



## State of South Carolina Office of the Governor

NIKKI R. HALEY  
GOVERNOR

1205 PENDLETON STREET  
COLUMBIA 29201

October 4, 2016

The Honorable Barack Obama  
The President of the United States  
The White House  
1600 Pennsylvania Avenue, NW  
Washington, DC 20500

Through: VIA MAIL AND ELECTRONIC DELIVERY  
Gracia B. Szczech  
Regional Administrator, Region IV  
Federal Emergency Management Agency  
3003 Chamblee Tucker Road  
Atlanta, GA 30341

Dear Mr. President:

Under the provisions of Section 501 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5121-5207 (Stafford Act), and implemented by 44 CFR § 206.35, I request that you declare an emergency for the State of South Carolina as a result of the anticipated effects from Hurricane Matthew. Hurricane Matthew is a large, powerful hurricane with the very real potential to cause widespread, catastrophic damages to South Carolina. Our most current model, following a very similar track to 1954's Hurricane Hazel and 1999's Hurricane Floyd, shows the potential for significant storm surge, widespread power outages, hundreds of homes inundated by water, sectors of infrastructure impacted for long periods of time, and many other effects that will tax and surpass our state and local capabilities.

In response to the situation, I consulted with all coastal counties, took appropriate action under state law, and directed the execution of the State Emergency Operations Plan on October 4, 2016, as well as declared a State of Emergency to exist throughout the State of South Carolina in accordance with Section 501 (a) of the Stafford Act. We are requesting an incident period beginning October 4, 2016.

The potential storm surge, strong winds, and rainfall pose threats beyond state capability to manage including need for widespread search and rescue, rescue from swift water, long term sheltering operations, air operations in support of life saving and life sustaining missions, assistance with transportation of vulnerable populations, support for areas without power or drinking water, and other unforeseen consequences of the hurricane to which the state is currently vulnerable. Therefore, it is necessary for me to request federal resources be made available to the state of South Carolina as the state responds to this historic event. As such, we

request Public Assistance-Category B (Emergency Protective Measures), including Direct Federal Assistance, for the counties of Abbeville, Aiken, Allendale, Anderson, Bamberg, Barnwell, Beaufort, Berkeley, Calhoun, Charleston, Cherokee, Chester, Chesterfield, Clarendon, Colleton, Darlington, Dillon, Dorchester, Edgefield, Fairfield, Florence, Georgetown, Greenville, Greenwood, Hampton, Horry, Jasper, Kershaw, Lancaster, Laurens, Lee, Lexington, Marion, Marlboro, McCormick, Newberry, Oconee, Orangeburg, Pickens, Richland, Saluda, Spartanburg, Sumter, Union, Williamsburg, and York.

To ensure that the State is able to protect our most vulnerable populations, areas, and resources, we are asking for federal support in several areas. The State of South Carolina is being very proactive in our approach to Hurricane Matthew, and anticipate FEMA will mirror our stance. We are requesting Direct Federal Assistance in the forms of an Incident Management Assistance Team, ground transportation management assistance, air transportation support, medical evacuation transportation, generators (to provide for the energy needs of critical facilities and associated operations in the impacted area after the storm), water and food operations, mass care technical and logistical support, search and rescue (inland areas not under the Coast Guard's jurisdictions), swift water rescue, and debris removal to support response and initial recovery operations in the impacted areas.

While storm surge, flooding, and damaging winds have been forecasted, much of the support that will be provided has yet to be requested. It is critical that the State have access to federal resources to assist in this response operations, so as to rapidly deploy to meet immediate life and property saving missions. The following information is furnished on the nature and amount of State and local resources that have been or will be used to alleviate the conditions of this emergency in accordance with our Hurricane Plan:

1. The South Carolina Emergency Management Division is coordinating daily with the National Weather Service, National Hurricane Center, local jurisdictions and state agencies in regard to storm weather forecasts and projected impacts in terms of rainfall, high winds, storm surge and flooding in the coastal areas and along rivers within the State.
2. The State Emergency Operations Center (SEOC) augmented operations and will activate Emergency Support Functions as of October 4, 2016. The State EOC has been and will continue to do the following: monitor storm track and interface with localities and state agencies projected to be impacted by the storm; disseminate the necessary public information and guidance to the public and respond to media inquiries; mobilize and pre-stage resources to respond effectively to local and regional requests for assistance; and coordinate with partner states aligned with our mutual aid compact for additional resources.
3. The South Carolina Department of Transportation (SCDOT) crews in each county are in the process of inventorying equipment and preparing their teams to begin support of a coastal evacuation. Immediately upon completion of evacuations, SCDOT will transition to gathering and preparing debris-clearing equipment, including heavy equipment, chainsaws, and other items used to remove tree limbs and debris from

