



Clima

Cultural
Landscape risk
Identification,
Management
and Assessment



Project Summary

Europe has rich and diverse cultural heritage resources, including landscapes and landscape elements and comprising standing monuments, buried archaeological sites, artefacts and ecofacts. This cultural heritage, often characterized and enhanced by the presence of exposed and buried archaeological remains, is nowadays at risk, endangered by environmental processes and anthropogenic pressures. These pressures pose a range of immediate and future threats to these sensitive cultural landscapes. In light of these critical issues, monitoring soil processes and soil use changes produced by climate changes and agricultural activities and, at the same time, monitoring structures stability can therefore help to prevent damages to buried and exposed archaeological heritage. In this regard, the CLIMA project aims at promoting highly interdisciplinary soil-oriented research to develop an effective tool for the authorities in charge of landscape preservation. In compliance with the research topic 1 of the JPI-CH+ call, CLIMA addresses the design and development of a multi-task platform, combining advanced remote sensing technologies, both from satellite and ground-based, with GIS application for mapping and long term monitoring of archaeological cultural landscapes in order to identify changes due to climate changes and anthropic

pressures. The project also targets the development and test of an innovative ground-based gamma spectrometer to measure soil vertical/lateral disturbance. The effectiveness of the CLIMA platform will be demonstrated with extended field campaigns targeting different case studies in Europe. The main aim of the project, in compliance with the scopes of the JPI-CH+ Program, is to lead to significant advances in our understanding of archaeological cultural landscapes across the broader research community, the public authorities and in society. In particular, the CLIMA Platform, as major outcome of the project, will enable the authorities responsible for the preservation of the archeological cultural landscape to carry out an effective planning and implementation policy of preventive maintenance.

Application and impact

CLIMA is an interdisciplinary, collaborative and innovative R&D project addressing the integration of Earth Observation remote sensing applications, geophysical surveys, landscape archaeology, soil science and ICT solutions (GIS). The project CLIMA fully addresses the research topic 1 of the Heritage Plus Call by developing technologies, procedures and systems for the systematic and long term monitoring of archaeological cultural landscapes to identify changes in the landscape

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Falerii Novi.
The Roman City Wall

due to climate changes and anthropic pressures. The tool will also perform integration of satellite, ground-based and historical data to take into account the evolution of the different historical and environment context of the site. Changes in the landscape will be analyzed by addressing different climatic and environmental conditions in Europe from the dry East mediterranean (Cyprus) to center-mediterranean (Italy) up to the North-West Europe (Scotland). The test cases provide good cross-section of the different climatic areas occurring across Europe where the majority of archaeological sites are located. The project CLIMA, will also address another important goal of the research topic 1 by developing an effective, usable and affordable multi-task tool providing risk and warning maps of the sites as input for decision making authorities responsible for the preservation of the archaeological cultural landscape.



Nea Paphos. Tombs of the Kings

The use of the proposed methodologies, that will be refined over the life-time of the project in close cooperation with the end-users community, will definitely mark a substantial progress in the definition of an important decision making tool as well as a commercial services for the monitoring of degradation process and the planning of preventive maintenance activities.

Coordinator

Università degli studi della Tuscia, (ITALY).

Participants

- University of Stirling (UK)
- Cyprus University of Technology (CYPRUS)
- ALMA Sistemi (ITALY)
- University of Copenhagen (DENMARK)

Dates

01/06/2015 - 31/05/2018

Budget

Total project funding: € 683.194,00

Funding awarded: € 614.444,00

Subject area(s)

Cultural Landscape, climate change, land use, satellite remote sensing, ground-based remote sensing.

Project website

<http://www.clima-project.eu/>



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