

Seminar: Hurricane Katrina, New Orleans, and the Hurricane Protection System

Dr. Andrew W. Garcia, US Army Corps of Engineers

Hurricane Katrina is perhaps the best documented land falling tropical cyclone to date and one of the most catastrophic natural disasters in U.S. History. Katrina was an exceptionally large hurricane with tropical storm force winds extending out about 370 km and hurricane force winds extending about 165 km from the eye. The coastal reach from the mouth of the Mississippi River eastward to Biloxi, Mississippi was devastated by Katrina's storm surge. Over 1600 fatalities are attributed to Katrina with over 700 in New Orleans alone. Inland, initial hopes were that New Orleans had been spared the consequences of a major hurricane, but reports soon indicated that major flooding was occurring in sections of the city caused by breaching and overtopping of elements of the Hurricane Protection System (HPS). Ultimately, about 80% of New Orleans was flooded, the flood waters exceeding 5m depth in some places.

Most of the flooding damage to New Orleans proper was a result of failure or unfinished elements of the HPS and not to Katrina precipitation. This presentation is an overview of the HPS, along with a brief history of design and construction, a description of some of the major failed elements and their causes, remedial actions, and the expected level of protection gained against similar future events.

Dr. Garcia participated in the Interagency Performance Evaluation Task Force as a group leader to assist in evaluating the USACE project performance. He is currently involved in helping develop USACE policy in responding to sea-level change and the effects of coastal storms.

Location: UNSW School of Civil and Environmental Engineering
Room 109 (UNSW Map Ref: H20)

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