


Richland County Hurricane Joaquin Rain Totals from October 2 - 6 2015



Natural Neighbor Analysis	 10.61-11.3	 16.43-17.11	◆ RC Winds
Rainfall (Inches)	 11.31-12	 17.12-17.84	◆ Weather Underground
 <7.79	 12.1-12.79	 17.84-18.58	--- Road Closures 10-6
 7.8-8.41	 12.80-13.5	 18.58-19.32	
 8.42-9.15	 13.51-14.2	 19.33-20	
 9.16-9.88	 14.21-14.9	 20.1-20.74	
 9.89-10.6	 14.91-15.68	 >20.75	
	 15.69-16.42		

This map representation depicts the overall rainfall totals experienced during the October 2 - 6, 2015 flooding within Richland County South Carolina. Rainfall totals were collected using the county owned Richland County Weather Information Network Data System (RC WINDS) and Weather Underground weather station data to assist defining the study area. A total of 38, 34 RC WINDS and 4 Weather Underground collection stations were used to create a natural neighbor analysis specifying the damaging rainfall.

On October 6th, due to the significant rainfall, a total of 130 roads were not passable. This number increased nearly 4 times over the next 48 hours as flood waters began to push dams and other waterways to their limits. However, this map does not depict the extensive flood damage, pool rain and dam failures. The highest concentration of rainfall collected from the Gills Creek RC WINDS weather station with nearly 21.5 inches of rain. Only 17 miles to the northwest the Dutch Fork High School RC WINDS weather station collected 9.6 inches.

A Natural Neighbor Analysis was conducted to graphically depict areas with the highest impact. This type of analysis allows a single point to be analyzed based on the surrounding or neighboring point data. The same analysis is then conducted on the next point, until all points affiliated with the dataset have been analyzed. For our analysis, each of the RC WINDS and the Weather Underground data was compared based on the distance from and total rainfall collected. The end result depicts a smooth transition from one weather station to the neighboring weather station. Highest impacted areas are highlighted in deep red, while areas that did not have as much rain are highlighted in light blue.

