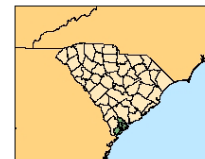


BEAUFORT COUNTY, SC

Hazard Profile for 2008

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



I. Summary

Beaufort County is vulnerable to both natural (hurricanes/tropical storm) and technological (hazardous material incidents). Winter weather produces the greatest monetary damage, but it occurs infrequently (on average once every 59 years). Hurricane/tropical storms and drought are more frequent than that, also producing significant monetary damages. 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>).

Beaufort County has a wide range of social vulnerability, with most tracts exhibiting moderate levels. However, Hilton Head Island shows the two extremes—with two tracts in the elevated category, many in the moderate category, and one tract in the limited category. Figure 1 provides maps of the Beaufort County depicting (on the left) social vulnerability by census tract and (on the right) cities and major roads.

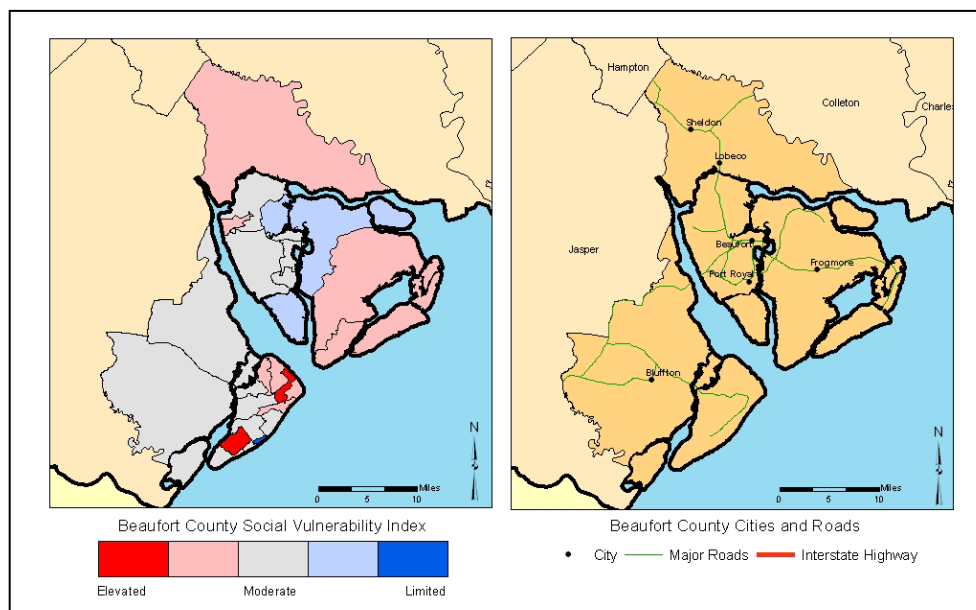


FIGURE 1. The Social Vulnerability for Beaufort County, SC by US Census tracts and a general reference map of Beaufort County.

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
E-mail: mberry@emd.sc.gov
<http://www.scemd.org>

Hazard & Vulnerability
Research Institute
University of South Carolina
E-mail: scutter.sc.edu
<http://webra.cas.sc.edu/hvri>



BEAUFORT 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 Beaufort County are hazardous material accidents, severe thunderstorms and wind, lightning, and wildfires. 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 Beaufort County, SC.

Hazard ^a	Number of Events	Years in Record	Recurrence Interval (Years)	Hazard Frequency (Percent Chance per Year)
Coastal Events				
Hurricane/Tropical Storm	20	158	7.90	12.66
Ocean & Lake Surf ^b	10	16	1.60	62.50
Waterspout	2	16	8.00	12.50
Dam Failure	-	-	-	-
Drought	21	59	2.81	35.59
Flood	25	59	2.36	42.37
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)	435	22	<0.50	1,977.27**
Nuclear Power Plant	0	8	*	*
Terrorism	0	29	*	*
Transportation (Motor Vehicle)	27,599	10	<0.50	275,990.00**
Severe Thunderstorm Events				
Funnel Cloud	3	16	5.33	18.75
Hail	67	59	0.88	113.56**
Heavy Precipitation	2	15	7.50	13.33
Lightning	34	16	<0.50	212.50**
Thunderstorm & Wind	167	59	<0.50	283.05**
Tornado	21	59	2.81	35.59
Temperature Extremes	8	16	2.00	50.00
Wildfire	1,508	21	<0.50	7,180.95**
Winter Weather (Snow & Ice)	1	59	59.00	1.69
^a Data Sources: National Climatic Data Center www.ncdc.noaa.gov/cgi-win/www.cgi.dll?wwwEvent-Storm ; National Geophysical Data Center www.ngdc.noaa.gov/hazard/		* 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		
^b Includes coastal flooding, coastal erosion, coastal winds				

