Geophysical Research Abstracts
Vol. 14, EGU2012-13824-2, 2012
EGU General Assembly 2012

Long term monitoring of open-air monuments under threat: the case study of the "Tombs of the Kings" in Cyprus

A. Agapiou (1), V. Lysandrou (2), D.G. Hadjimitsis (1), D.D. Alexakis (1), K. Themistocleous (1), and S. Michaelides (3)

(1) Department of Civil Engineering and Geomatics, Cyprus University of Technology, (2) Restoration of Monuments, Kykkos Museum/University of Cyprus, (3) Meteorological Service, Nicosia, Cyprus

Since antiquity, Cyprus has been a crossroad were various cultures, arts and ideas were deposited. This is evidenced by its huge archaeological residues spread all over the island. Open to air monuments are being exposed to environmental conditions and without any appropriate measures various deterioration factors may become disastrous. Monitoring Cultural Heritage (CH) Sites and Monuments in Cyprus is commonly based on site observations. However, this procedure which includes data collection, periodical observations and multivariate risk assessment analysis, is difficult to be accomplished with the traditional practices and methods, since it is time consuming and expensive. In contrast, new technologies like satellite sensing sensors and in situ measurements can successfully confront this problem by providing to the scientists an integrated and multi-layer monitoring system for vast areas simultaneously.
The present paper describes the registration of deterioration processes in one of the most important archaeological areas in Cyprus, listed in the World's Cultural Heritage Sites, the so called "Tomb of the Kings" at Nea Pafos. This work is a part of the research programme "Managing Cultural Heritage Sites through Space and ground Technologies using Geographical Information Systems: A Pilot application at the archaeological sites of Paphos", funded by the Research Promotion Foundation of Cyprus. The project concerns the region of Paphos district in western Cyprus and it deals with cultural heritage sites managements using integrated space and ground technologies, aiming at risk assessment of the areas under examination. The paper presents the methodological framework of the project with some preliminary results for the long term monitoring of Cultural Heritage Sites based, not only in situ observations, but also on using new technologies such as satellite images for retrieving air pollution, laser scanner, thermo-cameras etc.