

EGU2020-18981

<https://doi.org/10.5194/egusphere-egu2020-18981>

EGU General Assembly 2020

© Author(s) 2020. This work is distributed under the Creative Commons Attribution 4.0 License.



Smart Geospatial System Design for Real-Time Risk Assessment at the Highly Active Area of the Ionian Islands, Greece

Evelina Kotsi¹, Spyridon Mavroulis¹, Michalis Diakakis¹, Emmanuel Vassilakis², and Efthymios Lekkas¹

¹Natural Hazards Prevention and Management Laboratory, Faculty of Geology and Geoenvironment, National and Kapodistrian University of Athens

²Remote Sensing Laboratory, Faculty of Geology and Geoenvironment, National and Kapodistrian University of Athens

The Ionian Islands are located in the northwestern part of the Hellenic Arc and constitute one of the most seismically active areas in the Mediterranean. Building a geospatial database including all the available geo-information layers was the initial step for identifying and delineating the earthquake-related environmental effects by using various mapping algebra techniques and algorithms. Landslide, liquefaction and tsunami related inventories were created. Real time recording network of sensors such as meteorological instruments, seismographs, accelerometers etc was designed to trans pond data telemetrically and feed a dynamically interactive geodatabase, which in turn act as a smart tool for declaring an area as vulnerable to a specific hazard. The abovementioned approach can contribute to the reduction of the consequences after a disastrous event, as it will provide useful information to the civil protection authorities for increased alertness during an ongoing threat.

The identification of the risk areas by using various methods has become significant in recent years due to the fact that among others it serves as a valuable tool for revealing and highlighting sites of significant hazards. In this study we present a smart tool, specially developed for recording and taking under consideration any changing parameters that affect the susceptibility of an area to any of the studied geo-hazards and highlight it on a digital real time updateable map.