environment, unless the environment is the specific target.	The economic condition of the jurisdiction is unlikely to be impacted by an active shooter/hostile action event, unless the target of the event is a business or event is a large contributor to the state economy.	Public confidence in governance may be impacted by an active shooter or hostile action event. The response to the hostile action may impact public confidence.
(U//FOUO) Civil Disturbance	Civil Disturbances can put the public at risk. The disturbance can start with the public and may put the public at risk of violence	Responders may be at risk during a civil disturbance event. They may be a target. The state has a variety of teams that are trained to respond to these events and have the necessary equipment.	SCEMD does not anticipate any issues maintaining operations and the delivery of services during a civil disturbance. In an event that directly impacts the SEOC, the State has a COOP Plan in place that could be activated and implemented at any time. See COG/COOP plan for additional information.	Civil disturbances may impact property, facilities, and infrastructure. These events typically impact small geographic area so it is unlikely that large areas of infrastructure will be impacted, but if the civil disturbance lasts for days it may have a larger impact on surrounding properties.	It is unlikely that a civil disturbance will impact the environment. The local environment may be minority impacted.	The economic condition of the jurisdiction is unlikely to be impacted by a civil unrest event, unless the target of the event is a business or event is a large contributor to the state economy.	Public confidence in governance may be impacted by a civil disturbance. Lowered public confidence in the jurisdiction's governance may be a contributing factor to the civil disturbance, and the response to the civil disturbance may impact public confidence.
(U) Landslides	Due to the low probability of a landslide occurring in the state it is unlikely that the public will be impacted. Landslides can put the public at risk of serious injury or death. Homes and businesses can be damaged or destroyed.	Responders are at low risk of harm during a landslide, though a secondary landslide could occur during the response time. Landslides can damage response equipment.	SCEMD will not have any issues continuing operations and delivering services during landslide events. See COG/COOP plan for additional information.	Landslides may cause damage to properties or roadways. A landslide may cover a roadway with debris that will take some time to remove, and if it is very large it may cause permanent damage to the roadway. In addition, large land slides could affect overhead utilities that run along side of roadways.	A landslide will impact the environment. This is more likely to occur on a slope that has already been damaged due to wildfire or severely heavy rains. A landslide can damage an entire slope.	There is very little chance that a landslide will have an impact on the economic conditions of the state.	It is very unlikely that a landslide will have an impact on the public confidence in the jurisdiction's governance.
(U) Sinkholes	There is little risk to the public in case of a sinkhole. There is a small possibility that the public could be injured. Homes and businesses can be damaged or destroyed.	Responders are at low risk of harm during a sinkhole. If the sinkhole is very large it could cause dangerous response conditions.	SCEMD will not have any issues continuing operations and delivering services during sinkhole events. See COG/COOP plan for additional information.	Sinkholes may cause damage to property, facilities, and infrastructure. A large sinkhole can cause significant damage to a property or infrastructure.	A sinkhole can damage the environment, though it will be limited to a small area.	It is very unlikely that a sinkhole will have an impact on the economic	It is very unlikely that a sinkhole will have an impact on the public confidence in the jurisdiction's governance.
(U//FOUO) Cyber Attack	A cyber attack affecting the key life-line sectors of CI/KR would result in a significant impact to the population. Electric service affecting homes, businesses, and other essential facilities could result in degraded medical, emergency, and governmental services. Of particular concern is at-risk populations being affected by the loss of life-sustaining services.	Typically first responders will not be physically directly affected. However, many of the systems that both responders and the public rely on to facilitate emergency response could be impacted. These include communications, transportation, electric, water, and public health.	A cyber attack directed at state government institutions could degrade the ability of the state and local governments to operate due to IT system dependencies. However, if the life-line sectors of CI/KR are providing their services, the public would be inconvenienced, but the framework would be in place for the government to be able to reconstitute its services.	To create the desired effects, analysis indicates that a cyber attack would have to be directed at large interconnected systems such as the Bulk Electric System (BES). Creating cyber effects against individual residences and small to medium private businesses is not likely to create the adversaries desired effect.	A cyber attack directed at industrial infrastructure that contains HAZMAT could cause environmental damage. However, since very few to any of these individual companies' industrial processes tend to be interconnected, the ability to create widespread environmental damage in SC through cyber space is very limited.	The economic impact to a jurisdiction as a result of a intentional cyber attack can range from minimal to catastrophic. Attacks directed at public health, transportation, communications, and the electric grid, depending upon duration, could have devastating economic effects on SC.	A cyber attack that impacts not only the ability of government to provide services to its population but also effects the ability of the private sector to provide life-line sector services will put people at risk and have a significant negative impact on the population's confidence in their government's ability to provide basic services.
(U//FOUO) Terrorism	Although considered a low probability event for South Carolina, a terrorist attack occurring within SC would have significant impacts on the public. Typically these attacks are designed to instill fear in the populace, and as a result, the public is often the focus of the attack.	Responders face considerable risk when responding to a terrorist attack. In addition to the possibility of directly engaging the terrorist threat, many terrorist organizations have advocated for their followers to conduct secondary or follow-on attacks that are directed at first responders.	Often, the purpose of the terrorist attack is to show weakness in the government's ability to protect it's citizens. If an attack were directed at the SEOC, the possible facility damage, and injuries to key personnel would result in having to move to the AEOC and establish operations there.	Many times, terrorists target critical infrastructure that is heavily relied upon by the population or has some key political or religious stature within the jurisdiction. Typically individual residences will not be directly targeted but may become collateral damage depending upon their proximity to the targeted CI/KR.	Depeding upon the scale and target of the terrorist attack, the environment could be significantly impacted. For example, within SC, we have four FNF generating plants, that if damaged, could result in significant environmental and agriculture damage that could last decades.	Typically, one of the primary desired outcomes for terrorists is to create widespread systemic effects within the target's economic system. A successful terrorist attack within SC would result in long-term and widespread damage to the state's economy.	A probability exists that a successful terrorist attack within SC would erode public confidence in the government's ability to protect it's citizens. An unprepared jurisdiction's effects would be further enhanced by mishandling the response and recovery from the event.