

Experimental Saffir-Simpson Hurricane Wind Scale

Introduction:

The Saffir-Simpson Hurricane Scale (definitions and effects) in its current form, as applied to storms in the Atlantic and eastern North and Central Pacific basins, includes storm surge ranges and flooding references. On an experimental basis for the 2009 Tropical Cyclone Season, these storm surge ranges and flooding references will be removed from the definition/effects for each category (1-5). The revised content will be included experimentally this year in a scale called the "Saffir-Simpson Hurricane Wind Scale."

Background:

The current Saffir-Simpson Hurricane Scale (SSHS) dates to 1975 and is based on expected hurricane wind speed, but includes storm surge ranges and other storm-related information. The inclusion of storm surge information is scientifically inaccurate because surge is a product of many factors not considered in the scale such as storm size and forward speed, and bathymetry and characteristics of the coastline in the landfall location. Storm surge values for each category are frequently incorrect.

A most recent example of this is Hurricane Ike in 2008. The storm made landfall with Category 2 winds. However, the storm surge at Galveston was equivalent to what is currently defined for the Category 4 -5 storm range. The National Hurricane Center (NHC) and Weather Forecast Office (WFO) Houston provided deterministic forecasts in their products on the extreme storm surge, but reports from Emergency Managers came back with many residents stating they would not evacuate because the storm was only a SSHS Category 2 or 3. Other examples include: Hurricane Charley in 2004, a Category 4 storm at landfall on the SSHS for winds but with storm surge equivalent to the Category 2 range; and Hurricane Katrina in 2005, a Category 3 storm at landfall for winds but with storm surge equivalent to the Category 5 storm range.

More precise expected storm surge for individual storms are contained in other NWS products issued from NHC and the Central Pacific Hurricane Center (CPHC) (Tropical Cyclone Discussion, Tropical Cyclone Public Advisory), from NHC only, (Graphical Tropical Cyclone Storm Surge Probabilities), and from Local Weather Forecast Offices (Hurricane Local Statement, Area Forecast Discussion, Special Weather Statements, and Coastal Hazard Message).

NWS has solicited preliminary customer feedback on taking the storm surge information out of the current SSHS at venues, including the Subcommittee for Disaster Reduction (20 Federal departments/agencies), interagency meetings, conferences and training centers, and non-governmental and private organizations.

NWS will make a decision on whether or not to make this an operational change for the 2010 tropical cyclone season after additional feedback is received.

Comment Period:

Comments will be accepted throughout the 2009 Tropical Cyclone Season - June 1, 2009 through November 30, 2009.

Where to send comments:

For NHC, go to <http://www.nhc.noaa.gov/aboutsshs.shtml> or send comments directly to nhcwebmaster@noaa.gov.

For CPHC, go to <http://weather.gov/cphc/pages/aboutsshs.php> or send comments directly to W-HFO.Webmaster@noaa.gov