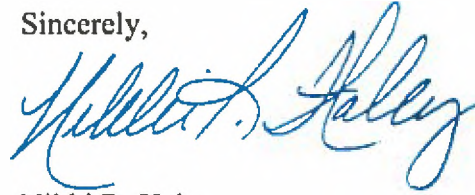
roadways and bridges. Crews are also preparing equipment such as signs and barricades to be put in place on roads and bridges that could become washed out.

4. State law enforcement agencies, and every city and county in the affected areas of the State, is in the process of implementing a number of protective actions to address and mitigate anticipated life-safety situations precipitated by the effects of the storm.
5. The South Carolina National Guard is preparing to mobilize assets consisting of personnel and equipment. The South Carolina National Guard will pre-stage personnel to support anticipated requests for assistance in regard to evacuation of citizens, rescue missions, traffic control, security, debris clearance, and other response and recovery missions as required.
6. The Department of Social Services, American Red Cross and other Voluntary Organizations Active in Disasters (VOADs) members will mobilize to support the opening of shelters starting as early as October 4, 2016 in support of coastal evacuations and local shelter operations as appropriate.
7. The South Carolina Department of Health and Environmental Control is prepared to establish special medical needs shelters. It is possible that several hundred individuals could seek the advanced level of care provided in a special medical needs shelter as storm surge and flood waters advance.
8. The South Carolina Department of Health and Environmental Control has been in communication with its licensed facilities and is working with the facilities to anticipate any unmet needs or any issues that may arise with vulnerable populations.
9. The Office of Regulatory Staff is coordinating with and monitoring the utilities in regard to increased readiness activities. Private non-profit electric and telephone utility cooperatives, as well as private utilities, are mobilizing in preparation for this event.
10. Included is a HAZUS (Hazards US Multi-Hazard) hurricane event report from Hurricane Hazel and Hurricane Floyd. These two hurricanes followed a similar path to Hurricane Matthew and has been used to assess potential impacts to South Carolina.
11. Also included are FEMA Form 010-0-13 and the most recent five-day forecast cone from the Storm Center.

The Honorable Barack Obama  
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October 4, 2016

These storms will have significant impacts not only on our State but the entire east coast. We are aware of the tasks ahead of both us and our neighbors, and are assured of our ability to meet these many challenges together.

Sincerely,

A handwritten signature in blue ink, appearing to read "Nikki R. Haley", written in a cursive style.

Nikki R. Haley  
Governor

Enclosures  
FEMA Form 010-0-13  
HAZUS Report Hurricane Floyd  
HAZUS Report Hurricane Hazel  
Five-Day Forecast Cone Report

DEPARTMENT OF HOMELAND SECURITY  
FEDERAL EMERGENCY MANAGEMENT AGENCY

OMB No. 1660-0009 Expires March 31, 2015

**REQUEST FOR PRESIDENTIAL DISASTER DECLARATION  
MAJOR DISASTER OR EMERGENCY**

1. Request Date Oct 4, 2016

**Burden Disclosure Notice**

Public reporting burden for this form is estimated to average 9 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and submitting the form. This collection of information is required to obtain a benefit. You are not required to respond to this collection of information unless it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing the burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street SW, Washington, DC 20472, Paperwork Reduction Project (1660-0009). **NOTE: Do not send your completed form to this address.**

Completion of this form including applicable attachments satisfies legal requirements for emergency and major disaster declaration requests under 42 U.S.C. §§ 5170 and 5191, respectively, as implemented at 44 C.F.R. §§ 206.35 and 206.36. Failure to use this form may result in a failure to meet these requirements and/or a delay in processing the request.

