Plinius Conference Abstracts
Vol. 18, Plinius18-48, 2024, updated on 11 Dec 2024
https://doi.org/10.5194/egusphere-plinius18-48
18th Plinius Conference on Mediterranean Risks

TRIQUETRA project: The Mediterranean sites

Anastasia Anastasiou[1], Charalabos Ioannidis[2], Constantine Spyrakos[3], Styliani Verykokou[2], Denis Istrati[4], Apostolos Sarris[5], Salvatore Martino[6], Kyriacos Themistocleous[7], Diofantos Hadjimitsis[8], Haralambos Feidas[9], Prodromos Zanis[9], Konstantinos Tokmakidis[10], Themistoklis Bilis[11], Sofia Spyropoulou[12], Chrysanthi Kounnou[13], Panagiotis Georgiadis[14], and Vassiliki (Betty) Charalampopoulou[1]

[1]GEOSYSTEMS HELLAS SA, R D, Greece (a.anastasiou@geosystems-hellas.gr)
[2]Laboratory of Photogrammetry, School of Rural, Surveying and Geoinformatics Engineering, National Technical University of Athens, 15780 Athens, Greece
[3]Laboratory for Earthquake Engineering, School of Civil Engineering, National Technical University of Athens, Greece
[4]Department of Water Resources and Environmental Engineering, School of Civil Engineering, National Technical University of Athens, Greece
[5]Digital Humanities GeoInformatics Lab, Archaeological Research Unit, Department of History and Archaeology, University of Cyprus, Cyprus
[6]Sapienza University of Rome, Earth Sciences Department, Italy
[7]ERATOSTHENES Centre of Excellence, 3022 Lemesos, Cyprus
[8]Cyprus University of Technology, 3031 Lemesos, Cyprus
[9]Department of Meteorology and Climatology, School of Geology, Aristotle University of Thessaloniki, Thessaloniki, Greece
[10]School of Rural and Surveying Engineering, Aristotle University of Thessaloniki, Thessaloniki, Greece
[11]German Archaeological Institute at Athens, DAI, Athens, Greece
[12]Hellenic Ministry of Culture and Sports, Athens, Greece
[13]Ministry of Transport, Communications and Works, Nicosia, Greece
[14]Alpes Lasers S.A., St. Blaise, Switzerland

In a landscape where Climate Change induced threats intensify and entire regions are endangered, the hazards posed to Cultural Heritage sites increase. These include sea level rising, rotation of extreme weather events and environmental degradation, which significantly jeopardize the protection and preservation of these sites.

TRIQUETRA aims to tackle these issues through accomplishing a series of strategic objectives such as developing a comprehensive repository of knowledge about the impacts of Climate Change on Cultural Heritage, while also using cutting-edge technologies for precise and effective risk quantification.

The TRIQUETRA EU research project is focused on developing an evidence-based assessment platform that serves as a Decision Support System for risk assessment. This platform is designed to improve the effectiveness of risk mitigation and site remediation activities. Overall, the strategy followed within the TRIQUETRA project is structured around three key elements: (i) Risk Identification, (ii) Risk Quantification and (iii) Risk Mitigation.

To validate these approaches, TRIQUETRA is implemented in eight different CH sties across Europe, five of which are located in the broad Mediterranean region, such as Choirokoitia in Cyprus, Aegina, Epidaurus and Kalapodi in Greece and Ventotene in Italy.

Key outcomes of the project include a novel risk quantification framework, an enhanced knowledge base platform, a decision support system equipped with tools for assessing risk severity, selecting and optimizing mitigation measures, new protective materials, an innovative flash LiDAR system,

water quality analysers and a framework for digitising CH sites.