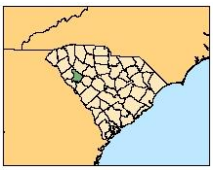
GREENWOOD COUNTY, SC



I. Summary

Greenwood County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Winter weather produces the highest monetary damage and with a recurrence interval of 2.7 years, is a frequent loss-producing hazard. Wildfires, thunderstorms, hail, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences. Earthquakes and hurricanes/tropical storms are infrequent events in this county.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Greenwood County, most of the census tracts are in the moderate to moderately low levels of social vulnerability. One census tract in Greenwood city exhibits the highest SoVI scores. Figure 1 provides maps of the Greenwood County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

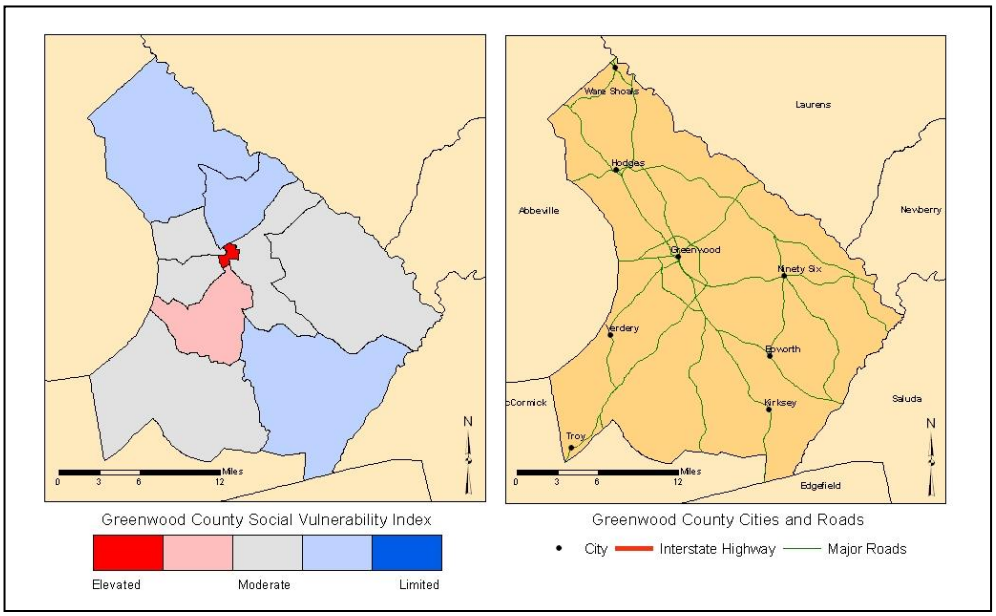


FIGURE 1. The Social Vulnerability for Greenwood County, SC by US Census tracts and a general reference map of Greenwood County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Greenwood County are hazardous material accidents, severe thunderstorms and wind, hail, and wildfires. Hurricanes/tropical storms and earthquakes are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Greenwood County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	4	158	39.50	2.53
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	33	59	1.79	55.93
Flood	17	59	3.47	28.81
Fog	4	12	3.00	33.33
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	3	310	103.33	0.97
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	103	22	<0.50	468.18**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	14,289	10	<0.50	142,890**
Severe Thunderstorm Events				
Funnel Cloud	0	16	*	*
Hail	79	59	0.75	133.90**
Heavy Precipitation	2	15	7.50	13.33
Lightning	10	16	1.60	62.50
Thunderstorm & Wind	155	59	<0.50	262.71**
Tornado	14	59	4.21	23.73
Temperature Extremes	5	16	3.20	31.25
Wildfire	1,350	21	<0.50	6,428.57**
Winter Weather (Snow & Ice)	22	59	2.68	37.29

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Greenwood County has a higher probability of loss-producing winter weather, and tornado events, and is slightly above the state average for drought and heat. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Thunderstorms, wind, lightning, and flooding are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

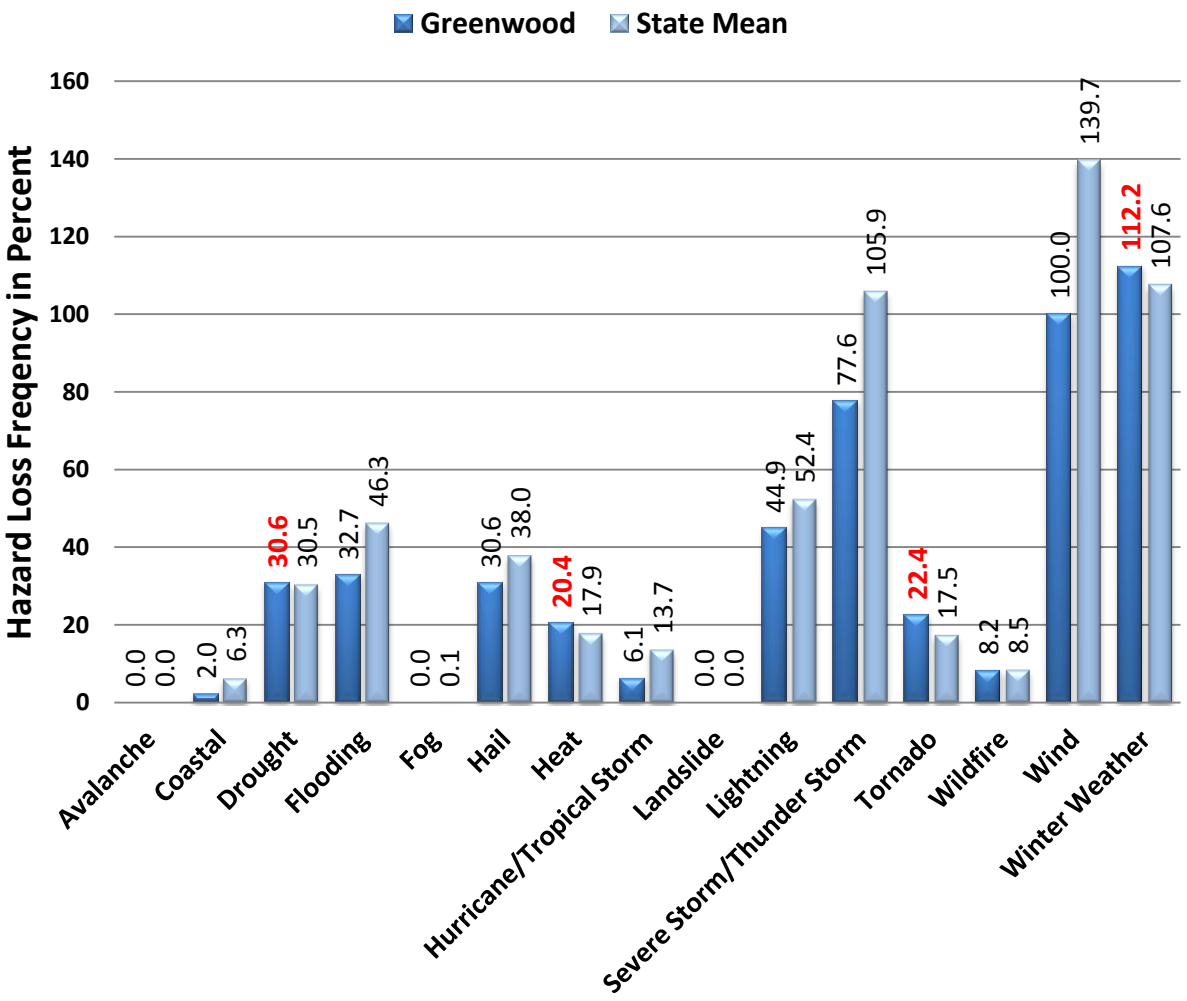


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Greenwood County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Greenwood County exceed $61 million and are largely due to a combination of winter weather, drought, heat, and tornadoes. While significant for the county, these cumulative losses represent less than one percent of the state's total overall, but 3% of the state's total damages related to hail and 3% of the state's total related to tornadoes.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$2,498,545	1.61%
Hail	$3,486,718	3.38%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$329,868	0.01%
Lightning	$337,106	0.64%
Severe Storm/ Thunder Storm	$849,652	0.40%
Tornado	$7,204,919	3.05%
Wildfire	$334,042	2.09%
Wind	$657,309	0.45%
Winter Weather	$20,230,710	2.25%
Greenwood - Total	**$61,280,467**	**0.64%**

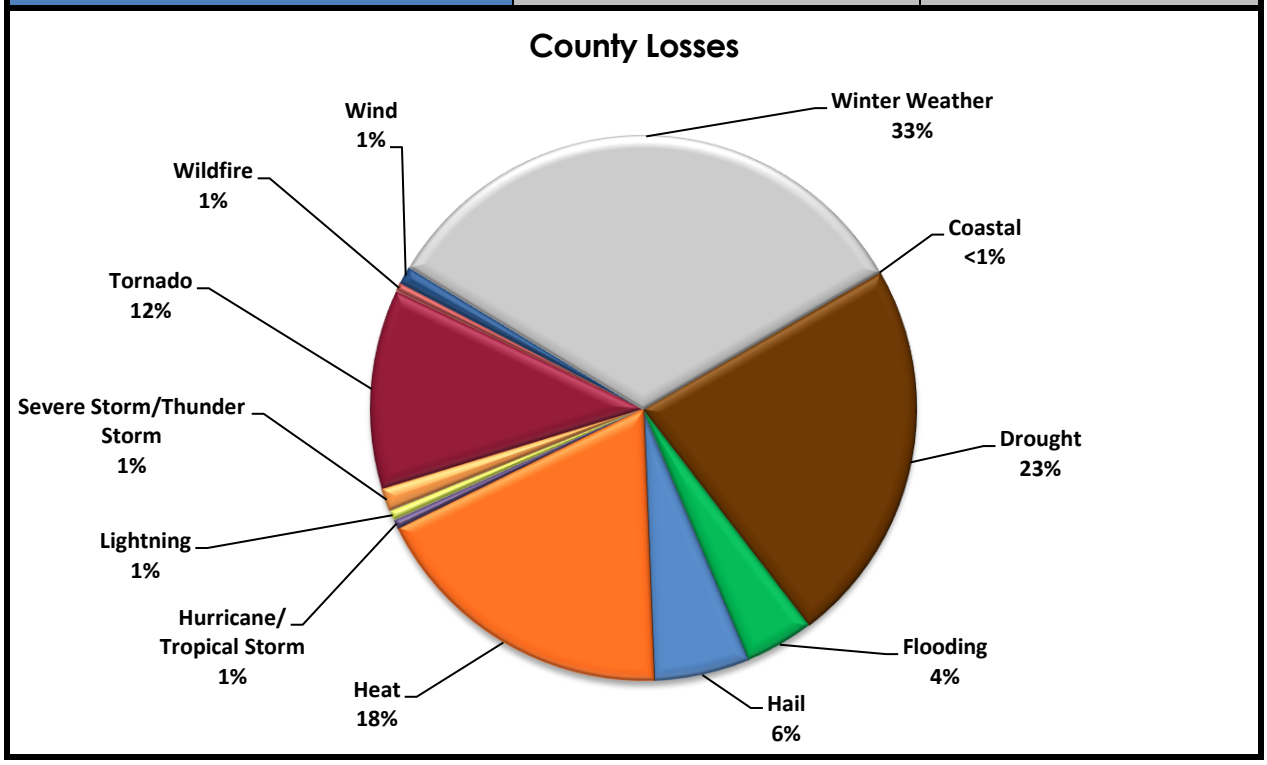
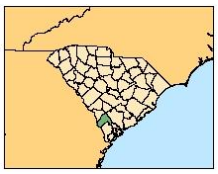


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Greenwood County, SC.

HAMPTON COUNTY, SC



I. Summary

Hampton County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Winter weather produced the greatest monetary damages; however, the recurrence interval is 29.5 years, making it a relatively rare loss-causing event. Wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Hampton County, all of the census tracts exhibit moderate to moderately elevated levels of social vulnerability. Figure 1 provides maps of the Hampton County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

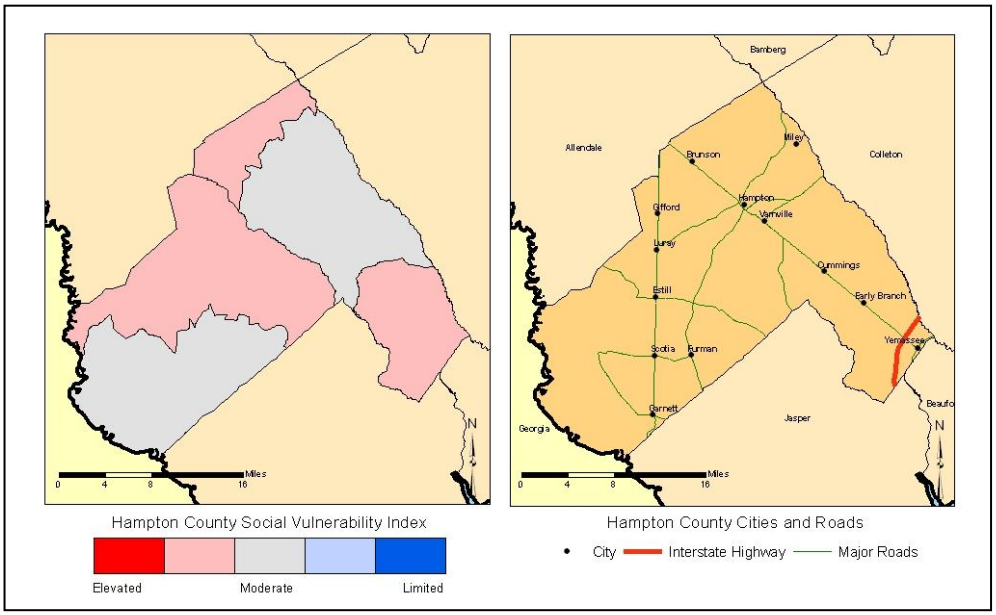


FIGURE 1. The Social Vulnerability for Hampton County, SC by US Census tracts and a general reference map of Hampton County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Hampton County are hazardous material accidents, severe thunderstorms and wind, and wildfires. Flooding, coastal, and winter weather are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Hampton County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	13	158	12.159	8.23
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	21	59	2.81	35.59
Flood	5	59	11.80	8.47
Fog	0	12	*	*
Geophysical Events	0	310	*	*
Avalanche	0	49	*	*
Earthquake	0	310	*	*
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	42	22	0.52	190.91**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	3,150	10	<0.50	31,500.00**
Severe Thunderstorm Events				
Funnel Cloud	0	16	*	*
Hail	33	59	1.79	55.93
Heavy Precipitation	0	15	*	*
Lightning	2	16	8.00	12.50
Thunderstorm & Wind	113	59	0.52	191.53**
Tornado	13	59	4.54	22.03
Temperature Extremes	6	16	2.67	37.50
Wildfire	1,751	21	<0.50	8,338.10**
Winter Weather (Snow & Ice)	2	59	29.50	3.39

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Hampton County has a higher probability of loss-producing wind, thunderstorm and heat events. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Winter weather, lightning, and hail are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

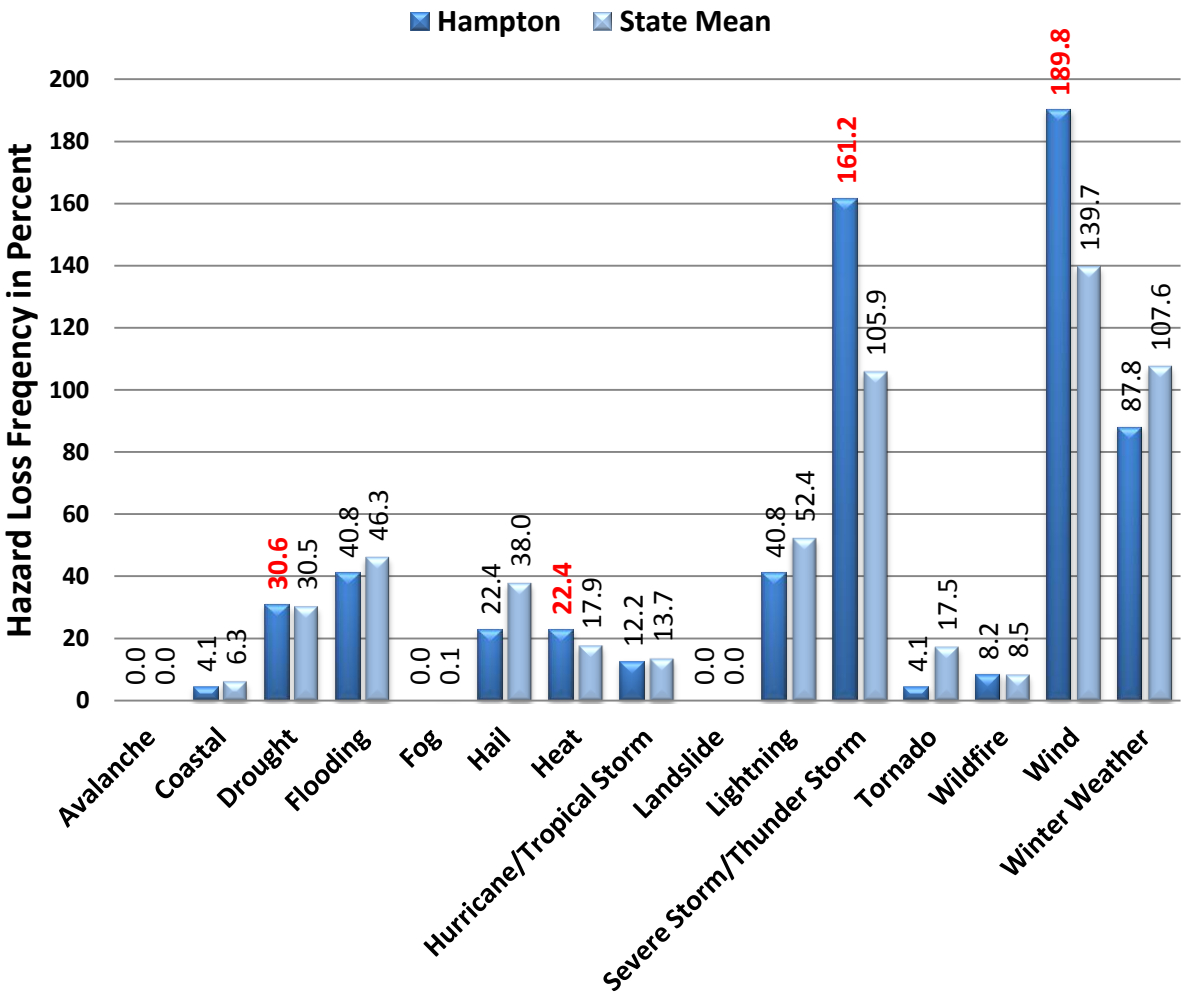


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Hampton County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Hampton County exceed $54 million, and are largely due to winter weather (40%), drought (26%), and heat (21%). While significant for the county, these cumulative losses represent less than one percent of the state's overall total.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$15,143	0.01%
Drought	$14,058,478	2.17%
Flooding	$1,418,445	0.92%
Hail	$107,696	0.10%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$3,744,033	0.07%
Lightning	$559,686	1.07%
Severe Storm/ Thunder Storm	$494,199	0.23%
Tornado	$346,667	0.15%
Wildfire	$334,042	2.09%
Wind	$374,938	0.26%
Winter Weather	$22,222,202	2.47%
Hampton - Total	**$54,962,171**	**0.57%**

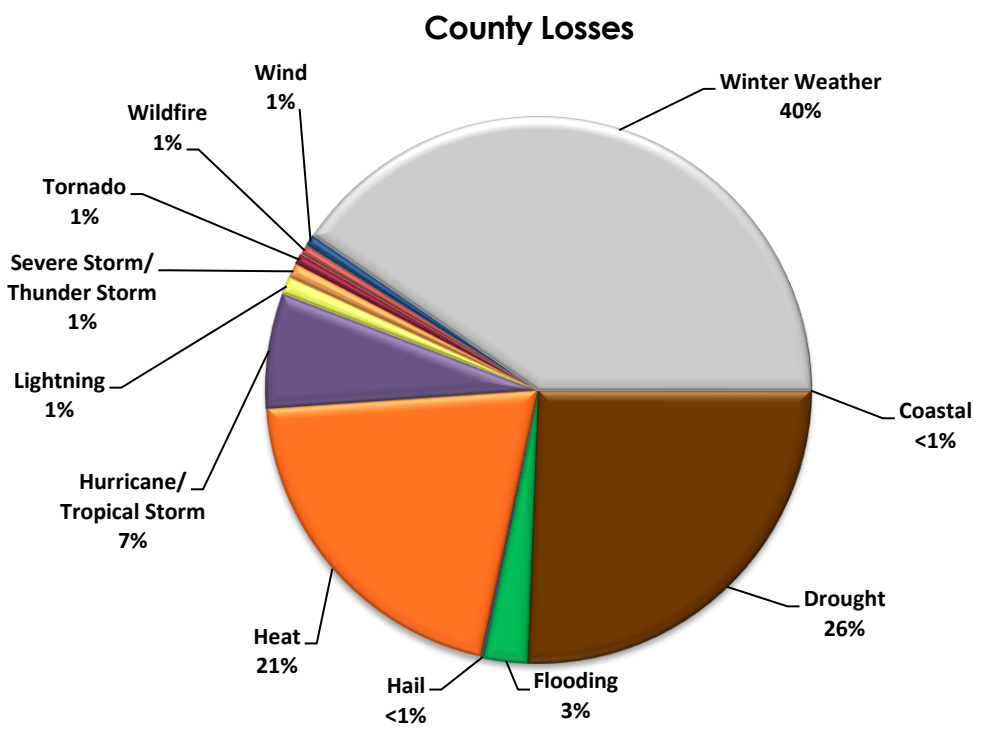
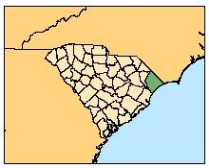


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Hampton County, SC.

HORRY COUNTY, SC



I. Summary

Horry County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Hurricane/tropical storms produce the greatest monetary damage; however, the recurrence interval is 8.3 years, making it a relatively rare event. Ocean and lake surf is more common, producing roughly 8% of the county's losses. Wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Horry County, most of the census tracts exhibit moderate levels of social vulnerability. Census tracts closer to the coast have limited SoVI scores, than those further inland where social vulnerability exhibits moderately elevated to elevated level. Figure 1 provides maps of the Horry County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

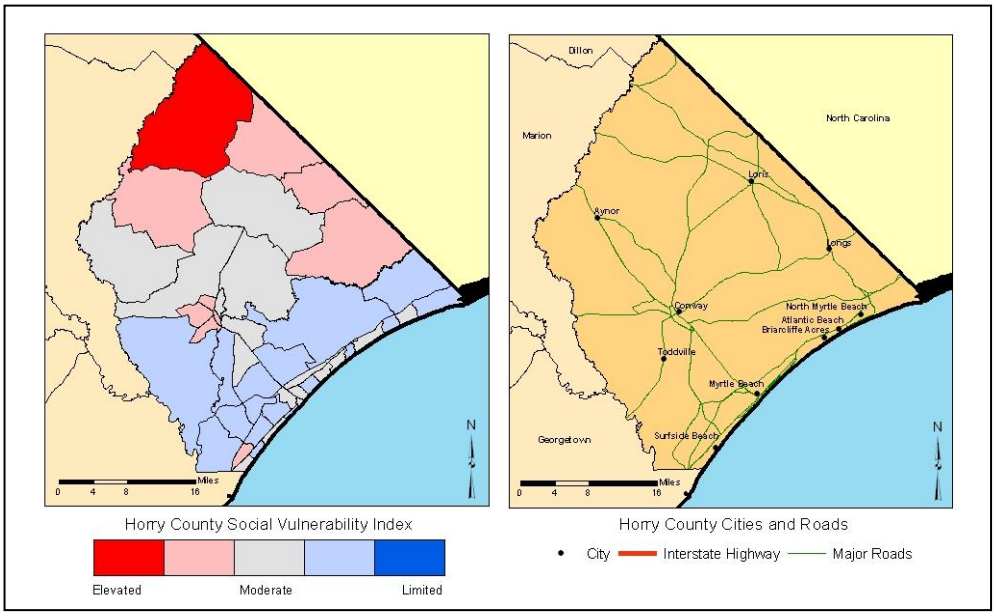


FIGURE 1. The Social Vulnerability for Horry County, SC by US Census tracts and a general reference map of Horry County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Horry County are hazardous material accidents, severe thunderstorms and wind, hail, and wildfires. Winter weather is the hazard with the lowest recurrence interval (14.8 years). The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Horry County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	19	158	8.32	12.03
Ocean & Lake Surf[b]	13	16	1.23	81.25
Waterspout	6	16	2.67	37.50
Dam Failure	-	-	-	-
Drought	7	59	8.43	11.86
Flood	31	59	1.90	52.24
Fog	1	12	12.00	8.33
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	0	310	*	*
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	423	22	<0.50	1,922.73**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	70,843	10	<0.50	708,430.00**
Severe Thunderstorm Events				
Funnel Cloud	3	16	5.33	18.75
Hail	133	59	<0.50	225.42**
Heavy Precipitation	9	15	1.67	60.00
Lightning	26	16	0.62	162.00**
Thunderstorm & Wind	194	59	<0.50	328.81**
Tornado	37	59	1.59	62.71
Temperature Extremes	4	16	4.00	25.00
Wildfire	3,604	21	<0.50	17,161.00**
Winter Weather (Snow & Ice)	4	59	14.75	6.78

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Horry County has a higher probability of loss-producing events from all the hazards except avalanches, landslides, wildfires, and winter weather. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Winter weather is well below the state mean indicating that this hazard has historically produced fewer losses for the county when compared to the state as a whole.

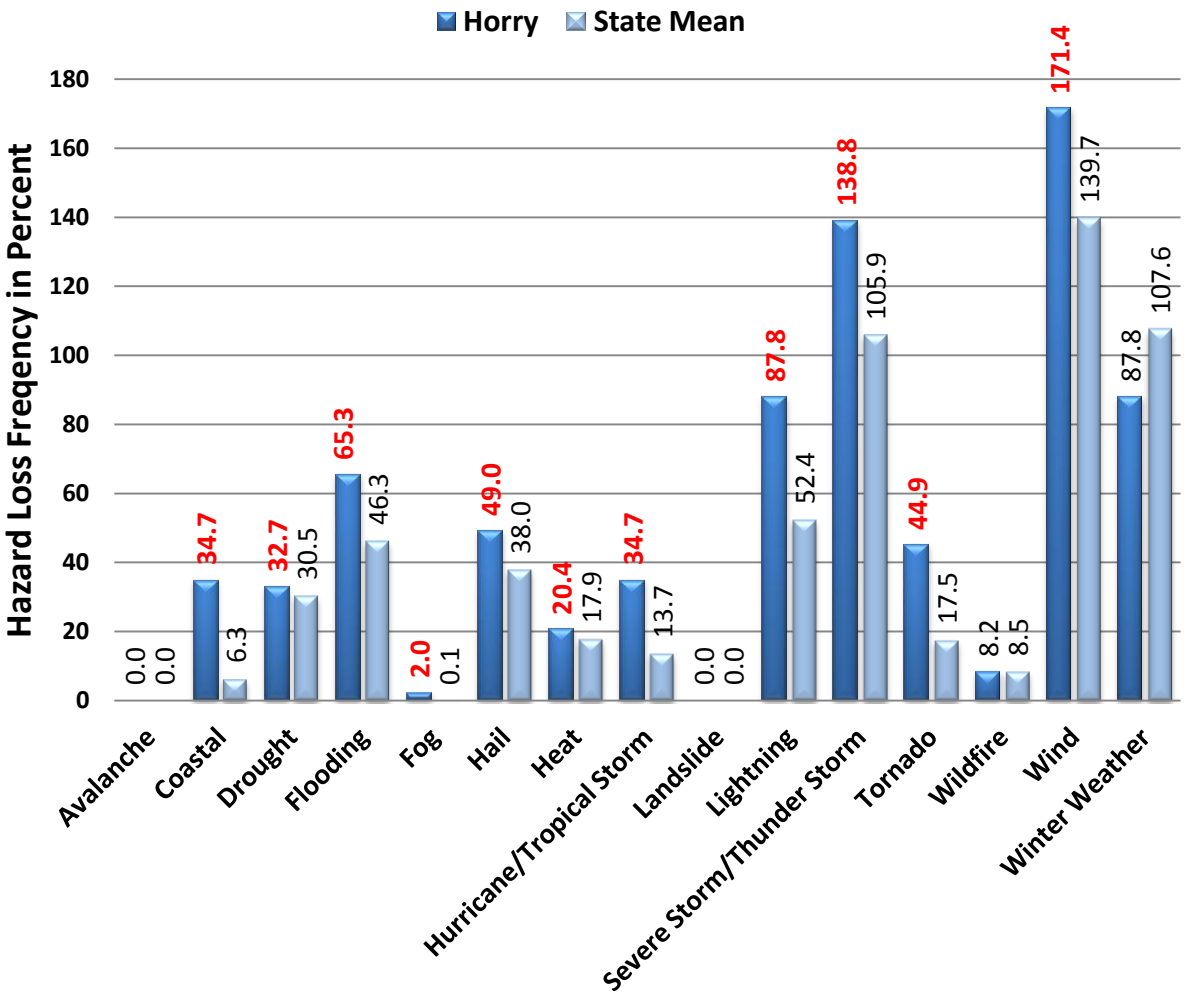


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Horry County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Horry County exceed $1billion, and are largely due to hurricanes and tropical storms, followed by coastal events. Hurricane/tropical storm represented 83% of the damage in Horry County. While significant for the county, these cumulative losses represent 11% of the state's total overall, but 16.6% of the state's total damages related to hurricane/tropical storms. Losses from tornadoes represent 8% of the state's total, and fog represents 45% of the state total.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$88,372,883	8.24%
Drought	$14,201,478	2.19%
Flooding	$13,665,805	8.83%
Fog	$18,140	44.87%
Hail	$1,512,855	1.47%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$912,405,924	16.56%
Lightning	$1,091,341	2.08%
Severe Storm/ Thunder Storm	$7,650,377	3.62%
Tornado	$19,320,697	8.17%
Wildfire	$334,042	2.09%
Wind	$5,176,044	3.55%
Winter Weather	$20,490,554	2.27%
Horry - Total	**$1,095,526,784**	**11.45%**

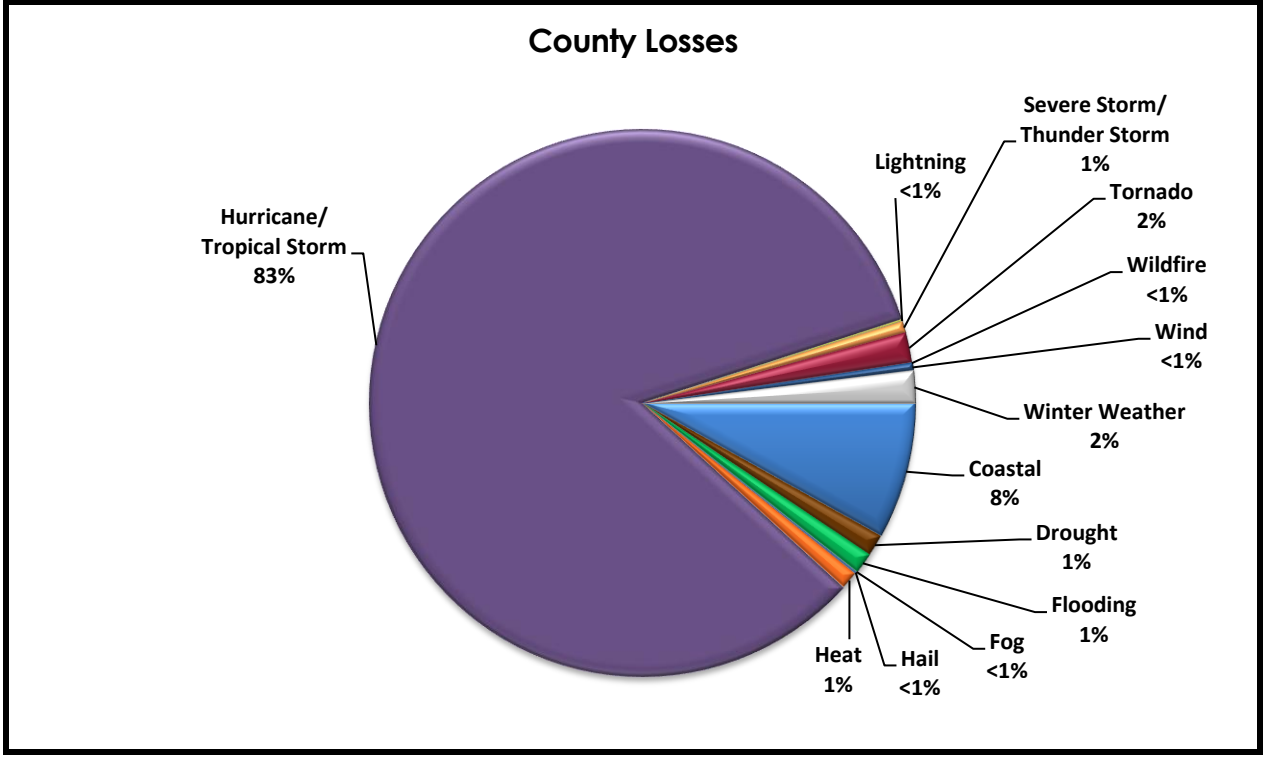
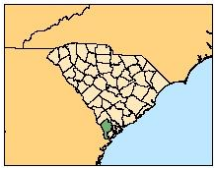


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Horry County, SC.

