Changes in Land, Ocean, Meteorological and Atmospheric Parameters Along the Harvey Hurricane Track Observed from GPS, Buoys and Satellite Data

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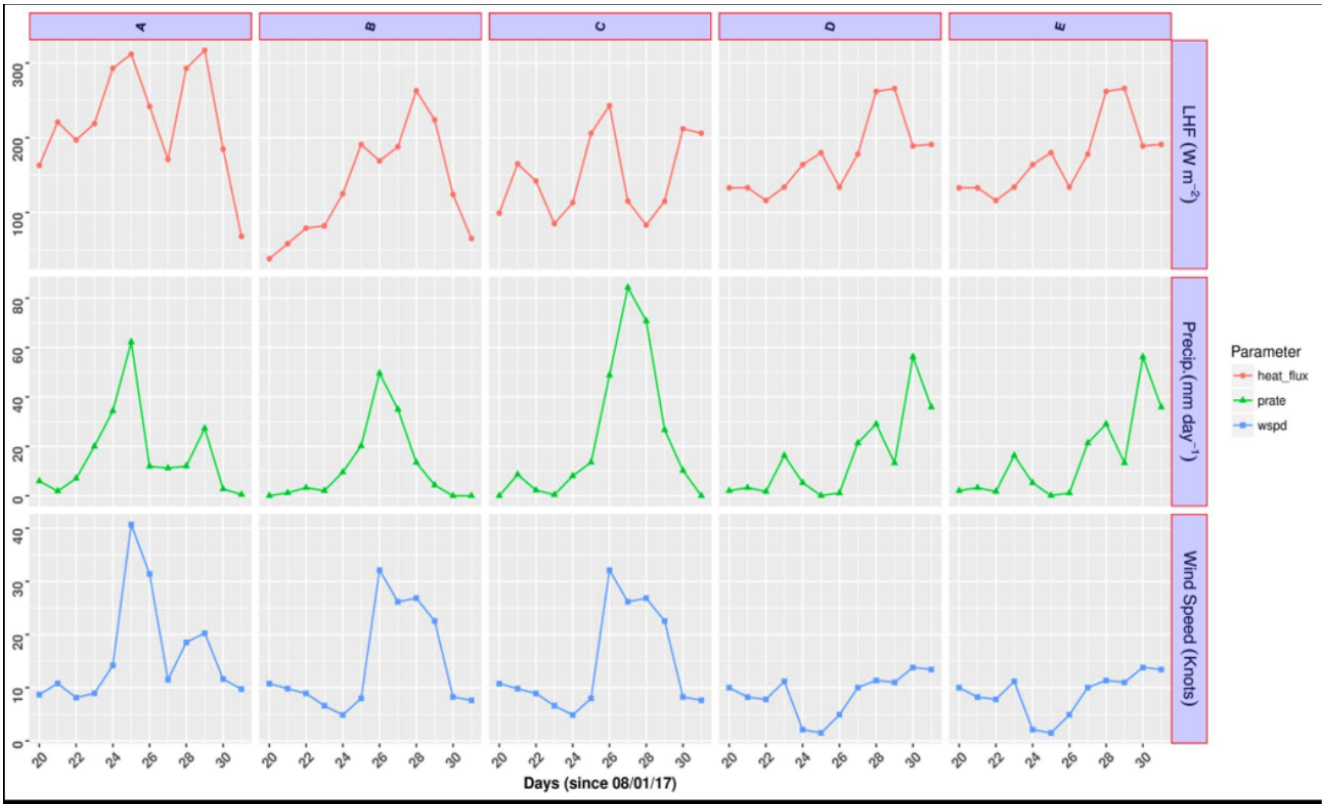
In recent years, dense network of buoys, GPS and multi satellite sensors provide valuable information about the ocean, land, atmosphere and meteorological parameters. Some of the satellite also provide information about the atmospheric and meteorological parameters at different altitudes. These data of great help in providing information from the day the storm is firmed and its further development as hurricane, its intensification and also information along its track. In the past, many hurricane have devastated Texas coast killing people living along the coast. Hurricane Harvey hit the Gulf coast in Texas, near the Texas Louisiana border, in the early hours of 26 August. It was one of the deadliest hurricanes in the last 12 years. Detailed analysis of water vapor retrieved from GPS, meteorological parameters from buoys and satellite data will be presented. All these parameters (surface latent heat flux, precipitation and wind speed) show pronounced changes along the track and with the approach of hurricane towards landfall. The water vapor retrieved from satellite and GPS, meteorological parameters (relative humidity, air temperature) and precipitation data will be presented along the track of Harvey hurricane. All these data show an empirical relation with the observed precipitation that will be help scientific community to forecast precipitation and expected floods after the hurricane landfall.

Keywords: Harvey hurricane, Texas coast, Buoys, GPS, Satellite,



Plot of key meteorological parameters for selected locations along the storm track and cone of influence.

