

ASSESSING CHANGES IN URBAN FLOOD VULNERABILITY THROUGH MAPPING LAND USE FROM HISTORICAL INFORMATION

It gives me great pleasure to read again the paper of the French colleagues. I have noticed that my suggestions and advice have been accepted.

The English language is good even if there are some mistakes. For example I can read the term PERSONS instead of PEOPLE. Probably another mother tongue review is necessary.

I underline some improvements.

Page 2 line 11 – “Persons”

Three times the word « assessing» in three lines (19-20-21).

Page 3 line 4 – “analysies”

Page 5 line 1 – “wet end ~~to~~during the year 1909”

line 6 – “several cavity collapses” change in “collapsing of several cavities”

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8 5 Conclusion and perspectives

9 This paper study presents a case study on the urban vulnerability of two French cities that were
10 largely involvedimpacted in floods occurreding in January 1910 and March 1930. This approach
gives

11 an insight of into the complexity of flood risk evolution, not ignoring the while also taking local
characteristics

12 into account. Old maps (or Mapped historical sources) Mapping historical sources can provide
reliable information on the flood

13 vulnerability in the past, but this requires a necessary evaluation of the modifications occurred in
the examined areasome preliminary work. A first step is necessary to

14 locate and geo-referencing the the historical information within the present geographical reference
15 system. Qualitative information (images, technical reports, national and local newspaper
16 articles, paintings, marble plaques, etc. ...) can be interpreted as a complement to historical
17 maps on land use. An assessment of the population exposed at risk within spatial units can be
inferred

18 from technical documents with nominative lists of people (or inhabitants) persons as well from
old censuses.

19 Historical information on past floods can therefore be useful when building scenarios on
20 future possible floods, providing a reliable reference of what might be possible in terms of
21 water depth, flow velocity and flood extent. Additional work is needed to account for possible
22 changes both in vulnerability and flood hazard over the past several decades (from historical
23 floods to the present day) and for future decades (prospective studies). It is also important to
consider

24 bear in mind the uncertainties associated with historical data and to use relevant scales when
25 mapping vulnerability indicators.

26 As usual, the temporal analysis of flood risk evolution at a local scale implies a good
27 knowledge of the general context of the socio-economic development of territories, as well as

28 changes in the recollection and perception of risk. According to data availability, this study
29 focuses on only a small component of vulnerability only. However, to carry out a comprehensive
30 flood vulnerability analysis, other indicators should be taken into account. After the Xynthia
31 storm surge ds in 2010 (41 fatalities due to floods in France), Vinet *et al.* (2012) showed that
32 the age of the population is a key component of local vulnerability. It is clear that the

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1 insurance system may benefit from similar analyses on urban flood vulnerability + over the last
2 few decades. ONLY THIS ONE ABOUT INSURANCE?
3 This study addresses the issue of flood vulnerability, which is an important component of the
4 flood risk. In parallel, research on flood hazard is also necessary to simulate past floods in a
5 present-day context, considering taking into account modifications of the river (planform
morphological changes
6 and river engineering) and new settlements on the flood plain.

FINDINGS

I BELIEVE THE AUTHORS MAY SUGGEST BETTER SOLUTIONS FOR A
MITIGATION OF THE RISK AS IF THEY HAVE SOME DEGREE OF
AUTONOMY IN ORDER TO COLLABORATE SIDE BY SIDE WITH THE
STAKEHOLDERS.