JASPER COUNTY, SC



I. Summary

Jasper County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Drought produced the greatest monetary damage; however, the recurrence interval is 2.8 years, making it a relatively common event when compared to flooding. Wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Jasper County, most of the census tracts exhibit moderate levels of social vulnerability. Figure 1 provides social vulnerability by census tract (on the left) and maps of the Jasper County depicting cities and major roads (on the left).

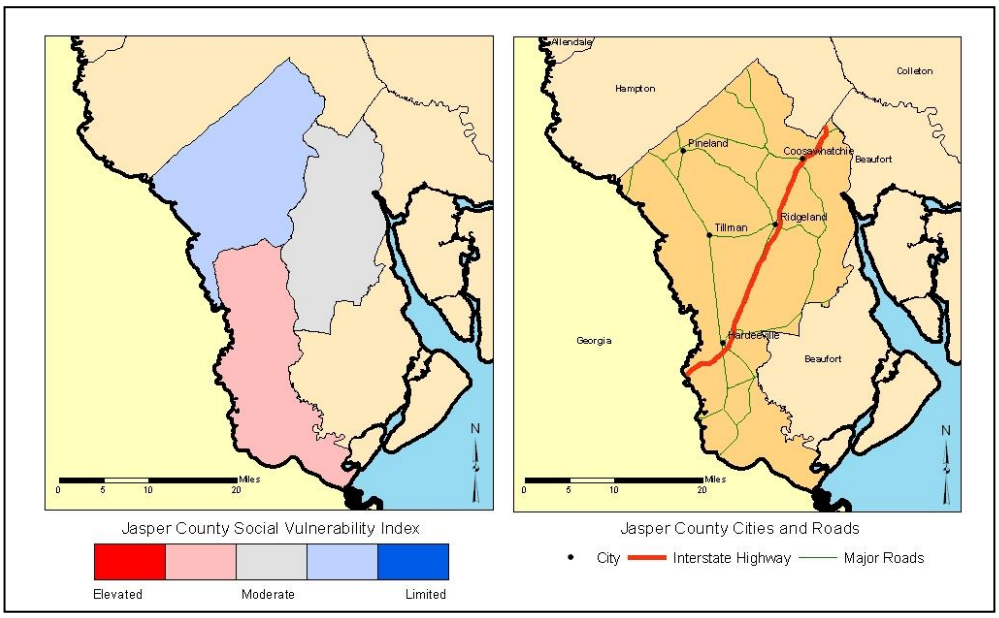


FIGURE 1. The Social Vulnerability for Jasper County, SC by US Census tracts and a general reference map of Jasper County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Jasper County are hazardous material accidents, severe thunderstorms and wind, and wildfires. Winter weather is the hazard with the lowest recurrence interval. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Jasper County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	18	158	8.78	11.39
Ocean & Lake Surf[b]	4	16	4.00	25.00
Waterspout	1	16	16.00	6.25
Dam Failure	-	-	-	-
Drought	21	59	2.81	35.59
Flood	10	59	5.90	16.95
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	0	310	*	*
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	55	22	<0.50	250.00**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	7,999	10	<0.50	79,990.00**
Severe Thunderstorm Events				
Funnel Cloud	2	16	8.00	12.00
Hail	26	59	2.27	44.07
Heavy Precipitation	0	15	*	*
Lightning	0	16	*	*
Thunderstorm & Wind	95	59	0.62	161.02**
Tornado	8	59	7.38	13.56
Temperature Extremes	8	16	2.00	50.00
Wildfire	3,282	21	<0.50	15,628.57**
Winter Weather (Snow & Ice)	1	59	59.00	1.69

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Jasper County has a higher probability of loss-producing coastal, drought flooding, heat, hurricanes/tropical storms, thunderstorms, and wind events. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Winter weather and hail are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

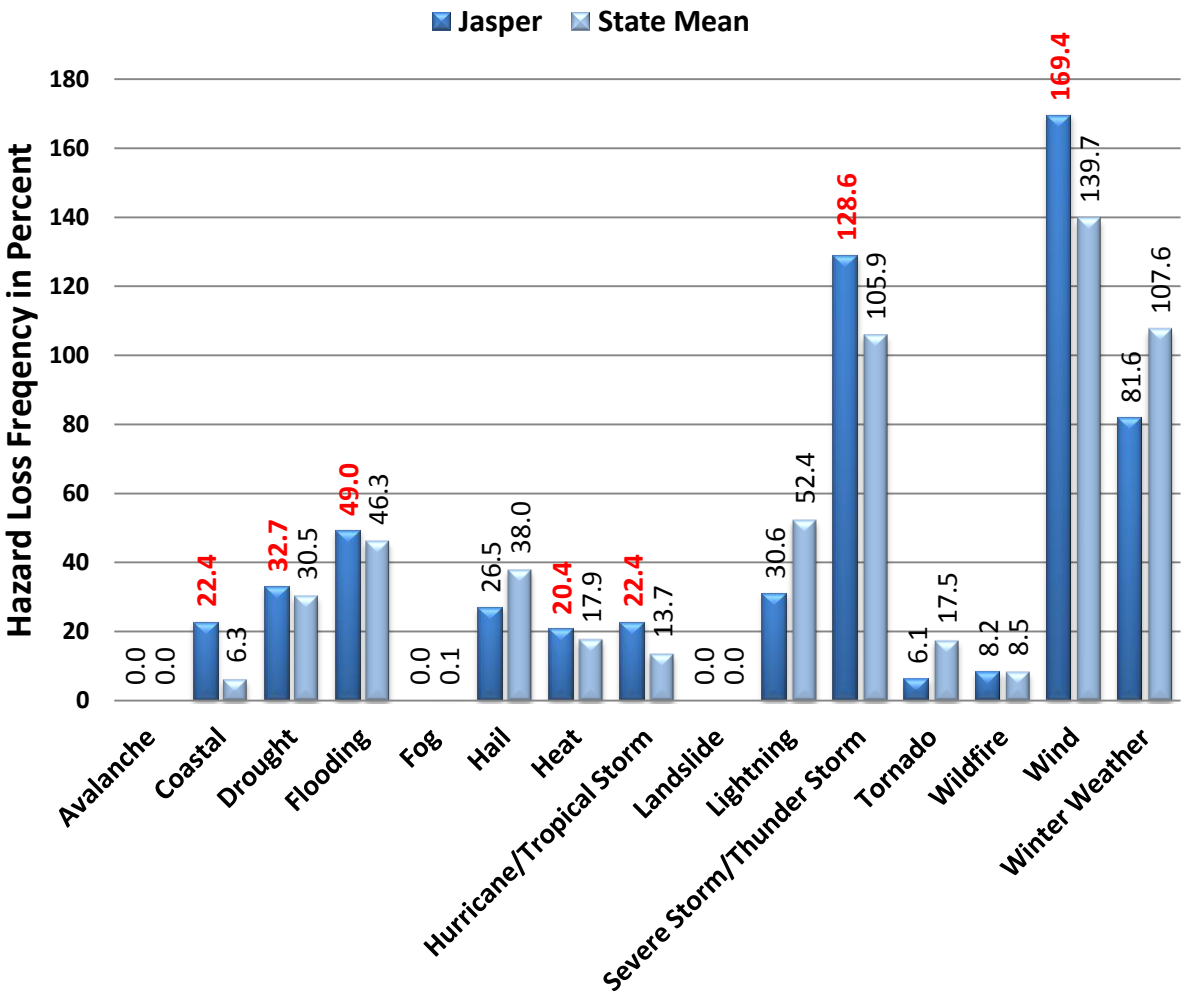


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Jasper County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Jasper County exceed $54 million, and are largely due to a combination of drought, heat, winter weather, among others. While significant for the county, these cumulative losses represent less than one percent of the state's total overall.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$4,978,634	0.46%
Drought	$14,201,478	2.19%
Flooding	$5,577,544	3.60%
Hail	$111,230	0.11%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$4,150,380	0.08%
Lightning	$52,133	0.10%
Severe Storm/ Thunder Storm	$913,653	0.43%
Tornado	$67,014	0.03%
Wildfire	$334,042	2.09%
Wind	$576,806	0.40%
Winter Weather	$12,184,096	1.35%
Jasper - Total	**$54,433,655**	**0.57%**

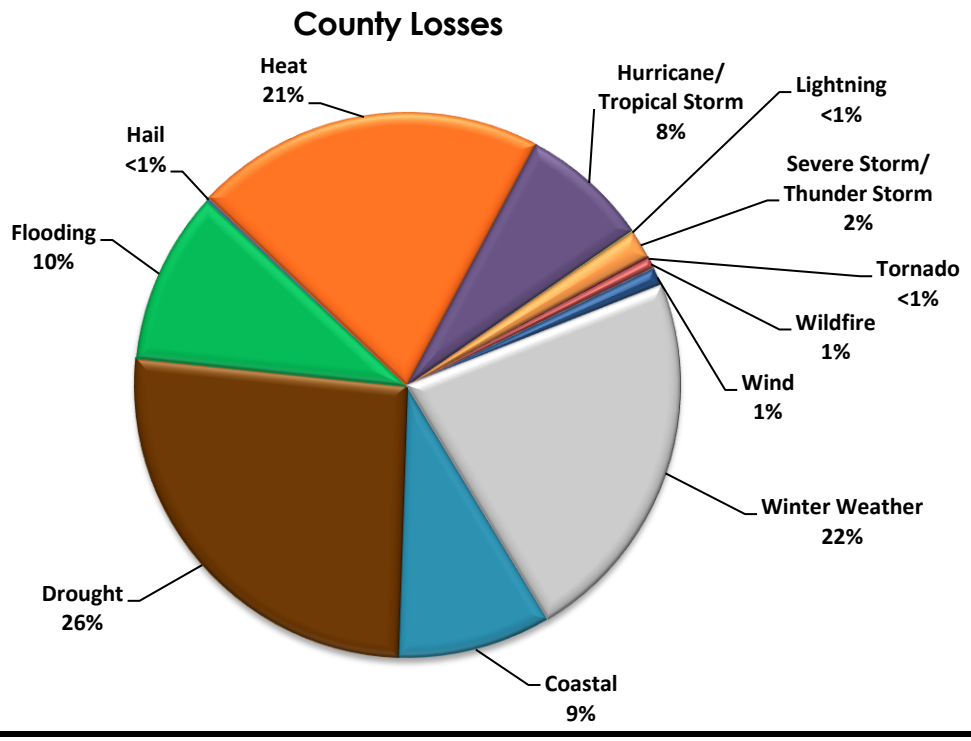
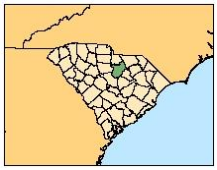


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Jasper County, SC.

KERSHAW COUNTY, SC



I. Summary

Kershaw County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Hurricane/tropical storms produce the greatest monetary damage; however, the recurrence interval is 14.4 years, making it a relatively rare event. Wildfires, thunderstorms, hail, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences. County losses from wind, wildfires, and hail represent about 5% each of the state's overall totals for these hazards.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Kershaw County, most of the census tracts exhibit moderate levels of social vulnerability. Census tracts in the Camden and Lugoff show higher SoVI scores illustrating an elevated social vulnerability. Figure 1 provides maps of the Kershaw County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

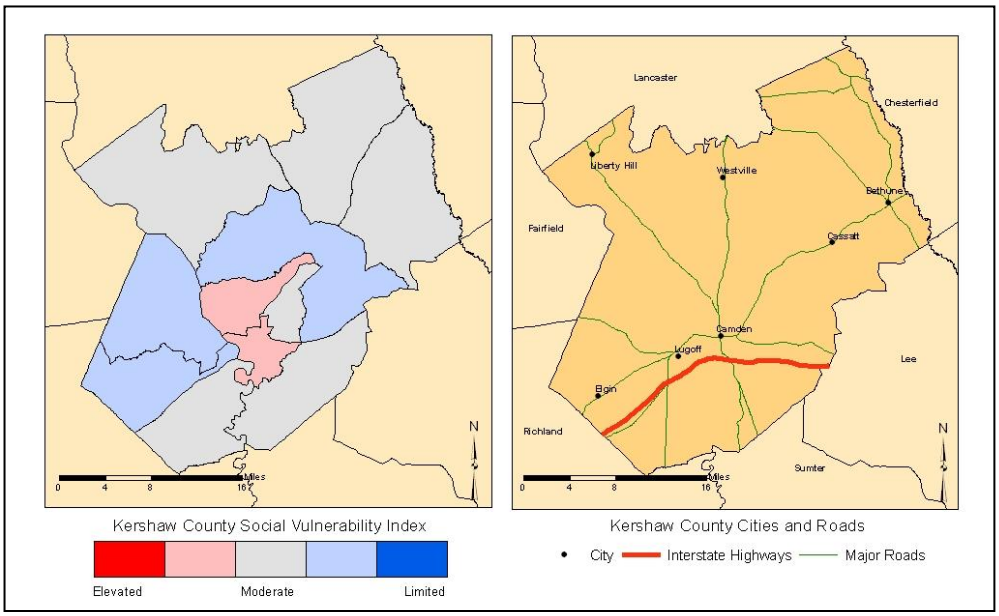


FIGURE 1. The Social Vulnerability for Kershaw County, SC by US Census tracts and a general reference map of Kershaw County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Kershaw County are hazardous material accidents, severe thunderstorms and wind, hail, and wildfires. Earthquakes and drought are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Kershaw County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	10	158	15.80	6.33
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	1	59	59.00	1.69
Flood	9	59	6.56	15.25
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	3	310	103.33	0.97
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	154	22	<0.50	700.00**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	10,571	10	<0.50	105,710.00**
Severe Thunderstorm Events				
Funnel Cloud	0	16	*	*
Hail	75	59	0.79	127.12**
Heavy Precipitation	1	15	15.00	6.67
Lightning	2	16	8.00	12.50
Thunderstorm & Wind	141	59	<0.50	238.98**
Tornado	23	59	2.57	38.98
Temperature Extremes	3	16	5.337	18.75
Wildfire	2,233	21	<0.50	10,633.33**
Winter Weather (Snow & Ice)	11	59	5.36	18.64

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Kershaw County has a higher probability of loss-producing hail, heat, wildfire, and winter weather events. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Thunderstorms and wind events are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

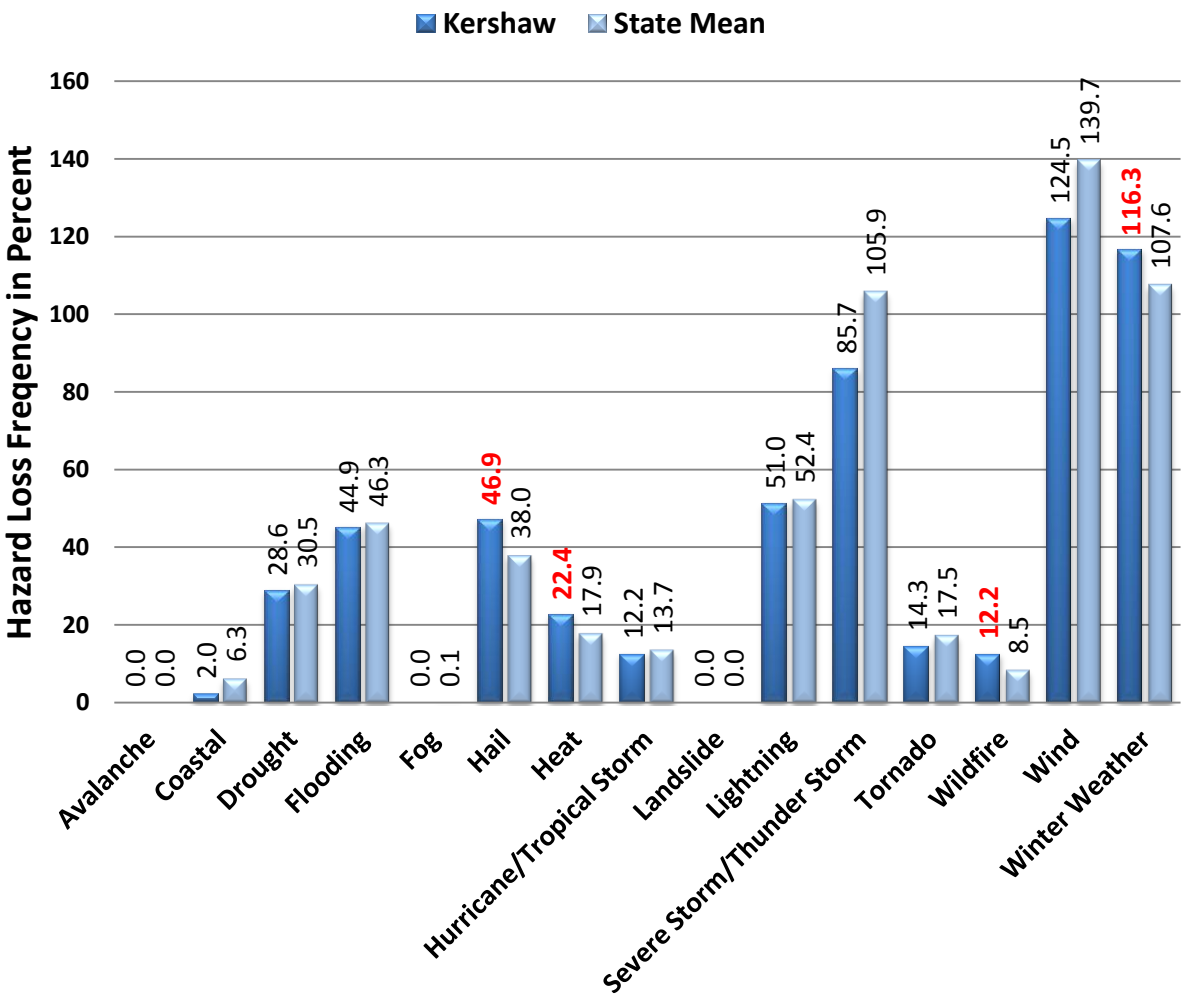


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Kershaw County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Kershaw County exceed $161 million, and are largely due to hurricanes and tropical storms, followed by drought, winter weather, and heat. Hurricane/tropical storm represented 60% of the damage in Kershaw County. While significant for the county, these cumulative losses represent 1.7% of the state's total overall. Kershaw County hail losses account for 6% of the state's total damages from hail related events.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,055,942	2.17%
Flooding	$1,308,580	0.85%
Hail	$6,121,050	5.94%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$96,314,866	1.75%
Lightning	$530,000	1.01%
Severe Storm/ Thunder Storm	$2,257,254	1.07%
Tornado	$5,717,388	2.42%
Wildfire	$852,075	5.34%
Wind	$8,010,212	5.49%
Winter Weather	$14,985,393	1.66%
Kershaw - Total	**$161,445,880**	**1.69%**

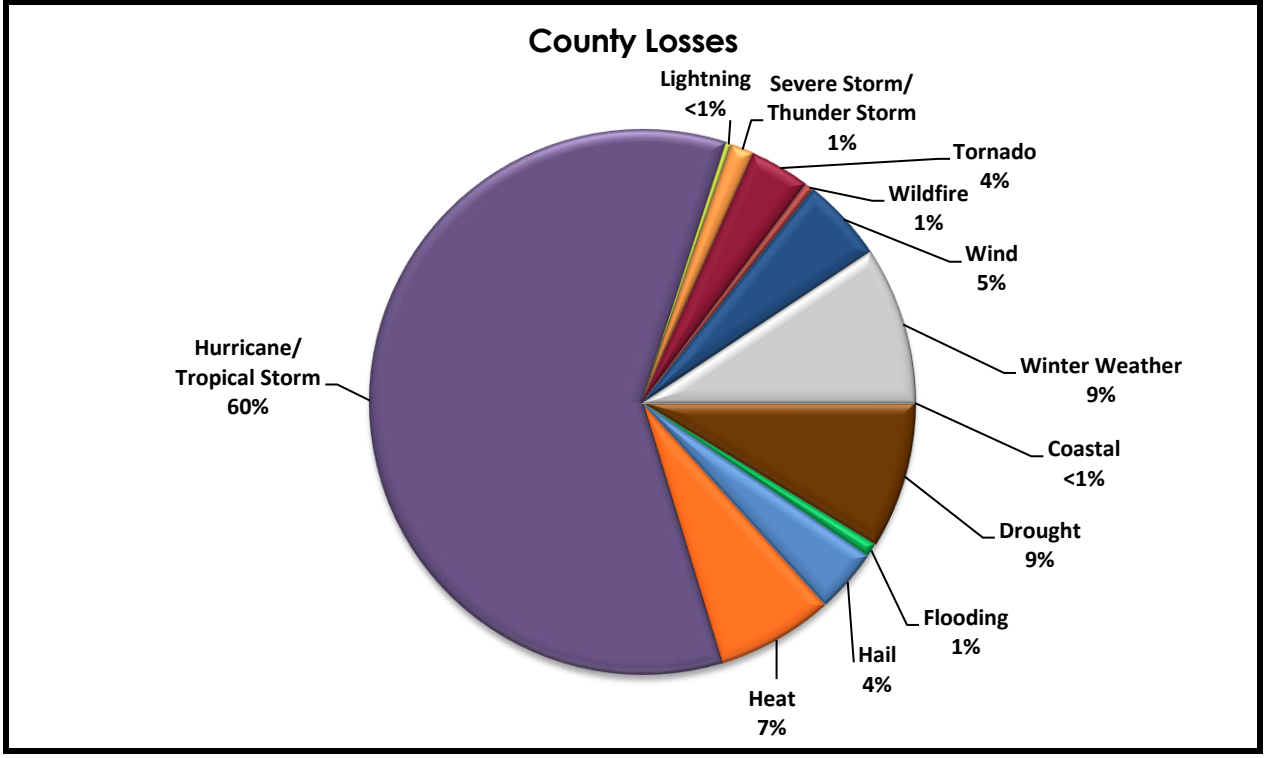
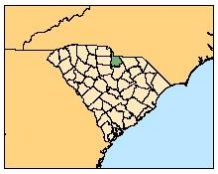


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Kershaw County, SC.

LANCASTER COUNTY, SC



I. Summary

Lancaster County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Hurricane/tropical storms produce the greatest monetary damage; however, the recurrence interval is 22.8 years, making it a relatively rare event. Hail, wind, wildfires, and hazardous materials incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Lancaster County, most of the census tracts exhibit moderately low levels of social vulnerability. Census tracts in and around Lancaster city show the highest SoVI scores. Figure 1 provides maps of the Lancaster County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

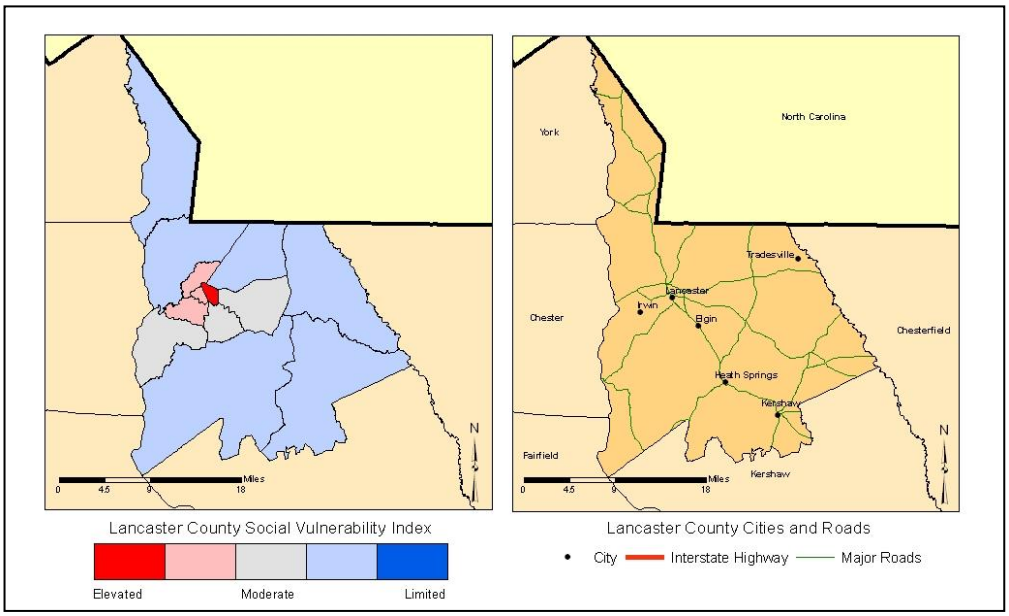


FIGURE 1. The Social Vulnerability for Lancaster County, SC by US Census tracts and a general reference map of Lancaster County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Lancaster County are hazardous material accidents, severe thunderstorms and wind, and wildfires. Drought and hurricanes/tropical storms are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Lancaster County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	7	158	22.57	4.43
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	1	59	59.00	1.69
Flood	10	59	5.90	16.95
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	0	310	*	*
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	40	22	0.55	181.82**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	12,235	10	<0.50	122,350.00**
Severe Thunderstorm Events				
Funnel Cloud	2	16	8.00	12.50
Hail	54	59	1.09	91.53
Heavy Precipitation	0	15	*	*
Lightning	8	16	2.00	50.00
Thunderstorm & Wind	98	59	0.60	166.10**
Tornado	9	59	6.56	15.25
Temperature Extremes	0	16	*	*
Wildfire	914	21	<0.50	4,352.38**
Winter Weather (Snow & Ice)	15	59	3.93	25.42

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Lancaster County has a higher probability of loss-producing wildfire and winter weather, and is slightly above the state average for drought and hail events. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Thunderstorms, wind, and tornadoes are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

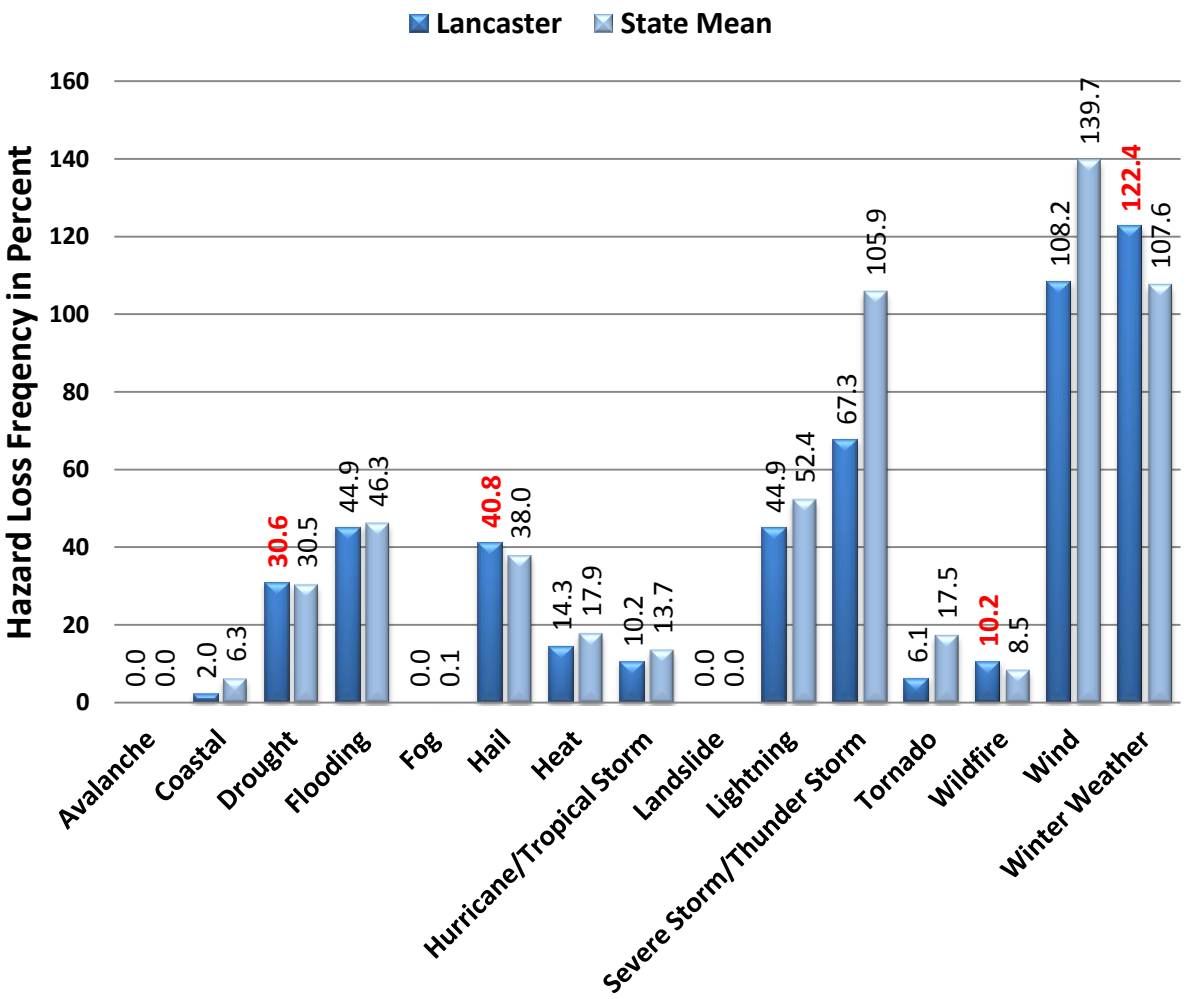


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Lancaster County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Lancaster County exceed $236 million, and are largely due to hurricanes and tropical storms, followed by winter weather, and drought. Hurricane/tropical storm represented 73% of the historic damage in Lancaster County. While significant for the county, these cumulative losses represent 2.5% of the state's total overall, but 18% of the state's total damages related to hurricane/tropical storms. Hail and wind also produce significant losses for the county, representing 8% and 6% of the state's losses.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$449,814	0.29%
Hail	$8,503,402	8.25%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$173,668,903	3.15%
Lightning	$519,597	0.99%
Severe Storm/ Thunder Storm	$738,107	0.35%
Tornado	$3,145,629	1.33%
Wildfire	$347,075	2.17%
Wind	$8,868,803	6.08%
Winter Weather	$15,140,493	1.68%
Lancaster - Total	**$236,733,420**	**2.47%**

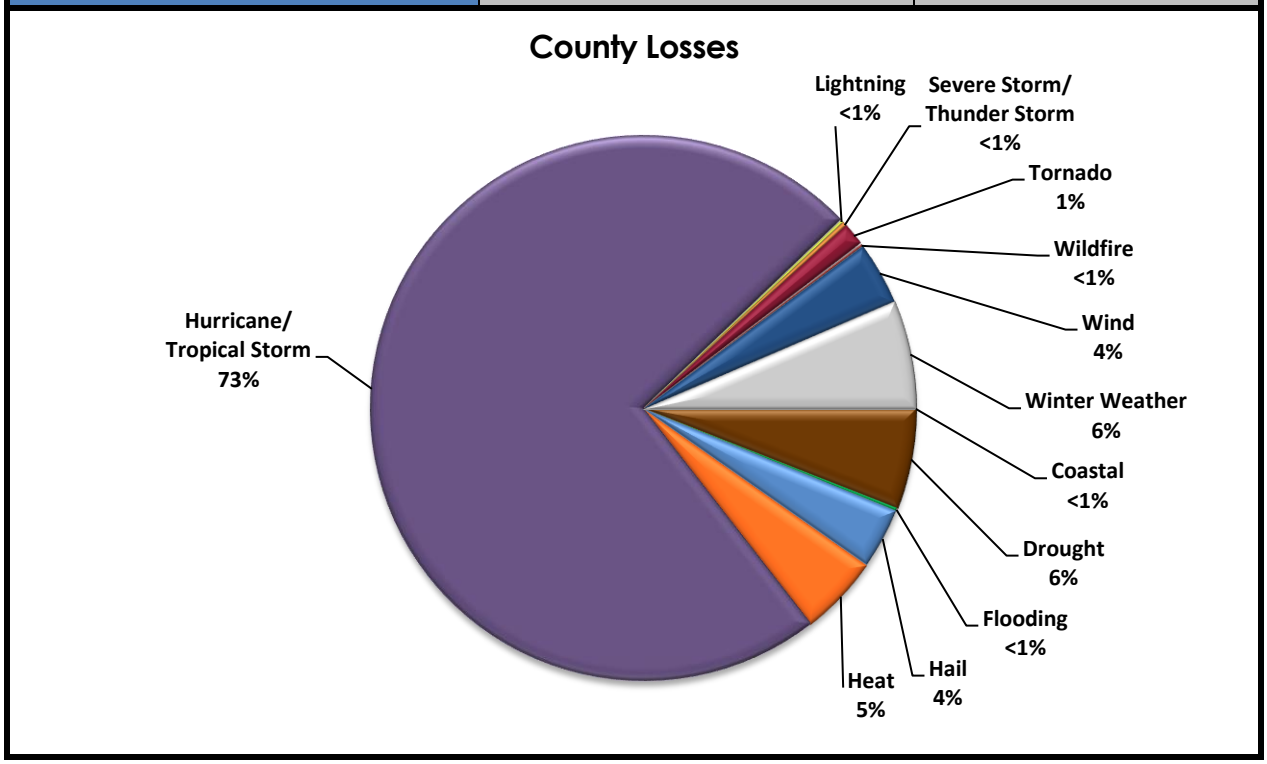
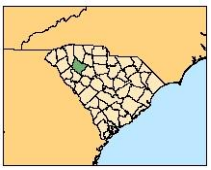


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Lancaster County, SC.