<b>2a. Name of State (as defined in Stafford Act 102, 42 U.S.C. § 5122) or Indian tribal government requesting declaration.</b> South Carolina		<b>2b. Population (as reported by 2010 Census) or estimated population of Indian tribal government's damaged area(s).</b> 4,625,401
<b>3. Governor's or Tribal Chief Executive's Name</b> Nikki R. Haley	<b>4. Designation of State or Tribal Coordinating Officer upon declaration (if available) and phone number</b> Kim Stenson, Emergency Management Director, (803) 737-8566	
<b>5. Designation of Governor's Authorized Representative or Tribal Chief Executive Representative upon declaration (if available) and phone number</b> Kim Stenson, Emergency Management Director, (803) 737-8566		
<b>6. Declaration Request For:</b> <input type="checkbox"/> Major Disaster (Stafford Act Sec. 401) <input checked="" type="checkbox"/> Emergency (Stafford Act Sec. 501(a))		
<b>7. Incident Period:</b> Beginning Date    End Date    or <input checked="" type="checkbox"/> Continuing <div style="display: flex; justify-content: space-between;"> <div>Oct 4, 2016</div> <div></div> <div></div> </div> <p style="font-size: small; margin-top: 5px;"><i>If requesting a "continuing" incident period, enclose an official statement from a qualified Federal Government agency acknowledged as a national authority in a specific incident field (e.g., United States Geological Survey for seismic incidents, the National Weather Service for flooding).</i></p>		
<b>7b. Type of Incident (Check all that apply)</b> <div style="display: flex; flex-wrap: wrap; padding: 5px;"> <div style="width: 33%;"><input type="checkbox"/> Drought</div> <div style="width: 33%;"><input type="checkbox"/> Earthquake</div> <div style="width: 33%;"><input type="checkbox"/> Explosion</div> <div style="width: 33%;"><input type="checkbox"/> Fire</div> <div style="width: 33%;"><input checked="" type="checkbox"/> Flood</div> <div style="width: 33%;"><input checked="" type="checkbox"/> Hurricane</div> <div style="width: 33%;"><input type="checkbox"/> Landslide</div> <div style="width: 33%;"><input type="checkbox"/> Mudslide</div> <div style="width: 33%;"><input checked="" type="checkbox"/> Severe Storm <small>(rain, high water, wind-driven rain, hail, lightning)</small></div> <div style="width: 33%;"><input type="checkbox"/> Snowstorm <small>(Must include Enclosure D: Historic and Current Snowfall Data)</small></div> <div style="width: 33%;"><input type="checkbox"/> Straight-Line Winds</div> <div style="width: 33%;"><input type="checkbox"/> Tidal Wave</div> <div style="width: 33%;"><input checked="" type="checkbox"/> Tornado</div> <div style="width: 33%;"><input type="checkbox"/> Tropical Depression</div> <div style="width: 33%;"><input type="checkbox"/> Tropical Storm</div> <div style="width: 33%;"><input type="checkbox"/> Tsunami</div> <div style="width: 33%;"><input type="checkbox"/> Volcanic Eruption</div> <div style="width: 33%;"><input type="checkbox"/> Winter Storm</div> <div style="width: 33%;"><input type="checkbox"/> Other (please specify) _____</div> </div>		
<b>8. Description of damages (Short description of impacts of disaster on affected area and population). Include additional details in enclosed Governor's or Tribal Chief Executive's cover letter.</b> I request that you declare an emergency declaration for the State of South Carolina to support response operations in anticipation of Hurricane Matthew. The entire state is threatened by the potential effects of Hurricane Matthew as it is currently forecast.		
<b>9. Description of the nature and amount of State and local or Indian tribal government resources which have been or will be committed. Include additional details in enclosed Governor's or Tribal Chief Executive's cover letter.</b> Under state law, I directed the execution of the State Emergency Operations Plan on October 4, 2016, as well as declared a State of Emergency to exist throughout the State of South Carolina in accordance with Section 501 (a) of the Stafford Act. Dozens of state agencies and voluntary organizations are engaged in preparedness and response activities in anticipation of the historic rainfall.		

