Zarzalejo granite (Spain). A nomination for Global Heritage Stone Resource;

David Martin Freire Lista (1,2), Rafael Fort (1,2), María José Varas-Muriel (1,3)
(1) Geosciences Institute IGEO (CSIC-UCM), Geomaterials, Madrid, Spain (dafreire@geo.ucm.es), (2) CEI Campus Moncloa, UCM-UPM and CSIC, Madrid, Spain, (3) Facultad de CC. Geológicas. Complutense University of Madrid UCM. Madrid, Spain (mjvaras@geo.ucm.es)

Zarzalejo granite is quarried in the Sierra de Guadarrama (Spanish Central System) foothills, in and around Zarzalejo village, in the province of Madrid, Spain. It is an inequigranular monzogranite medium-to-coarse grained, with a slight porphyritic texture (feldspar phenocrysts) and mafic micro-grained enclaves.

In this abstract the candidacy of Zarzalejo granite as a "Global Heritage Resource Stone" (GHSR) is presented. This stone ideally fits the newly proposed designation as it has been used in many heritage buildings and its good petrophysical properties and durability have allowed well preserved constructions such as a Roman road, San Pedro Church in Zarzalejo (1492), Descalzas Reales Monastery in Madrid (1559-1564) and the San Lorenzo del Escorial Royal Monastery (1563-1584), to be declared a World Heritage Site by UNESCO. This level of construction has been a landmark in the extraction and proliferation of historic quarries created due to the high demand that such colossal monuments and buildings with granite, have required for their construction. In the mid-20th century, More, Zarzalejo granite has also been used in restoration works including the Royal Palace and the Reina Sofía Museum (2001-2005), both buildings in Madrid, Spain.

Extraction of granite ashlars from tors has been a very frequent activity in the Zarzalejo neighbourhood until mid-twentieth century. So there is also a need to preserve these historic quarries. This type of stone has created a landscape that has been preserved as an open-air museum today where you can see the marks left in the granite due to historic quarry operations.

The granite industry has been one of the main pillars of the Zarzalejo regional economy. For centuries, the local community have been engaged in quarrying and have created a cultural landscape based on its building stone. A quarryman monument has been erected in Zarzalejo in honor of this traditional craft as well as an architecture museum at San Lorenzo del Escorial Monastery, which shows the building material used during its construction. There is currently an active quarry of this dimension stone which continues to be sold under the commercial name of “Gris Escorial”.

Zarzalejo granite is mainly exported to Turkey, Italy and Saudi Arabia. Today this stone is used primarily in flooring. Other uses include cobblestones, funeral art, and building and monument restoration and rehabilitation. Sculptures have also been built in recent years, notably the great monoliths in Salvador Dalí Square (1989) in Madrid. There are also small historic family-run quarries intermittently continuing this dimension stone carving tradition.

Given its characteristics, Zarzalejo granite meets the requisites proposed to be nominated as a GHSR. This nomination will contribute to raising awareness and disseminate key aspects for conservation and thus ensure its use as a replacement stone in restoring heritage buildings where it was used as a building stone.

Acknowledgements
This study was funded by the Community of Madrid under the GEOMATERIALS 2 project (S2013/MIT-2914). The authors are members of the Complutense University of Madrid’s Research Group: “Alteración y Conservación de los Materiales Pétreos del Patrimonio” (ref. 921349).