LAURENS COUNTY, SC



I. Summary

Laurens County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents). Winter weather and tornadoes produce the most monetary damage and are relatively frequent events with a recurrence interval is 2.2 and 4.9 years, respectively. Wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Laurens County, most of the census tracts exhibit moderate category of social vulnerability. Census tracts in the northeastern parts of the county show moderately elevated SoVI scores, and the city of Laurens shows elevate levels of social vulnerability. Figure 1 provides maps of the Laurens County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

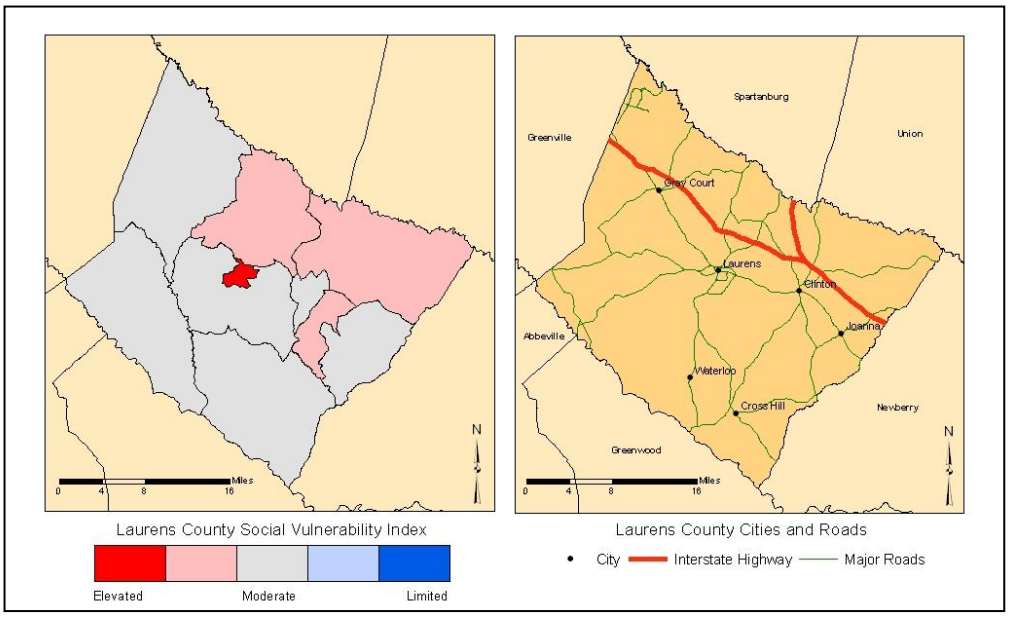


FIGURE 1. The Social Vulnerability for Laurens County, SC by US Census tracts and a general reference map of Laurens County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Laurens County are hazardous material accidents, severe thunderstorm events, and wildfires. Earthquakes, avalanches, and hurricanes/tropical storms are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Laurens County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	5	158	31.60	3.16
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	33	59	1.79	55.93
Flood	29	59	2.03	49.15
Fog	3	12	4.00	25.00
Geophysical Events				
Avalanche	1	49	49.00	2.04
Earthquake	6	310	51.67	1.94
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	84	22	<0.50	381.82**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	14,116	10	<0.50	141,160**
Severe Thunderstorm Events				
Funnel Cloud	3	16	5.33	18.75
Hail	89	59	0.66	150.85**
Heavy Precipitation	32	15	<0.50	213.33**
Lightning	7	16	2.29	43.75
Thunderstorm & Wind	208	59	<0.50	352.54**
Tornado	12	59	4.92	20.34
Temperature Extremes	5	16	3.20	31.25
Wildfire	1,054	21	<0.50	5,019.05**
Winter Weather (Snow & Ice)	27	59	2.19	45.76

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Laurens County has a higher probability of loss-producing avalanches, hail, lightning, tornado, and winter weather events. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. The remaining hazards are at or slightly below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

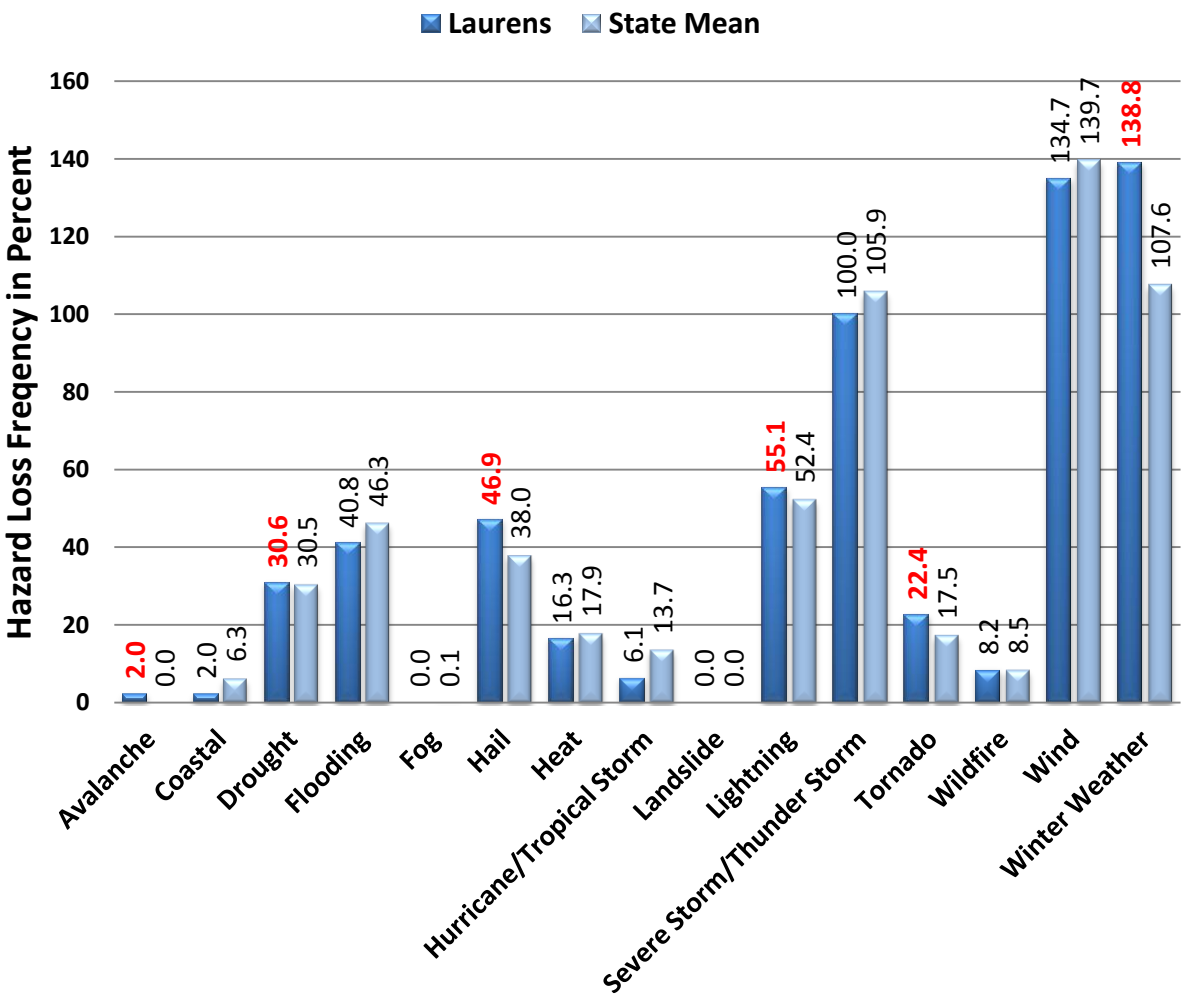


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Laurens County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Laurens County exceed $83 million, and are largely due to winter weather, tornadoes, drought, and heat. While significant for the county, these cumulative losses represent less than one percent of the state's total overall losses. Tornadic events in Laurens County account for 7% of the state's total damages related to tornadoes.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Avalanche	$2,826	100.00%
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$6,569,031	4.24%
Hail	$1,683,499	1.63%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$329,868	0.01%
Lightning	$2,073,860	3.95%
Severe Storm/ Thunder Storm	$4,951,788	2.34%
Tornado	$17,428,477	7.37%
Wildfire	$334,042	2.09%
Wind	$3,555,599	2.44%
Winter Weather	$21,259,375	2.36%
Laurens - Total	**$83,539,964**	**0.87%**

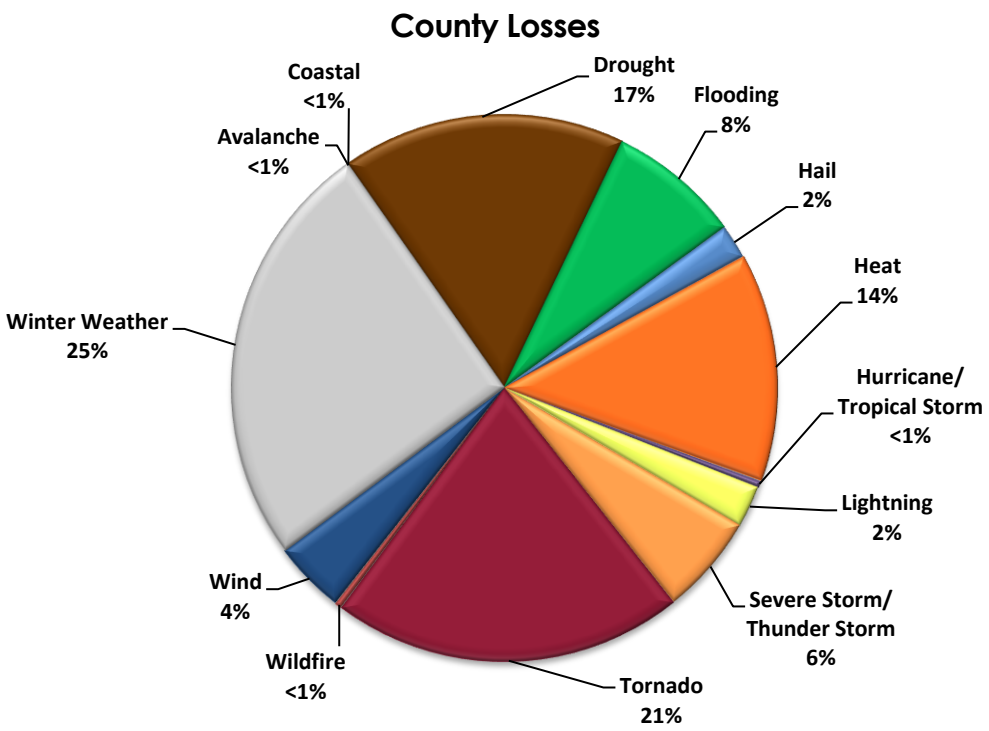
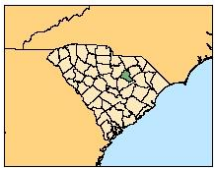


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Laurens County, SC.

LEE COUNTY, SC



I. Summary

Lee County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Hurricane/tropical storms produce the greatest monetary damage; however, the recurrence interval is 14.3 years, making it a relatively rare event. Wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Lee County, most of the census tracts exhibit moderate to elevated levels of social vulnerability. The exception is the census tract containing Lee County Correctional Institute with the limited SoVI scores. Figure 1 provides maps of the Lee County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

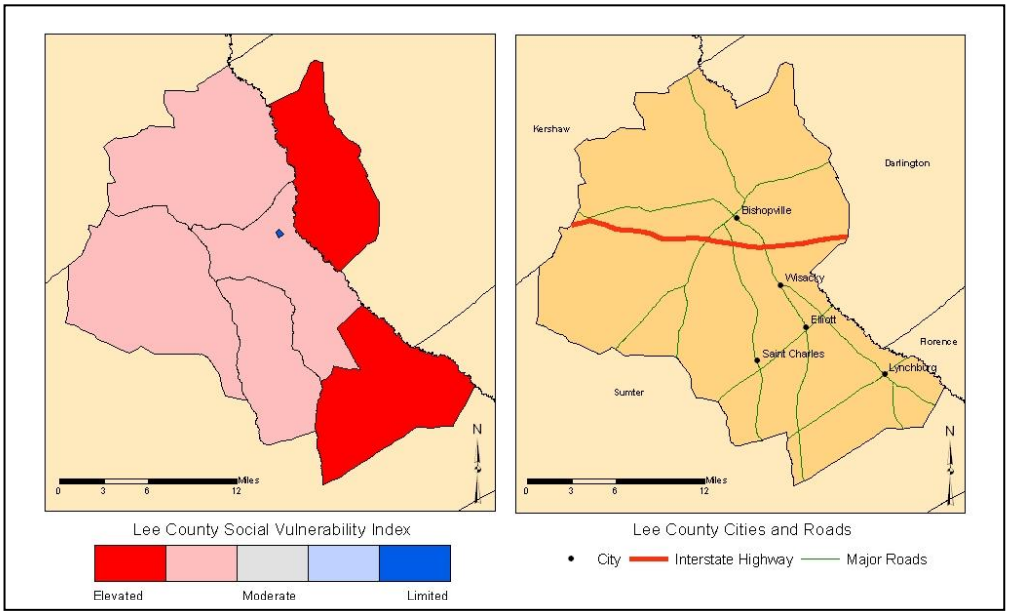


FIGURE 1. The Social Vulnerability for Lee County, SC by US Census tracts and a general reference map of Lee County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Lee County are hazardous material accidents, severe thunderstorms and wind, and wildfires. Earthquakes and drought are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Lee County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	11	158	14.36	6.96
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	1	59	59.00	1.69
Flood	6	59	9.83	10.17
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	1	310	310.00	0.32
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	57	22	<0.50	259.09**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	3,273	10	<0.50	32,730**
Severe Thunderstorm Events				
Funnel Cloud	0	16	*	*
Hail	40	59	1.48	67.80
Heavy Precipitation	1	15	15.00	6.67
Lightning	1	16	16.00	6.25
Thunderstorm & Wind	77	59	0.77	130.51**
Tornado	9	59	6.56	15.25
Temperature Extremes	0	16	*	*
Wildfire	1,663	21	<0.50	7,919.05**
Winter Weather (Snow & Ice)	6	59	9.83	10.17

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Lee County has a lower probability of loss-producing hazards than the statewide average for all hazards. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Hazards affecting Lee County have historically produced fewer losses for the county when compared to the state as a whole.

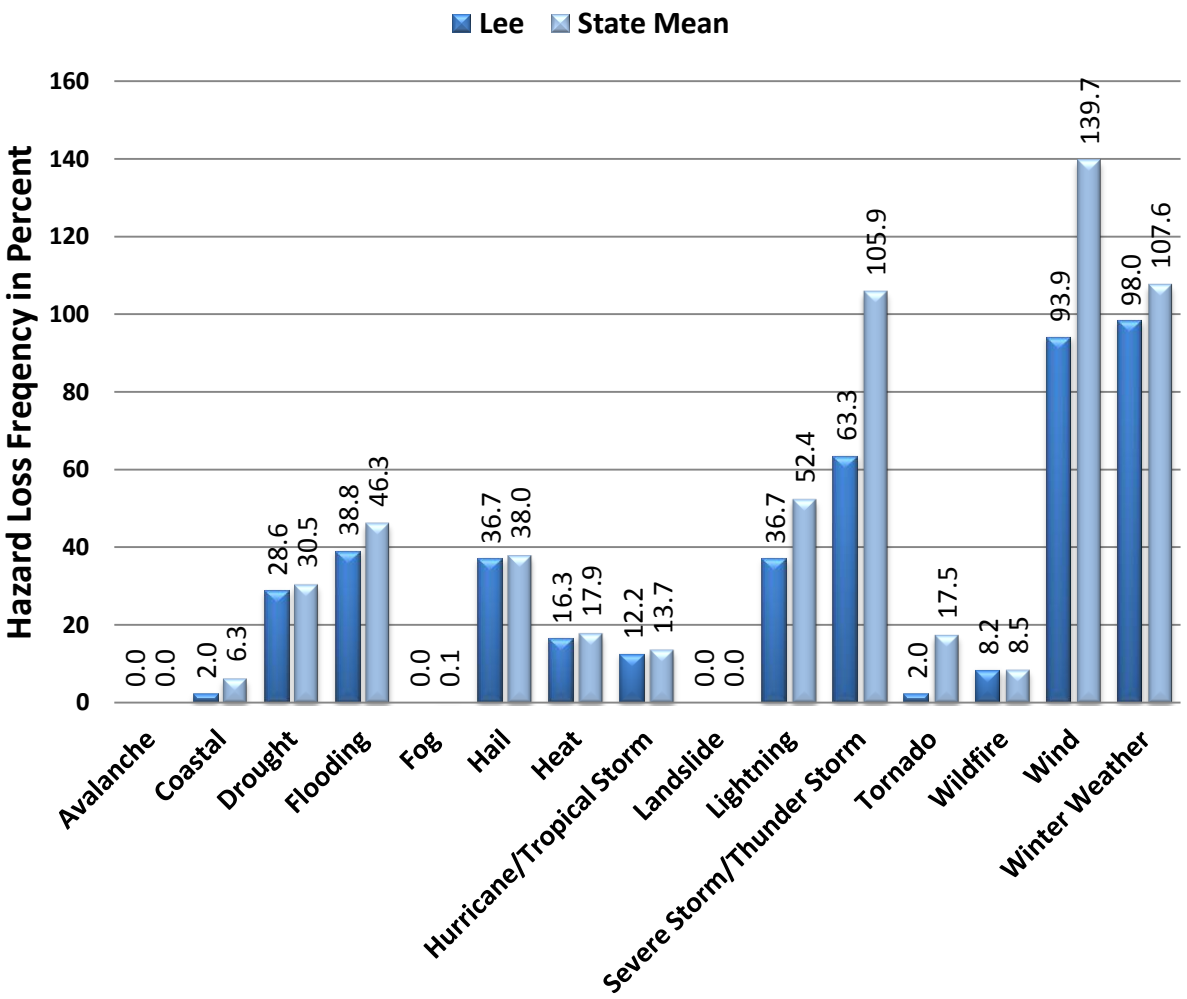


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Lee County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Lee County exceed $227 million, and are largely due to hurricanes and tropical storms, followed by drought, heat, winter weather, and severe thunderstorms. Hurricane/tropical storm represented 77% of the damage in Lee County. While significant for the county, these cumulative losses represent around 2% of the state's total overall, while 5% of the state's total damages are caused severe thunderstorms.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,055,942	2.17%
Flooding	$463,717	0.30%
Hail	$600,155	0.58%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$174,314,866	3.16%
Lightning	$283,909	0.54%
Severe Storm/ Thunder Storm	$10,398,577	4.92%
Tornado	$5,200	0.01%
Wildfire	$334,042	2.09%
Wind	$831,711	0.57%
Winter Weather	$14,655,372	1.63%
Lee - Total	**$227,236,610**	**2.37%**

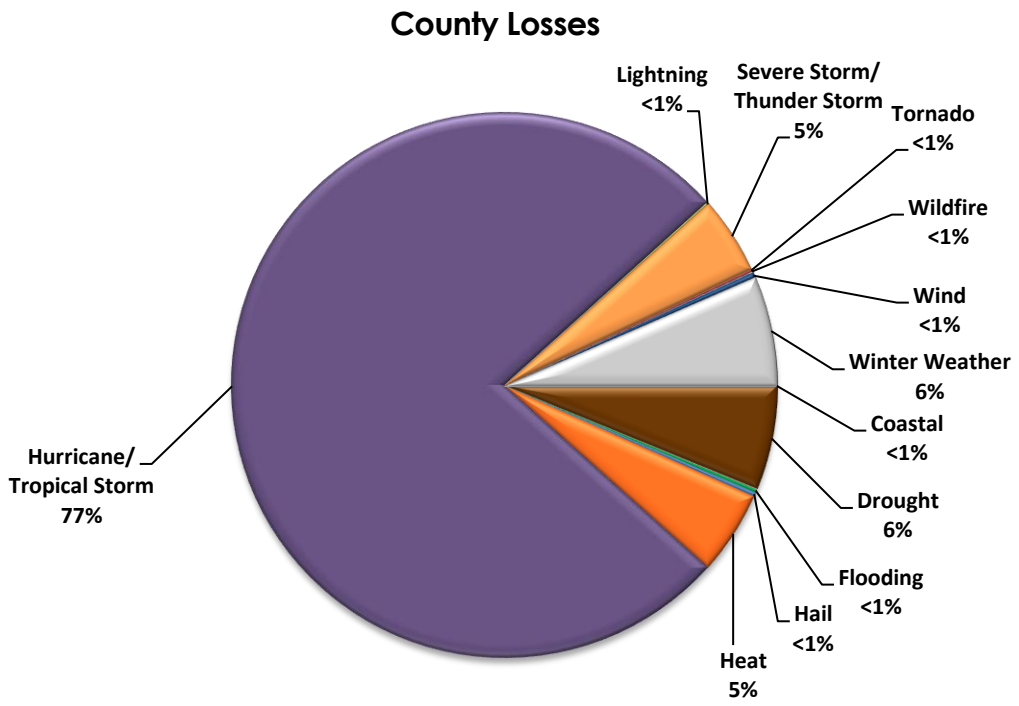
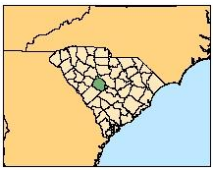


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Lee County, SC.

LEXINGTON COUNTY, SC



I. Summary

Lexington County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Winter weather and drought produce the greatest monetary damage; however, the recurrence interval is 59 years and 8.4 years respectively, making these relatively rare events. Wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Lexington County, most of the census tracts exhibit moderate to limited levels of social vulnerability. The exceptions are in West Columbia, Cayce, and Batesburg-Leesville. Figure 1 provides maps of the Lexington County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

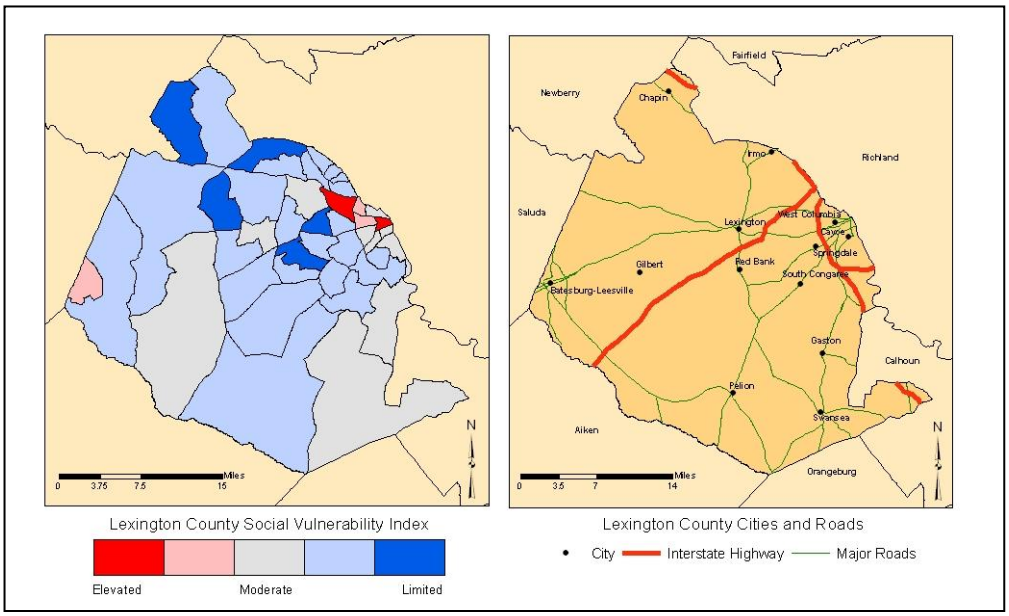


FIGURE 1. The Social Vulnerability for Lexington County, SC by US Census tracts and a general reference map of Lexington County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Lexington County are hazardous material accidents, severe thunderstorms and wind, hail, and wildfires. Droughts and earthquakes are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Lexington County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	9	158	17.56	5.70
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	1	59	59.00	1.69
Flood	17	59	3.47	28.81
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	6	310	51.67	1.94
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	274	22	<0.50	1,245.45**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	53,758	10	<0.50	537,580**
Severe Thunderstorm Events				
Funnel Cloud	2	16	8.00	12.50
Hail	168	59	<0.50	284.75**
Heavy Precipitation	0	15	*	*
Lightning	7	16	2.29	43.75
Thunderstorm & Wind	313	59	<0.50	530.51**
Tornado	22	59	2.68	37.29
Temperature Extremes	0	16	*	*
Wildfire	4,341	21	<0.50	20,671.43**
Winter Weather (Snow & Ice)	7	59	8.43	11.86

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Lexington County has a higher probability of loss-producing lightning, thunderstorm, and wind events. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Flooding and drought are slightly above the state average as well. Winter weather is well below the state mean indicating that this hazard has historically produced fewer losses for the county when compared to the state as a whole.

