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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estimating hurricane wind speed risk is discussed in the following sections. Holland B Modeling: Comparison of Statistical Models. that the nominal design wind speed in the nonhurricane regions of the United States is associated with a return period of 50-years, the WLTC sought to determine the return period associated with the wind speed producing the ultimate load in a representative. 8 of the Most Devastating Hurricanes in the United States. Search. Search the site. When Hurricane Andrew first began to form over the Atlantic Ocean in the summer of 1992, it was originally classified as a "weak" storm. By the time it hit land, it packed extreme winds with speeds of more than 160 mph. Andrew was a serious hurricane that devastated the South Florida area, causing $26.5 billion in damages and killing 15 people. 09. of 08. 1935 Labor Day Hurricane. Exact measurements of the storm's wind speeds will never be known because the storm all wind-measuring instruments near the core of the storm were destroyed. Hurricane Camille caused 140 deaths directly and another 113 due to the flash floods caused by the storm. 06. On Monday, the weather system named Irma swirled over Florida and headed towards other states in the Deep South. Irma, once a Category 5 hurricane, had been downgraded to a tropical storm since making landfall on the continental United States on Sunday. With its strong winds and heavy rainfall, Irma has devastated parts of Florida, as well as some Caribbean islands, leaving them without electricity or running water. But the strength of Hurricane Irma's winds are especially stunning. The highest sustained wind speed recorded for Irma was 185 m.p.h., making it the hurricane with the second