BE S²ECURE
Built Environment Safer in Slow and Emergency Conditions through behavioUral assessed/designed Resilient solutions
Grant number: 2017LR75XK

WP 2 – BE and SLOD: SoA, Risks and human behavior

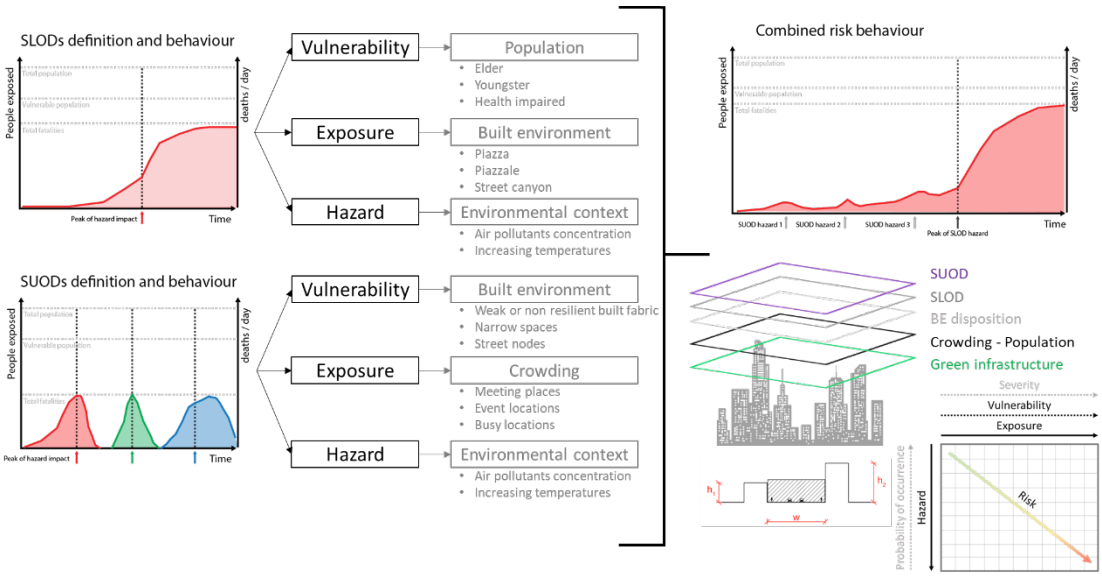
T2.2 – SoA on SLOD (heat wave and pollution) in BE and their effect on health and wellbeing of its users. Methods for data collection and analysis (on medium/long term datasets). Correlation between pollution and climate data (e.g. wind, rain, fog). Current mitigation solution analysis. Identification of BE features and users' (inappropriate) behaviors modifying SLOD effects/risk levels. Development of indicators and relative weights for selected SLOD risk levels assessment

D2.2.5 – Matrix of SLOD risk condition

ABSTRACT. SLow Onset Disasters (SLOD) are responsible for the production of systemic, gradual, and, in some cases, steady effects on the urban ecosystem and can seriously harm people who live in cities. Therefore, the agents underpinning the SLODs must be carefully analyzed to acquire a good knowledge of the effects that they may produce on the citizens and investigating how these agents are related to the Built Environment (BE) characteristics.

Moreover, with this knowledge it is possible to identify the seasonality of their evidence, trace its peaks and recognize its patterns for future scenarios. This can be then overlaid for any other type of risk analysis, by estimating its impact on the exposure and vulnerability components. For instance, when considering the joint presence of SLOD and SUOD hazards. To do so, risk matrixes have been devised to comprehend the impact of this superposition.

Risk matrixes approach is a diffused and well-documented method for understanding, categorizing, monitoring and managing risk. It enables a rapid integration as well into multiple analyses, the method allows to condensate into one single value or category the superposition of different parameters or conditions. In this report the case of SLOD risk assessment, and in particular analyzing increasing temperatures and air pollution, was studied; it allows to condensate environmental, built environment and demographic conditions into one unique result that communicated the degree of risk at which one pedestrian/person is exposed. The approach has been carried out while merging qualitative and quantitative insights on the problem, utilizing well-established indexes for allocating severity/criticality. No risk assessment values were yet computed, this is foreseen in future work.



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