Natural Hazards
and Earth System
Sciences

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Discussions

Interactive comment on "Risk to life due to flooding in post-Katrina New Orleans" *by* A. Miller et al.

Anonymous Referee #2

Received and published: 22 March 2014

This paper assesses coastal-flood risk due to cyclones in New Orleans. It shows that the risks remains high, despite the risk reduction efforts that followed the 2005 Katrina Hurricane. The authors show that the social risk remains high, and that higher protection levels (1/10000) would be necessary to reach acceptable levels.

The topic of coastal flooding in the city of New Orleans is significant and the authors provide new data and comprehensive material on this issue. The methods are not new (as noticed by the other reviewer), but they are finally, but they are not so much applied for coastal flooding, where hazard or scenarios mapping remains more common than complete risk assessment. This could be raised in the introduction, showing also what benefits for end-users can be obtained from risk assessment approaches compared to assessments limited to hazard or single flooding scenarios.

Minor comments Page 827: line 17: one study seems relevant to me here: Dixon, T. H., Amelung, F., Ferretti, A., Novali, F., Rocca, F., Dokka, R., Sella, G., Kim, S. W., Wdowinski, S., and Whitman, D.: Subsidence and flooding in New Orleans, Nature, 441, 587-588, 10.1038/441587a, 2006. Line 8, page 827 : paragraph starting with : ÂńRisk is generally considered to be a function of the consequences and probability of an undesired event.": this paragraph is not very clear to me. I suggest to rephrase it, highlighting that risk quantifies the expected damages over a given period over a location, and therefore combines hazard, vulnerability, exposure (and eventually coping capacity)

The results in 3.5.1 and 3.5.2 are based on the hypothesis that flooding scenarios selected here constitute a representative subset of all possible the extreme scenarios (given the fact that under the assumptions made here, the more frequent and less damaging event do not need to be considered). This is mentioned in the conclusion, but I recommend to discuss this point more clearly page 835 (description of flooding scenarios), and also to describe (may be as a short annex) the modeling flooding approach.

Section 3.5.1: individual risk can also be defined as hazard*vulnerability. In equation 1: first, there is no comma between Pi and F (this is a multiplication); second, Pi is not sufficient to my opinion: the flow velocity and height are important parameters to take into account as well. This becomes (at least analytically) clearly integrated in the equation if there is a comma between I and (x,y).

The last paragraph page 839 is not clear to me. In table 1, two significant digits (rounded values) are sufficient in column 4. Legend of figure 4 : meaning of gage ?

In figure 6, a confusing point is that 'Or' is not exclusive (as evocated in the text)

For clarity : the variables and functions used in fig 8 (Phi(N, . . .) ; h, v) should be defined ; in addition, apparently, only the heigh of water is taken into account here while the

flow velocity is important as well for mortality. Why ? Is this because the mortality functions are based on observations, which did not include anything regarding flow velocity ?

Finally, a more moderate use of accronyms would be useful for clarity.

I hope this review will be useful for the authors.