



Towards flash flood disaster prevention: the SciNetNat Haz proposal

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Floods occur with a continuously increasing frequency due to climatic changes and cause serious damage in the wider Black Sea area, endangering human life and property. As societies continuously expand, these phenomena are expected to play an increasingly important role, blocking sustainable development unless properly tackled. Flash flood prevention seems at this point, to be the target of effectively mitigating the potential threat. Since in many cases, there is a cross-border character of the problem, collaborative efforts have to be made involving cooperation between countries. To this end, a variety of problems exist, including the “information gap” related to the unavailability of data and the multitude of methodologies used to assess flood hazard; a fact that renders comparison of hazard assessment results and cross border cooperation ineffective. An effort made within the context of the SciNetNatHaz project, suggests a two step approach to produce reliable the results which can lead to decision making regarding designing preventive measures. The first step aims at defining the flood prone areas on a regional scale, using geomorphometric models and readily available topographic data; thus overcoming the problem of data availability for any region of interest. The second step follows a vulnerability and risk assessment of the flood prone areas of interest and focuses on the calculation of flood parameters on a local scale using hydraulic models. Implementation of the full process is based on Open Source software tools so that it can be implemented with minimal costs by anyone interested. Implementation of the proposed procedure in three different cases in Greece and in Romania shows that it can provide accurate and reliable results to support decision making regarding the design of preventive measures.

Keywords: Flash floods, hazard assessment, flood disaster prevention, HEC-RAS, SAGA GIS

Acknowledgements:

This work is partially funded by the EU through the Black Sea Basin Joint Operational programme 2007-13 and national funds.