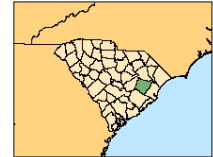


# WILLIAMSBURG COUNTY, SC

## Hazard Profile for 2008

An Excerpt from the State of South Carolina Hazard Assessment for 2008



### I. Summary

Williamsburg County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents). Hurricanes/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 limited census tract and (on the right) cities and major roads.

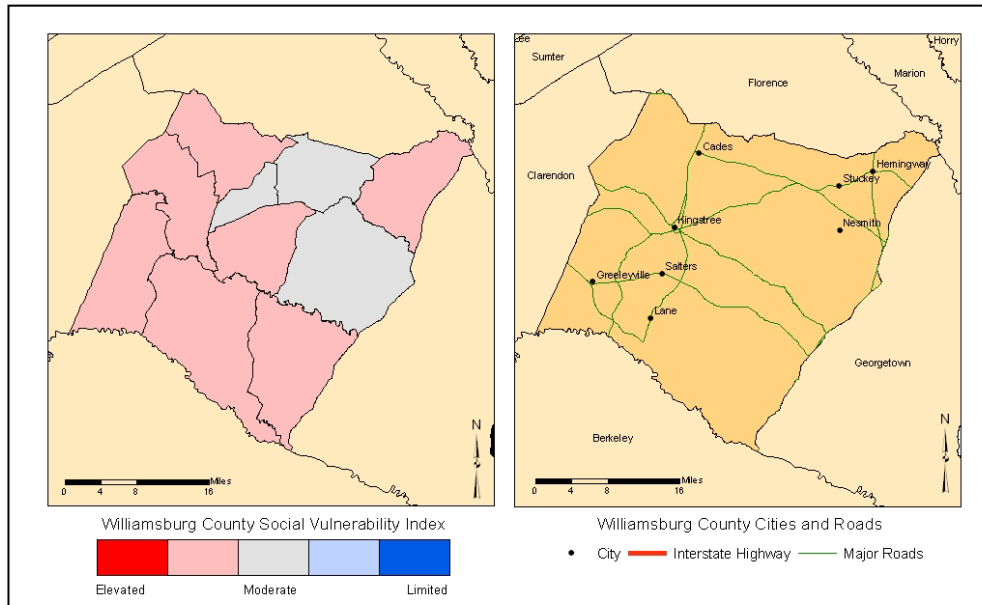


FIGURE 1. The Social Vulnerability for Williamsburg County, SC by US Census tracts and a general reference map of Williamsburg County.

### 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.



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WILLIAMSBURG COUNTY HAZARD PROFILE 2008

IV. Hazard Identification

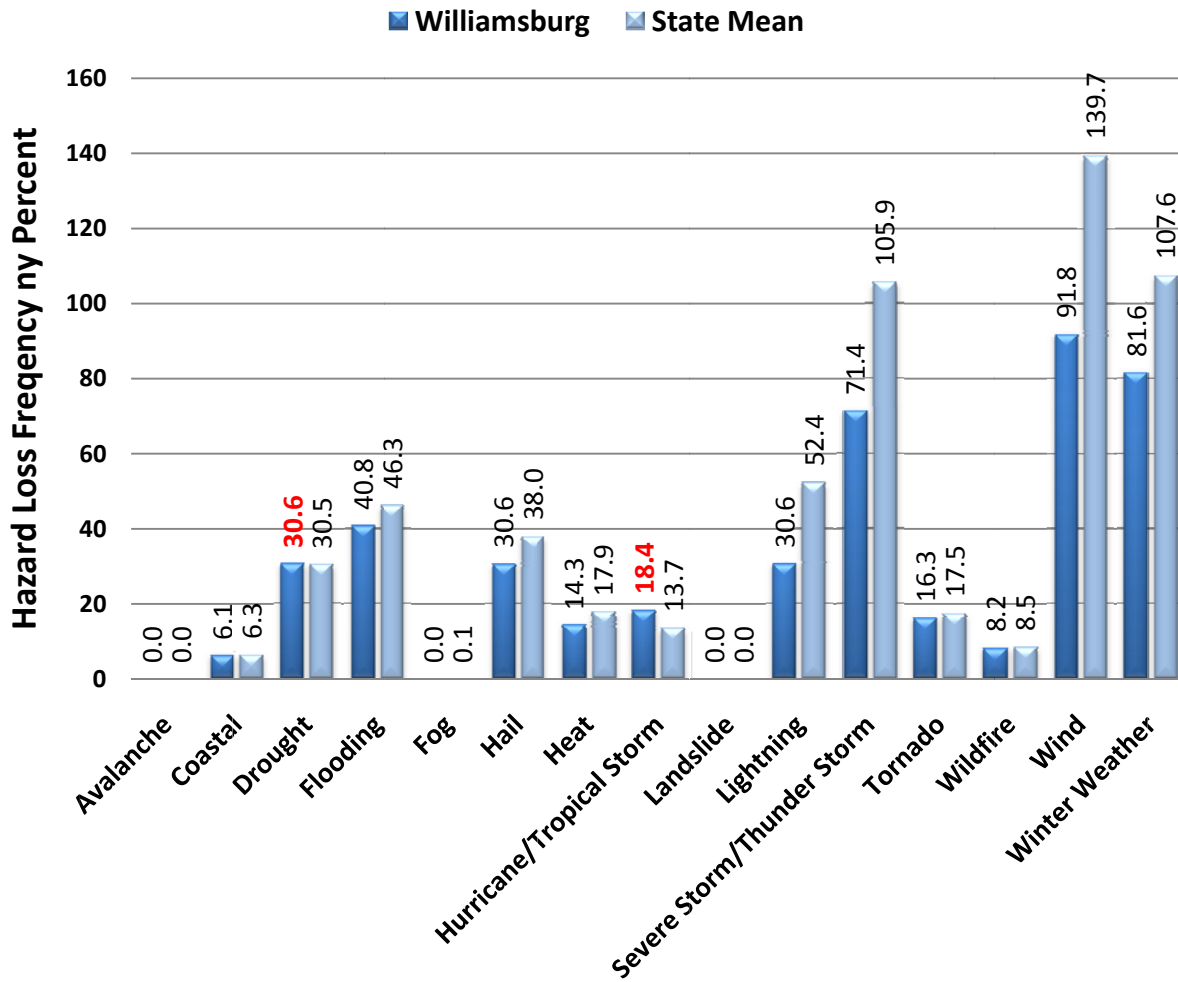
The estimated recurrence of a hazard is a useful element (based on event frequency) for distinguishing between infrequent hazards like earthquakes, and frequent hazards such as hazardous materials incidents or traffic accidents. The most common hazard events in Williamsburg County are hazardous material 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 <sup>a</sup>	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
<b>Coastal Events</b>				
Hurricane/Tropical Storm	19	158	8.32	12.03
Ocean & Lake Surf <sup>b</sup>	1	16	16.00	6.25
Waterspout	0	16	*	*
<b>Dam Failure</b>	-	-	-	-
Drought	8	59	7.37	13.56
Flood	5	59	11.8	8.47
Fog	0	12	*	*
<b>Geophysical Events</b>				
Avalanche	0	49	*	*
Earthquake	0	310	*	*
Landslide	0	49	*	*
<b>Human-Induced Events</b>				
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**
<b>Severe Thunderstorm Events</b>				
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
<b>Temperature Extremes</b>				
Wildfire	6,488	21	<0.50	30,895.24**
Winter Weather (Snow & Ice)	6	59	9.83	10.17
<sup>a</sup> Data Sources: National Climatic Data Center ( <a href="http://www.ncdc.noaa.gov/cgi-win/www.cgi.dll?wwwEvent-Storm">www.ncdc.noaa.gov/cgi-win/www.cgi.dll?wwwEvent-Storm</a> ); National Geophysical Data Center ( <a href="http://www.ngdc.noaa.gov/hazard/">www.ngdc.noaa.gov/hazard/</a> )		* 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		
<sup>b</sup> Includes coastal flooding, coastal erosion, coastal winds				