10. Joint Preliminary Damage Assessment\*

☐ Individual Assistance      Dates Performed      Requested \_\_\_\_\_ Start \_\_\_\_\_ End \_\_\_\_\_

Individual Assistance Accessibility Problems (Areas that could not be accessed, and why)

☐ Public Assistance      Dates Performed      Requested \_\_\_\_\_ Start \_\_\_\_\_ End \_\_\_\_\_

Public Assistance Accessibility Problems (Areas that could not be accessed, and why)

11. Programs and Areas Requested

Individual Assistance    ☒ N/A    ☐ Individuals and Households Program    ☐ Crisis Counseling Program    ☐ Disaster Unemployment Assistance  
☐ All    ☐ Disaster Case Management    ☐ Disaster Legal Services

For the following jurisdictions, specify programs and areas (counties, parishes, independent cities; for Indian tribal government, list tribe(s) and/or tribal area(s)) If additional space is needed, please enclose additional documentation).

N/A

For States, identify Federally-recognized Tribes in the requested counties (if applicable).

Please see Enclosure A: Supplemental Information for Individual Assistance for additional information in support of this request\*.

\*Not Required for Emergency Declaration Request

# 11. Programs and Areas Requested (Continued)

Public Assistance ☐ N/A ☐ Debris Removal (Category A) ☒ Emergency Protective Measures (Category B) ☐ Permanent Work (Categories C-G)\*  
(not available for Emergency Declaration Requests)

For the following jurisdictions, specify programs and areas (counties, parishes, independent cities; for Indian tribal government, list tribe(s) and/or tribal area(s)). If additional space is needed or your request includes different categories of work for different jurisdictions; please enclose additional documentation.

Abbeville, Aiken, Allendale, Anderson, Bamberg, Barnwell, Beaufort, Berkeley, Calhoun, Charleston, Cherokee, Chester, Chesterfield, Clarendon, Colleton, Darlington, Dillon, Dorchester, Edgefield, Fairfield, Florence, Georgetown, Greenville, Greenwood, Hampton, Horry, Jasper, Kershaw, Lancaster, Laurens, Lee, Lexington, Marion, Marlboro, McCormick, Newberry, Oconee, Orangeburg, Pickens, Richland, Saluda, Spartanburg, Sumter, Union, Williamsburg, York

For States, identify Federally-recognized Tribes included in the requested counties (if applicable).  
Catawba Nation

Please see Enclosure B: Supplemental Information for Public Assistance for additional information in support of this request\*.

## Indemnification for Debris Removal Activity

☐ I do not anticipate the need for debris removal

I anticipate the need for debris removal, which poses an immediate threat to lives, public health and safety. Pursuant to Sections 403 and 407 of the Stafford Act, 42 U.S.C. §§ 5170b & 5173, the State or Indian tribal government agrees to indemnify and hold harmless the United

☒ States of America for any claims arising from the removal of debris or wreckage for this disaster. The State or Indian tribal government agrees that debris removal from public and private property will not occur until the landowner signs an unconditional authorization for the removal of debris.

## Request for Direct Federal Assistance

☐ I do not request direct Federal assistance at this time.

☒ I request direct Federal assistance for work and services to save lives and protect property, and:

a. I request the following type(s) of assistance:

We are requesting Direct Federal Assistance in the forms of an Incident Management Assistance Team, ground transportation management assistance, air transportation support, medical evacuation transportation, generators (to provide for the energy needs of critical facilities and associated operations in the impacted area after the storm), water and food operations, mass care technical and logistical support, search and rescue (inland areas not under the Coast Guard's jurisdictions), swift water rescue, and debris removal to support response and initial recovery operations in the impacted areas.

b. List of reasons why State and local or Indian tribal government cannot perform, or contract for, required work and services

The immediate need for life saving and life sustaining resources exceeds the capacity that exists within local and state resources. Such valuable assets as transportation support and swift water rescue teams are likely to be needed on a scale not available within the state.

c. In accordance with 44 C.F.R. § 206.208, the State or Indian tribal government agrees that it will, with respect to direct Federal assistance: (1) Provide without cost to the United States all lands, easements, and rights-of-ways necessary to accomplish the approved work; (2) Hold and save the United States free from damages due to the requested work, and shall indemnify the Federal Government against any claims arising from such work; (3) Provide reimbursement to FEMA for the non-Federal share of the cost of such work in accordance with the provisions of the FEMA-State or FEMA-Tribe Agreement; and (4) Assist the performing Federal agency in all support and local jurisdictional matters.

