

Historical Disasters Data Extraction and a Modern Marine Geohazards Early Warning System in the Area of the North Bulgarian Black Sea Coast

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SUMMARY

Several cases of archaeological sites as a source of information about ancient natural disasters such as earthquakes, tsunamis, landslides affected the ancient coastal line have been discovered and used for data collection. The transferability of such historical information to the recent disasters' parameters is a complicated and difficult task. Many specific circumstances are necessary to be discovered and used for such purpose. Three specific sites have been under investigation – Ancient Cybele temple in Balchik, Paleotsunami deposits discovered near Journalists House (Golden sands) and Ancient salt factory village located near Provadia. All information extracted confirmed that the area of the North Eastern Coastal area of Bulgaria, have been an object of destructive natural disasters since ancient times up to the present days. The last water level change event (eventually tsunami) observed on May 7th, 2007 shows that such a risk is real and could be expected everywhere to the coast line of the Black Sea. Due to the real vulnerability of the population and infrastructure to the negative influence of the marine disasters like earthquakes, tsunamis, landslides, etc. a new and modern early warning system is established on the Bulgaria-Romania land and sea boundary. The hardware (marine land complex systems consisting of sensors and communication lines) as well as processing data centers and issuing warnings bodies have been established in two sea ports – Varna (BG) and Constanta (ROM). Both centers are operated by the IO-BAS and GeoEcoMar – both partners in the MARINEGEOHAZARDS Project (2010-2013), financed by the EU bilateral transboundary cooperation Program. The decision matrix for the warning issue has been created, based on the international standards. Legislation issues are still under development about the warning protocols and issues. Such modern systems need very trained staff, precise maintenance and increased capability of improvement. Up to now none of these requirements are officially accepted by the Bulgarian Government. As a front line of the EU large intergovernmental cooperation in similar projects must be supported and integrated in a larger regional international risk mitigation and warning system.

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