Hurricane Katrina

Ratio of Modeled Peak Gust Wind Speeds to Design Peak Gust Wind Speeds

Purpose of the Illustration

The purpose of this illustration is to show the magnitude of Hurricane Katrina's winds with respect to the design wind speeds for the area affected by the storm. The information presented on the map helps FEMA communicate that for the majority of the area affected by Katrina, buildings designed to the current national standards should have stood up well to the winds.

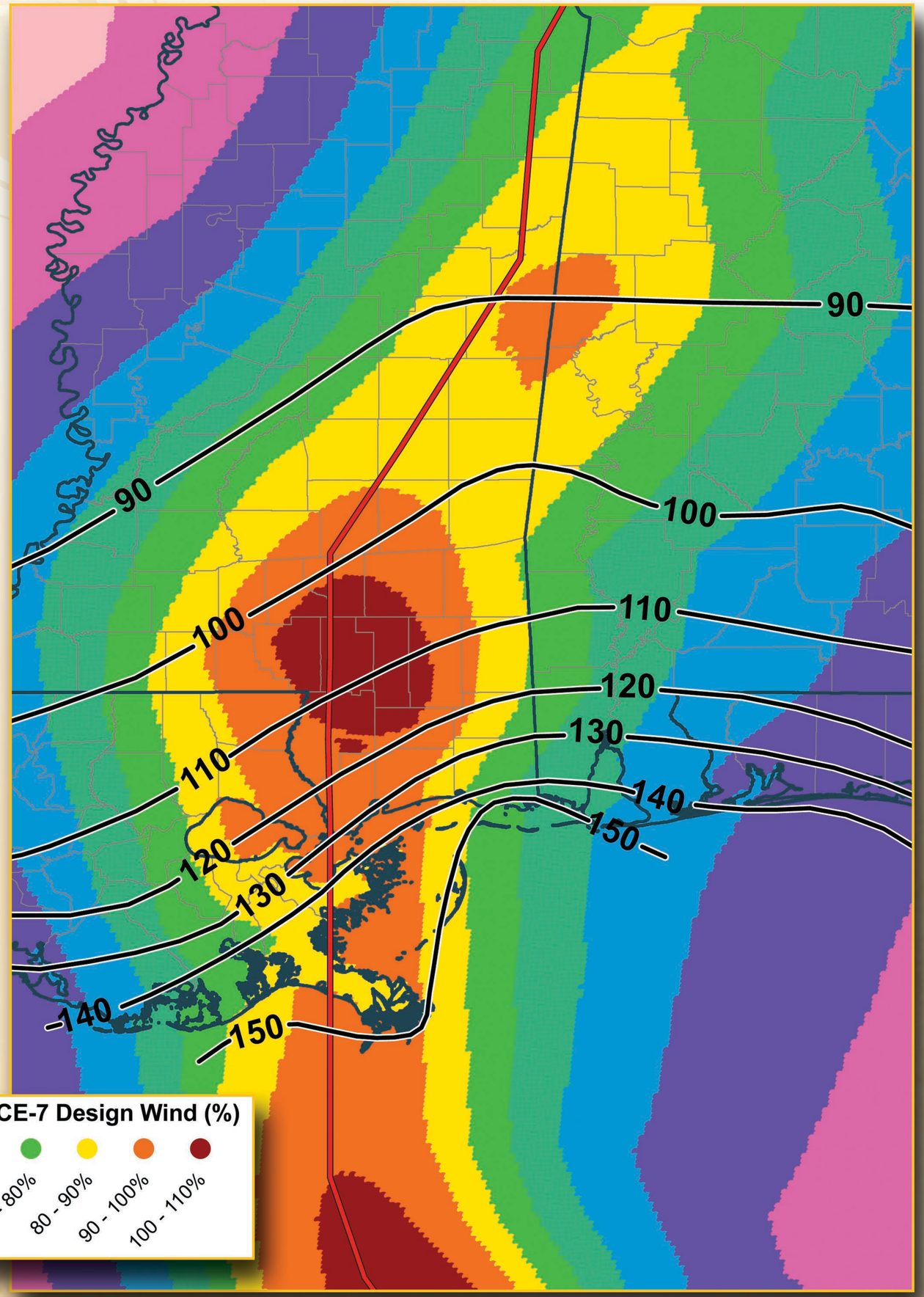
Story Being Conveyed

A small area in the vicinity of Hattiesburg, Mississippi experienced slightly greater than design level wind speeds during Hurricane Katrina. As a result, it is expected that structures built in accordance with current wind design codes should have performed well in the face of Katrina's wind. Unfortunately, the majority of buildings affected by Katrina's winds were built prior to the adoption of the current wind loading standards. More information about Katrina's wind impacts can be found in FEMA 549 Mitigation Assessment Team Report, *Hurricane Katrina in the Gulf Coast: Building Performance Observations, Recommendations, and Technical Guidance.*

Overview of Graphic Development

This graphic was created with output from a peer-reviewed wind field model run on a 3 km by 3 km grid for land and water areas affected by Hurricane Katrina. The wind field model was validated using available surface level wind speed measurements adjusted for terrain conditions. ArcMap and Spatial Analyst were used to assign a design wind speed for each point output by the hurricane model through linear interpolation between the American Society of Civil Engineers (ASCE) 7-02 wind speed contours. Ratios of the modeled Katrina wind speeds to the design wind speeds were calculated and used to produce the map symbology. The ASCE 7-02 wind contour lines and a polyline representing the storm track were added to the map to provide a reference for the reader.

For information about Mitigation Assessment Team (MAT) reports:
www.fema.gov/rebuild/mat/mat_reprts.shtm



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