## Request for Snow Assistance

☒ N/A ☐ I request snow assistance.

Snow assistance for the following jurisdictions (Specify counties, independent cities or tribes and/or tribal areas).

Please see Enclosure D: Historic and Current Snowfall Data for additional information in support of this request\*.

\*Not Required for Emergency Declaration Request

11. Programs and Areas Requested (Continued)

Hazard Mitigation\* ☐ Statewide OR

For the following specific counties, parishes, independent cities or tribes and/or tribal areas:

12. Mitigation Plan Information\*

a. Mitigation Plan Expiration Date October 2018 b. Type of Plan ☐ Enhanced ☒ Standard

13. Other Federal Agency Programs

☐ I do not anticipate requirements from Other Federal Agencies ☒ I do anticipate requirements from Other Federal Agencies

Please see **Enclosure C: Requirements for Other Federal Agency Programs** for additional information in support of this request\*.

14. Findings and Certifications

☒ I certify the following:


a. I have determined that this incident is of such severity and magnitude that effective response is beyond the capabilities of the State and the affected local government or Indian tribal government and that supplementary federal assistance is necessary.

b. In response to this incident, I have taken appropriate action under State or tribal law and have directed the execution of the State or Tribal Emergency Plan on Oct 4, 2016 in accordance with the Stafford Act.

c. The State and local governments, or Indian tribal government will assume all applicable non-Federal share of costs required by the Stafford Act.

15. List of Enclosures and Supporting Documentation

☒ Cover Letter ☐ Enclosure A (Individual Assistance)\* ☐ Enclosure B (Public Assistance)\*  
☐ Enclosure C (Requirements for Other Federal Agency Programs) ☐ Enclosure D (Historic and Current Snowfall Data)  
☐ Additional Supporting Documentation National Weather Service Hurricane Center Forecast ; HAZUS predictive modeling

  
 Governor's or Tribal Chief Executive's Signature

October 4, 2016  
 Date

If anyone except the Governor or Tribal Chief Executive signs this document, please provide the documentation that establishes that this individual has the legal authority to act on behalf of the Governor or Tribal Chief Executive.

\*Not Required for Emergency Declaration Request



# Hazus-MH: Hurricane Event Report

**Region Name:** SC\_Coastal\_Matthew

**Hurricane Scenario:** FLOYD

**Print Date:** Monday, October 3, 2016

**Disclaimer:**

*This version of Hazus utilizes 2010 Census Data.*

*Totals only reflect data for those census tracts/blocks included in the user's study region*

*The estimates of social and economic impacts contained in this report were produced using Hazus loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific Hurricane. These results can be improved by using enhanced inventory data.*

## General Description of the Region

Hazus is a regional multi-hazard loss estimation model that was developed by the Federal Emergency Management Agency and the National Institute of Building Sciences. The primary purpose of Hazus is to provide a methodology and software application to develop multi-hazard losses at a regional scale. These loss estimates would be used primarily by local, state and regional officials to plan and stimulate efforts to reduce risks from multi-hazards and to prepare for emergency response and recovery.

The hurricane loss estimates provided in this report are based on a region that includes 9 county(ies) from the following state(s):

- South Carolina

**Note:**

Appendix A contains a complete listing of the counties contained in the region .

The geographical size of the region is 7,970.08 square miles and contains 305 census tracts. There are over 498 thousand households in the region and has a total population of 1,254,381 people (2010 Census Bureau data). The distribution of population by State and County is provided in Appendix B .

There are an estimated 554 thousand buildings in the region with a total building replacement value (excluding contents) of 149,741 million dollars (2010 dollars). Approximately 93% of the buildings (and 82% of the building value) are associated with residential housing.

## Hurricane Scenario

Hazus used the following set of information to define the hurricane parameters for the hurricane loss estimate provided in this report

<b>Scenario Name:</b>	FLOYD
<b>Type:</b>	Historic
<b>Max Peak Gust in Study Region:</b>	79 mph

## **Essential Facility Damage**

Before the hurricane, the region had 3,254 hospital beds available for use. On the day of the hurricane, the model estimates that 3254 hospital beds (only 100.00%) are available for use. After one week, 100.00% of the beds will be in service. By 30 days, 100.00% will be operational.

