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The Strong Wind event of 24th January 2009 in Catalonia: a social impact analysis

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Although strong winds are frequent in Catalonia, one of the events with the strongest impact in recent years was on January 24th 2009. An explosive cyclogenesis process took place in the Atlantic: pressure fell 30 hPa in less than 24 hours. The strong wind storm pounded the northern of Spain and the south of France with some fatalities and important economic losses in these regions.

Several automatic weather stations recorded wind gusts higher than 100 km/h in Catalonia. Emergency services received more than 20.000 calls in 24 hours and there were 497 interventions in only 12 hours. As a consequence of fallen and uprooted trees railway and road infrastructures got damages and more than 30.000 customers had no electricity during 24 hours. Unfortunately there were a total of 6 fatalities, two of them because of fallen trees and the other ones when a sports centre collapsed over a group of children.

In Spain, insurance policies cover damages due to strong winds when fixed thresholds are overcome and, according to the Royal Decree 300/2004 of 20th February, extraordinary risk are assumed by the Consorcio de Compensación de Seguros. Subsequently, Public Weather Services (PWS) had an increased on the number of requests received from people affected by this event and from insurance companies, for the corresponding indemnity or not. As an example, during the first month after the event, in the Servei Meteorològic de Catalunya (SMC) more than 600 requests were received only related to these damages (as an average PWS of SMC received a total of 400 requests per month).

Following the research started by the Social Impact Research Group of MEDEX project, a good vulnerability indicator of a meteorological risk can be the number of requests reported. This study uses the information received in the PWS of the SMC during the six months after the event, according the criteria and methodology established in Gayà et al (2008). The objective is to compare the vulnerability with the hazard intensity and to analyze elements at risk. In order to do this, data about population density, land uses, type of damages and media information are also considered. The first results show that the major number of requests corresponds to areas densely populated, with vulnerable urban materials, and to residential areas, where fallen trees caused damages on buildings. However, the highest wind gusts were recorded in rural areas where a minor number of requests have been reported in spite of the ecological damages. Finally, the different risk perception of the population played an important role in their reaction to the warnings received.