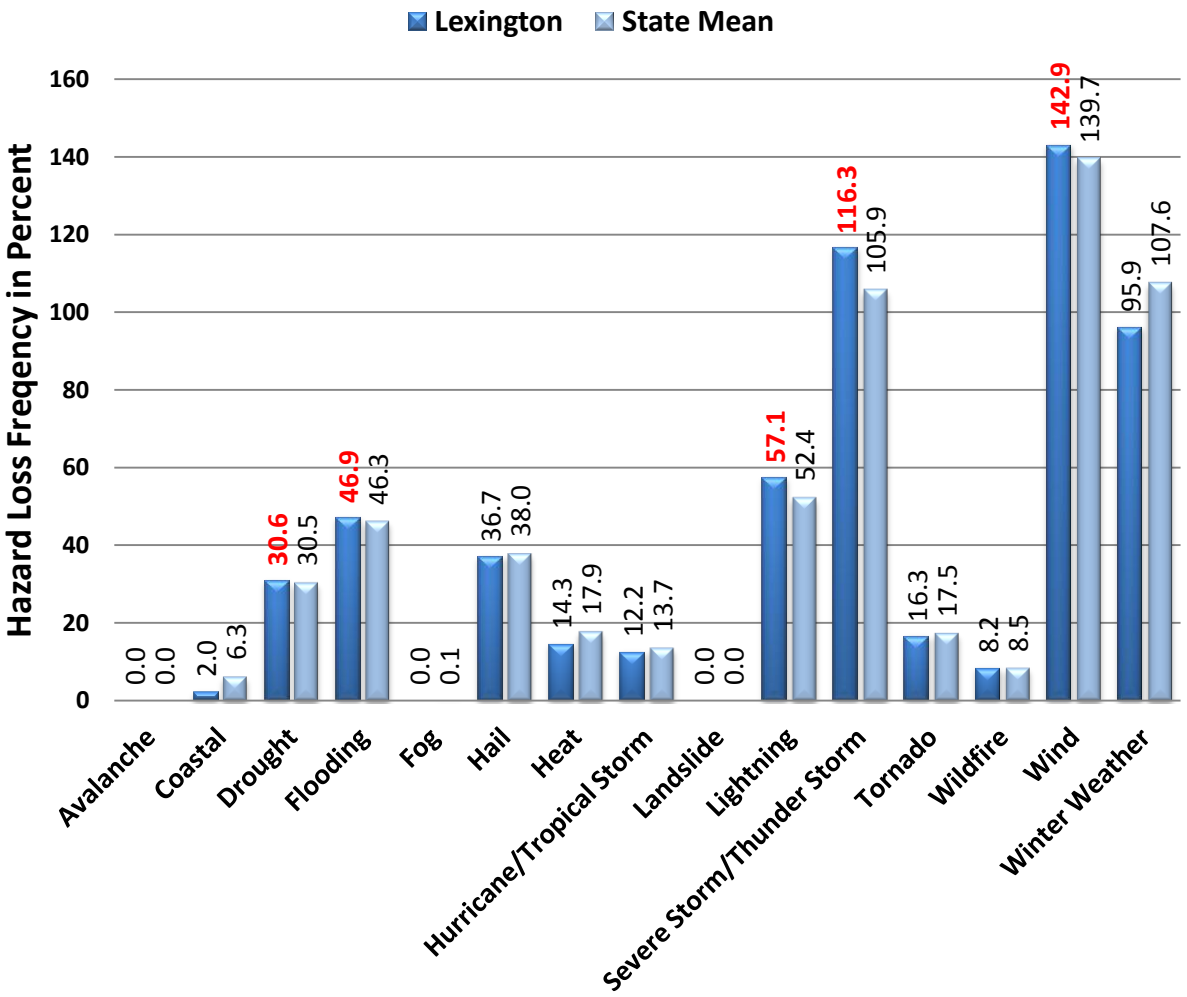


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Lexington County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Lexington County exceed $57 million, and are largely due to winter weather, drought, heat, and tornadoes. While significant for the county, these cumulative losses represent less than one percent of the state's total overall.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$1,344,802	0.87%
Hail	$389,738	0.38%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$1,076,866	0.02%
Lightning	$1,889,247	3.60%
Severe Storm/ Thunder Storm	$1,276,048	0.60%
Tornado	$10,170,899	4.30%
Wildfire	$334,042	2.09%
Wind	$1,468,278	1.01%
Winter Weather	$14,646,000	1.63%
Lexington - Total	**$57,947,517**	**0.61%**

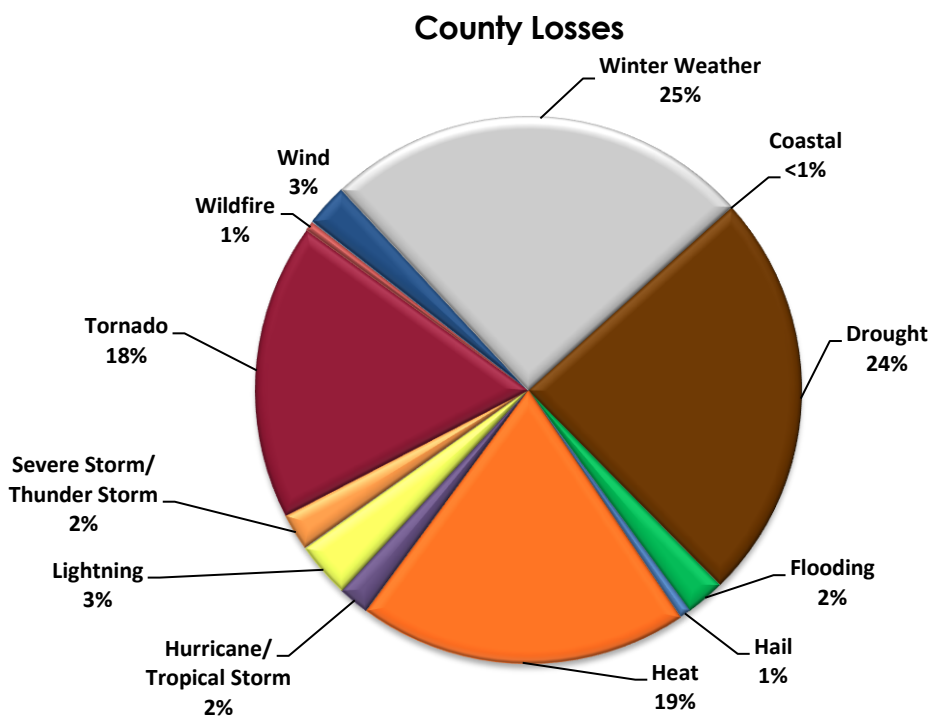
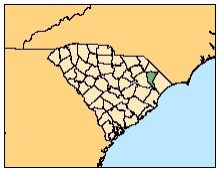


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Lexington County, SC.

MARION COUNTY, SC



I. Summary

Marion County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents). Winter weather produces the highest monetary damage; however, the recurrence interval is 8.4 years, making it a relatively rare event. Wildfires, thunderstorms, hail, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Marion County, most of the census tracts exhibit moderately elevated levels of social vulnerability. Figure 1 provides maps of the Marion County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

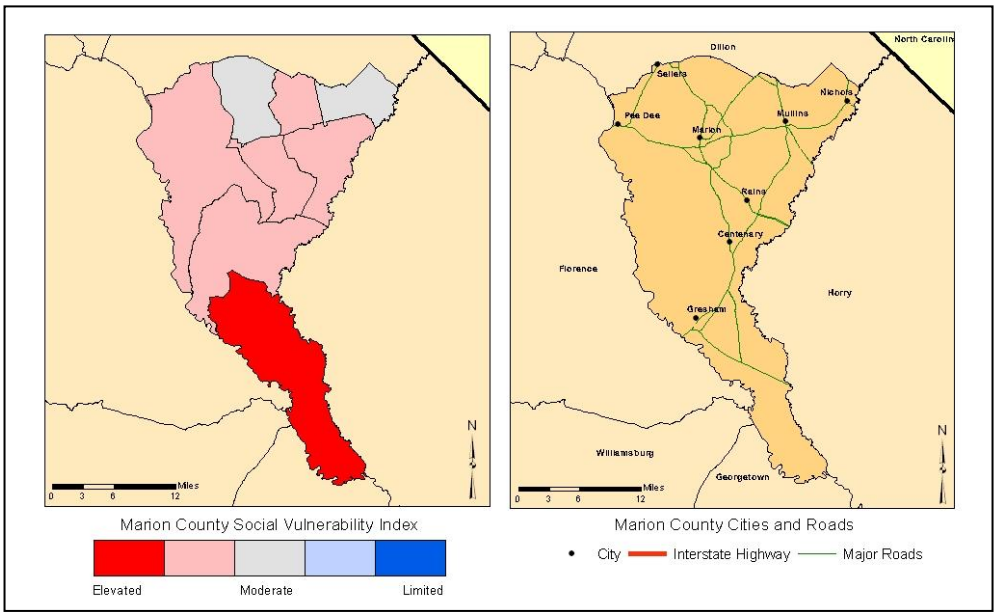


FIGURE 1. The Social Vulnerability for Marion County, SC by US Census tracts and a general reference map of Marion County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Marion County are hazardous material accidents, severe thunderstorms and wind, hail, and wildfires. Flooding, ocean & lake surf, and winter weather are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Marion County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	13	158	12.15	8.23
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	8	59	7.38	13.56
Flood	9	59	6.56	15.25
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	9	310	34.44	2.90
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	23	22	0.96	104.55**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	5,028	10	<0.50	50,280.00**
Severe Thunderstorm Events				
Funnel Cloud	0	16	*	*
Hail	61	59	0.97	103.39**
Heavy Precipitation	0	15	*	*
Lightning	6	16	2.67	37.50
Thunderstorm & Wind	92	59	0.64	155.93**
Tornado	8	59	7.38	13.56
Temperature Extremes	0	16	*	*
Wildfire	908	21	<0.50	4,323.81**
Winter Weather (Snow & Ice)	7	59	8.43	11.86

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Marion County has a higher probability of loss-producing hurricane/tropical storms, and hail events. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Thunderstorms, wind, and winter weather are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

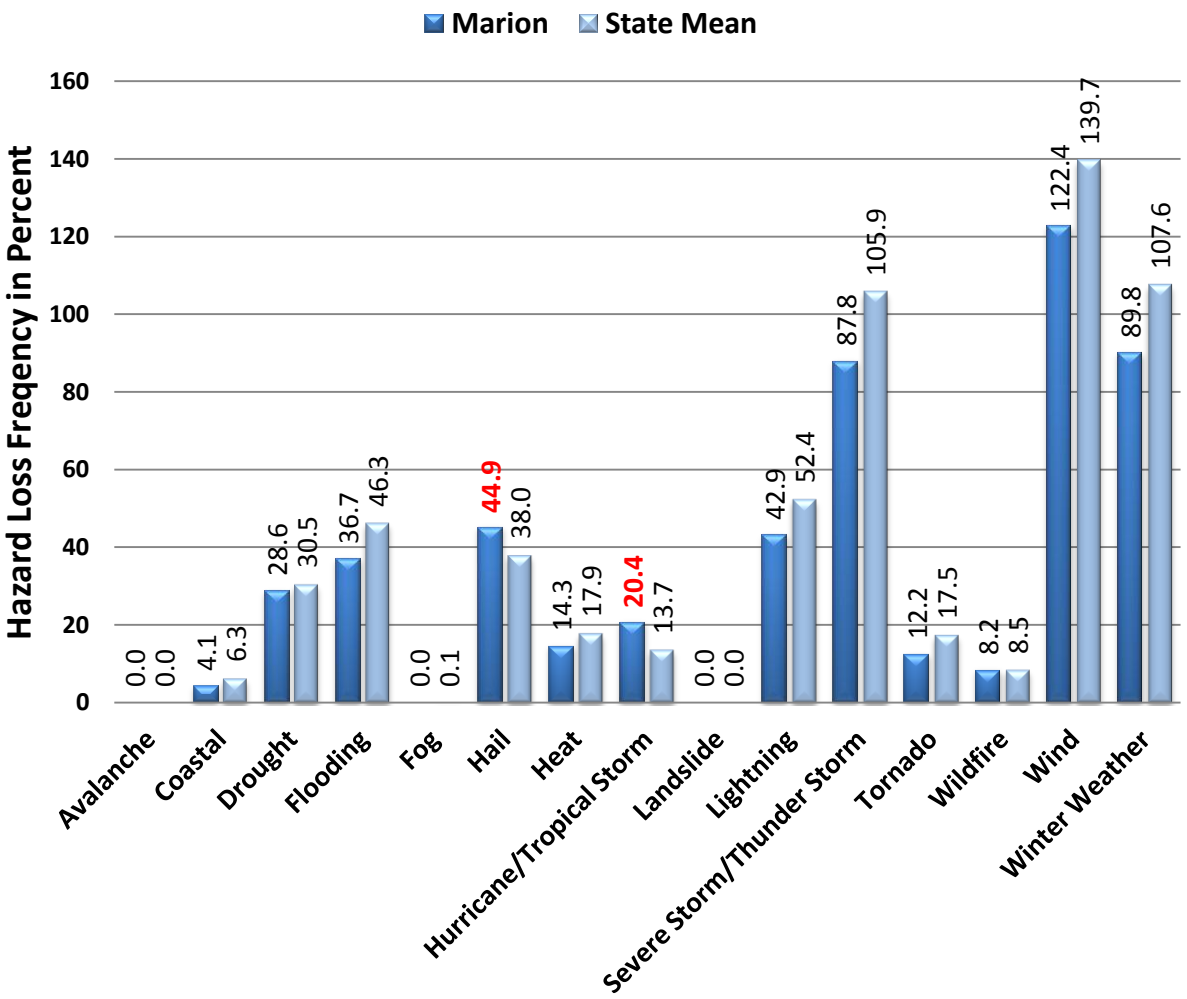


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Marion County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Marion County exceed $62 million, and are largely due to winter weather, drought, heat, and hurricane/tropical storms. While significant for the county, these cumulative losses represent less than one percent the state's overall total.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$287,032	0.03%
Drought	$14,055,942	2.17%
Flooding	$621,528	0.40%
Hail	$994,555	0.96%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$10,448,061	0.19%
Lightning	$679,419	1.29%
Severe Storm/ Thunder Storm	$1,268,989	0.60%
Tornado	$3,002,730	1.27%
Wildfire	$334,042	2.09%
Wind	$2,260,450	1.55%
Winter Weather	$17,757,442	1.97%
Marion - Total	**$62,996,834**	**0.66%**

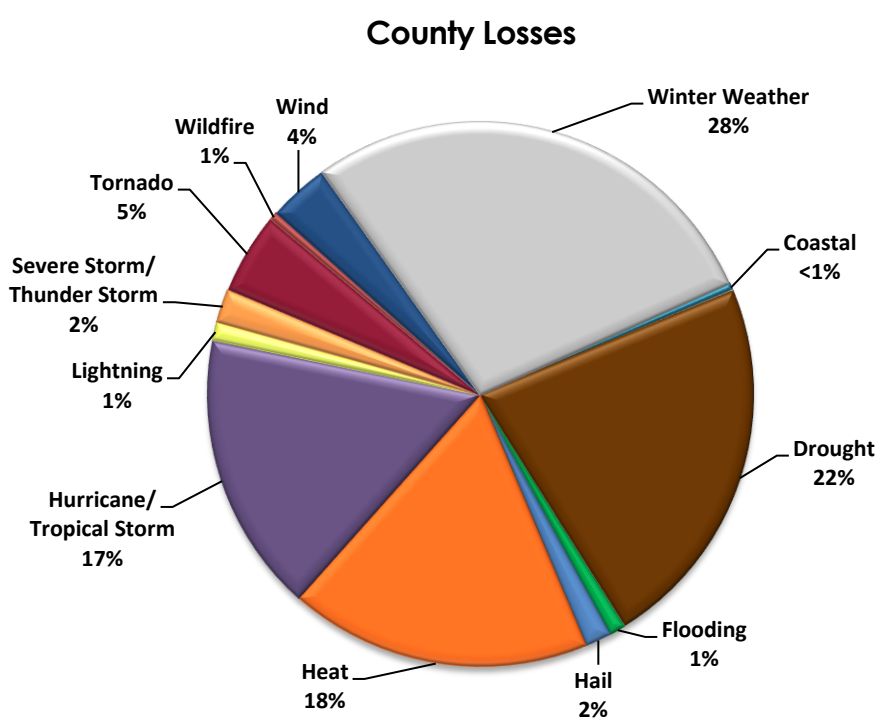
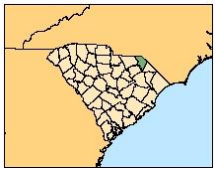


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Marion County, SC.

MARLBORO COUNTY, SC



I. Summary

Marlboro County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents). Severe thunderstorms produce the greatest monetary damage and are among the most frequent of all hazards, especially those that result in substantial dollar losses. Wildfires and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Marlboro County, most of the census tracts exhibit moderate to elevated levels of social vulnerability. Census tracts in the southern part of the county have among the highest SoVI scores in the state. Figure 1 provides maps of the Marlboro County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

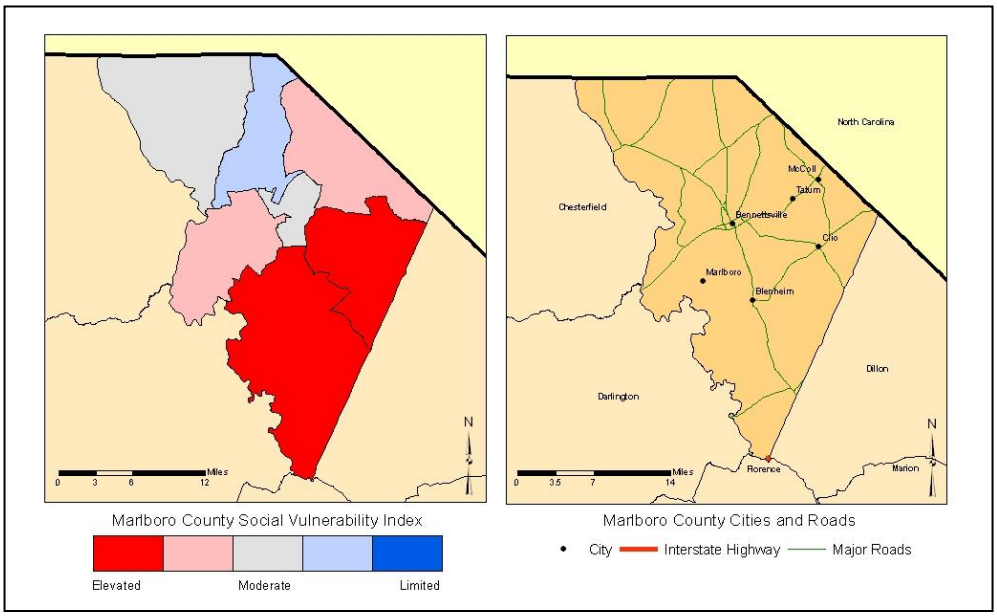


FIGURE 1. The Social Vulnerability for Marlboro County, SC by US Census tracts and a general reference map of Marlboro County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Marlboro County are wildfires, thunderstorms and wind, and hazardous material accidents. Earthquakes, ocean and lake surf, and hurricane/tropical storms are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Marlboro County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	13	158	12.15	8.23
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	11	59	5.36	18.64
Flood	6	59	9.83	10.17
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	2	310	155.00	0.65
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	28	22	0.79	127.27**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	5,596	10	<0.50	55,960.00**
Severe Thunderstorm Events				
Funnel Cloud	0	16	*	*
Hail	46	59	1.28	77.97
Heavy Precipitation	1	15	15.00	6.67
Lightning	5	16	3.20	31.25
Thunderstorm & Wind	95	59	0.620	161.02**
Tornado	14	59	4.210	23.73
Temperature Extremes	0	16	*	*
Wildfire	1,567	21	<0.50	7,461.90**
Winter Weather (Snow & Ice)	15	59	3.93	25.42

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Marlboro County has a higher probability of loss-producing hail, hurricane/tropical storm, and winter weather events. The county has slightly more than the average of tornado loss events. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Hail, thunderstorms, tornadoes, and winter weather are above the state mean indicating that these hazards have historically produced more losses for the county when compared to the state as a whole.

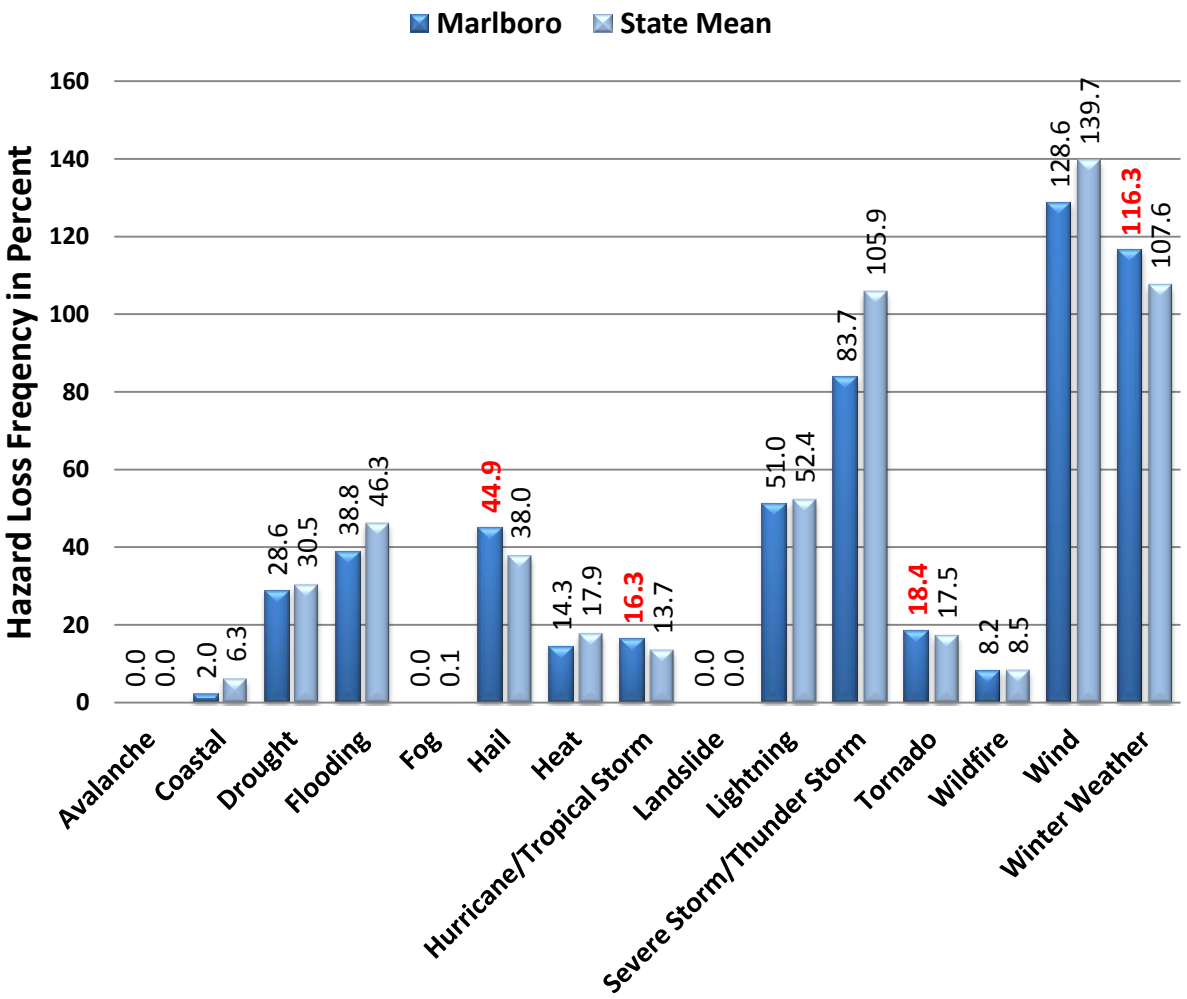


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Marlboro County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Marlboro County exceed $168 million, and are largely due to severe thunderstorms, tornadoes, and winter weather. While significant for the county, these cumulative losses represent 1.8% of the state's total overall. However, the severe thunderstorm losses represent 52% of county losses and more than 41% of the statewide losses. Tornadoes occurring in Marlboro County account for over 9% of statewide tornado losses.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,055,942	2.17%
Flooding	$559,162	0.36%
Hail	$1,180,899	1.15%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$10,301,543	0.19%
Lightning	$418,084	0.80%
Severe Storm/ Thunder Storm	$87,687,048	41.51%
Tornado	$21,609,949	9.13%
Wildfire	$334,042	2.09%
Wind	$1,315,402	0.90%
Winter Weather	$19,533,078	2.17%
Marlboro - Total	**$168,288,268**	**1.76%**

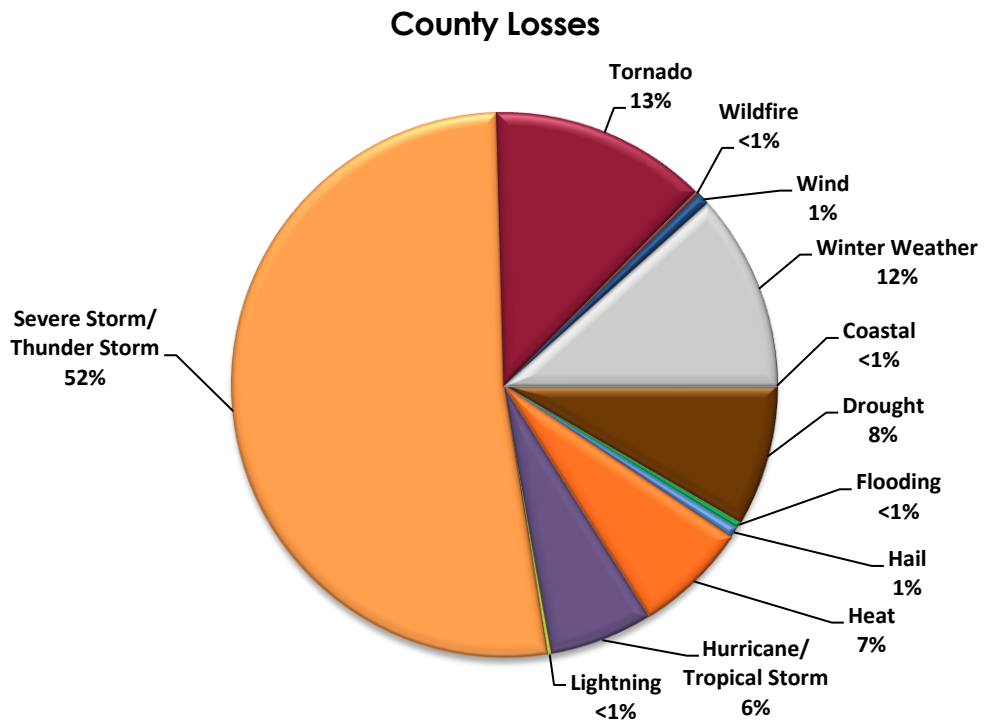
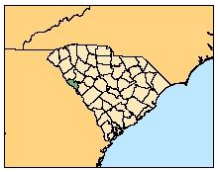


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Marlboro County, SC.

McCORMICK COUNTY, SC



I. Summary

McCormick County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Winter weather produced the greatest monetary damage; however, the recurrence interval is 7.8 years, making it a relatively rare event. Wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within McCormick County, most of the census tracts show moderate level of social vulnerability. The Census tract in the northern third of the county (Mount Carmel area) exhibit elevated SoVI score. Figure 1 provides maps of the McCormick County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

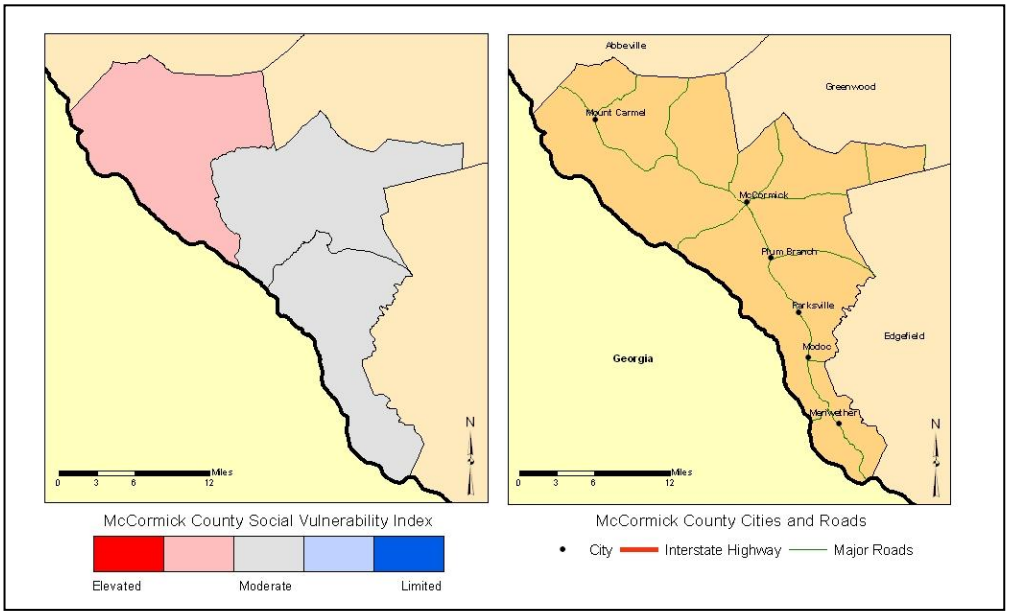


FIGURE 1. The Social Vulnerability for McCormick County, SC by US Census tracts and a general reference map of McCormick County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in McCormick County are hazardous material accidents, severe thunderstorms and wind, and wildfires. Droughts and hurricanes/tropical storms are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for McCormick County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	4	158	39.5	2.53
Ocean & Lake Surf[b]	1	16	16	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	1	59	59	1.69
Flood	4	59	14.75	6.78
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	0	310	*	*
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	44	22	0.50	200.00**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	2,473	10	<0.50	24,730.00**
Severe Thunderstorm Events				
Funnel Cloud	0	16	*	*
Hail	29	59	2.03	49.15
Heavy Precipitation	6	15	2.50	40.00
Lightning	2	16	8.00	12.50
Thunderstorm & Wind	50	59	1.18	84.75
Tornado	14	59	4.21	23.73
Temperature Extremes	0	16	*	*
Wildfire	716	21	<0.50	3,409.52**
Winter Weather (Snow & Ice)	8	59	7.38	13.56

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, McCormick County has only a slightly higher probability of loss-producing drought events. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Thunderstorms, wind, and winter weather are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

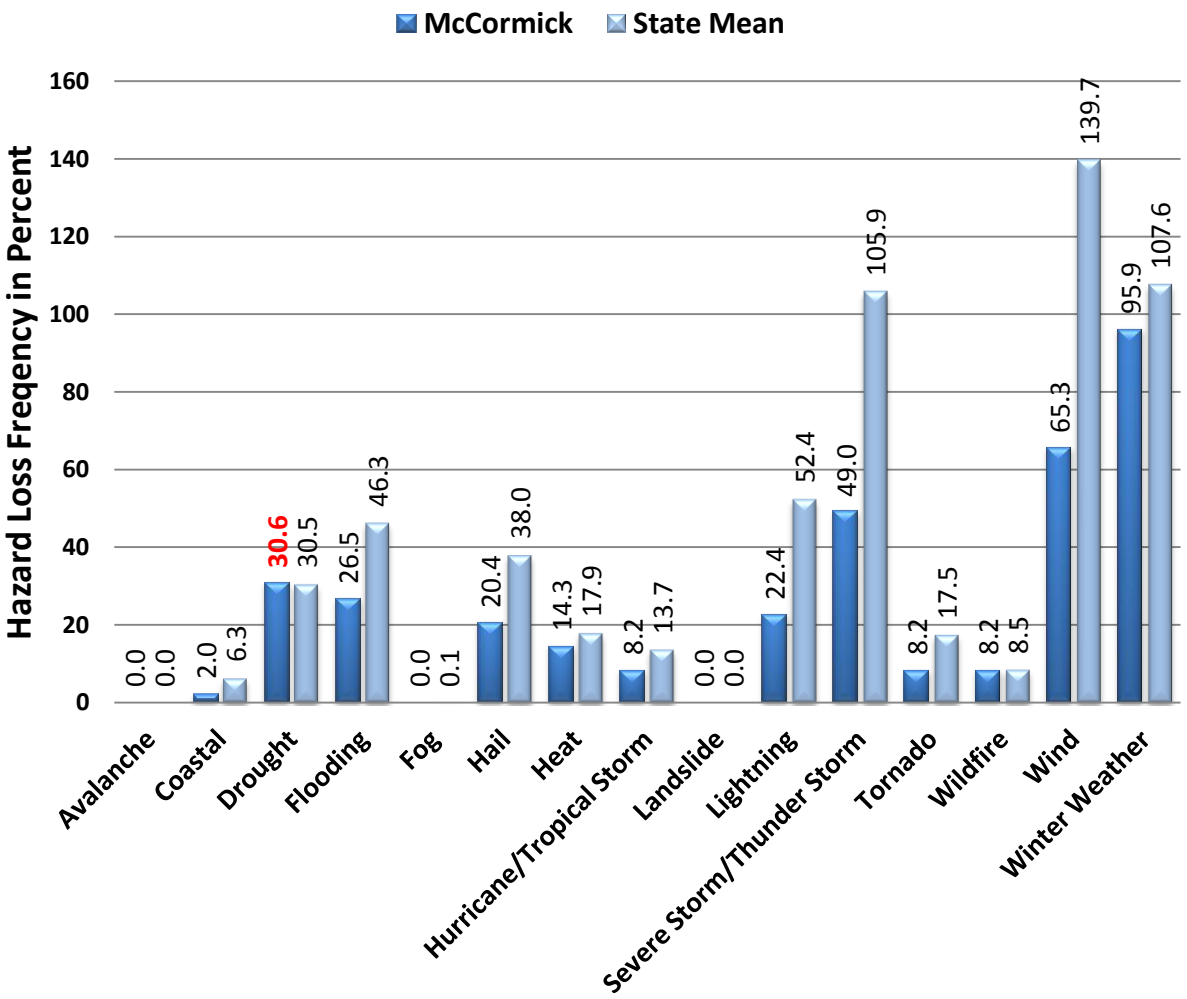


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for McCormick County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in McCormick County exceed $46 million, and are largely due to winter weather, drought, and heat. While significant for the county, these cumulative losses represent less than one percent of the state's overall total.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$321,092	0.21%
Hail	$390,768	0.38%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$3,092,368	0.06%
Lightning	$185,995	0.35%
Severe Storm/ Thunder Storm	$643,337	0.30%
Tornado	$605,346	0.26%
Wildfire	$334,042	2.09%
Wind	$343,104	0.24%
Winter Weather	$15,224,842	1.69%
McCormick - Total	**$46,492,492**	**0.49%**

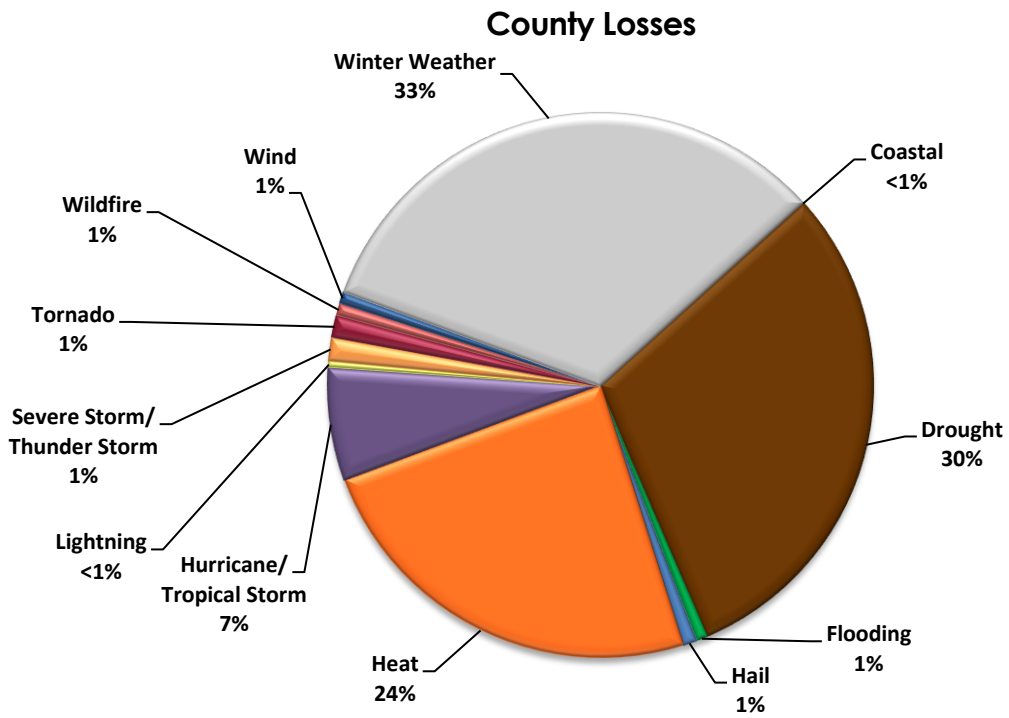
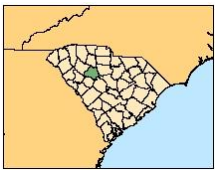


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for McCormick County, SC.

