



Cross exploitation of geo-databases and earth observation data for stakes characterization in the framework of multi-risk analysis and management: RASOR examples

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In the context of risk analysis and management, information is needed on the landscape under investigation, especially for vulnerability assessment purposes where landuse and stakes characterization is of prime importance for the knowledge and description of exposure elements in modelling scenarios.

Such thematic information over at-risk areas can be extracted from available global, regional or local scale open sources databases (e.g. ESA-Globcover, Natural Earth, Copernicus core services, OSM, ...) or derived from the exploitation of EO satellite images at high and very high spatial resolution (e.g. SPOT, soon Sentinel2, Pleiades, WorldView, ...) over territories where this type of information is not available or not sufficiently up to date. However, EO data processing, and derived results highlight also the gap between what would be needed for a complete representation of vulnerability, i.e. a functional description of the land use, a structural description of the buildings including their functional use, and what is reasonable accessible by exploiting EO data, i.e. a biophysical description of the land cover at different spatial resolution from decametric scales to sub-metric ones, especially for urban block and building information.

Potential and limits of these multi-scale and multi-sources of geo-information will be illustrated by examples related to different types of landscape and urban settlements in Asia (Indonesia), Europe (Greece), and the Caribbean (Haiti) regions, and exploited within the framework of the RASOR (Rapid Analysis and Spatialisation Of Risk) project (European Commission FP7) which is developing a platform to perform multi-hazard risk analysis to support the full cycle of disaster management.