HURREVAC 2010

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Abstract

HURREVAC is a decision-support tool used by emergency managers to gather the information they need to assist their evacuation decisions. The software couples hurricane evacuation study (HES) data with real-time weather forecast data from the National Hurricane Center and allows users to graphically display specific local evacuation times for decision-making and the arrival time of various storm effects such as wind and storm surge.

HURREVAC is a joint program of the Federal Emergency Management Agency (FEMA) and the U.S. Army Corps of Engineers (USACE). The name HURREVAC is derived from the words "hurricane evacuation." Emergency managers first used HURREVAC during the 1989 hurricane season in South Carolina and Georgia. Additional states were gradually added, and the program has undergone many updates. The current version is used throughout most of the nation's coastal zone (including the U.S. Virgin Islands, Puerto Rico, and the U.S. Pacific Islands). Hurrevac2010 is the latest platform for HURREVAC, so named for its initial release in the year 2010.

The HES data used in HURREVAC are developed in five Analyses (Hazards, Vulnerability, Behavioral, Shelter, and Transportation). The Hazards Analysis interpolates the results from NOAA's Sea Lake and Overland Surges from Hurricanes (SLOSH) for a given study basin and identifies potentially at-risk surge zones by hurricane category. This geographical information is then combined with demographic information in the Vulnerability Analysis to produce evacuation zones and quantify the number of potential evacuees and infrastructure within the surge and evacuation zones. The Behavioral Analysis attempts to predict the behavior of the evacuating public using survey results and published reports conducted for past storm events. A Shelter Analysis is conducted to identify locations of shelters and routes the evacuating public may take to arrive at a shelter. The final analysis (Transportation) combines aspects of the first four analyses to generate a clearance time (time it takes for 100 percent of the population within the evacuation zones to evacuate past a pre-determined point). The clearance times and are then inputted into HURREVAC and made available to emergency managers for evacuation planning and decision-making.