

Goal #4: Collect and utilize data, including conducting necessary studies and analyses, to improve policymaking and identify appropriate mitigation projects.

Mitigation Action	Hazard(s) Addressed	Priority	Category	Associated Goal	Estimated Cost	Potential/Current Funding Sources	Lead Agency or Department Resources	Implementation Schedule	Implementation Status	Milestones Achieved, Impediments to Implementation	Status in 2018 Plan
The development of a database to track the retrofits and map through the GIS digitized mapping process of properties and information collected through the application process of homes awarded through the grant program, SC Safe Home.	Hurricane, high-wind storms	High	Property Protection	4	\$485,000	HMGP, PDM	Department of Insurance	Database is now operational. GIS mapping component will be included when funding is available.	Completed Partially	2010- The SC Safe Home database was developed and is now operational. Further enhancements to include a GIS mapping component are dependent on funding.	Ongoing
Update Flood Insurance Rate Maps statewide through the Map Modernization Initiative.	Flood	High	Prevention	4	~ \$21 million	FEMA Cooperating Technical Partners Program	Department of Natural Resources - Flood Mitigation Program	Ongoing	Ongoing - Beaufort County is the final county to be released completing phase one of the modernization of the State Flood Insurance Rate Maps. The state has transitioned into phase two	2017 - County-wide Flood Insurance Studies and Digital Flood Insurance Rate Maps are either preliminary or effective for 45 Counties. The 46th County will be released preliminary in 2017. Risk MAP has transitioned	Ongoing

									known as "RISK MAP" and studies are in various stages of the process in the Wateree, Lower Catawba, Seneca, Middle Savannah, Upper Savannah, Stevens, Salkehatchie, Black, and Tyger watersheds.	mapping to be based on Watersheds. Nine (9) watersheds are currently being studied.	
Improve current state and federal research programs addressing drought.	Drought	Moderate	Prevention	4	None entered	Pre Disaster Mitigation, Hazard Mitigation Grant Program, Emergency Management Performance Grant	Department of Natural Resources - State Climate Office	Ongoing	Ongoing	Significant discussion with drought response committee and Senate Ag & Natural Resources Committee. This is also a critical part of the ongoing update to the State Water Plan, which is expected to have several recommendations to address the needs on this topic. Funding was requested for an additional staff members to focus on this, with no funding	Ongoing

										provided last session. It will be requested again this year by Chairman Verdin	
Retrofit agency Region IV coastal buildings to prevent substantial loss in the event of most natural disasters.	Flood, Hurricane, Nor'easter, Tornado	High	Prevention	4	\$300,000	PDM, HMGP	Department of Natural Resources, Kevin Kibler 734-3965	(1) MRRRI construction start date was 10/2/08; MRRRI construction completion date is projected to be 4/12/2010. (2) Quarantine Officer's Quarters construction start date was 4/1/08; Quarantine Officer's Quarter construction completion date is project to be 11/10. (3) Marshlands House construction start date was 6/7/07; Marshlands construction completion date is project to be 2/11.	(1) MRRRI has progressed nicely and is essentially complete. (2) Quarantine Officers Quarters renovation is progressing well and should easily meet its estimated completion date. (2) Marshlands House renovation is progressing well and should easily meet its estimated completion date.	2010 - Many of the agency's Region IV Building have already been approved for state funding to accomplish retrofit/upgrade work. These projects include: Historic Houses and Structures Repairs - \$2,200,000 and Marine Resources Research Institute building in Charleston - \$5,000,000 - 2017 - Completed	Ongoing
Identify soils under and around roadways that are subject to liquefaction	Earthquake	Moderate	Property Protection	4	\$2,000,000	FEMA-Emergency Operational Planning, Hazard Mitigation Grant Program, Pre Disaster Mitigation, Emergency Management Performance Grant, Homeland Security Grants, State Funding	Department of Transportation	Dependent on funding	Dependent on funding	2020 - Impediments: funding and permits.	Ongoing
Improve bridge safety by evaluating the potential of future flood damages during the base flood discharge to existing	Flooding	Moderate	Property Protection	4	\$100,000	FEMA-Emergency Operational Planning, Flood Mitigation Assistance Program (projects, technical assistance), Natural Resource Conservation	Department of Transportation	Ongoing	Dependent on funding	2020 - Impediments: funding and permits.	Ongoing

