Geophysical Research Abstracts
Vol. 13, EGU2011-7742, 2011
EGU General Assembly 2011

JOHANNA project: Analysis of insured and structural damages due to waves and storm surges hazards (storm Johanna 10-12 March 2008)

Camille André (1) and Charlotte Vinchon (2)

(1) University of Western Brittany (UBO), European Institute for Marine Studies (IUEM), Géomer/LETG, Technopôle Brest Iroise, Place Nicolas Copernic, F29280 PLOUZANÉ, France (camille.andre@univ-brest.fr), (2) BRGM/RNSC/RIC BP 36009, F45018 ORLÉANS CEDEX 2, France, (c.vinchon@brgm.fr)

The impacts of storms in coastal areas are generally linked to the wind speed, but also, as recently demonstrated by the storms Xynthia (28 February 2010) and Johanna (10-12 March 2008) which hit the French western coasts, to the coastal submersions produced by the combined effects of swell, sea wind, storm surges and tidal conditions. The damages induced by these different hazard processes are rarely discriminated, although insurance losses indemnity may differ, whether damages are referred to the storm itself (wind speed threshold) or the hazard associated with waves (sea front shocks, coastline flooding, erosion, impact of floating debris,...).

JOHANNA project aims to analyze the process of waves propagation, coastal flooding and induced damages. It is implemented through a financial and scientific partnership between the Fondation MAIF, the French geological survey (BRGM) and the University of Western Brittany (UBO).

From the wave propagation modeling and the data on damages collected by the insurances for their compensations, a typology of structural damages will be constructed. Different damages types will be related to the different processes of the waves and coastal submersions. If possible, vulnerability functions will be realized for insured property, for both a structural and an economical approach of the vulnerability assessment. The damage analysis is the subject of a PhD, co-supervised by the UBO and the BRGM.

The results of this project should provide tools to risk managers and insurers to prevent and reduce costs and anticipate the impacts of future storm events in a context of rising sea level linked to climate change.