



## **Perspectives of widely scalable exposure models for multi-hazard global risk assessment**

Massimiliano Pittore, Michael Haas, and Marc Wieland

GFZ German Research Centre for Geosciences, Centre for Early Warning Systems, Potsdam, Germany  
(pittore@gfz-potsdam.de)

Less than 5% of earth's surface is urbanized, and currently hosts around 7.5 billion people, with these figures constantly changing as increasingly faster urbanization takes place. A significant percentage of this population, often in economically developing countries, is exposed to different natural hazards which contribute to further raise the bar on the expected economic and social consequences. Global initiatives such as GAR 15 advocate for a wide scale, possibly global perspective on the assessment of risk arising from natural hazards, as a way to increase the risk-awareness of decision-makers and stakeholders, and to better harmonize large-scale prevention and mitigation actions. Realizing, and even more importantly maintaining a widely-scalable exposure model suited for the assessment of different natural risks would allow large-scale quantitative risk and loss assessment in a more efficient and reliable way. Considering its complexity and extent, such a task is undoubtedly a challenging one, spanning across multiple disciplines and operational contexts. On the other hand, with a careful design and an efficient and scalable implementation such endeavour would be well within reach and would contribute to significantly improve our understanding of the mechanisms lying behind what we call natural catastrophes. In this contribution we'll review existing relevant applications, will discuss how to tackle the most critical issues and will outline a road map for the implementation of global-scoped exposure models.