**Table 4: Expected Damage to Essential Facilities**

Classification	Total	# Facilities		
		Probability of at Least Moderate Damage > 50%	Probability of Complete Damage > 50%	Expected Loss of Use < 1 day
EOCs	9	0	0	9
Fire Stations	114	0	0	114
Hospitals	25	2	0	25
Police Stations	33	0	0	33
Schools	380	0	0	380

## Economic Loss

The total economic loss estimated for the hurricane is 83.3 million dollars, which represents 0.06 % of the total replacement value of the region's buildings.

### Building-Related Losses

The building related losses are broken into two categories: direct property damage losses and business interruption losses. The direct property damage losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the hurricane. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the hurricane.

The total property damage losses were 83 million dollars. 0% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up over 98% of the total loss. Table 4 below provides a summary of the losses associated with the building damage.

**Table 5: Building-Related Economic Loss Estimates**  
(Thousands of dollars)

Category	Area	Residential	Commercial	Industrial	Others	Total
<u>Property Damage</u>						
	Building	63,443.77	1,035.09	108.16	131.16	64,718.17
	Content	15,681.08	15.11	2.43	0.74	15,699.36
	Inventory	0.00	0.01	0.56	0.05	0.62
	<b>Subtotal</b>	<b>79,124.84</b>	<b>1,050.21</b>	<b>111.15</b>	<b>131.95</b>	<b>80,418.15</b>
<u>Business Interruption Loss</u>						
	Income	0.00	0.00	0.00	0.00	0.00
	Relocation	1,206.12	12.75	0.10	0.41	1,219.38
	Rental	1,622.19	0.00	0.00	0.00	1,622.19
	Wage	0.00	0.00	0.00	0.00	0.00
	<b>Subtotal</b>	<b>2,828.31</b>	<b>12.75</b>	<b>0.10</b>	<b>0.41</b>	<b>2,841.57</b>
<u>Total</u>						
	<b>Total</b>	<b>81,953.15</b>	<b>1,062.95</b>	<b>111.25</b>	<b>132.37</b>	<b>83,259.72</b>

## Appendix B: Regional Population and Building Value Data

	Population	Building Value (thousands of dollars)		Total
		Residential	Non-Residential	
<b>South Carolina</b>				
Beaufort	162,233	20,179,937	3,038,086	23,218,023
Berkeley	177,843	13,958,607	2,387,580	16,346,187
Charleston	350,209	36,073,696	10,497,511	46,571,207
Colleton	38,892	2,723,692	838,836	3,562,528
Dorchester	136,555	11,641,110	1,870,827	13,511,937
Georgetown	60,158	6,001,573	1,594,582	7,596,155
Horry	269,291	29,302,365	5,393,594	34,695,959
Jasper	24,777	1,455,127	411,762	1,866,889
Williamsburg	34,423	1,874,564	498,007	2,372,571
<b>Total</b>	<b>1,264,381</b>	<b>123,210,671</b>	<b>26,630,785</b>	<b>149,741,456</b>
<b>Study Region Total</b>	<b>1,264,381</b>	<b>123,210,671</b>	<b>26,630,785</b>	<b>149,741,456</b>

# Hazus-MH: Hurricane Event Report

**Region Name:** SC\_Coastal\_Matthew

**Hurricane Scenario:** HAZEL

**Print Date:** Sunday, October 2, 2016

**Disclaimer:**

*This version of Hazus utilizes 2010 Census Data.*

*Totals only reflect data for those census tracts/blocks included in the user's study region.*

*The estimates of social and economic impacts contained in this report were produced using Hazus loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific Hurricane. These results can be improved by using enhanced inventory data.*

## General Description of the Region

Hazus is a regional multi-hazard loss estimation model that was developed by the Federal Emergency Management Agency and the National Institute of Building Sciences. The primary purpose of Hazus is to provide a methodology and software application to develop multi-hazard losses at a regional scale. These loss estimates would be used primarily by local, state and regional officials to plan and stimulate efforts to reduce risks from multi-hazards and to prepare for emergency response and recovery.

The hurricane loss estimates provided in this report are based on a region that includes 9 county(ies) from the following state(s):

- South Carolina

**Note:**

Appendix A contains a complete listing of the counties contained in the region.

