

Jasmine Lomax and Ryan Gold  
January 23, 2018

### ***Raze the Roof***

Several residents of Clinton, South Carolina are suing the roofing company, Chester Roofing and Supply, for faulty materials. Following the storm on January 24, 2000, residents were left with damaged property as a result of collapsed roofs. These include but are not limited to: carports, sheds, garages, and storage shelters for heavy equipment. The company claims that their roofs are made to withstand, and support, the weight of six inches of snow and ice. The company also claims that this amount of snowfall is rare, and occurs every 50 years in the region. We have been hired to estimate the snowfall amount in Clinton on January 24, 2000, and how often that amount falls in the region.

In order to gather data on the extreme snowfall amounts of the region the Applied Climate Information System (SC-ACIS) was used. This data source shows all of the major snowfall amounts from 1901 to 2000. The Storm Events Database was used to get accurate detailed accounts of the storm in question, to see which area received ice and snow at a given time. CoOp data, which is taken daily for each month, was used to get an estimate of how much snowfall fell at the CoOp region at the time in question. NEXRAD radar data was also used so an image of how the storm passed through the region could be seen, what time it started, and the ending time as well. The data, however, does not account for the weather at each individual's home, which could result in differences in the amounts of snowfall, and therefore damage. There is also a significant lack of data for years prior to 2000. Had this not been the case, METARs and Local Climatological Data would have been useful in providing a holistic summary of the storm and snowfall amounts in region.

The snowfall amount on January 24, 2000 in Clinton, South Carolina was likely between 4-12 inches. Thirty-six hours prior to this storm, there was also an ice storm resulting in a 1-3 inch mixture of snow and ice. The storm in question could have added to snowfall, which had already fallen. However, as previously stated there could have been different precipitation amounts at different locations throughout the town. There are multiple data sources that confirm the storm in question dropped between 4-12 inches, therefore proving the defendant's claims as false, regardless of the previous storm. Between 1902 and 2000, there were 17 occurrences when at least four inches of snow fell, and seven days when at least six inches of snow fell in Laurens County, which is where Clinton is located. Due to the ice storm and heavy snow in the days prior to and on January 24, 2000, it is likely that at least six inches of snow fell in Clinton. This amount of snow has occurred multiple times over the past century, making the claims of Chester Roofing and Supply false.