



Lightning as a precursor of tropical cyclogenesis

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Lightning activity recorded by a long-range lightning detection network with Very Low Frequency receivers in Europe and Africa (named Zeus) is used to follow the westward progression of convection in easterly waves and their embedded disturbances across Africa and off the west coast into the Atlantic Ocean. Those subsets of disturbances showing sustained lightning in the Atlantic are far more likely to produce tropical cyclones to those for which lightning ceases at the coast. Disturbances that cross the coast in late evening (18-00 UT) or early morning hours (00-06UT), when lightning in the coastal region is far more prevalent, are also more likely to produce tropical cyclones to those that cross in morning hours (06-18 UT).