VI. Hazard Loss Information

When compared to South Carolina as a whole, Beaufort County has a higher probability of coastal hazards, drought, flooding, heat, hurricanes, lightning, thunderstorms, tornado, and wind hazards. Figure 2 (page 3) shows those hazards occurring in the county that exceeded the state mean in red font. Winter weather is below the state mean indicating that this hazard historically produced fewer losses for the county than elsewhere in South Carolina.

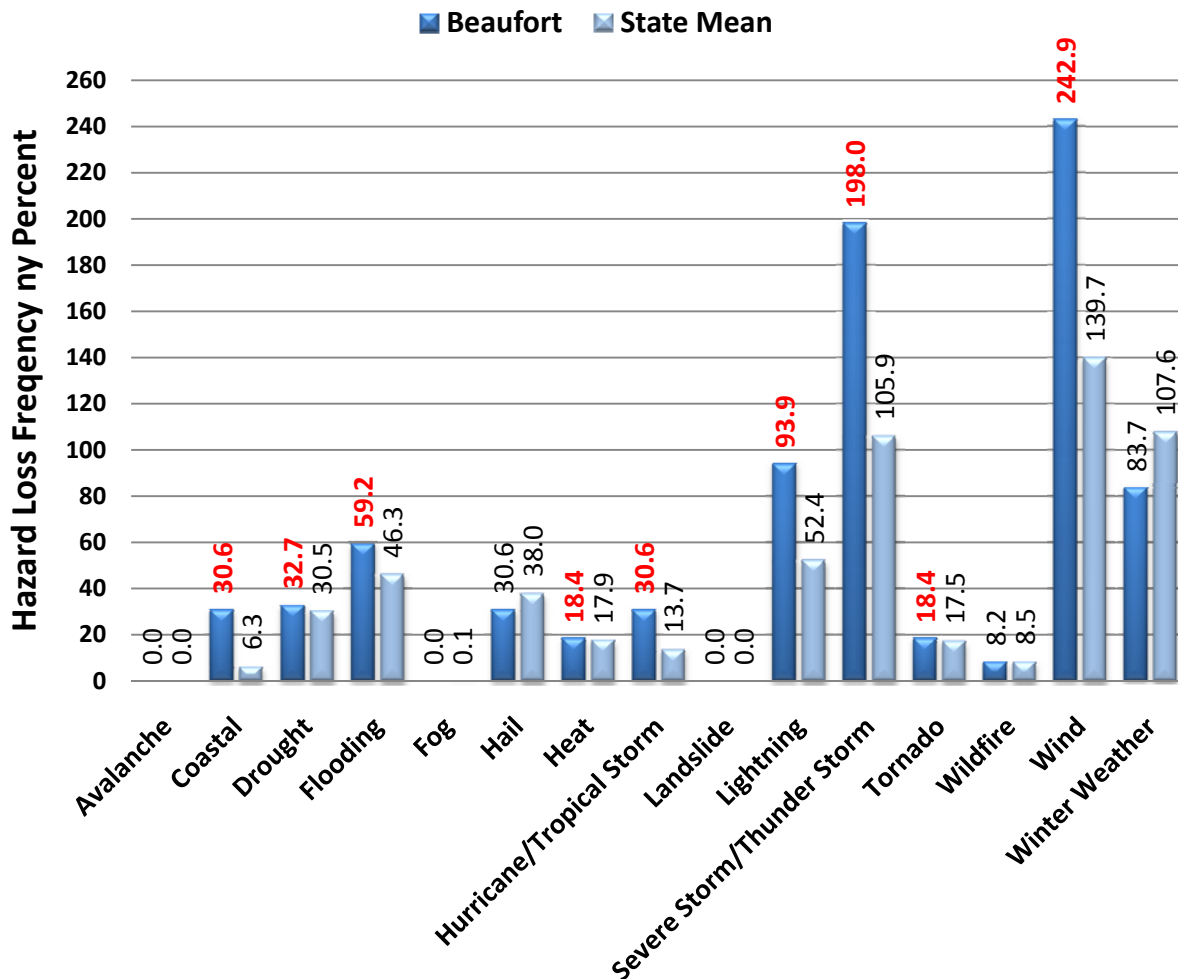


FIGURE 2. The historic loss causing hazard frequency between 1960 and 2008 for Beaufort County compared to South Carolina as reported in SHEL DUS. Percentage numbers indicated in red are when the county total exceeds the state mean. Also, a hazard that is identified in the National Climatic Data Center 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 