

Hurricane Wind Speeds in the United States

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Abstract:

A Monte Carlo simulation technique is used to obtain estimates of hurricane wind speeds along the Gulf and East Coasts of the United States. The paper describes the sources of data, the probabilistic models for climatological characteristics of hurricanes, and the physical models for the hurricane wind speed field used in the estimations. Estimated values of fastest-mile hurricane wind speeds at 10 m above ground in open terrain at the coastline and at 200 km inland are given for various mean recurrence intervals. The estimated hurricane wind speeds were found to be best fitted by Weibull distributions with tail length parameters $\gamma \geq 4$. Estimates are given of various errors inherent in the estimated values of the hurricane wind speeds. Owing to uncertainties with respect to the applicability of the physical models used in this work to locations north of Cape Hatteras, estimated hurricane wind speeds given for these locations should be viewed with caution.

Subject Headings: [Physical models](#) | [Hurricanes and typhoons](#) | [Wind speed](#) | [Monte Carlo method](#) | [Gulfs](#) | [Weather forecasting](#) | [Probability](#) | [Terrain](#) | [United States](#) | [Monaco](#) | [Europe](#)

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The fastest wind speed ever recorded comes from a hurricane gust. On April 10, 1996, Tropical Cyclone Olivia (a hurricane) passed by Barrow Island, Australia. The equivalent of a Category 4 hurricane at the time, is 254 mph (408 km/h). U.S. Highest Wind. Today, it remains the fastest wind ever recorded in the United States and in the Northern Hemisphere; the U.S. commemorates this wind record every April 12th on Big Wind day. With a slogan like "Home of the World's Worst Weather," Mount Washington is a location known for having harsh weather. Standing at 6,288 feet, it is the highest peak in the Northeastern United States.