NEWBERRY COUNTY, SC



I. Summary

Newberry County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Winter weather produces the greatest monetary damage; however, the recurrence interval is 4.9 years, making it a less common event than tornadoes and hail, which also produce significant losses f or the county. Wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Newberry County, most of the census tracts exhibit moderate levels of social vulnerability. Census tracts in the center of the county, including those in Newberry city exhibit the highest SoVI scores. Figure 1 provides maps of the Newberry County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

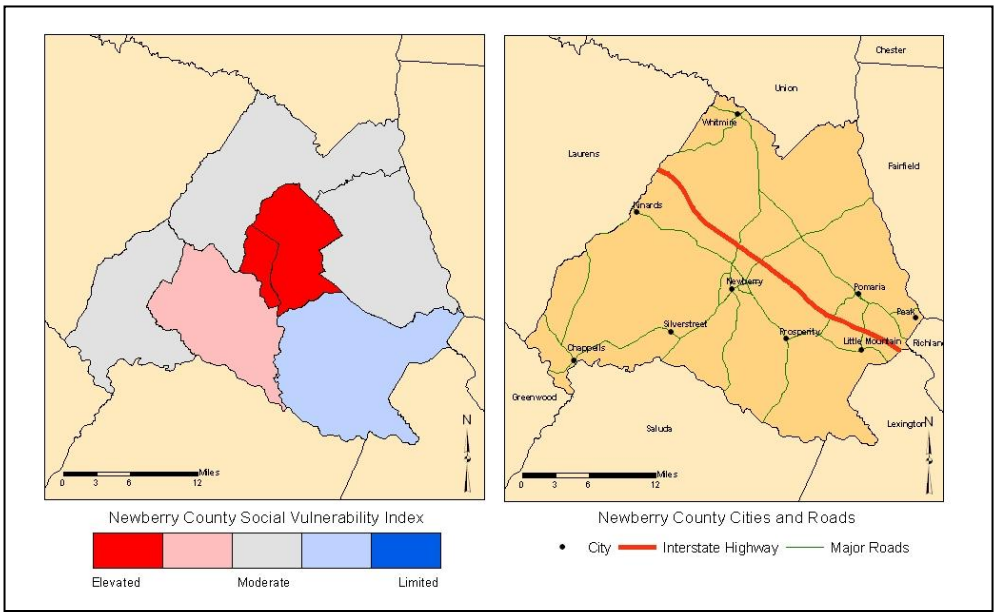


FIGURE 1. The Social Vulnerability for Newberry County, SC by US Census tracts and a general reference map of Newberry County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

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University of South Carolina
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IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Newberry County are hazardous material accidents, severe thunderstorms and wind, and wildfires. Drought and hurricanes/tropical storms are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Newberry County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	6	158	26.33	3.80
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	1	59	59.00	1.69
Flood	6	59	9.83	10.17
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	21	310	14.76	6.77
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	57	22	<0.50	259.09**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	7,830	10	<0.50	78,300.00**
Severe Thunderstorm Events				
Funnel Cloud	1	16	16.00	6.25
Hail	64	59	0.92	108.47**
Heavy Precipitation	0	15	*	*
Lightning	1	16	16.00	6.25
Thunderstorm & Wind	127	59	<0.50	215.25**
Tornado	30	59	1.97	50.85
Temperature Extremes	0	16	*	*
Wildfire	784	21	<0.50	3,733.33**
Winter Weather (Snow & Ice)	12	59	4.92	20.34

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Newberry County has a higher probability of loss-producing tornado and winter weather events, and is slightly above the statewide average for drought and hail. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Thunderstorms, wind, and flooding are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

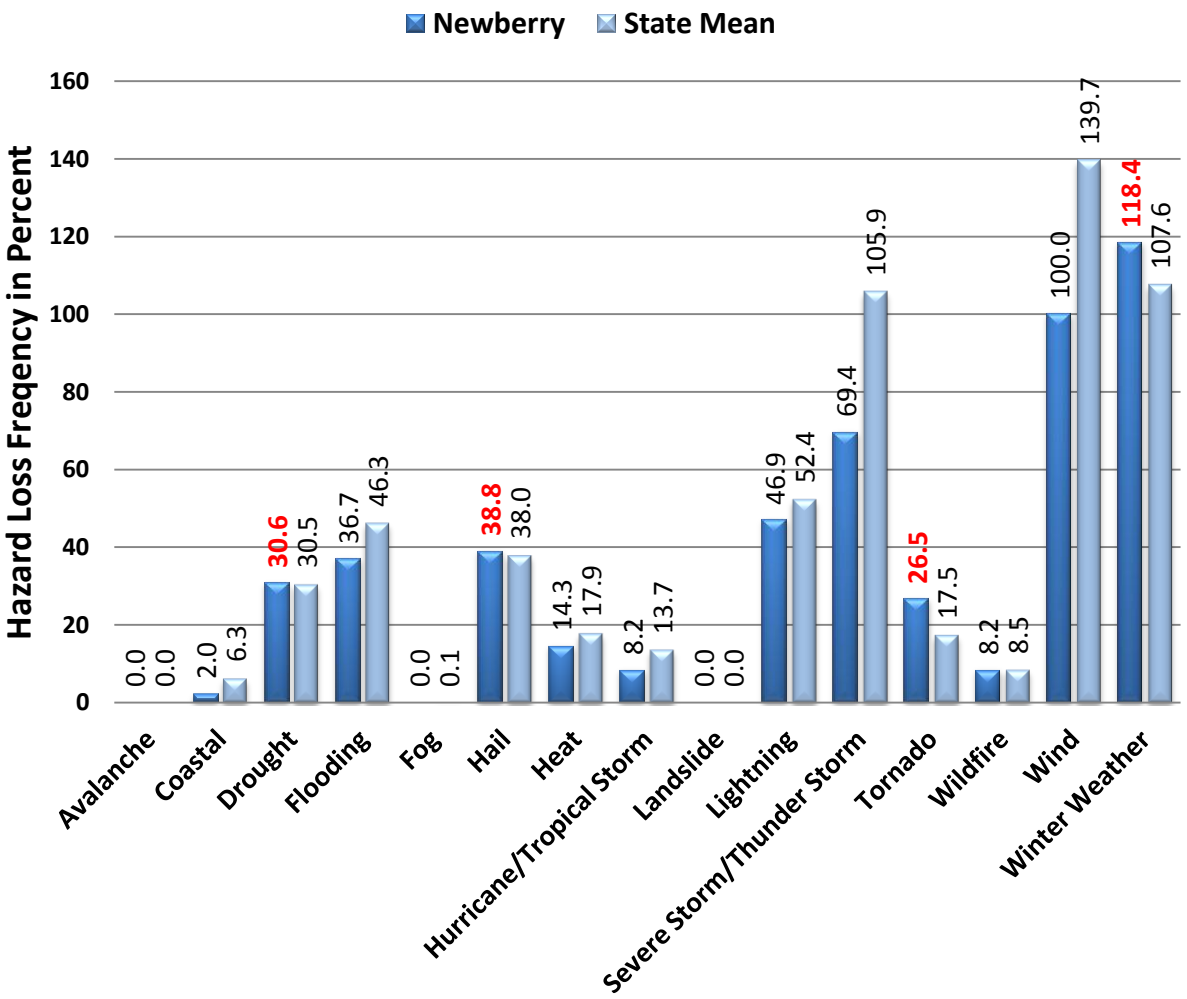


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Newberry County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Newberry County exceed $63 million, and are largely due to winter weather, drought, heat, tornadoes, and hail. While significant for the county, these cumulative losses represent less than one percent of the state's total overall, but 7.6% of the state's total damages related to hail.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$1,365,708	0.88%
Hail	$7,812,970	7.58%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$975,831	0.02%
Lightning	$459,167	0.87%
Severe Storm/ Thunder Storm	$759,185	0.36%
Tornado	$10,015,297	4.23%
Wildfire	$334,042	2.09%
Wind	$668,237	0.46%
Winter Weather	$15,663,866	1.74%
Newberry - Total	**$63,405,900**	**0.66%**

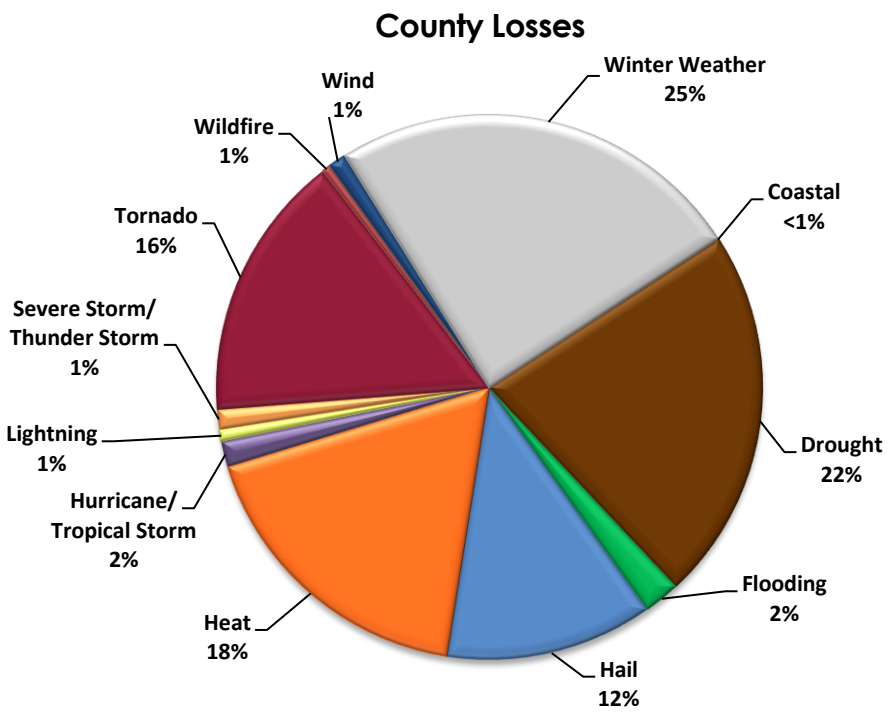
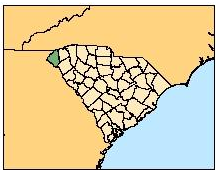


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Newberry County, SC.

OCONEE COUNTY, SC



I. Summary

Oconee County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Winter weather produced the greatest monetary damage in the county. Wildfires, winter weather, thunderstorms, hail, and hazardous material incidents are some of the prominent hazards that regularly affect the county based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Oconee County, most of the census tracts exhibit moderate to limited levels of social vulnerability. Figure 1 provides maps of the Oconee County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

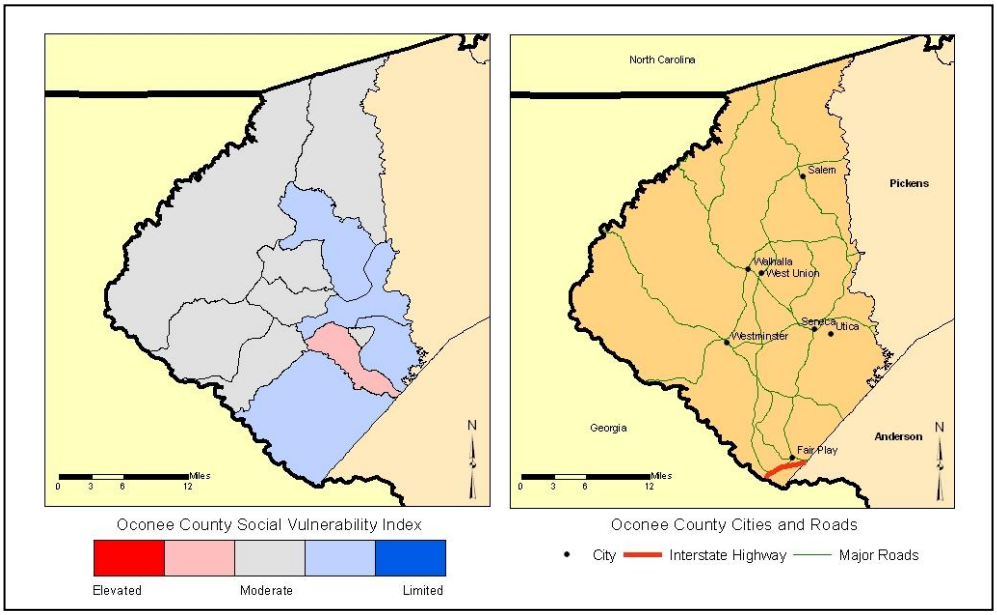


FIGURE 1. The Social Vulnerability for Oconee County, SC by US Census tracts and a general reference map of Oconee County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

South Carolina Emergency Management Division -
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University of South Carolina
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http://webra.cas.sc.edu/hvri

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Oconee County are wildfire, thunderstorms, hail, hazardous material accidents, and winter weather. Earthquakes and hurricanes/tropical storms are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Oconee County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	1	158	158.00	0.63
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	33	59	1.79	55.93
Flood	22	59	2.68	37.29
Fog	5	12	2.40	41.67
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	13	310	23.85	4.19
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	178	22	<0.50	809.09**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	11,888	10	<0.50	118,880.00**
Severe Thunderstorm Events				
Funnel Cloud	1	16	16.00	6.25
Hail	111	59	0.53	188.14**
Heavy Precipitation	6	15	2.50	40.00
Lightning	8	16	2.00	50.00
Thunderstorm & Wind	194	59	<0.50	328.81**
Tornado	22	59	2.68	37.29
Temperature Extremes	7	16	2.29	43.75
Wildfire	864	21	<0.50	4,114.29**
Winter Weather (Snow & Ice)	71	59	0.83	120.34**

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Oconee County has a higher probability of loss-producing wind and winter weather events, thunderstorms, lightning, flooding, and tornado events. The county is slightly above the state average for drought, and hail. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Hurricane and tropical storms are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

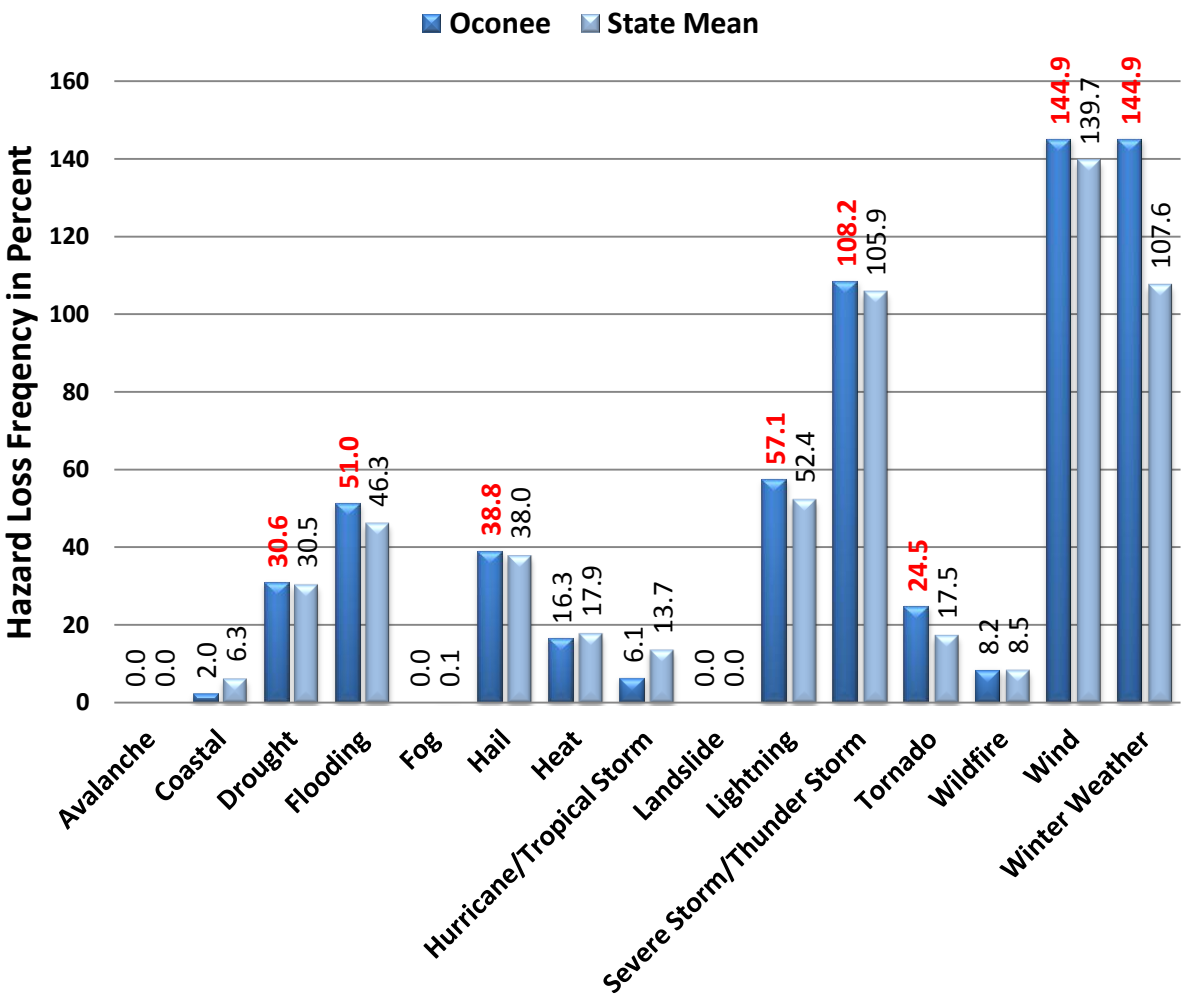


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Oconee County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Oconee County exceed $71 million, and are largely due to winter weather, followed by drought and heat. While significant for the county, these cumulative losses represent less than one percent of the state's overall total.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$5,223,521	3.37%
Hail	$1,033,976	1.00%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$329,868	0.01%
Lightning	$1,192,759	2.27%
Severe Storm/ Thunder Storm	$5,061,967	2.40%
Tornado	$935,140	0.40%
Wildfire	$334,042	2.09%
Wind	$1,169,192	0.80%
Winter Weather	$31,270,123	3.47%
Oconee - Total	**$71,902,187**	**0.75%**

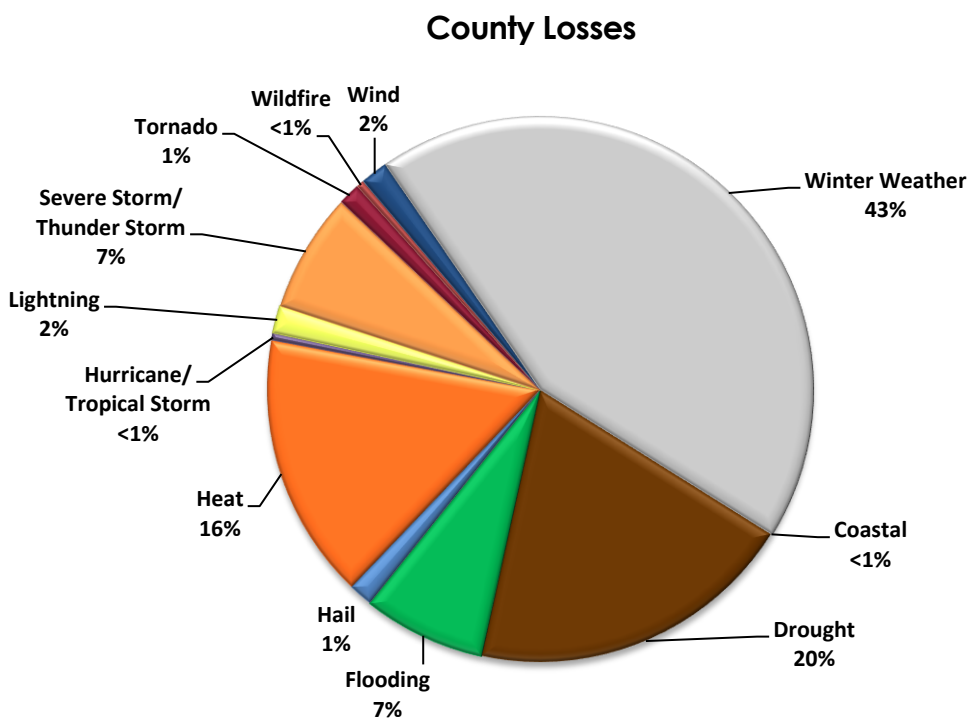
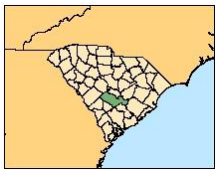


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Oconee County, SC.

ORANGEBURG COUNTY, SC



I. Summary

Orangeburg County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Hurricane/tropical storms produce the most monetary damage; however the recurrence interval is 6 years making it a relatively infrequent event. Wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Orangeburg County, the census tracts exhibit moderate to moderately high levels of social vulnerability. Census tracts within the city of Orangeburg have the highest SoVI scores, illustrating elevated levels of social vulnerability. Figure 1 provides maps of the Orangeburg County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

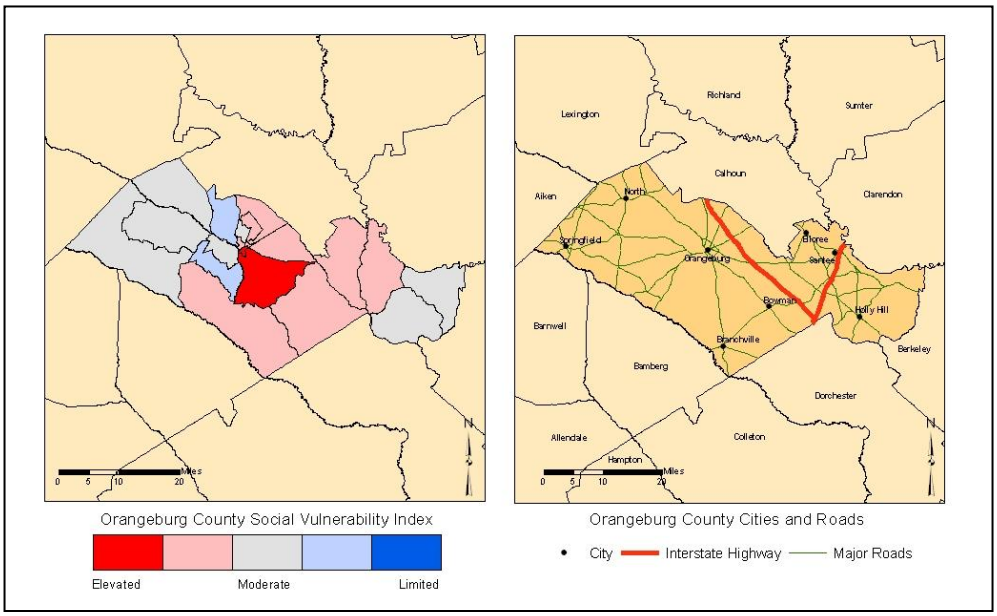


FIGURE 1. The Social Vulnerability for Orangeburg County, SC by US Census tracts and a general reference map of Orangeburg County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

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IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Orangeburg County are hazardous material accidents, severe thunderstorms and wind, hail, and wildfires. Droughts, earthquakes, and winter weather are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Orangeburg County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	26	158	6.08	16.46
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	1	59	59.00	1.69
Flood	8	59	7.38	13.56
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	20	310	15.50	6.45
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	374	22	<0.50	1,700.00**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	21,793	10	<0.50	217,930.00**
Severe Thunderstorm Events				
Funnel Cloud	0	16	*	*
Hail	134	59	<0.50	227.12**
Heavy Precipitation	1	15	15.00	6.67
Lightning	9	16	1.78	56.25
Thunderstorm & Wind	233	59	<0.50	394.92**
Tornado	47	59	1.26	79.66
Temperature Extremes	1	16	16.00	6.25
Wildfire	4,703	21	<0.50	22,395.24**
Winter Weather (Snow & Ice)	4	59	14.75	6.78

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Orangeburg County has a higher probability of loss-producing lightning and tornado events, and is around the average for drought and flooding. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Winter weather is well below the state mean indicating that this hazard has historically produced fewer losses for the county when compared to the state as a whole.

