



MATRIX: Developing multi-hazard and multi-risk assessment methods for Europe

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Natural hazards and risks are often assessed individually, despite the fact that many different hazards display a causal relationship, e.g., earthquakes and volcanos, or floods and landslides. In order to develop mitigation tools that consider multi-hazard and multi-risk situations, the New Multi-HAZard and Multi-RIsK Assessment MethodS for Europe or MATRIX project is being supported as part of the FP7 theme “New methodologies for multi-hazard and multi-risk assessment”. The MATRIX consortium consists of ten research institutions (nine European and one Canadian) as well as end-user partners from industry and the European National Platforms for Disaster Reduction. Together they bring a range of expertise covering the most important hazards that affect Europe, in particular earthquakes, landslides, volcanos, tsunamis, wild fires, storms and fluvial and coastal flooding. MATRIX will tackle multiple natural hazards and risks in a common theoretical framework. This will be done through a series of scientific work packages which proceed from single-type risk assessment, cascade effects within a multi-hazard environment, time-dependent vulnerability and decision making and support for multi-hazard mitigation and adaptation. Three test sites are being used to assess the methods developed within the project (Naples, Cologne, and the French West Indies). In addition, a “virtual city” will be developed to allow these methods to be evaluated against all characteristic multi-hazard and multi-risk scenarios.