

TROPICAL CYCLONE INTENSITY FORECASTING AT THE NATIONAL HURRICANE CENTER

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Forecasting the intensity changes of tropical cyclones is a challenging task. The National Hurricane Center official intensity forecast errors for Atlantic storms during the period 1970-1997 are reviewed to evaluate the progress that has been made. The forecast skill is also evaluated, where skill is determined by comparison of the official errors with those from a simple statistical model based upon climatology and persistence (SHIFOR). The intensity forecast error trend is compared with that of the track forecast error during this same time period. Results show that although some improvement has been made, the skill of intensity forecasts is considerably less than that of track forecasts.

The guidance models used for intensity forecasting will also be presented. Until 1992, the only objective intensity model was SHIFOR. Since that time, intensity forecasts have been available from a more general statistical model (SHIPS) and from the Geophysical Fluid Dynamics Laboratory three-dimensional hurricane model. The performance of these models is described, as well as prospects for future improvements.

Key words: Tropical cyclone intensity forecasting, Tropical cyclone modeling