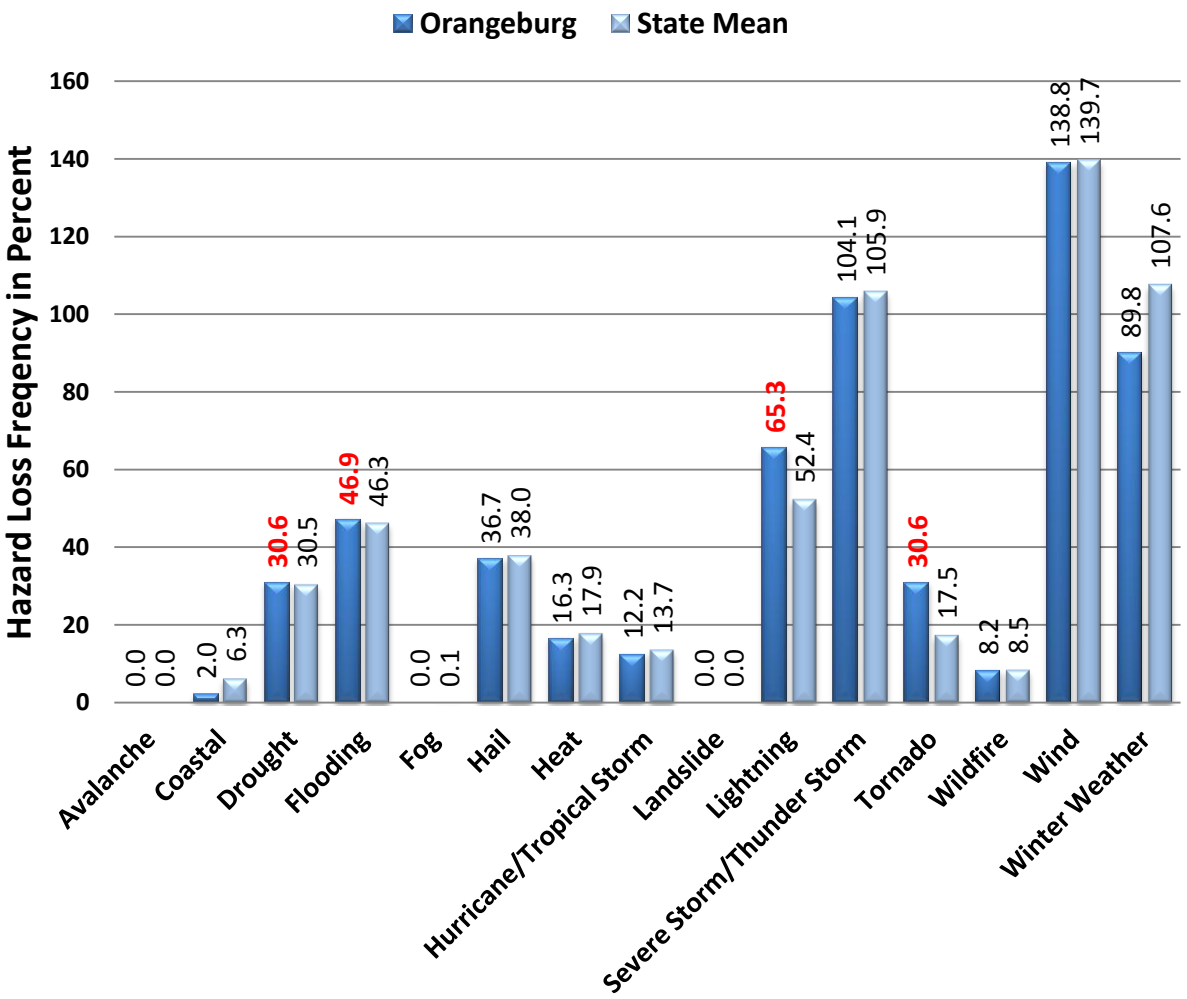


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Orangeburg County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Orangeburg County exceed $67 million, and are largely due to hurricanes and tropical storms, followed by winter weather, drought, and heat. Hurricane/tropical storm represented 27% of the losses in Orangeburg County. While significant for the county, these cumulative losses represent less than one percent of the state's overall total.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$679,274	0.44%
Hail	$471,009	0.46%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$18,314,866	0.33%
Lightning	$1,220,358	2.32%
Severe Storm/ Thunder Storm	$1,679,288	0.79%
Tornado	$3,192,501	1.35%
Wildfire	$334,042	2.09%
Wind	$1,758,209	1.21%
Winter Weather	$14,542,313	1.61%
Orangeburg - Total	**$67,543,458**	**0.71%**

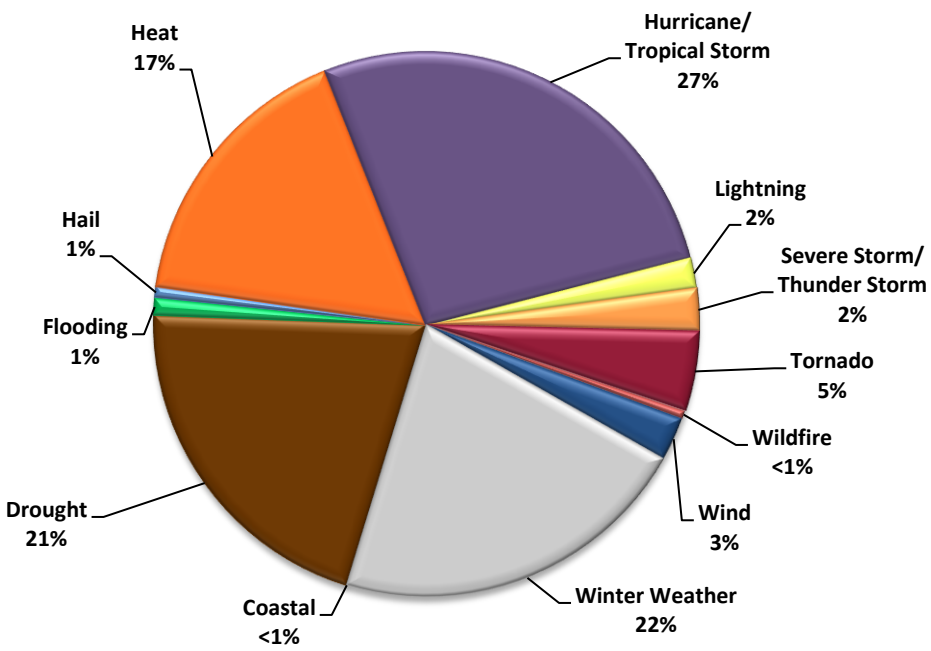
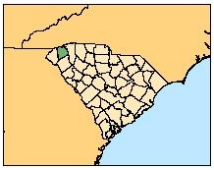


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Orangeburg County, SC.

PICKENS COUNTY, SC



I. Summary

Pickens County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Winter weather produces the greatest monetary damage and is among the county's most frequent hazards. Wildfires, thunderstorms, hail, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Pickens County, most of the census tracts exhibit moderately limited levels of social vulnerability. Figure 1 provides maps of the Pickens County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

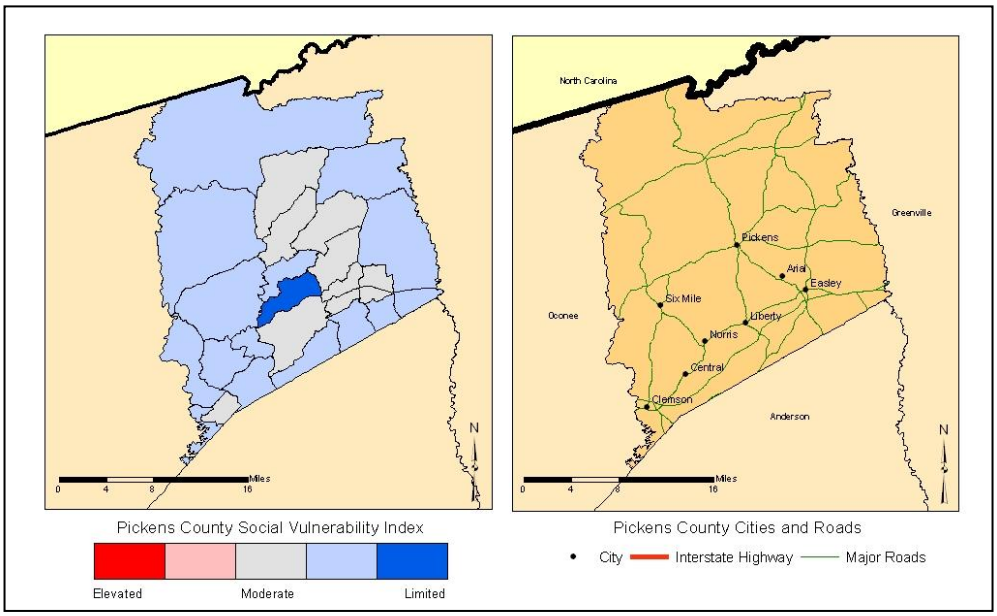


FIGURE 1. The Social Vulnerability for Pickens County, SC by US Census tracts and a general reference map of Pickens County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Pickens County are wildfires, hazardous material accidents, severe thunderstorms and wind, hail, and winter weather. Earthquakes and hurricanes/tropical storms are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Pickens County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	2	158	79.00	1.27
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	33	59	1.79	55.93
Flood	39	59	1.51	66.10
Fog	6	12	2.00	50.00
Geophysical Events				
Avalanche	0	49	*	**
Earthquake	5	310	62.00	1.61
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	132	22	<0.50	600.00**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	18,747	10	<0.50	187,470.00**
Severe Thunderstorm Events				
Funnel Cloud	1	16	16.00	6.25
Hail	90	59	0.656	152.54**
Heavy Precipitation	8	15	1.88	53.33
Lightning	6	16	2.67	37.50
Thunderstorm & Wind	199	59	<0.50	337.29**
Tornado	22	59	2.68	37.29
Temperature Extremes	4	16	4.00	25
Wildfire	1,168	21	<0.50	5,561.90**
Winter Weather (Snow & Ice)	68	59	0.87	115.25**

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Pickens County has a higher probability of loss-producing winter weather, wind, thunderstorm, tornado, hail, and flooding events. The county is slightly above the state average for drought and heat. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. The remaining hazards are below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

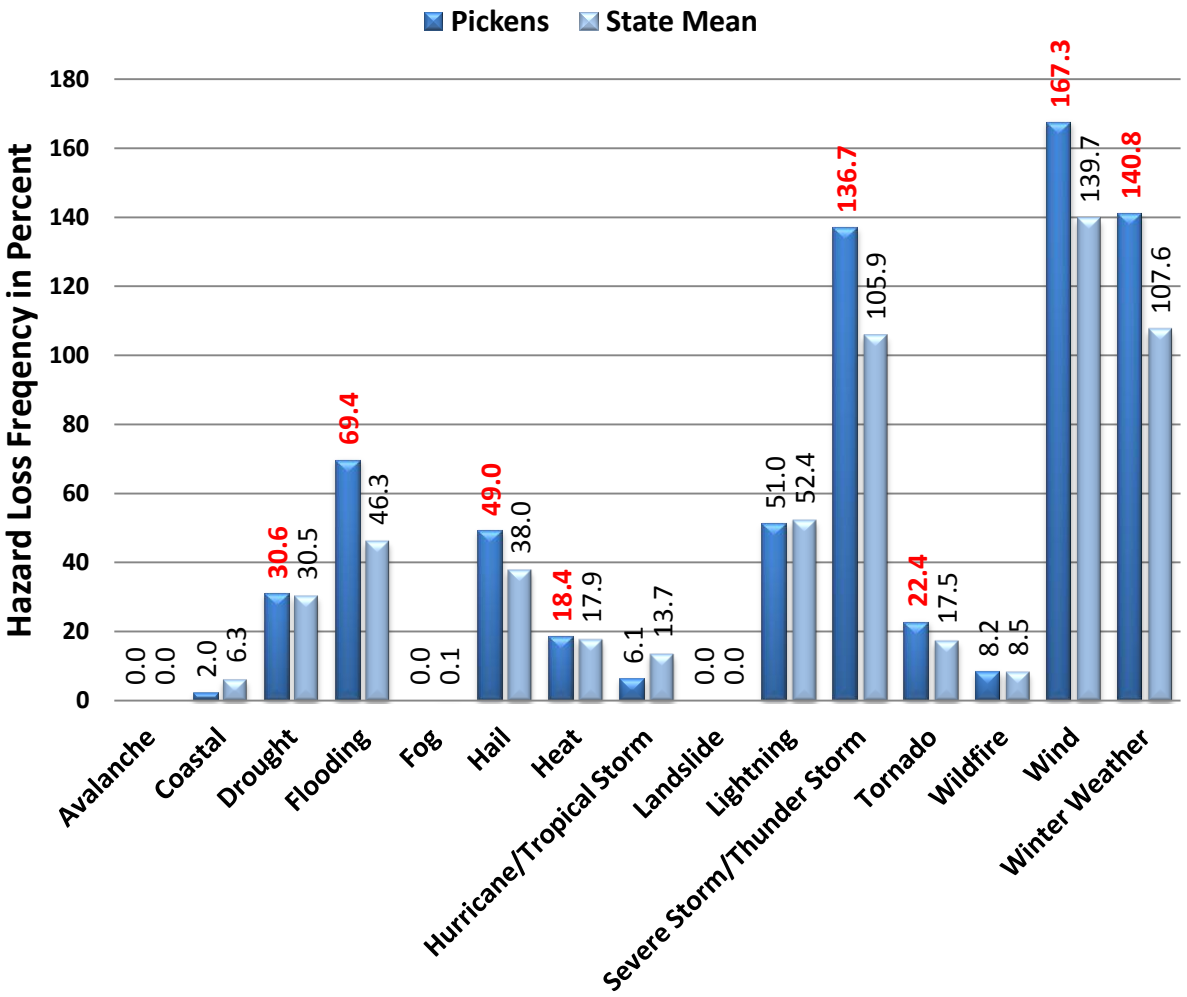


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Pickens County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Pickens County exceed $83 million, and are largely due to winter weather, followed by drought, flooding, and heat. While significant for the county, these cumulative losses represent less than one percent of the state's overall total. Flood losses in Oconee account for 8% of the state's total losses from flood hazards.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$12,710,769	8.21%
Hail	$775,669	0.75%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$329,868	0.01%
Lightning	$305,331	0.58%
Severe Storm/ Thunder Storm	$5,565,288	2.63%
Tornado	$5,301,152	2.24%
Wildfire	$334,042	2.09%
Wind	$1,835,455	1.26%
Winter Weather	$31,270,123	3.47%
Pickens - Total	**$83,779,296**	**0.88%**

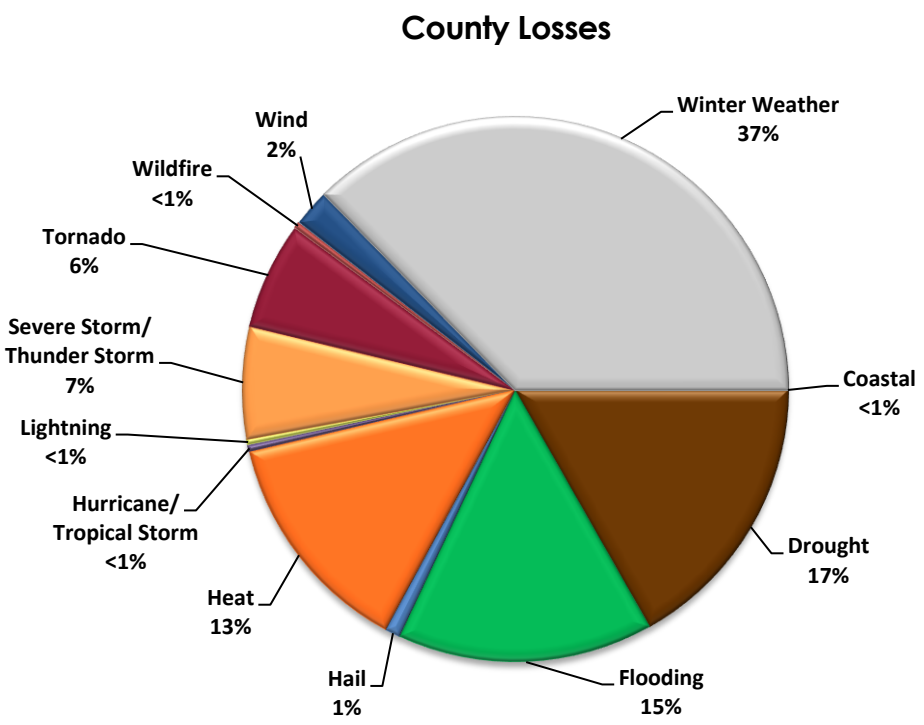
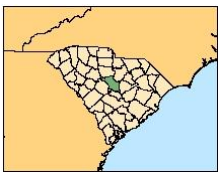


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Pickens County, SC.

RICHLAND COUNTY, SC



I. Summary

Richland County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Hurricane/tropical storms produce the greatest monetary damage; however, the recurrence interval is 9.3 years, making it a relatively rare event. More frequently occurring events such as tornadoes produce nearly as much damage as hurricanes/tropical storms within the county. Wildfires, thunderstorms, hail, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Richland County, most of the census tracts exhibit moderate levels of social vulnerability. Concentrations of high social vulnerability are in Columbia, while low levels of social vulnerability are found in the suburban areas northeast, northwest, and southeast of the city. Figure 1 provides maps of the Richland County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

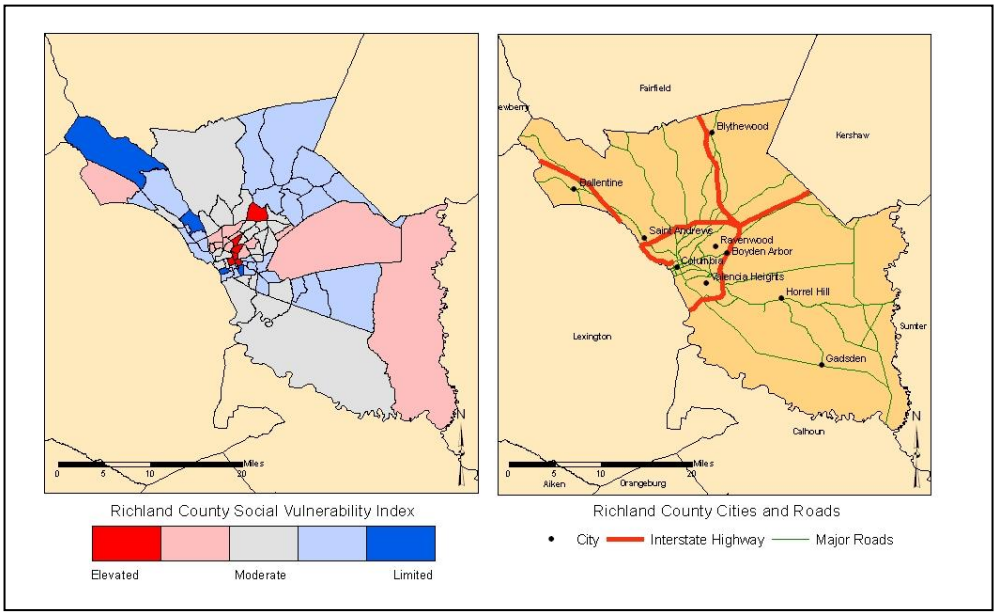


FIGURE 1. The Social Vulnerability for Richland County, SC by US Census tracts and a general reference map of Richland County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

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IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Richland County are hazardous material accidents, severe thunderstorms and wind, and wildfires. Droughts and landslides have the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Richland County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	17	158	9.29	10.76
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	1	59	59.00	1.69
Flood	23	59	2.57	38.98
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	18	310	17.22	5.81
Landslide	1	49	49.00	2.04
Human-Induced Events				
Civil Disturbance		-	-	-
Hazardous Materials (Hazmat)	328	22	<0.50	1,490.91**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	94,120	10	<0.50	941,200**
Severe Thunderstorm Events				
Funnel Cloud	2	16	8.00	12.50
Hail	147	59	<0.50	249.15**
Heavy Precipitation	1	15	15.00	6.67
Lightning	10	16	1.60	62.50
Thunderstorm & Wind	269	59	<0.50	455.93**
Tornado	34	59	1.74	57.63
Temperature Extremes	1	16	16.00	6.25
Wildfire	1,693	21	<0.50	8,061.90**
Winter Weather (Snow & Ice)	6	59	9.83	10.17

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Richland County has a higher probability of loss-producing flooding, hail, landslide, lightning, thunderstorm, heat, and tornado events, and is slightly above the state average for drought. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Wind and winter weather are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

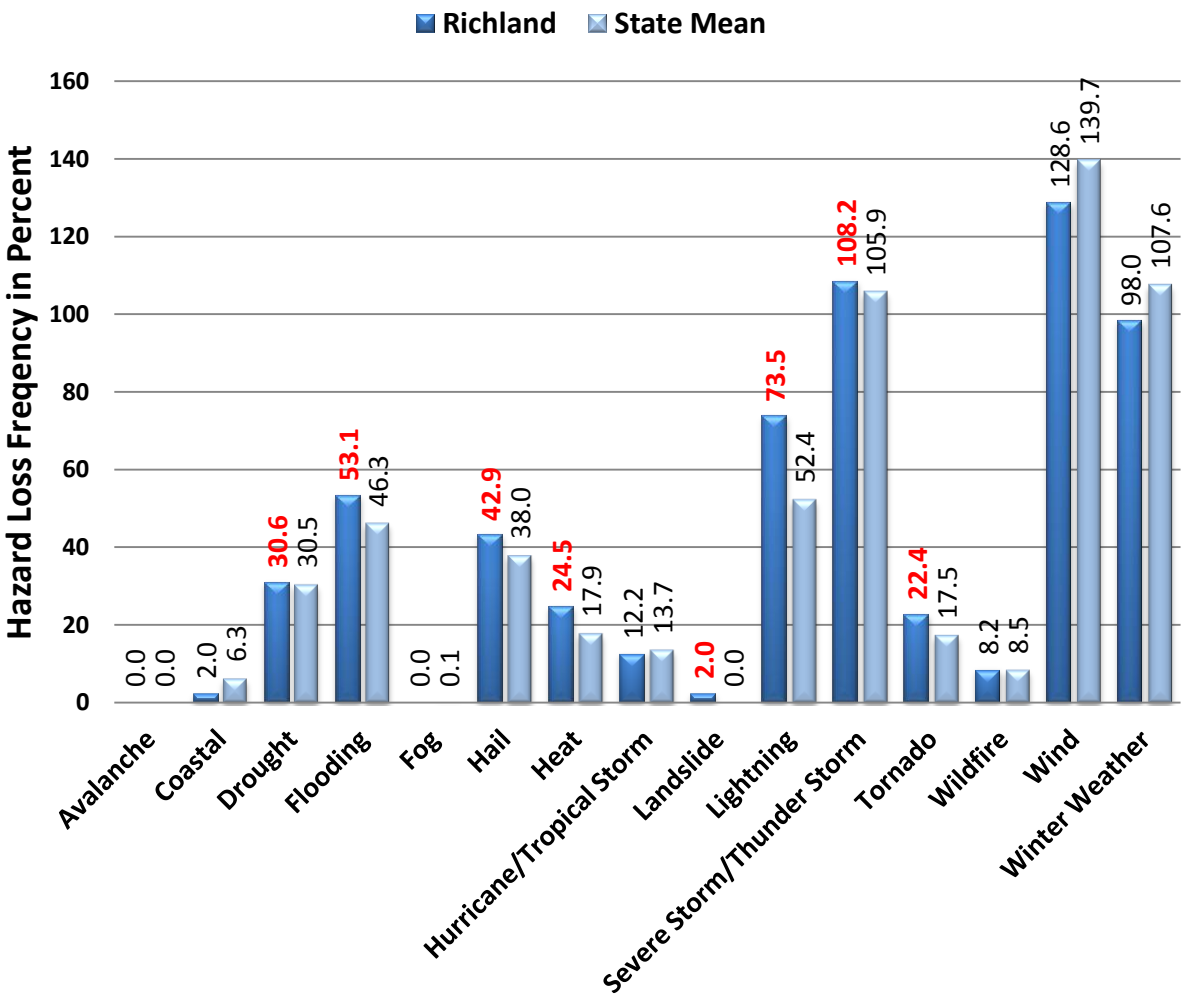


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Richland County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Richland County exceed $91million, and are largely due to a combination of hazards: hurricanes and tropical storms, tornados, winter weather, drought, and heat. While significant for the county, these cumulative losses represent less than one percent of the state's total overall, but 7% of the state's total damages related to lightning and 7% of the state's damages related to tornadoes.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$684,380	0.44%
Hail	$474,144	0.46%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$18,314,866	0.33%
Landslide	$0	0.00%
Lightning	$3,688,835	7.02%
Severe Storm/ Thunder Storm	$6,392,254	3.03%
Tornado	$16,083,528	6.80%
Wildfire	$334,042	2.09%
Wind	$5,945,453	4.08%
Winter Weather	$14,597,406	1.62%
Richland - Total	**$91,866,506**	**0.96%**

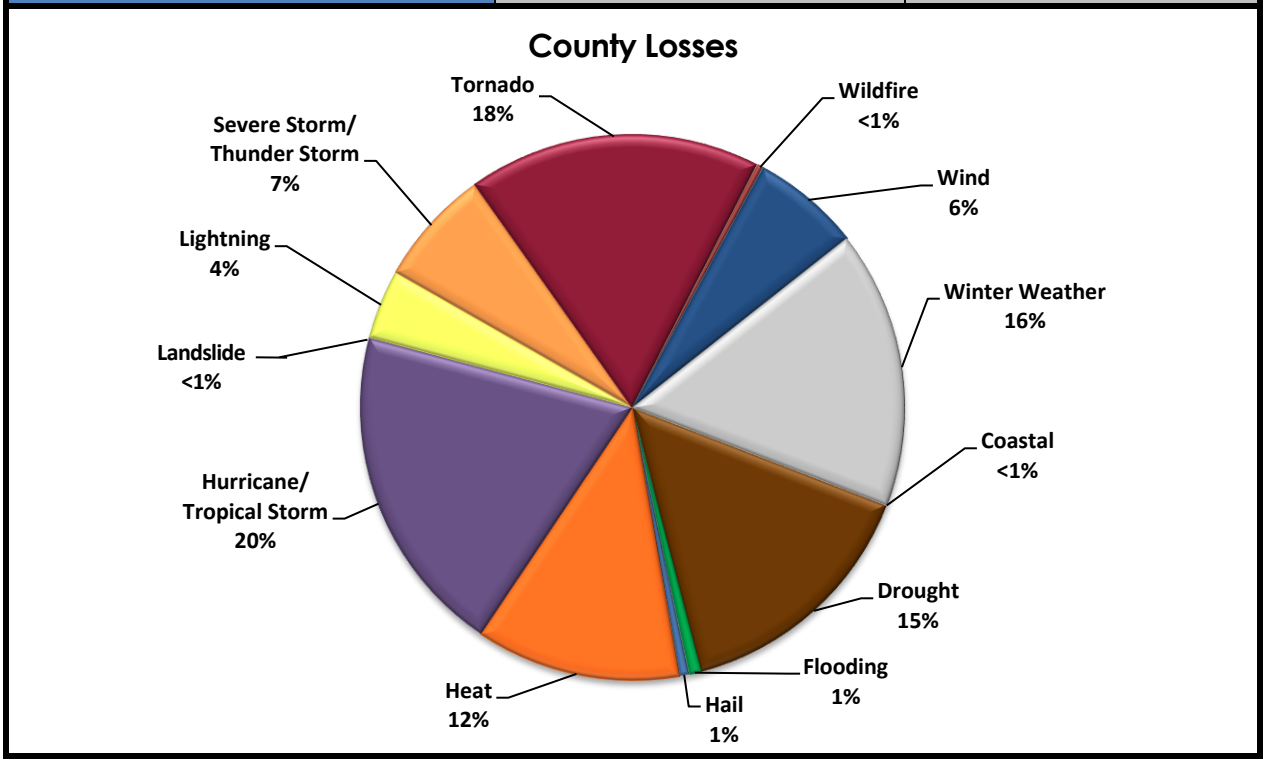
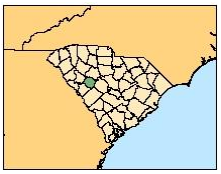


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Richland County, SC.

SALUDA COUNTY, SC



I. Summary

Saluda County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Winter weather produces the greatest monetary damage; however, the recurrence interval is 8.4 years, making it a relatively rare event. Wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

All census tracts within Saluda County exhibit moderate to elevated levels of social vulnerability. Figure 1 provides maps of the Saluda County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

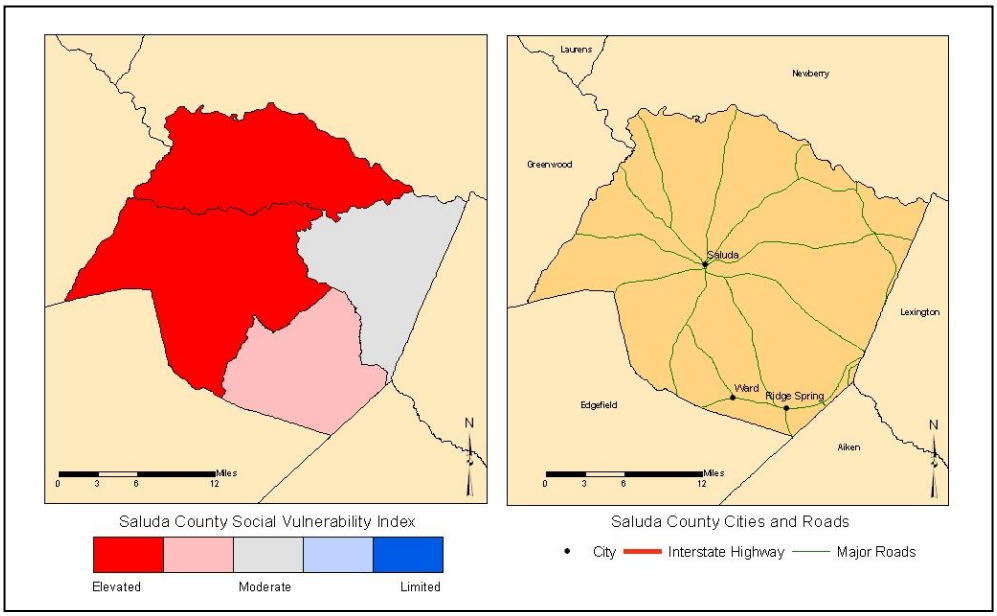


FIGURE 1. The Social Vulnerability for Saluda County, SC by US Census tracts and a general reference map of Saluda County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.
Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.
Hazard – the potential threat to humans as well as the impact of an event on society and the environment.
Recurrence – a calculated number that examines the expected time interval between events based on the historic record.
Risk – the likelihood or probability of occurrence of a hazard or adverse event.
Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

South Carolina Emergency Management Division -
Mitigation Division
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IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Saluda County are hazardous material accidents, severe thunderstorms and wind, and wildfires. Earthquakes, drought, and hurricanes/tropical storms have the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Saluda County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	4	158	39.05	2.53
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	1	59	59.00	1.69
Flood	4	59	14.75	6.78
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	2	310	155.00	0.65
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	87	22	<0.50	395.45**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	2,956	10	<0.50	29,560.00**
Severe Thunderstorm Events				
Funnel Cloud	1	16	16.00	6.25
Hail	47	59	1.26	79.66
Heavy Precipitation	0	15	*	*
Lightning	0	16	*	*
Thunderstorm & Wind	90	59	0.66	152.54**
Tornado	10	59	5.90	16.95
Temperature Extremes	0	16	*	*
Wildfire	702	21	<0.50	3,342.86**
Winter Weather (Snow & Ice)	7	59	8.43	11.86

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Saluda County has the same probability of loss-producing drought events, but is below the state mean for all other hazards. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Thunderstorms and wind are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

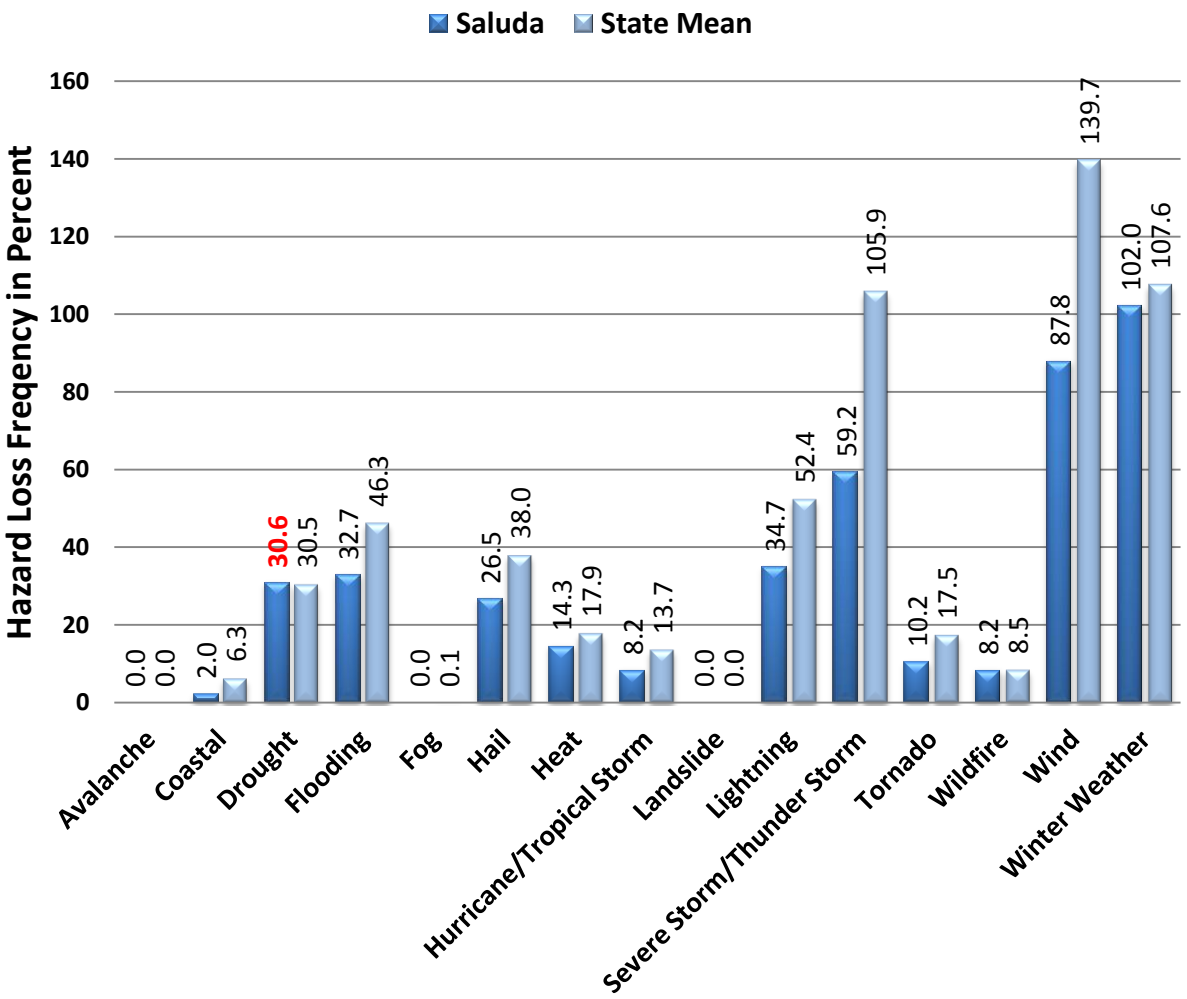


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Saluda County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Saluda County exceed $50 million, and are largely due to winter weather drought, and heat. While significant for the county, these cumulative losses represent less than one percent of the state's total overall, but 5% of the state's total damages related to hail events.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$354,764	0.23%
Hail	$5,442,621	5.28%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$975,831	0.02%
Lightning	$273,696	0.52%
Severe Storm/ Thunder Storm	$589,547	0.28%
Tornado	$1,612,882	0.68%
Wildfire	$334,042	2.09%
Wind	$455,255	0.31%
Winter Weather	$15,300,169	1.70%
Saluda - Total	**$50,690,405**	**0.53%**

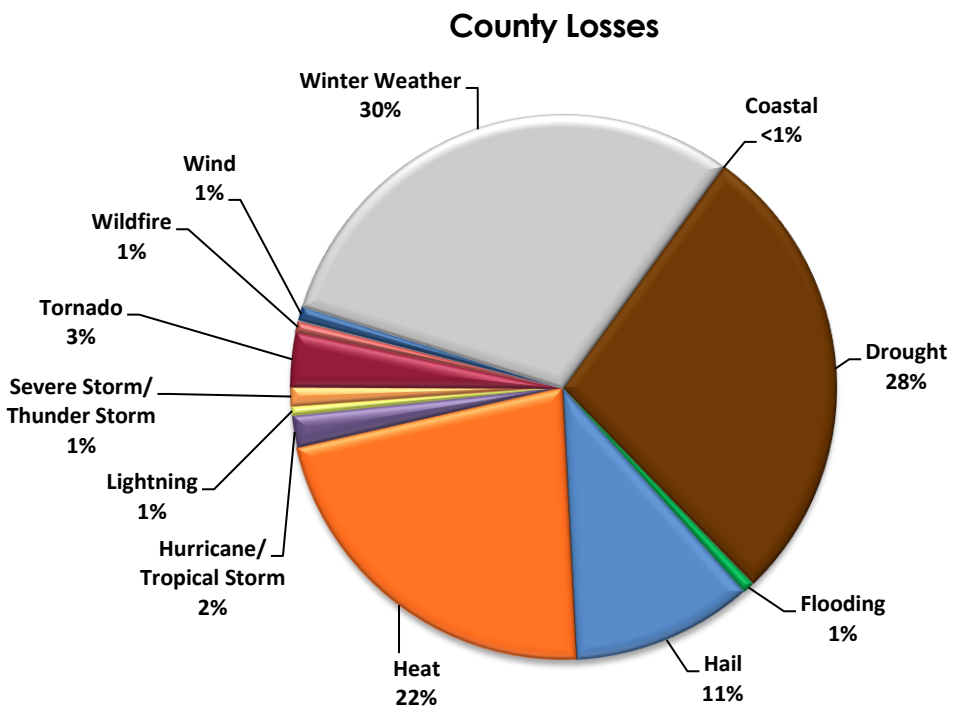
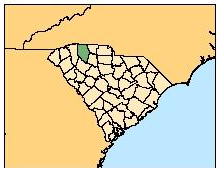


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Saluda County, SC.

