



Challenges in Assessing and Managing Multi-Hazard Risks: A European Stakeholders' Perspective

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Recent findings indicate an increasing frequency of multiple hazards and their interrelationships (such as triggering, compound, and consecutive events) across Europe, highlighting the urgency for resilience enhancement. This shift demands a transition from focusing solely on single-hazard risks to embracing multi-hazard risk assessment and management strategies. Despite substantial progress in understanding these complex events, the predominant approach still concentrates on individual hazards (like floods, earthquakes, droughts), with a relatively narrow grasp of the actual needs of stakeholders on-site. Addressing this gap, our study aims to explore the challenges of shifting towards multi-hazard risk management from the viewpoint of European stakeholders. Through five workshops conducted in various European locations (Danube Region, Veneto Region, Scandinavia, North Sea, and Canary Islands) and a specialized expert workshop, we pinpoint five key challenges: governance issues, understanding of multi-hazards and multi-risks, current disaster risk management practices, bridging scientific knowledge to policy and practice, and the lack of data. These challenges are interdependent and must be approached comprehensively, as the legacy of existing practices presents a significant obstacle in moving from single-hazard to multi-hazard risk management. Looking ahead, we identify several promising strategies to address some of these challenges, including novel methods for multi-hazard characterization, a unified terminology, and an all-encompassing framework to guide multi-hazard risk assessment and management. We advocate the necessity to broaden our perspective beyond natural hazards, incorporating other types of threats for a more complete multi-hazard risk understanding, and to integrate multi-hazard risk reduction within broader developmental objectives.

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