SHEL DUS database - available at (<http://www.sheldus.org>). The historic losses in Beaufort County are around \$86 million, due to a combination of winter weather, drought, hurricane/tropical storms, and flooding. Flooding losses represent 7% of the state's total. 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	\$10,417,191	1.01%
Drought	\$14,201,478	2.28%
Flooding	\$10,849,940	7.29%
Hail	\$1,112,483	1.12%
Heat	\$11,286,643	2.26%
Hurricane/ Tropical Storm	\$13,114,269	0.25%
Lightning	\$2,864,863	5.66%
Severe Storm/ Thunder Storm	\$1,467,873	0.72%
Tornado	\$2,168,661	0.95%
Wildfire	\$334,042	2.18%
Wind	\$3,111,284	2.22%
Winter Weather	\$14,226,954	1.64%
Beaufort - Total	\$85,155,682	0.93%

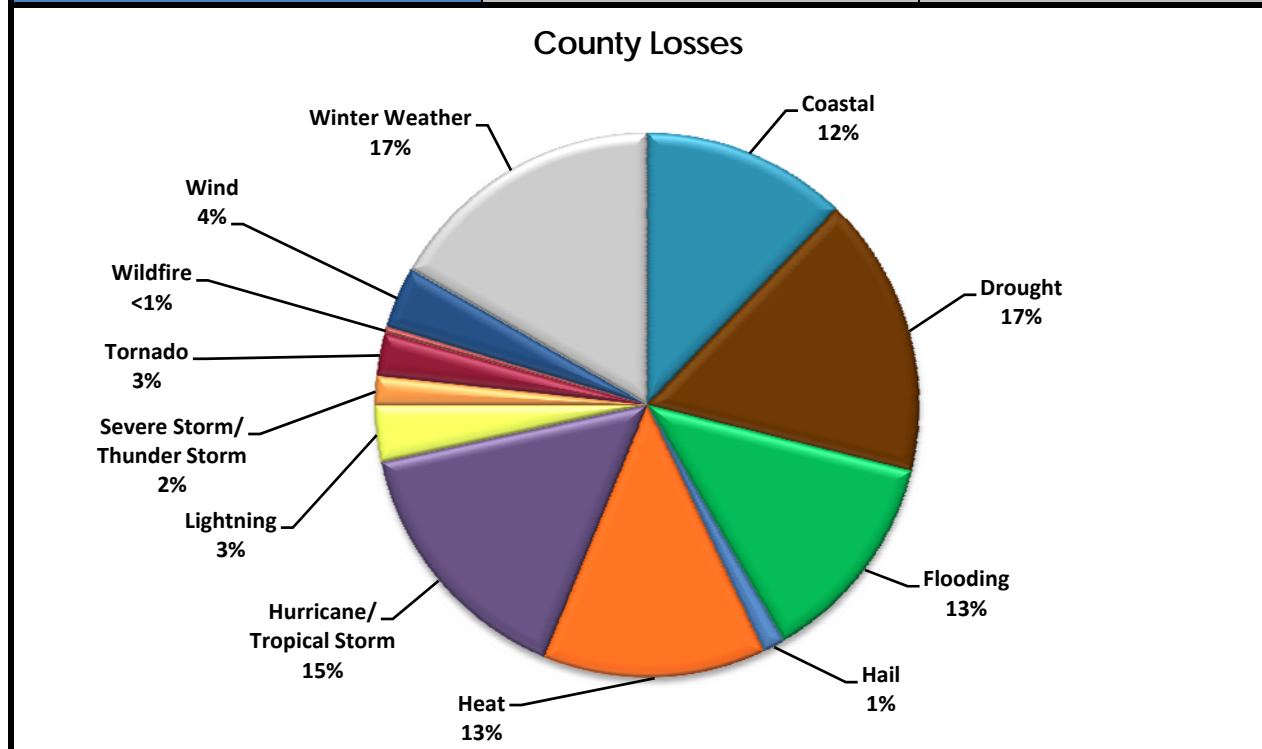


FIGURE 3. Historic Hazard Event Damages (property and crop) between 1960 and 2008 for Beaufort County, SC.