

ULM HELPS: Meteorological Aspects of Hurricanes Katrina and Rita from the Field

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Hurricanes Katrina and Rita had devastating impacts on the northern coast of the Gulf of Mexico. The University of Louisiana at Monroe Hurricane Evaluation at Landfall Project for Science (ULM HELPS) team, consisting of faculty, meteorologists, and students, placed portable instrumented weather stations in the paths of both hurricanes. Data were collected from the eyes and eyewalls of both storms as they made landfall in southeast and southwest Louisiana, respectively.

Our presentation provides a brief summary of methods for collecting these important datasets as well as results of the ongoing analysis. One instrumented tripod was located in Buras, Louisiana, the landfall location of Katrina, and measured a barometric pressure of 920.1 hPa (Figure 1). This measurement represents the third lowest sea-level pressure registered on land during hurricanes in the United States since records have been kept. Although the majority of the platforms measure winds at 2 m height, adjustment of the data to standard exposure, averaging time, and 10 m standard height reveals that Katrina possessed sustained winds of Saffir-Simpson Category 2 or 3 as it passed just to the west of Buras. The data collected in both storms match well with that measured by other nearby observation platforms. A brief synopsis of the raw and adjusted observations is presented for both storms. Basic characteristics of the hurricanes are discussed and observed damage near the station locations is shown to correlate well with inherent storm structure.

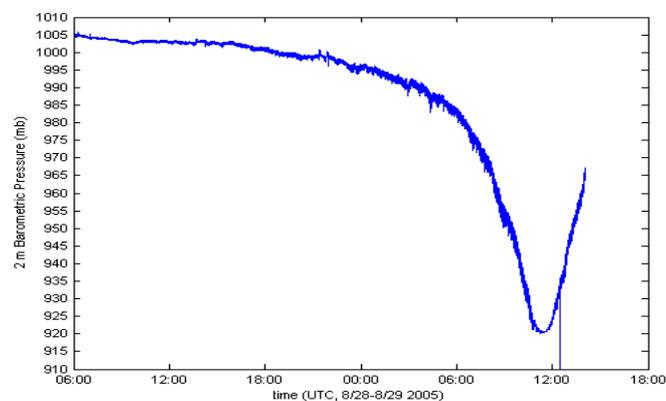


Figure 1. Barometric pressure record from Buras, Louisiana tower during Hurricane Katrina.