
Project "Comprehensive recording of Cueva Pintada de Gáldar" (Gran Canaria, España): challenges, solutions and future perspectives

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Abstract

Since 1980's, a heritage recovery project has been undertaken at the indigenous archaeological site known as Cueva Pintada (Gáldar, Grand Canary, Spain). The most outstanding place at this site is a polychromatic chamber whose decoration is unique, not only in the context of the aboriginal culture of the Canary Islands, but at a global scale. From the start, the aim of the archaeological investigations carried out at Cueva Pintada has been safeguarding this exceptional space. For this reason, the primary challenge was, and still is, to develop a study program that allows us to discover the factors affecting its preservation and to use this knowledge for proposing adequate preventive conservation policies.

This intervention program consists currently in a research project aimed at assessing the weathering levels and determining the causes of the site's decay. This project is built around a comprehensive documentation system oriented towards the setting and standardization of recording protocols in accordance with the problems of this mural. Its fragility and our conviction that technology must be at the service of archaeological interests are the two main pillars upon which we have designed the project, whose objectives include an exhaustive and very precise documentation of the decorated chamber and its subsequent monitoring. We

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have incorporated cutting-edge technologies and are investigating novel approaches that can contribute to the preservation of Cueva Pintada. In this regards, we are using harmless and non-invasive technologies to study the bedrock, accretionary crusts and paintings, emphasizing the complementary use of 3D capture techniques such as close-range photogrammetry, laser scanning and triangulation laser scanning along with others such as spectroradiometry and gigapixel imaging. These systems achieve the most precise geometric and radiometric modeling possible and its characterization in the visible spectrum and in near- and mid-infrared.

The huge quantity of data we are compiling and producing, including historical documentation of previous investigations, is being preserved through a digital preservation policy that guarantees its endurance and protection. The final goal of this project is to develop a recording protocol that can be applied and adapted to other rock art sites all around the world.

Keywords: Rock Art, Registration, 3D, remote sensing, Cueva Pintada (Gáldar)