



Lightning activity in Atlantic Hurricanes

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Lightning activity associated with Atlantic hurricanes has been investigated using the World Wide Lightning Location Network (WWLLN), a global ground-based VLF network that is sensitive only to the most intense cloud-to-ground (CG) lightning discharges. The lightning data are binned into 10x10 degree boxes around the center location of the hurricane. The data are accumulated daily, giving the daily lightning activity around the center of the hurricane, where the center location is taken at 1200UT every day. The results show highly significant correlations between lightning activity and maximum sustained winds within the hurricanes, however, with a lag of 1-2 days. In other words, the lightning activity peaks a day or two before the maximum hurricane intensity (both wind speed and pressure). These results imply that monitoring lightning continuously across the Atlantic may provide important information for forecasting the intensification of hurricanes.