

CRISMA: Modelling crisis management for improved action and preparedness – Pilot Site B - Charente-Maritime coast

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Abstract:

CRISMA Integrated Project (<http://www.crismaproject.eu/>) focuses on large scale crisis scenarios with immediate and extended human, societal, structural and economic, often irreversible, consequences and impacts. Typically, these crisis scenarios cannot be managed alone with regular emergency and first responder resources, but require multi-organisational and frequently multi-national cooperation including humanitarian aid.

The CRISMA project shall develop a simulation-based decision support system, for modelling crisis management, improved action and preparedness. The objective of the CRISMA system is to facilitate simulation and modelling of realistic crisis scenarios including multi-hazards events, possible response actions, and the impacts of crisis depending on both the external factors driving the crisis development and the various actions of the crisis management team.

Different crisis scenarios will be assessed and elaborated in this project (winter storm, accidental pollution, seismic crises, plane crash, forest fires and coastal submersion).

The crisis scenario dealing with a coastal submersion is applied to the Charente-Maritime pilot site (between Ré island and Chatellaillon), which was impacted on the 28th February 2010 by Xynthia storm surge (53 deaths in France, €1,4 billion damages mainly on the French Atlantic coast). The consequences of Xynthia on this county has caused 12 fatalities, 4 800 flooded houses, 900 shellfish industries damaged and 793 firms in trouble after the dramatic event. The flood extent resulted also in 120 km of dikes damaged, 40 km of flooded roads and 232 km² of flooded area on the continent and on the islands of Oléron, Ré and Aix.

ARTELIA E&E built an efficient operational simulation model of a surge propagation on the Atlantic Ocean up to the coastal area and inland area where the exchanges at the coast are managed at the dikes scale and can take into account the breaches in dikes and their overtopping by waves. This model will be a part of the CRISMA decision support system and could be used in this case to improve action plans for preparedness and response phases of coastal submersion crisis management.