

Managing water risks in archaeological sites: the flooding of the complex of Santa Croce in Ravenna.

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Abstract.

The paper deals with flooding-driven emergency situations and related managerial issues in archaeological contexts with a focus on the complex of Santa Croce, in Ravenna, encompassing a 5th century Church and the remains of a Roman *domus* and its mosaic floor. In August 2019, the archaeological area was flooded for reasons unknown at the time which led to the overgrowing of algae. Since 1993, the local Soprintendenza have been undertaking studies and surveys which enabled them to demonstrate that the water criticalities of the site are linkable to the phenomenon of subsidence and perhaps to the increasing pressure of the aquifers affecting the level of groundwater. The recent water emergency was solved thanks to the water pumping interventions carried out by the Municipality of Ravenna and Civil Protection volunteers, while the Soprintendenza took charge of the securing operations and cleaning of the site.

The study constitutes an overview of possible damages due to the interaction between water and cultural heritage, subsequently focusing on the skills the operators called to intervene should possess. This contribution will further provide a discussion about methodologies and tools that have been selected to solve the flood emergency and the effectiveness of the survey conducted in the preliminary phase. In line with the European project H2020 SHELTER and its expected outcomes, the results will provide a preliminary assessment of the site criticalities, also serving as a point of reflection regarding the management of flooding and hydrogeological risks in archaeological areas.

Keywords: *archaeology, subsidence, flood, climate change, DRM*