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Storm surges induced by hurricane Dean in Guadeloupe: 16-17 August, 2007

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Hurricane Dean (August 13-23, 2007) is the most intense tropical cyclone (category 5) in the Atlantic basin since Hurricane Wilma of 2005, is the ninth most intense Atlantic hurricane ever recorded and is the third most intense Atlantic hurricane ever at landfall. In total, hurricane Dean caused 31 victims and 42 deaths. The total damage was evaluated as 3.8 billion US$. The effect of the hurricane Dean was felt in 15 countries. It crossed the center of an Antillean arc on August 16-17, 2007 and damaged moderately St. Lucia, Martinique, Dominica and Guadeloupe. The impact of the hurricane Dean on Guadeloupe is discussed. It is shown that Grand-Terre (Eastern part of Island) is particularly damaged by storm surges, while the Basse-Terre (Western part of Island) – by wind. Data of extreme waves induced by hurricanes from 1928 to 2007 in Guadeloupe are collected and discussed. The heights of extreme waves for Caribbean and Atlantic coasts are compared; the most dangerous regions are emphasized.