



Dissemination Workshop

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BOOK OF ABSTRACTS



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Storyline-based approach for multi-risk assessment of urban and metropolitan areas

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The RETURN project aims at developing a consistent framework for the assessment of multiple risks of urban and metropolitan areas, under changing and non-stationary conditions. Due to the wide range of natural, environmental and anthropogenic hazards threatening urban areas and the related risks, a pragmatic approach to identify risk scenarios is fundamental. In this context, the concept of risk storylines is introduced, referring to a defined, plausible combination of events, their consequences and the factors possibly affecting these elements, as well as the physical, socio-ecological and functional elements at risk (Shepherd et al. 2018; March et al. 1991, Sillmann et al. 2021). A storyline-based approach is proposed in the framework of the WP 5.3 activities as a methodology for the multi-risk assessment of urban environments, by including multiple hazards, with their possible interactions, and all the exposed urban assets with the objective of evaluating the socio-economic impacts. A graphical representation of a risk storyline is an impact chain, highlighting the causal relationships between events and their impacts on the analyzed context. In this way, complex multi-risk processes can be considered in a consistent framework for a number of hazards, i.e., meteorological, hydrological, geohazards, environmental, societal hazards, etc. (UNDRR-ISC 2021). In this work, the methodology will be illustrated with reference to a specific storyline, presented with the impact chain in Figure 1, including alternative hazard and vulnerability modelling strategies. Advantages and disadvantages of the method will be analyzed, also with reference to the possible metrics usable for measuring impacts. In the RETURN project, the collaboration between the different Spokes can effectively contribute to the generalization of the proposed storyline-based approach.

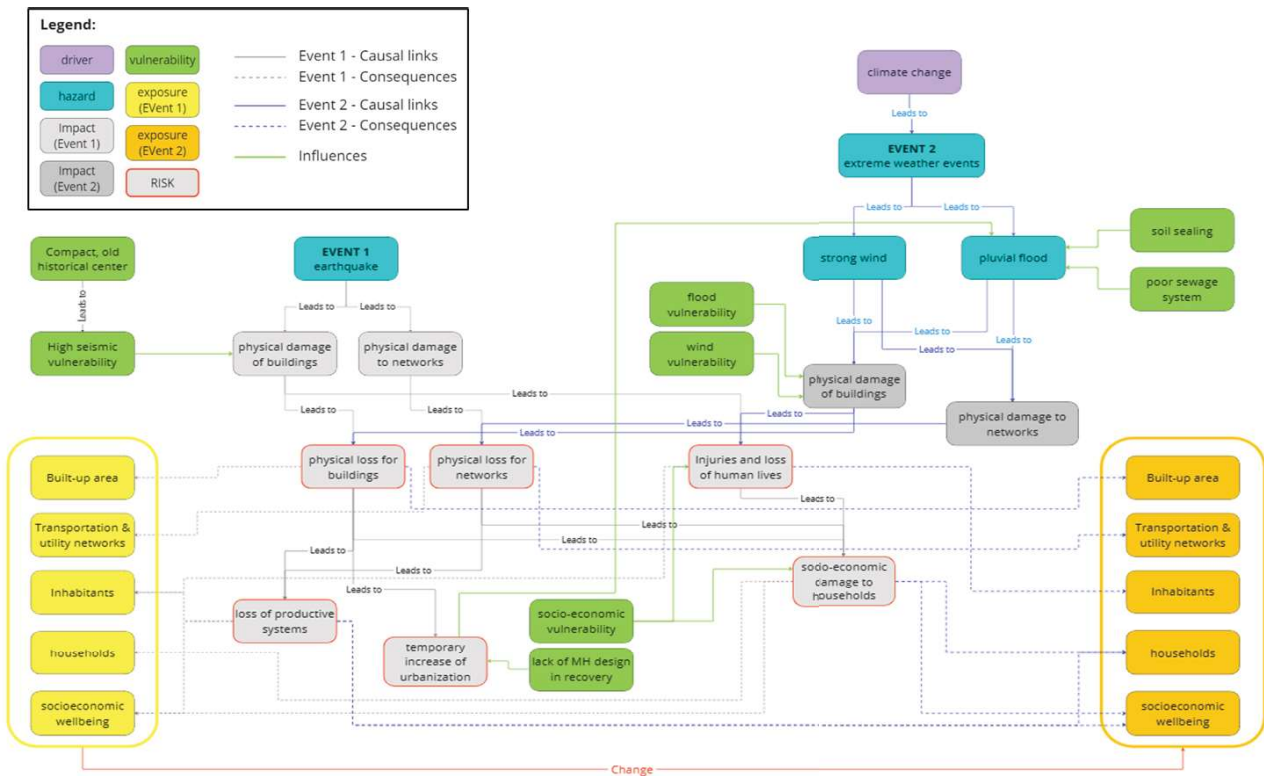


Figure 1 – Example of an impact chain.

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