



## **Storm surge induced by hurricane Omar on the Caribbean coasts, example of the port of Deshaies in Guadeloupe**

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In October, the hurricane Omar, that was in category four (SSHS) moved in the Caribbean to the south west of the Atlantic. During the night between the 15th and the 16th, it runs near Guadeloupe coasts, at less than 300km. In the same time an increasing surge occurred on all the Caribbean coasts.

In Guadeloupe the waves increased by 3 m of height, that is 6 or 8 times higher than normal conditions. The surge of Omar caused damaged of millions of euros in Guadeloupe.

We made an observation on the exposed spots, and have pictures before and after the disaster. We determined the size and consequences of the surge of the hurricane Omar on this coasts.

The measure of the sea elevation on the coast and neighboring coasts helped us to characterize the levels of the sea elevation during this surge.

Measures on different points gave the characterization of the swell product by this hurricane. With a numerical model of wave propagation (SWAN), we improve our observation in the Port of Deshaies.

We propose in our presentation to give a synoptic and the description of the surge of the hurricane Omar on the Guadeloupean coasts, and particularly in the town of Deshaies, that was ravaged by the flood of Omar.