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 SHELUDS. 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 SHELUDS 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%
<b>Williamsburg - Total</b>	<b>\$228,829,335</b>	<b>2.45%</b>

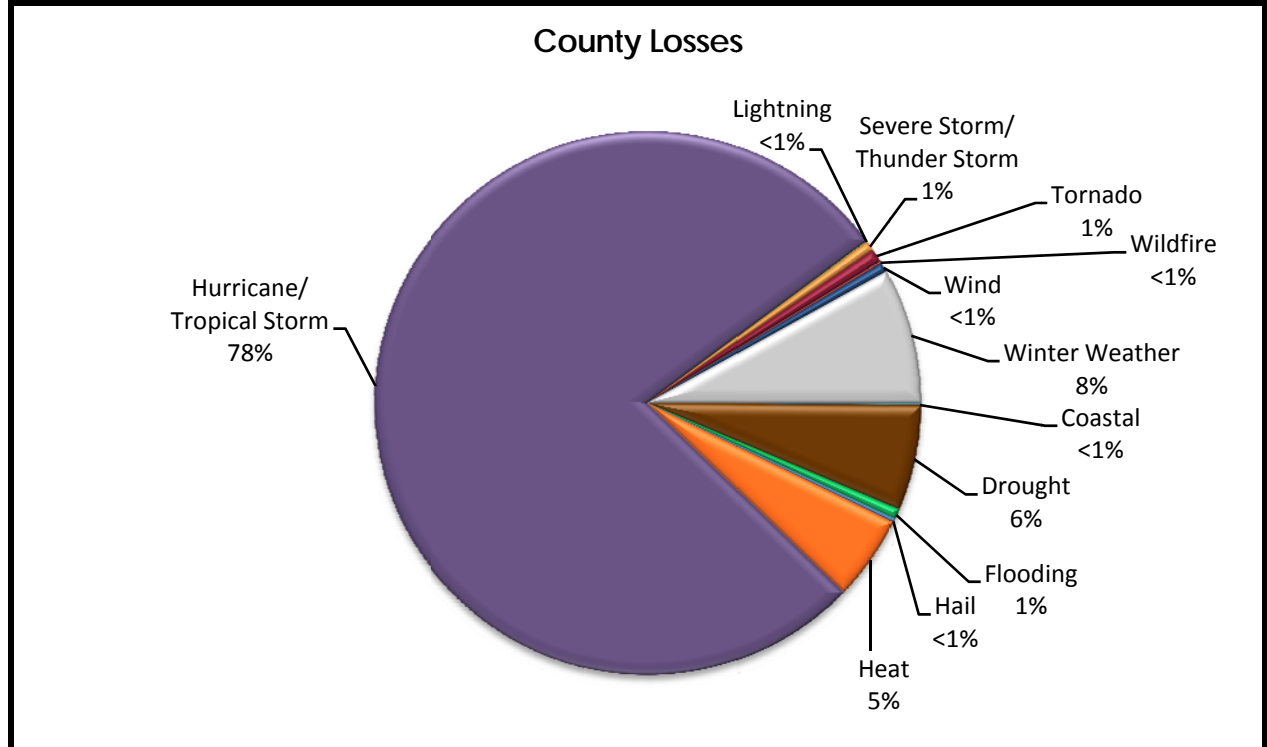


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Williamsburg County, SC.