Project PROTHEGO: space technology to monitor geohazards

UKRI-supported scientists have collaborated in a European programme investigating the potential of space technologies to monitor damage caused by geohazards to the continent's rich variety of UNESCO World Heritage Sites.

The British Geological Survey, part of UKRI's Natural Environment Research Council, has worked with its counterparts in Italy, Spain and Cyprus to use this data to protect Europe's most precious cultural assets.

The EU's PROTHEGO (Protection of European Cultural Heritage from Geohazards) project explored the use of Sentinel-1 radar data, and data from other contributing missions, to monitor deformation of the Earth's surface potentially caused by geohazards.

The aim was to deliver geohazards information in a way that the people who manage these sites could use. To do this, PROTHEGO developed tools that allow managers of UNESCO sites to understand which geohazards presented a potential threat, so that they can mitigate against them.

PROTHEGO's approach also made it possible to see small amounts of ground deformation around the Alhambra in Granada, one of the most important monuments of the Moorish period in Spain, as well as along the Aurelian Walls in the historic centre of Rome. Like many other UNESCO sites, these both have vast historical importance.

The Sentinel images need substantial IT infrastructure and expertise to process the information and produce usable outputs for site managers. The UK took a leading role in this development effort, and contributed approximately £250,000 towards PROTHEGO's total €650,000 budget, via the UKRI Arts and Humanities Research Council.

Find out more about PROTHEGO here: http://www.prothego.eu/