Special Session Proposal

Flood Risk and Natural Hazard in the Built Environment – From Economic Impact to Regional Resilience

Prof Dr Jonas Hahn, jonas.hahn@fb1.fra-uas.de, Professor of Real Estate Management
Frankfurt University of Applied Sciences, Germany
Gabriela Carmen Pascariu, gcpas@uaic.ro , Alexandru Ioan Cuza University of Iasi, Romania

Abstract

Natural hazard depicts a major threat to humanity and regional development, with spatial distributions of risk being tremendously different (UN ESCAP, 2022). For instance, the risk of flood occurrences is already increasing by both rising sea levels as well as intensifying extreme weather events. Forecasts assume that these occurrences are likely to happen with higher frequency, intensity as well as economic damage in the future, as climate change progresses. The built environment is one of the most affected areas in economic terms, as natural hazard regularly causes major damage – in an economic sense – to properties and infrastructure.

This session will cover research fields in the context of natural hazard, with a certain focus on flood risk, and invite contributions covering issues including (but not limited to)

- Current findings on measuring flood risk and risk of other natural hazards,
- Current research on changing spatial patterns in extreme weather events,
- Concepts and solutions for upscaling regional resilience, including flood management approaches and their spatial and/or economic impacts,
- Fundamental research on appropriate methodology for conducting research in these fields and applications of such methodologies in empirical studies,
- Discourse on required data and adequate modelling for performing research on natural hazards in the built environment,
- Concepts and pilot studies on incorporating progressive methods such as Machine Learning or other approaches of Artificial Intelligence (AI) and their results, possibly in contrast to other conventional methodology.

Other research ideas in the broader context of this field are welcome.