The geographical size of the region is 7,970.08 square miles and contains 305 census tracts. There are over 498 thousand households in the region and has a total population of 1,254,381 people (2010 Census Bureau data). The distribution of population by State and County is provided in Appendix B.

There are an estimated 554 thousand buildings in the region with a total building replacement value (excluding contents) of 149,741 million dollars (2010 dollars). Approximately 93% of the buildings (and 82% of the building value) are associated with residential housing.



## Hurricane Scenario

Hazus used the following set of information to define the hurricane parameters for the hurricane loss estimate provided in this report

<b>Scenario Name:</b>	HAZEL
<b>Type:</b>	Historic
<b>Max Peak Gust in Study Region:</b>	111 mph

## **Essential Facility Damage**

Before the hurricane, the region had 3,254 hospital beds available for use. On the day of the hurricane, the model estimates that 2977 hospital beds (only 91.00%) are available for use. After one week, 100.00% of the beds will be in service. By 30 days, 100.00% will be operational.

**Table 4: Expected Damage to Essential Facilities**

Classification	Total	# Facilities		
		Probability of at Least Moderate Damage > 50%	Probability of Complete Damage > 50%	Expected Loss of Use < 1 day
EOCs	9	0	0	9
Fire Stations	114	0	0	114
Hospitals	25	2	0	23
Police Stations	33	0	0	33
Schools	380	0	0	361

## Economic Loss

The total economic loss estimated for the hurricane is 763.6 million dollars, which represents 0.51 % of the total replacement value of the region's buildings.

### Building-Related Losses

The building related losses are broken into two categories: direct property damage losses and business interruption losses. The direct property damage losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the hurricane. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the hurricane.

The total property damage losses were 764 million dollars. 1% of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up over 94% of the total loss. Table 4 below provides a summary of the losses associated with the building damage.

**Table 5: Building-Related Economic Loss Estimates**  
(Thousands of dollars)

Category	Area	Residential	Commercial	Industrial	Others	Total
<u>Property Damage</u>						
	Building	541,395.90	19,302.34	2,026.79	2,114.21	564,839.24
	Content	116,502.88	6,044.82	936.72	526.57	124,010.98
	Inventory	0.00	188.43	176.92	18.28	383.62
	<b>Subtotal</b>	<b>667,898.78</b>	<b>25,535.68</b>	<b>3,140.42</b>	<b>2,659.05</b>	<b>689,233.84</b>
<u>Business Interruption Loss</u>						
	Income	103.95	3,343.68	28.59	275.88	3,752.10
	Relocation	32,664.48	3,700.10	199.10	443.38	37,007.06
	Rental	27,655.77	1,972.91	24.44	32.03	29,685.15
	Wage	243.45	2,718.38	47.97	935.76	3,945.57
	<b>Subtotal</b>	<b>60,667.65</b>	<b>11,735.07</b>	<b>300.10</b>	<b>1,687.05</b>	<b>74,389.88</b>
<u>Total</u>						
	<b>Total</b>	<b>718,566.44</b>	<b>37,270.65</b>	<b>3,440.52</b>	<b>4,346.11</b>	<b>763,623.71</b>

**Appendix B: Regional Population and Building Value Data**

	Population	Building Value (thousands of dollars)		Total
		Residential	Non-Residential	
<b>South Carolina</b>				
Beaufort	162,233	20,179,937	3,038,086	23,218,023
Berkeley	177,843	13,958,607	2,387,580	16,346,187
Charleston	350,209	36,073,696	10,497,511	46,571,207
Colleton	38,892	2,723,692	838,836	3,562,528
Dorchester	136,555	11,641,110	1,870,827	13,511,937
Georgetown	60,158	6,001,573	1,594,582	7,596,155
Horry	269,291	29,302,365	5,393,594	34,695,959
Jasper	24,777	1,455,127	411,762	1,866,889
Williamsburg	34,423	1,874,564	498,007	2,372,571
<b>Total</b>	<b>1,254,381</b>	<b>123,210,671</b>	<b>26,530,785</b>	<b>149,741,456</b>
<b>Study Region Total</b>	<b>1,254,381</b>	<b>123,210,671</b>	<b>26,530,785</b>	<b>149,741,456</b>