SPARTANBURG COUNTY, SC



I. Summary

Spartanburg County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Winter weather produces the greatest monetary damage, followed by flooding and hail. All of these hazards have a recurrence interval of less than year. Other frequently occurring hazards include wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Spartanburg County, most of the census tracts exhibit moderate to limited levels of social vulnerability. The exception are those census tracts within the city of Spartanburg and surrounding areas, which have high SoVI scores, thus elevated levels of social vulnerability. Figure 1 provides maps of the Spartanburg County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

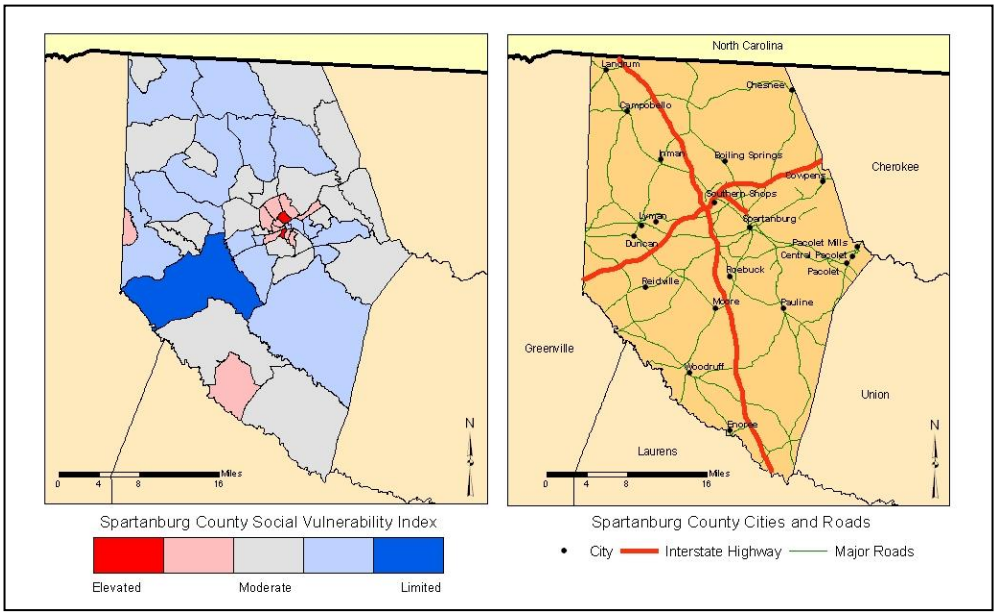


FIGURE 1. The Social Vulnerability for Spartanburg County, SC by US Census tracts and a general reference map of Spartanburg County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

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E-mail: scutter.sc.edu
http://webra.cas.sc.edu/hvri

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Spartanburg County are wildfires, hazardous material accidents, severe thunderstorms and wind,flooding, lightning, and hail. Earthquakes, hurricanes/tropical storms are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Spartanburg County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	4	158	39.50	2.53
Ocean & Lake Surf[b]	2	16	8.00	12.50
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	33	59	1.79	55.93
Flood	62	59	0.95	105.08**
Fog	4	12	3.00	33.33
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	4	310	77.50	1.29
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	474	22	<0.50	2,154.55**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	59,473	10	<0.50	594,730.00**
Severe Thunderstorm Events				
Funnel Cloud	5	16	3.20	31.25
Hail	199	59	<0.50	337.29**
Heavy Precipitation	11	15	1.36	73.33
Lightning	32	16	0.50	200.00**
Thunderstorm & Wind	354	59	<0.50	600.00**
Tornado	26	59	2.27	44.07
Temperature Extremes	9	16	1.78	56.25
Wildfire	1,086	21	<0.50	5,171.43**
Winter Weather (Snow & Ice)	54	59	1.09	91.53

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Spartanburg County has a higher probability of loss-producing flooding, hail, lightning, thunderstorm, tornado, wind, and winter weather events. It has slightly more than the state average for drought. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. The remaining hazards are below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

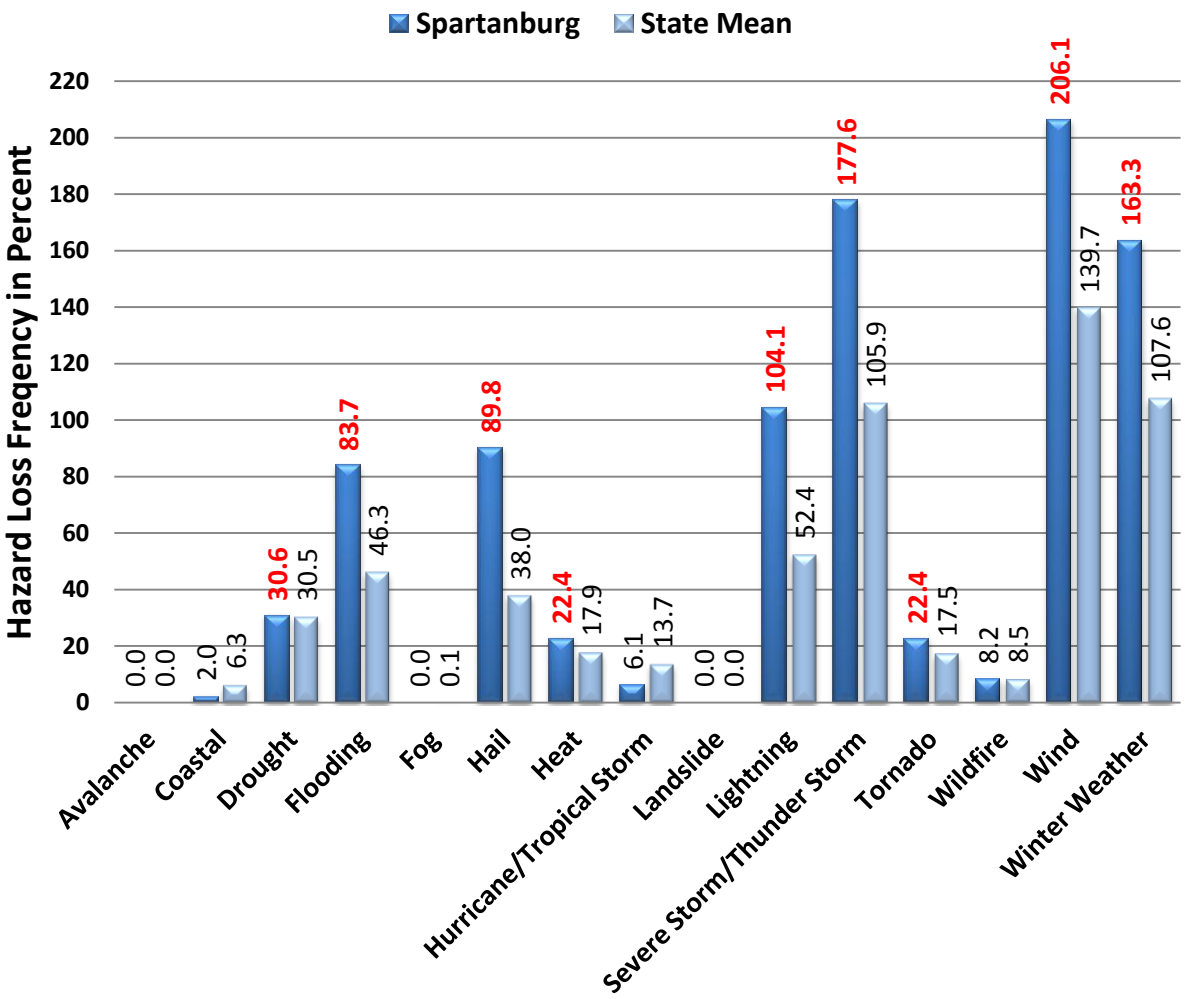


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Spartanburg County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Spartanburg County exceed $133 million, and are largely due to winter weather followed by flooding and hail. While significant for the county, these cumulative losses represent 1.4% of the state's overall total. However, the county represents nearly 20% of the state's losses due to hail, and 13% of the state's losses from flooding.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$20,403,460	13.18%
Hail	$20,493,578	19.88%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$329,868	0.01%
Lightning	$3,246,147	6.18%
Severe Storm/ Thunder Storm	$11,598,103	5.49%
Tornado	$4,012,490	1.70%
Wildfire	$334,042	2.09%
Wind	$7,111,775	4.88%
Winter Weather	$38,067,948	4.23%
Spartanburg - Total	**$133,613,382**	**1.45%**

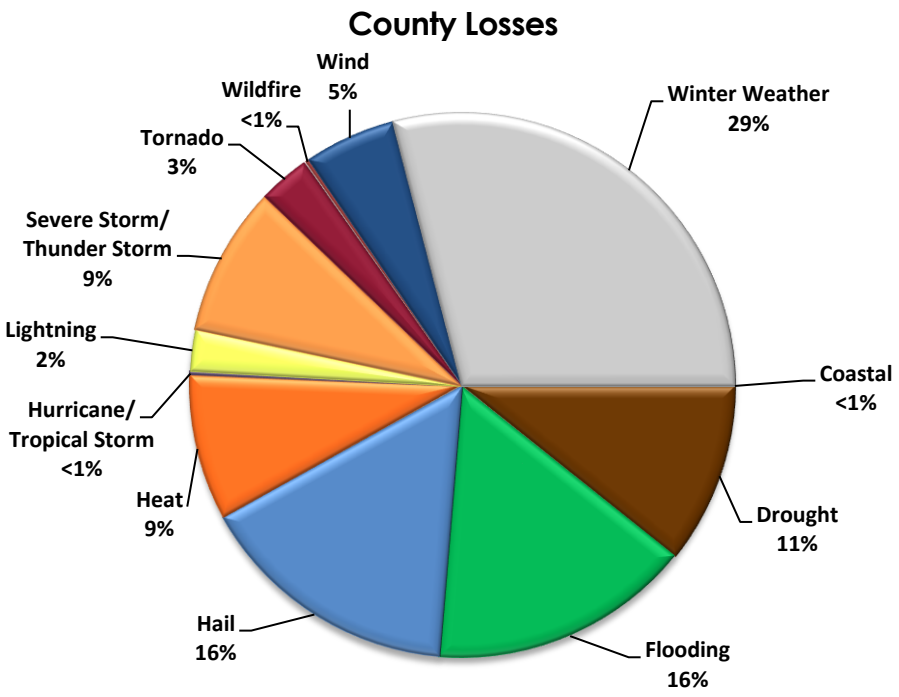
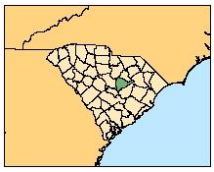


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Spartanburg County, SC.

SUMTER COUNTY, SC



I. Summary

Sumter County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Hurricane/tropical storms produce the greatest monetary damage; however, the recurrence interval is 10.5 years, making it a relatively rare event. Wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Sumter County, most of the census tracts exhibit elevated levels of social vulnerability. Census tracts in the city of Sumter have higher SoVI scores than the surrounding areas. Figure 1 provides maps of the Sumter County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

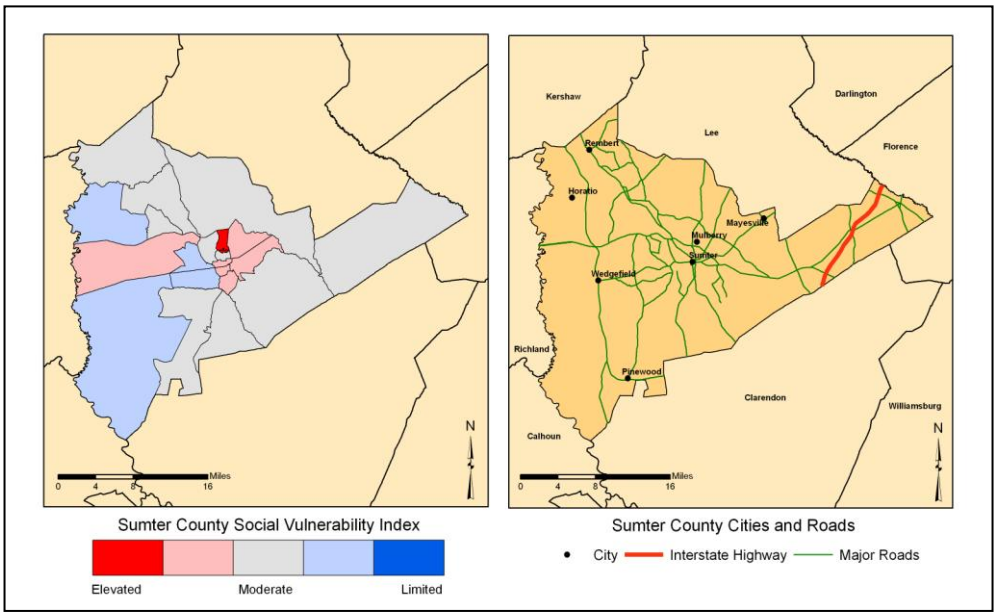


FIGURE 1. The Social Vulnerability for Sumter County, SC by US Census tracts and a general reference map of Sumter County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Sumter County are hazardous material accidents, severe thunderstorms and wind, hail, and wildfires. Earthquakes and drought are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Sumter County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	15	158	10.53	9.49
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	1	59	5.00	1.69
Flood	6	59	9.83	10.17
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	1	310	310.00	0.32
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	142	22	<0.50	645.45**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	20,920	10	<0.50	209,200.00**
Severe Thunderstorm Events				
Funnel Cloud	0	16	*	*
Hail	72	59	0.82	122.03**
Heavy Precipitation	1	15	15.00	6.67
Lightning	1	16	16.00	6.25
Thunderstorm & Wind	161	59	<0.50	272.88**
Tornado	18	59	3.28	30.51
Temperature Extremes	0	16	*	
Wildfire	2,662	21	<0.50	12,676.19**
Winter Weather (Snow & Ice)	6	59	9.83	10.17

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/
[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)
** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year
\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Sumter County has a lower probability of loss-producing hazards than the state average. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Thunderstorms and wind are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

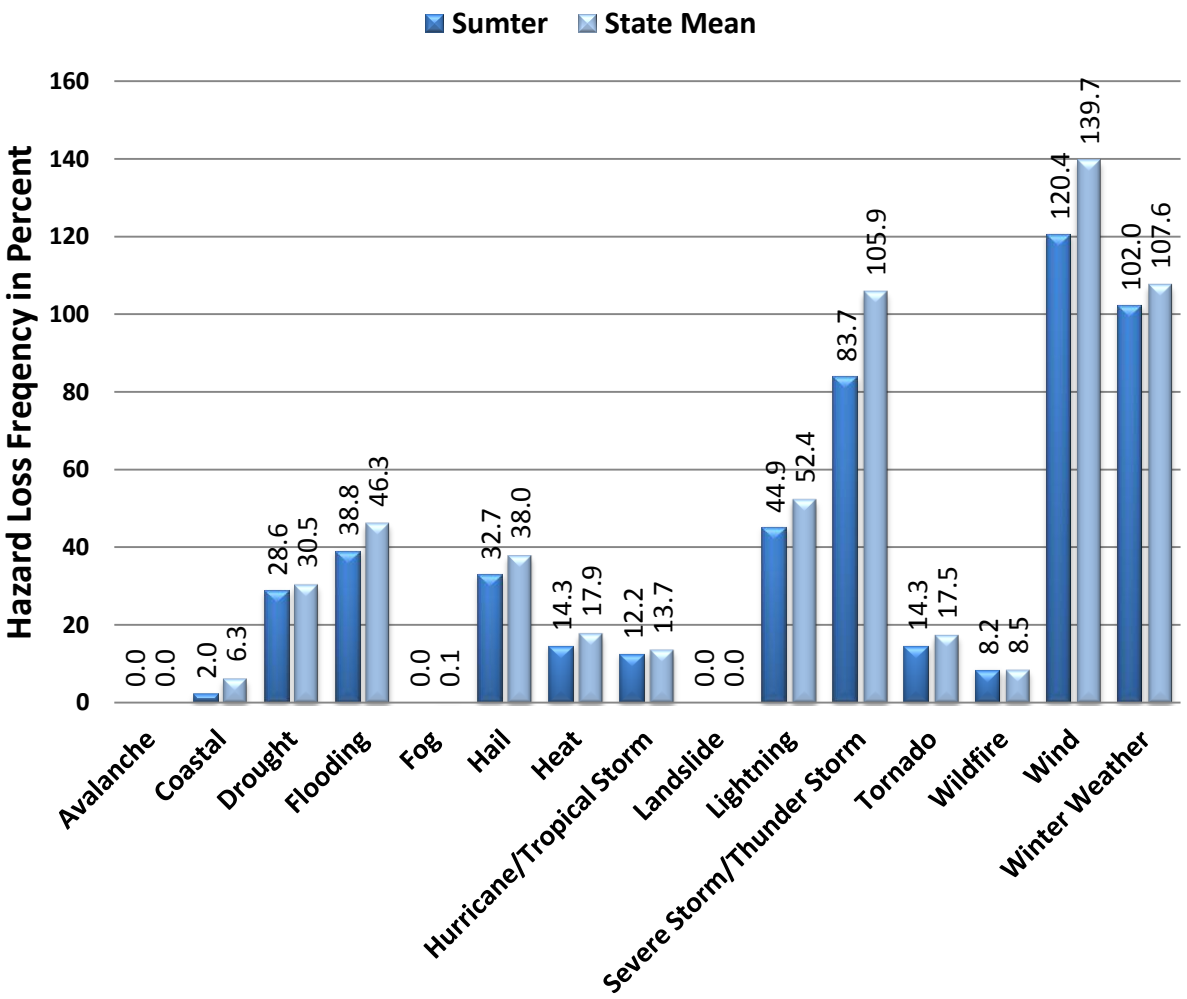


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Sumter County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Sumter County exceed $221million, and are largely due to hurricanes and tropical storms, followed by winter weather, and drought. Hurricane/tropical storm represented 79% of the damage in Sumter County. While significant for the county, these cumulative losses represent only 2.3% of the state's total losses, but >3% of the state's total losses from hurricanes/tropical storms.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,055,942	2.17%
Flooding	$508,801	0.33%
Hail	$293,163	0.28%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$174,314,866	3.16%
Lightning	$620,330	1.18%
Severe Storm/ Thunder Storm	$1,344,115	0.64%
Tornado	$3,030,788	1.28%
Wildfire	$334,042	2.09%
Wind	$1,415,287	0.97%
Winter Weather	$14,655,372	1.63%
Sumter - Total	**$221,865,826**	**2.32%**

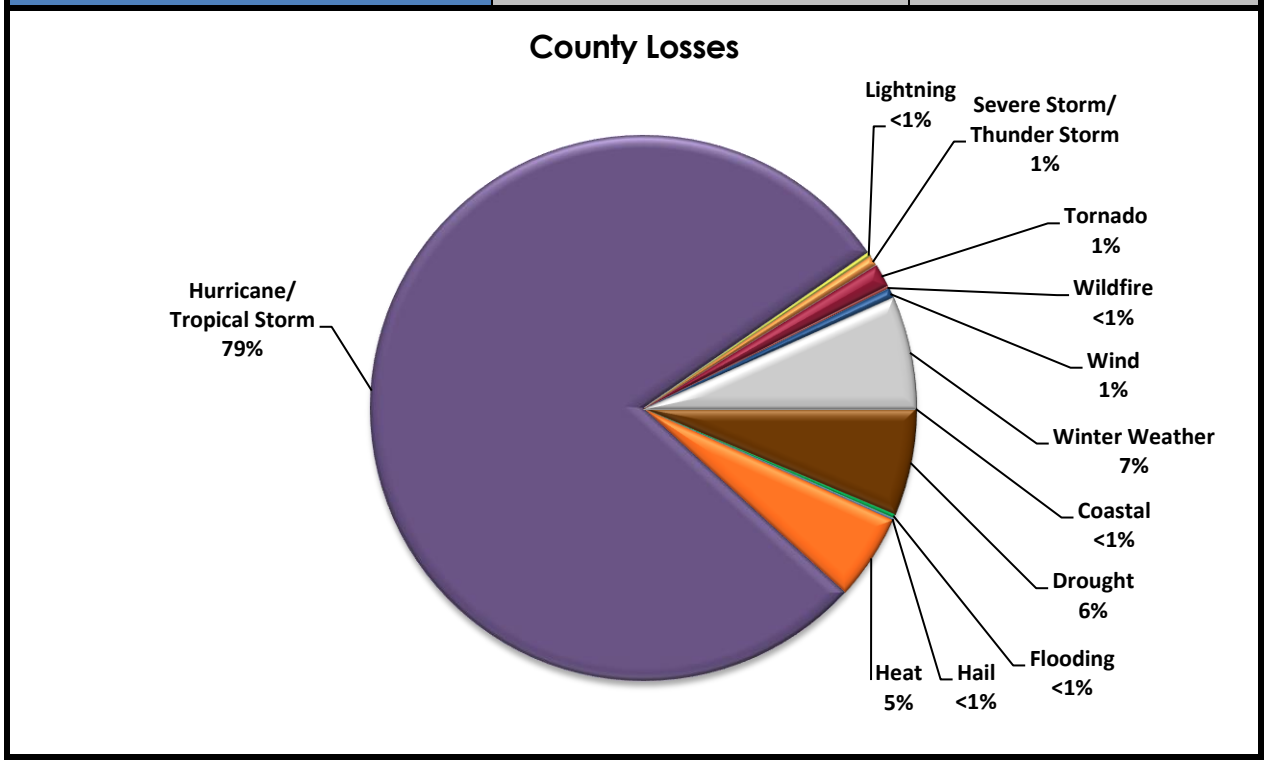
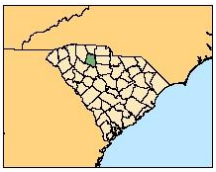


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Sumter County, SC.

UNION COUNTY, SC



I. Summary

Union County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents) hazards. Winter weather produced the greatest monetary damage. With a recurrence interval of 2.2 years, this is a frequently occurring hazard. Wildfires, thunderstorms, hail, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Union County, most of the census tracts exhibit moderate level of social vulnerability. Figure 1 provides maps of the Union County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

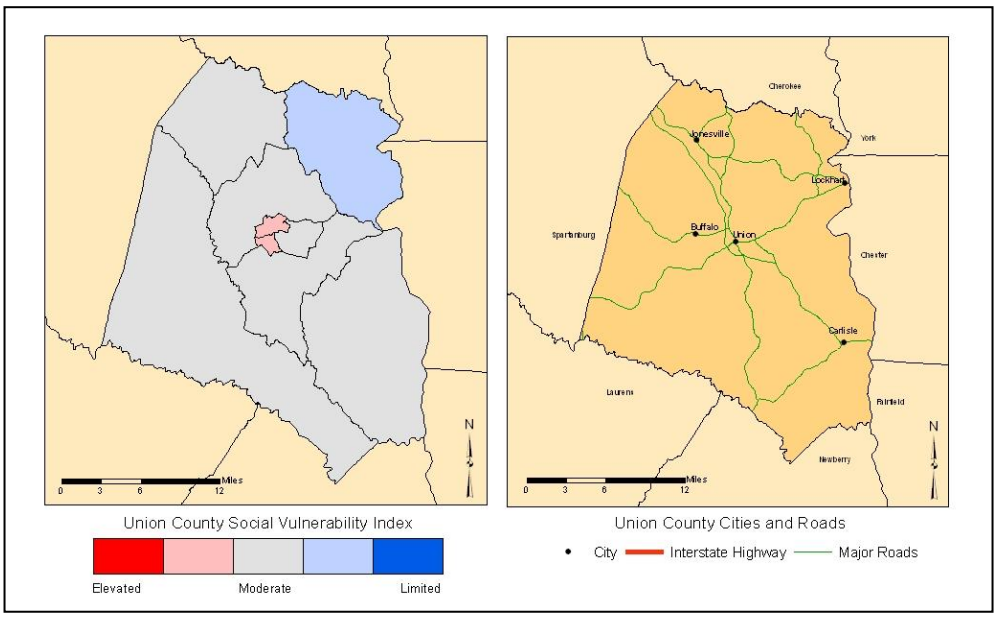


FIGURE 1. The Social Vulnerability for Union County, SC by US Census tracts and a general reference map of Union County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Union County are wildfires, hazardous material accidents, severe thunderstorms and wind, and hail. Earthquakes and hurricanes/tropical storms are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for Union County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	5	158	31.60	3.16
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	33	59	1.79	55.93
Flood	21	59	2.81	35.59
Fog	3	12	4.00	25.00
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	4	310	77.50	1.29
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	37	22	0.59	168.18**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	4,820	10	<0.50	48,200.00**
Severe Thunderstorm Events				
Funnel Cloud	0	16	*	*
Hail	64	59	0.92	108.47**
Heavy Precipitation	0	15	*	*
Lightning	7	16	2.29	43.75
Thunderstorm & Wind	133	59	<0.50	225.42**
Tornado	11	59	5.36	18.64
Temperature Extremes	4	16	4.00	25.00
Wildfire	771	21	<0.50	3,671.43**
Winter Weather (Snow & Ice)	27	59	2.19	45.76

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, Union County has a higher probability of loss-producing winter weather, wildfires, and lightning events. The county is slightly above the state average for drought. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. Thunderstorms, wind, and tornadoes are well below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