bridges and overpasses in flood hazard areas. The assessment should identify those transportation structures at risk and develop appropriate retrofitting options.						Service - Watershed Protection and Flood Prevention Program, Pre Disaster Mitigation, Hazard Mitigation Grant Program, Emergency Management Performance Grant, Homeland Security Grants, State Funding					
Perform reoccurring preliminary inspections of high and significant hazard dams.	Flood, Failure Dam	High	Property Protection	4	\$56,500	FEMA Non-Disaster Grant and State Matching Money	DHEC - Dams and Reservoir Safety Program	Immediate/on gong		The Department inspects high hazard dams once every two years and significant hazards every three years. The department generally inspects over 200 dams per year with less than one position currently devoted to this activity.	Ongoing
Monitor precipitation forecast and issue warnings to dam owners	Flood, Failure, Hurricane Dam	High	Prevention	4	\$500	FEMA Non-Disaster Grant and State Matching Money	DHEC - Dams and Reservoir Safety Program	Immediate/on gong		The Department just issued a press release on Friday (August 24) that instructed dam owners to safely lower the water levels of their reservoirs.	Ongoing
Following dam failures, conduct evaluations of the failure, related damage and determine improvement	Flood, Failure, Hurricane Dam	High	Prevention	4	\$8,500	FEMA Non-Disaster Grant and State Matching Money	DHEC - Dams and Reservoir Safety Program	Immediate/on gong		The Department attempts to perform these inspections as soon as possible. However, some dam owners	Ongoing

										don't report failures to the department and make repairs without our knowledge.	
Continue and Expand Beach Monitoring	Coastal Storms and Hurricanes Erosion	Moderate	Prevention, Property and Natural Resource Protection	4	\$250,000	SC Beach Restoration and Improvement Trust Fund, HMA grants, USGS	DHEC-OCRM	Ongoing	The Beach Erosion Research and Monitoring Program (BERM) was developed and collects annual beach profile data to document change in active beach systems	2009 - New action - Data collected through BERM useful should be expanded to include post-storm data collection	Ongoing
Gather smoke dispersal information from wildfires and prescribed burns and enter data into a smoke model to predict smoke dispersal patterns.	Wildfire	High	Prevention	4	\$200,000	National Fire Protection grants, Department of Homeland Security - Firefighters Grants	Forestry Commission	Ongoing as funds allow	Ongoing process of gathering information from wildfires and prescribed burns to enter into smoke model to predict smoke dispersal. Working with US Forest Service and University of Georgia to validate the Piedmont smoke model.	2010 - Smoke model which is located in GA is not always on-line and model has not been validated. Continue to work with partner agencies to develop a reliable smoke prediction model.	Ongoing
Utilize Southern Wildfire Risk Assessment data to determine wildfire risk, conduct Firewise workshops and place prevention education teams.	Wildfire	High	Public Information and Awareness	4	\$500,000	Hazard Mitigation Grant Program, Pre Disaster Mitigation, Emergency Management Performance Grant	Forestry Commission	Ongoing as funds allow	Ongoing process especially in analyzing the Southern Wildfire Risk Assessment Data.	2012- Have conducted workshops in communities with moderate to high wildfire risk, and wildfire prevention teams have been deployed annually throughout the state.	Ongoing

Develop alternate access routes for fire suppression equipment following an earthquake.	Earthquake	Moderate	Emergency Services	4	Staff time and input from SCEMD	FEMA - Emergency Management Performance Grants, Mitigation Assistance Program, FEMA - All Hazards Emergency Operational Planning	Forestry Commission	FY 2010	Currently working with DOT	2010 - With current Computer Aided Dispatch System (CADS) software is available to gather alternate route information to assist with access. Also, we can utilize our aircraft to fly over incident to identify alternate routes.	Ongoing
Conduct state-specific wildfire risk assessment using Southern Wildfire Risk Assessment data.	Wildfire	Moderate	Prevention	4	\$1,000,000	Pre Disaster Mitigation, Hazard Mitigation Grant Program	Forestry Commission	Ongoing as funds allow	Ongoing	2013 - Will continue to update the Southern Wildfire Risk Assessment with current wildfire occurrence data and accurate fuels information.	Ongoing
Communities located in high risk areas should implement Firewise program.	Wildfire	Moderate	Prevention, Public Information and Awareness	4	Staff time and resources	Pre Disaster Mitigation, Hazard Mitigation Grant Program	Forestry Commission	Ongoing as funds allow	The South Carolina Forestry Commission continues to promote and support the implementation of the Firewise program across the state.	2013 - Sixteen communities across the state have achieved "Firewise Community USA" status. These communities have an approved community wildfire protection plan and implement Firewise principles	Ongoing

