



Geoheritage for Resilience: a global network for managing natural risk

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Natural hazards come from geosphere processes combined with the atmosphere and hydrosphere. Resilience is the ability of a population to resist and adapt to these natural hazards and even profit from them. Geoheritage is the appreciation and characterisation of geological features in relation to humanity. Geoheritage can be used to communicate natural hazards and relate them to risk, and could be especially valuable for developing countries, where resources are limited. This is done through geosites, the basic building block of geoheritage.

A geosite is a location or area (e.g. outcrop or landscape feature). An area can be divided into different geosites, as basic units of the geology and landscape. This division provides a way of characterising the whole equation of risk (e.g. hazards + vulnerability = risk), as in each geosite information on all aspects of human presence (and biosphere) can be integrated. The geosite in this way becomes the unit area to characterise the whole risk problem, and can be used to work on all aspects of resilience in one coherent way.

We provide examples of our first attempts of holistic geosite mapping that will be used for a global project called Geoheritage for Resilience. This is a network to develop geosites around the world in areas of natural risk that can be developed to describe geosites of special interest, protect them and use them to develop integrated risk assessment, mitigation and communication strategies.

We provide examples from project sites such as the Macolod Corridor (Philippines), Dallol (Ethiopia), Ometepe Island (Nicaragua). Each site will be developed according to the local possibilities and resources. However, with a global network run via scientific social media, each site can help the other and pool resources, to maximise the development of geosites for resilience worldwide.