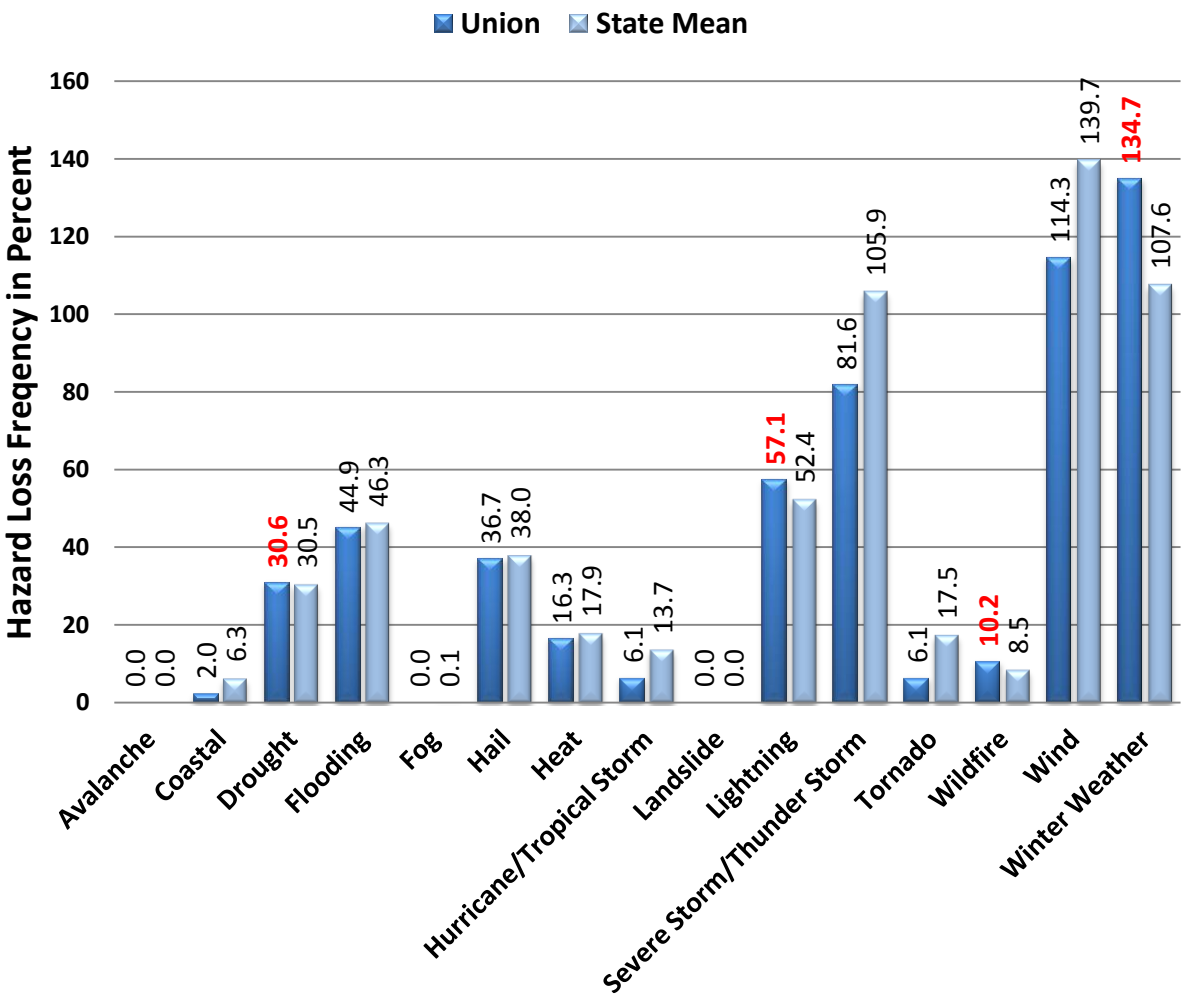


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Union County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Union County exceed $63 million, and are largely due to winter weather, followed by drought and heat. Winter weather represented 50% of the damage in Union County. While significant for the county, these cumulative losses represent less than one percent of the state's overall total.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$2,071,651	1.34%
Hail	$699,121	0.68%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$329,868	0.01%
Lightning	$722,735	1.38%
Severe Storm/ Thunder Storm	$1,050,219	0.50%
Tornado	$464,683	0.20%
Wildfire	$347,075	2.17%
Wind	$826,588	0.57%
Winter Weather	$31,878,232	3.54%
Union - Total	**$63,741,768**	**0.67%**

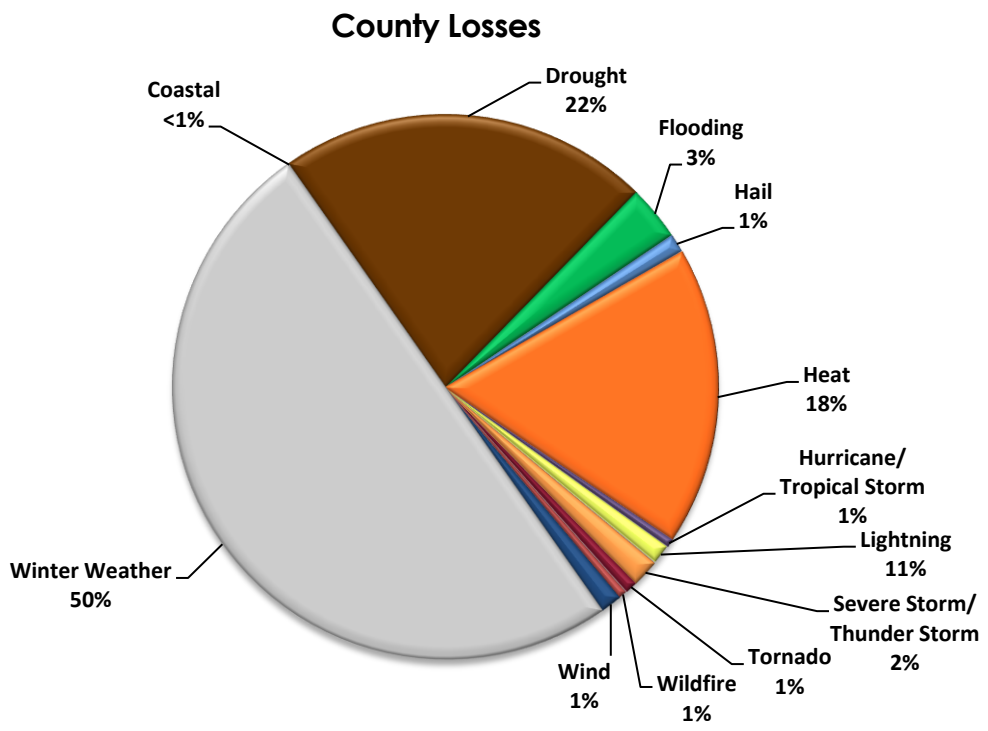
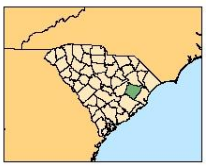


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Union County, SC.

WILLIAMSBURG COUNTY, SC



I. Summary

Williamsburg County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents). Hurricane/tropical storms produce the most monetary damage; however the recurrence interval is 8.3 years, making it a relatively infrequent event. Chronic hazards such as drought that have a shorter recurrence interval (7.4 years) should be carefully monitored. Wildfires, thunderstorms, and hazardous material incidents are some of the prominent hazards that regularly affect the county based on past occurrences, yet result in lower damage totals.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within Williamsburg County, most of the census tracts exhibit moderately high levels of social vulnerability. Census tracts in the north central and eastern parts of the county show limited SoVI scores. Figure 1 provides maps of the Williamsburg County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

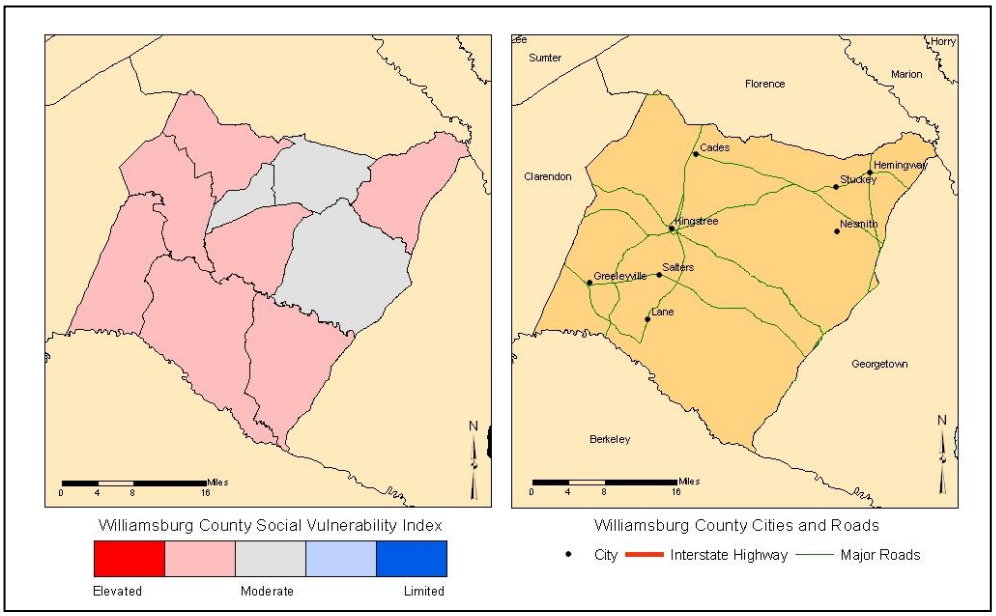


FIGURE 1. The Social Vulnerability for Williamsburg County, SC by US Census tracts and a general reference map of Williamsburg County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Williamsburg County are hazardous material accidents, severe thunderstorms and wind, and wildfires, events that occur more than once per year. Drought, flooding, winter weather, and hurricane winds are hazards are less frequent with less than a 12% chance of occurring in any given year. There were no earthquake or terrorist events in the county. The recurrence and hazard frequency table is in Table 1.

TABLE 1. The Hazard Profile for Williamsburg County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	19	158	8.32	12.03
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	8	59	7.37	13.56
Flood	5	59	11.8	8.47
Fog	0	12	*	*
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	0	310	*	*
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	32	22	0.69	145.45**
Nuclear Power Plant	-	-	-	-
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	6,136	10	<0.50	61,360.00**
Severe Thunderstorm Events				
Funnel Cloud	0	16	*	*
Hail	56	59	1.05	94.92
Heavy Precipitation	3	15	5.00	20.00
Lightning	3	16	5.33	18.75
Thunderstorm & Wind	71	59	0.83	120.37**
Tornado	13	59	4.54	22.03
Temperature Extremes	0	16	*	*
Wildfire	6,488	21	<0.50	30,895.24**
Winter Weather (Snow & Ice)	6	59	9.83	10.17

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/
[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)
** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year
\- Data Unavailable

V. Hazard Loss Information

Williamsburg County has a higher probability of hurricane/tropical storms, than the statewide average, and is just above the state average for drought. Figure 2 (page 3) shows those hazards occurring in the county that exceeded the state mean in red font. Winter weather, wind, and thunderstorms are well below the state mean indicating that this hazard historically has had less impact on Williamsburg County than elsewhere in South Carolina.

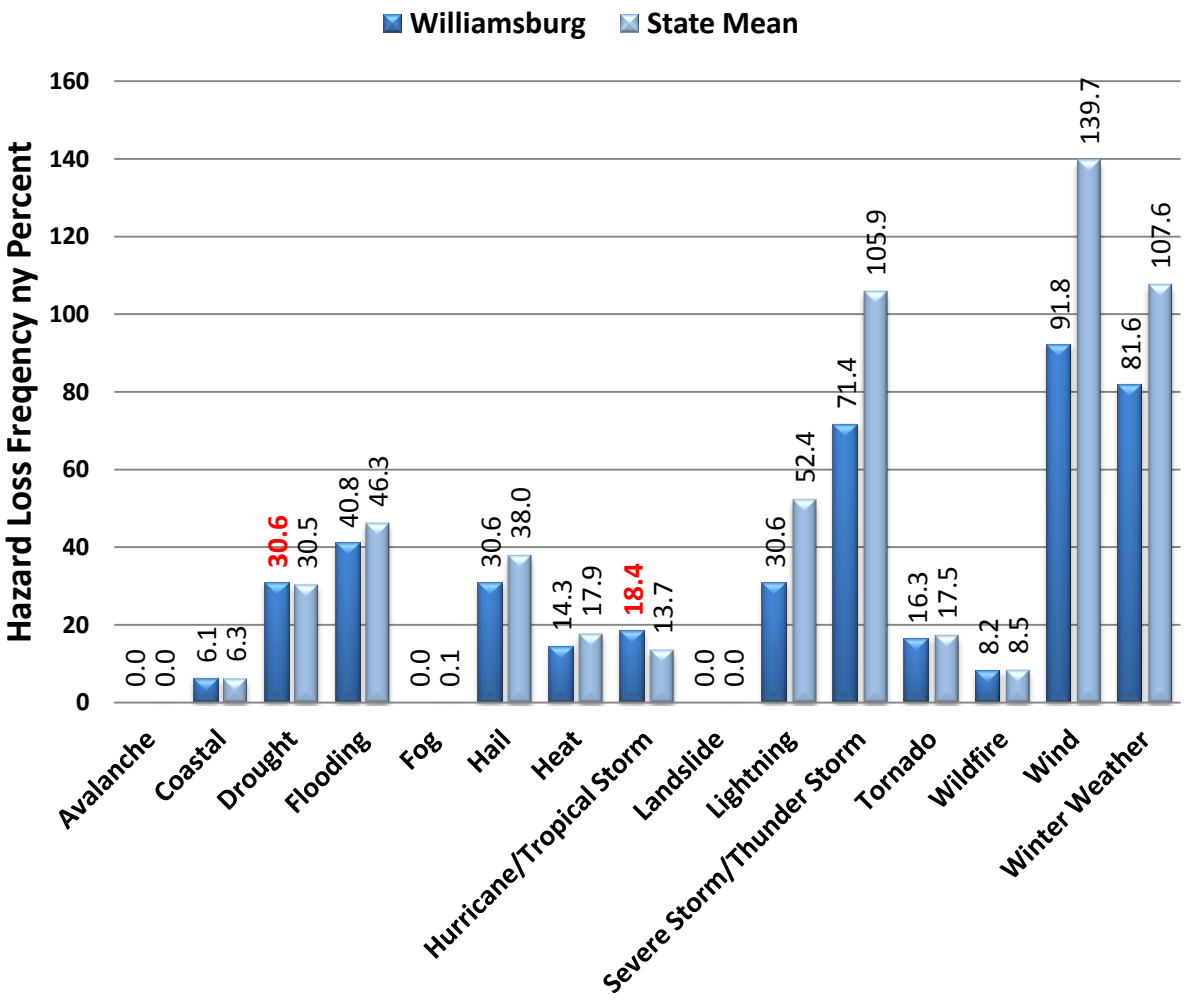


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Williamsburg County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in Williamsburg County exceed $228 million, and were largely due to hurricanes and tropical storms, followed by winter weather, and drought, and heat. Hurricane/tropical storm represented 78% of the damage in Williamsburg County. Heat and drought contributed to 11% of the county's losses, primarily in crop losses, while winter weather added 8% to the total (primarily in property damage).

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$295,699	0.03%
Drought	$14,058,406	2.26%
Flooding	$1,373,485	0.92%
Hail	$499,804	0.50%
Heat	$11,286,592	2.26%
Hurricane/ Tropical Storm	$174,657,914	3.30%
Lightning	$172,087	0.34%
Severe Storm/ Thunder Storm	$1,303,544	0.64%
Tornado	$1,760,374	0.76%
Wildfire	$334,040	2.18%
Wind	$1,217,888	0.86%
Winter Weather	$18,869,502	2.09%
Williamsburg - Total	**$228,829,335**	**2.45%**

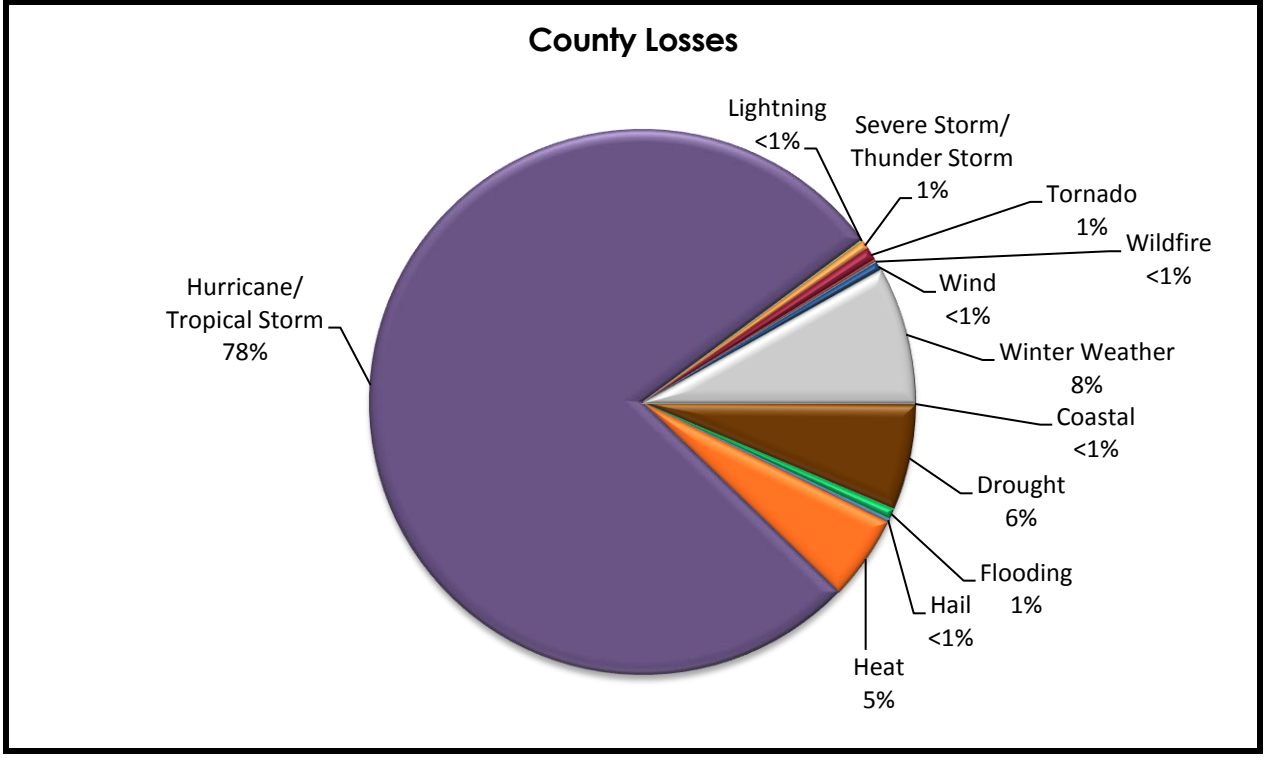
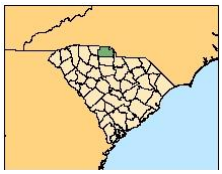


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Williamsburg County, SC.

YORK COUNTY, SC



I. Summary

York County is vulnerable to both natural (hurricanes/tropical storms) and technological (hazardous material incidents) hazards. Hurricane/tropical storms produce the greatest monetary damage; however, the recurrence interval is 22.6 years, making it a relatively rare event. Wildfires, thunderstorms, hail, lightning, and hazardous material incidents are some of the prominent hazards that regularly affect the county, based on past occurrences.

II. Social Vulnerability

Social vulnerability examines the socioeconomic and demographic character of places and helps to explain the variation in the population's ability to prepare for and respond to hazards. The Social Vulnerability Index (SoVI) is a statistical measure that compares social vulnerability to environmental hazards among places, and then visually displays these comparisons on a map. SoVI thus illustrates where there is uneven capacity for preparedness and response and where additional planning and response resources might be used most effectively to help residents. The variables used in determining the Social Vulnerability (SoVI) score along with how SoVI is calculated are available on the Hazards and Vulnerability Research Institute SoVI website (http://www.sovius.org).

Within York County, most of the census tracts exhibit moderate to limited levels of social vulnerability. The exceptions are central Rock Hill and portions of York city. Figure 1 provides maps of the York County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

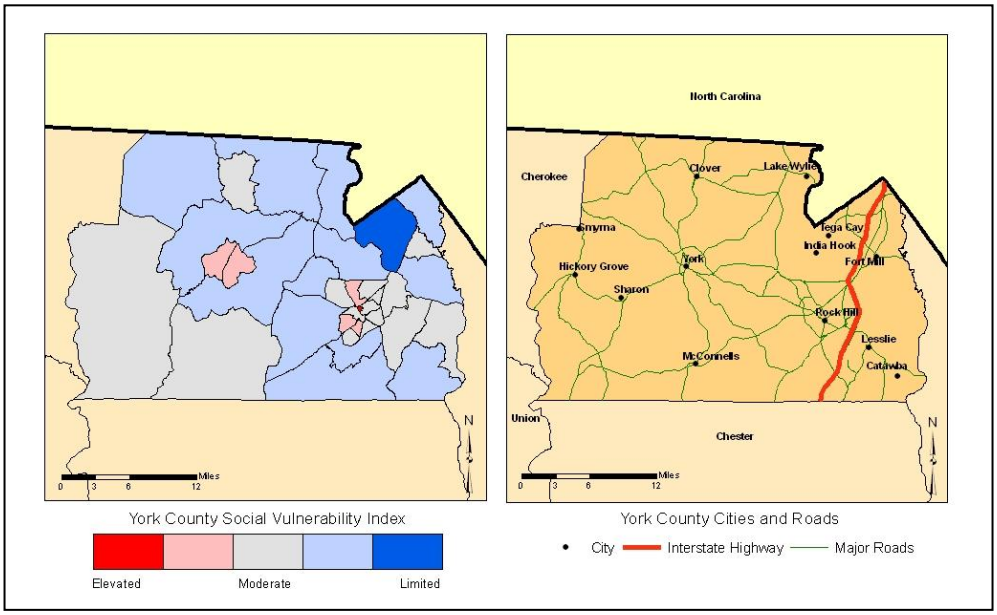


FIGURE 1. The Social Vulnerability for York County, SC by US Census tracts and a general reference map of York County.

III. Terms

Disaster – a singular hazard event that results in widespread human losses or has profound impacts on local environments.

Frequency – a calculated number showing the chance of an event occurring each year based on the historic record.

Hazard – the potential threat to humans as well as the impact of an event on society and the environment.

Recurrence – a calculated number that examines the expected time interval between events based on the historic record.

Risk – the likelihood or probability of occurrence of a hazard or adverse event.

Vulnerability – the potential for loss or the capacity to suffer harm from a hazard event.

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http://webra.cas.sc.edu/hvri

IV. Hazard Identification

The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in York County are wildfires, hazardous material accidents, severe thunderstorms and wind, hail, and lightning. Earthquakes and hurricanes/tropical storms are hazards with the lowest recurrence intervals. The recurrence and hazard frequency table can be seen in Table 1.

TABLE 1. The Hazard Profile for York County, SC.

Hazard[a]	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	7	158	22.57	4.43
Ocean & Lake Surf[b]	1	16	16.00	6.25
Waterspout	0	16	*	*
Dam Failure	-	-	-	-
Drought	31	59	1.90	52.54
Flood	17	59	3.47	28.81
Fog	3	12	4.00	25.00
Geophysical Events				
Avalanche	0	49	*	*
Earthquake	1	310	310.00	0.32
Landslide	0	49	*	*
Human-Induced Events				
Civil Disturbance	-	-	-	-
Hazardous Materials (Hazmat)	358	22	<0.50	1,627.27**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	38,398	10	<0.50	383,980.00**
Severe Thunderstorm Events				
Funnel Cloud	0	16	*	*
Hail	95	59	0.62	161.02**
Heavy Precipitation	5	15	3.00	33.33
Lightning	21	16	0.76	131.25**
Thunderstorm & Wind	189	59	<0.50	320.34**
Tornado	18	59	3.28	30.51
Temperature Extremes	5	16	3.20	31.25
Wildfire	889	21	<0.50	4,233.33**
Winter Weather (Snow & Ice)	31	59	1.90	52.54

[a] Data Sources: National Climatic Data Center (www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm); National Geophysical Data Center (www.ngdc.noaa.gov/hazard/

[b] Includes coastal flooding, coastal erosion, coastal winds

* Unable to calculate (cannot divide by zero)

** Percent is greater than 100.00, therefore hazard can be expected to occur more than once per year

\- Data Unavailable

V. Hazard Loss Information

When compared to South Carolina as a whole, York County has a higher probability of loss-producing wind, lightning, thunderstorm, winter weather, and wildfire events. The country is slightly above the state average for drought, flooding, hail, and tornadoes. This comparison between the county and state in Figure 2 (page 3) shows hazards that exceeded the state mean in red type. The remaining hazards are below the state mean indicating that these hazards have historically produced fewer losses for the county when compared to the state as a whole.

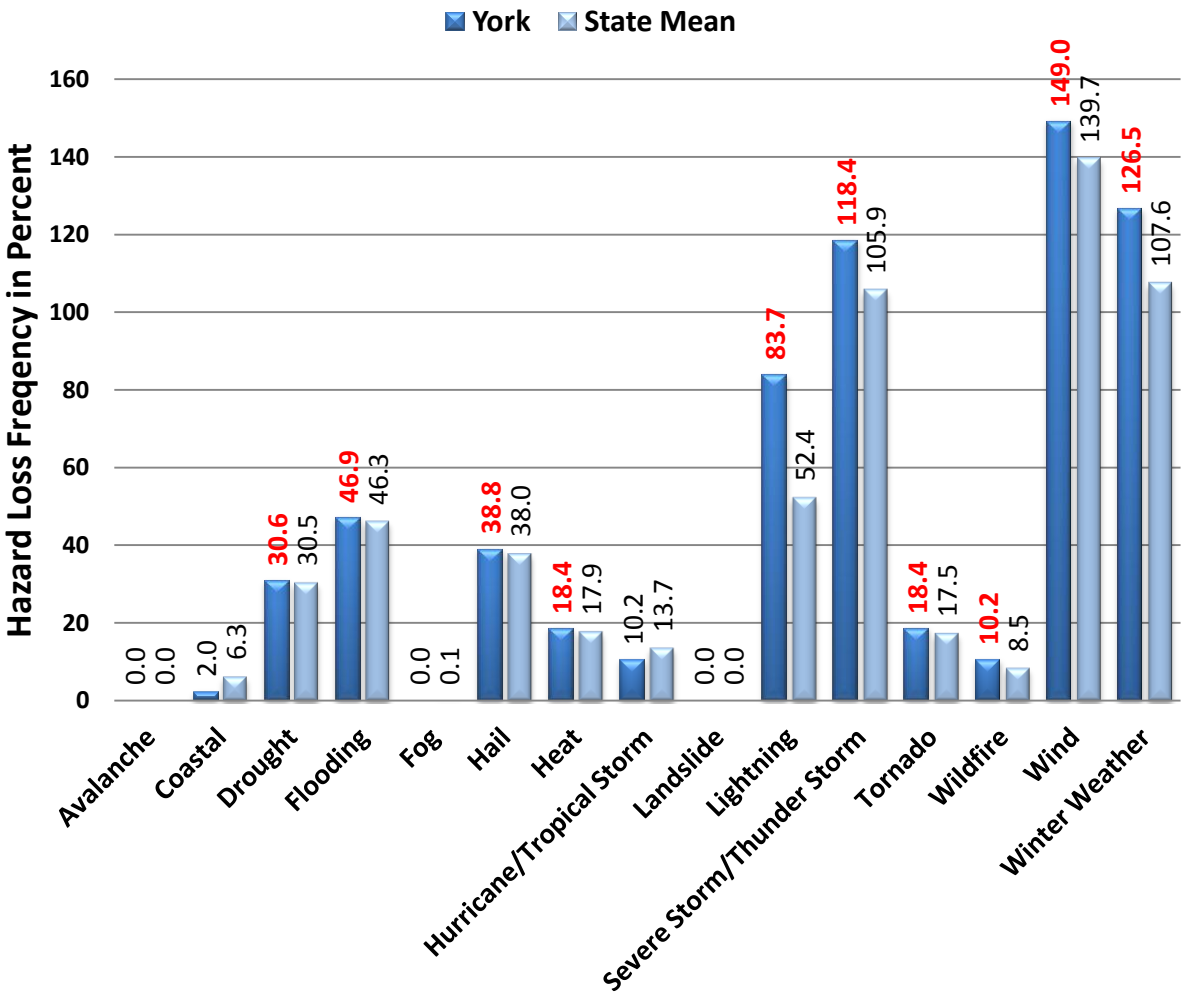

FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for York County compared to South Carolina as reported in SHELDUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center Storm Data reports as a multiple event hazard (flooding, winter weather, coastal storm), and given a statewide or regional location, the impact of the event is equally distributed amongst the counties involved.

Another way of determining how vulnerable a county is to particular hazards is by examining the amount of damage caused by past events. In Figure 3 (page 4), the cumulative amount of damage from 1960 to 2008 based on twelve hazard types is computed from the Hazards and Vulnerability Research Institute's SHELDUS database (available at http://www.sheldus.org). The historic losses in York County exceed $168 million, and are largely due to hurricanes and tropical storms, followed by winter weather. Hurricane/tropical storm represented 57% of the damage in York County. While significant for the county, these cumulative losses represent 1.8 % of the state's overall total.

Hazard	Total Damage (in 2008 dollars)	Percent of State
Coastal	$6,476	0.01%
Drought	$14,058,478	2.17%
Flooding	$1,880,410	1.21%
Hail	$6,507,212	6.31%
Heat	$11,286,643	2.17%
Hurricane/ Tropical Storm	$95,668,903	1.74%
Lightning	$985,859	1.88%
Severe Storm/ Thunder Storm	$1,457,933	0.69%
Tornado	$913,524	0.39%
Wildfire	$347,075	2.17%
Wind	$7,054,379	4.84%
Winter Weather	$28,608,386	3.18%
York - Total	**$168,775,279**	**1.76%**

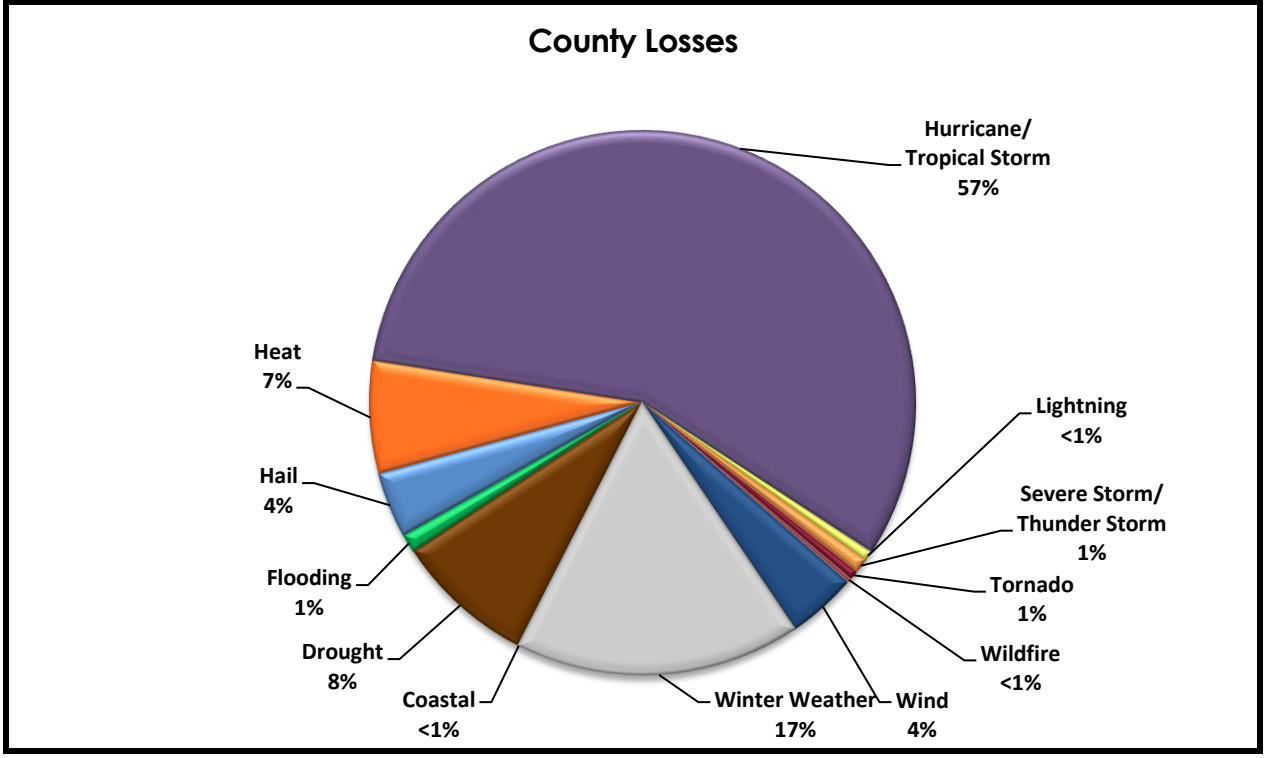

FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for York County, SC.