Develop wildfire mitigation plans in high risk communities.	Wildfire	Moderate	Prevention	4	\$150,000	FEMA - Emergency Operational Planning, Pre Disaster Mitigation, Hazard Mitigation Grant Program, Emergency Management Performance Grant, National Fire Plan grant	Forestry Commission	Ongoing as funds allow	Ongoing	2013 - Have developed over 768 wildfire risk assessments that are distributed to local fire chiefs that serve the community and a copy to the HOAs to encourage having Firewise workshops. Utilized National Fire Plan grant funds to conduct assessments and develop Community Wildfire Protection Plans.	Ongoing
Create a Disaster Resistant University All Hazard Mitigation Plan	All Hazards	High	Prevention	4	\$200,000	HMA grants, General Operating Funds	Medical University of South Carolina	Start Sept 2011	Dependant on funding	Applying for funding in 2011. Funding received in 2011; plan is in progress	Ongoing
Plan and develop a Center for Health Professional Training and Emergency Response (CHPTER)	All Hazards	High	Prevention	4	\$600,000	State Law Enforcement Division (SLED), SC Hospital Association, Agency for Healthcare Research and Quality (AHRQ), US Department of Health and Human Services (HHS), Department of Homeland Security (DHS), non-profit organizations, non-governmental organizations, private philanthropy	Medical University of South Carolina	Project can be completed within three years of receipt of funding	Dependant on funding	Applying for funding in 2011. Partial funding received in 2011; applied for additional funding in 2012 cycle; CHPTER is in progress with partial funding	Ongoing

<p>Mitigation Success Stories Development - Develop a simple method to identify and record the ongoing mitigation success stories from across the state. Identify the critical data needed to show the full benefits of these actions over time.</p>	All Hazards	High	Planning	4	\$75,000	<p>FEMA- Emergency Operational Planning, Hazard Mitigation Grant Program, Pre Disaster Mitigation, Emergency Management Performance Grant, Homeland Security Grants, State Funding</p>	SC EMD	Time span 3-5 years	Ongoing - Staff tracks all mitigation projects.	Staff time and resources 2018 - Developing project proposal with Polis Center	Ongoing
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Develop data distribution standards for the mitigation database to address data security, sharing and Freedom of Information Act (FOIA) issues.	All Hazards	Moderate	Planning	4	\$45,000	HMA grants, Economic Development Administration, PA, EMPG, SBA	SC EMD	Time span 2-4 years	Dependent upon funding	Staff time and resources	Ongoing
Conduct detailed HAZUS-MH studies	Earthquake, Flood, Hurricane	Moderate	Prevention	4	None entered	Pre Disaster Mitigation, Hazard Mitigation Grant Program, Flood Mitigation Assistance Program (technical assistance)	SC EMD	None entered	In progress.	Staff time and resources	Ongoing
Develop detailed seismic maps and mapping effects of historical SC earthquakes. Will be used to validate earthquake	Earthquake	Moderate	Prevention	4	None entered	Pre Disaster Mitigation, Hazard Mitigation Grant Program, Mitigation Assistance Program, Emergency Management	SC EMD	Ongoing	Seismic maps are being prepared as HAZUS-MH studies are being completed.	Seismic maps were used during the 2007 two-day full scale exercise for mitigation planning. Seismic maps are referred to	Updated and Ongoing

loss scenarios and allow effective mitigation actions.						Performance Grants				for mitigation actions by local jurisdictions and the public.	
Track and map space available for pets at local SPCA and other animal shelters	All Hazards	Low	Planning	4	\$45,000	HMA grants, Economic Development Administration, PA, EMPG, SBA	SC EMD	Time span 3-5 years	Dependent upon funding.	Staff time and resources	Updated and Ongoing