

Variability of Hurricane Wind and Wave Predictions due to Variations in Track and Intensity Projections

Hans C. Graber
University of Miami

Robert E. Jensen
US Army Corps of Engineers

Vincent J. Cardone and Andrew Cox
Oceanweather, Inc.

John L. Guiney
National Weather Service

Mark D. Powell and Peter Black
NOAA/AOML Hurricane Research Division

The estimation of tropical cyclone-generated winds, waves and surge in the coastal waters is of critical importance to the timely evacuation of coastal residents in the event that a storm makes landfall. The model predictions of waves and storm surge in coastal waters are functionally related and both depend on the reliability of the atmospheric forcing. Hurricane Georges is an excellent example of an intense tropical cyclone with numerous landfalls and unexpected changes in intensity and movement. Results of "real-time" forecasting simulations for Hurricane Georges will be presented as the storm segment moved over the Florida Straits and then entered the Gulf of Mexico. As hurricanes approach land, various forecast models predict the track, the intensity and land-fall location. These track and intensity forecasts can differ considerably and potentially affect a large region of the coastline. We will show the variability of predicted winds and waves for different forecast Intensities and tracks and demonstrate how such information would impact the advisories.