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An advanced methodology for field visits towards efficient flood management on building block level

Stavroula Sigourou[1], Alexia Tsouni[1], Vasiliki Pagana[1], G-Fivos Sargentis[2], Panayiotis Dimitriadis[2], Romanos Ioannidis[2], Efthymios Chardavellas[2], Dimitra Dimitrakopoulou[2], Nikos Mamasis[2], Demetris Koutsoyiannis[2], and Charalampos (Haris) Kontoes[1]

[1]National Observatory of Athens (NOA), Institute for Astronomy, Astrophysics, Space Applications and Remote Sensing (IAASARS), Operational Unit "BEYOND Centre of EO Research & Satellite Remote Sensing"
[2]National Technical University of Athens (NTUA), School of Civil Engineering, Department of Water Resources and Environmental Engineering, Research Group ITIA

Flood risk assessment for vulnerable areas serves the needs of the stakeholders for flood management. Therefore, it's essential for the applied methodology to be detailed and use advanced techniques depending on the characteristics of each study area. In the Programming Agreement with the Prefecture of Attica, the Operational Unit "BEYOND Centre of EO Research & Satellite Remote Sensing" of the Institute of Astronomy, Astrophysics, Space Applications & Remote Sensing (IAASARS) of the National Observatory of Athens (NOA), in cooperation with the Research Group ITIA of the Department of Water Resources and Environmental Engineering of the School of Civil Engineering of the National Technical University of Athens (NTUA) study five flood-stricken river basins in the region of Attica, which affect 23 Municipalities. It's the first time that such a holistic approach for flood risk assessment is implemented on building block level in Greece. Hence, taking into consideration the regional scale and the high spatial resolution in hydrologic and hydraulic models and flood hazards maps, detailed field visits are conducted following a specific methodology. Specifically, cross section measurements of pipes, culvers, bridges are gathered from the field and used for the terrain modification of Digital Elevation Model. Additionally, many high-risk points are identified in residential areas, road network and other critical infrastructures, which are classified based on their risk level and accompanied by a detailed technical report. The importance of field visits lies on the need of updated and high resolution input data, the understanding and the functionality of a constantly changing river basin including the anthropogenic and environmental stressors. As a result, enhanced models are created using both earth observation and field data and the reduction of the uncertainty is achieved comparing with past studies.