

ADVANCED DIGITAL PLATFORM FOR MULTIDICIPLINARY CHARACTERIZATION OF A CULTURAL LANDSCAPE. RUPESTRAL MONUMENTS FROM BUZĂU MOUNTAINS

Anghelută Laurentiu-Marian¹, Ratoiu Lucian¹, Chelmuş Alexandru¹ and Petculescu Alexandru²

¹ National Institute for Research and Development in Optoelectronics INOE 2000, Str. Atomistilor nr.409, Magurele, Romania; laurentiu@inoe.ro

² Speleology Institute "Emil Racoviță", Calea 13 Septembrie, Nr. 13, Cod 050711, Sector 5, Bucuresti;

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This paper presents the methodology and the results of the implementation of an interdisciplinary research model regarding the characterization of a cultural landscape. This work was focused on 5 rupestral monuments in the Buzău Mountains and is part of a demonstrative project funded by the Program Partnerships in Priority domains PN-III-P2-2.1.

In accordance to UNESCO [1], a cultural landscape designates the "combined works of nature and of man". This project's case study consists in: the *Rupestral Assembly from Aluniș* (LMI, 2014) and, as part of The Rupestral Assembly of Bozioru Mountains (LMI, 2014), the following monuments: *Fundătura* (LMI, 2014), *Fundu Peșterii* (LMI, 2014), *Piatra lui Iosif* (LMI, 2014) and *Agatonul Nou* (LMI, 2014), focusing the research on an associative cultural landscape [2], a specific but less studied category. These last mentioned monuments refer to isolated religious and cultural traces of Hesychasts tradition, dwellings of hermits secluded in the mountains. Their cultural expression indicates a characteristic type of relation between the built and the natural heritage. Comparing to UNESCO World Heritage List, a similar case is represented by The Rock-Hewn Churches of Ivanovo from Bulgaria [3]. Most of the settlements are first mentioned in the middle ages, but some of them are dated back to the Hallstatt culture or even Neolithic period [4].

For most of the monuments in this area their location is not easily found without a guide. Even though this feature acts like a natural protection against massive waves of visitors, the monuments are still subjected to a wide range of aggressive factors, both natural (earthquakes, landslides, microbiological, extreme weather etc.) and anthropogenic (visitors, logging, overgrazing etc.). All these factors are a threat not only to the cultural heritage assets but also to the soil, vegetation, biota and even the locals and the visitors themselves.

This project is aimed at five monuments with representative casuistries for all other monuments. The main objective was to create a demonstrative digital product that can be used to characterize a whole cultural landscape with tools and methods coming from any number of research fields. In this particular case the fields of researched involved were represented by the project consortium institutions: INOE 2000 (modern

investigation of cultural heritage) and ISER (natural studies). This digital product is actually an online platform for the management of all types of research data and documentation regarding the five monuments and their natural habitat.

The main investigation mean for both cultural heritage and natural studies points of view was in situ data collection. ISER team organized monthly field campaigns for biological data collection and geological observations which included: lithostratigraphic and microtectonic features of the area (with geological compasses, using the dip and strike method, geological maps and GPS devices); sedimentological logging and sampling; laboratory analyses - grain size, by vibrating sieving, and petrographic microscopy on thin sections; geomorphological studies; biota observations. INOE 2000 organized two main joint field campaigns with ISER for the investigation of the conservation status of the monuments with specific methods: 3D documentation with photogrammetry; soil and rock under layer homogeneity using GPR and thermal imaging; area documentation with aerial survey (photogrammetry, LIDAR, thermal and multispectral); in situ detailed observations and examination of the monuments' surface (raking light photography, UV fluorescence photography).

All the collected and processed data is uploaded and managed with the online platform database. This is a public tool with a friendly user interface that can be consulted by anyone, but only authorised users can upload and manage data. The platform also allows that the unpublished research to be protected from view and be shared to the public only when the author approves. Any type of data can be stored and viewed: from online 3D models, videos or images to PDF reports, e-books and even GIS multi-layered maps.

We consider that this proposed instrument and integrated research model will determine a new and coherent approach on the valorisation process of the cultural landscape by associating complex information from science of conservation with the study of the natural environment. It can be applied on a larger scale to the whole area to include all the monuments in the Buzău Mountains but it can also be used and adapted for any other similar cultural landscape.

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References

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