

## Geo-Monitoring of Protected Geographical Space

Artem R Oganov\*

Department of Geosciences, State University of New York, New York, USA

### DESCRIPTION

A tool to assess the conservation status of any notable geomorphological features, continuing processes, or threats to them is geological monitoring, or geo-monitoring. Continuous monitoring plans and procedures within an integrated governance framework are crucial to the conservation of geoheritage values and their associated geological features in protected areas. Some geodiversity components can be very dynamic, illustrating continuous processes on the Earth's surface that result in long-lasting geological products. Additionally, unlike biodiversity and ecosystems, geodiversity constituents are non-renewable but have a tendency to be more resilient, lasting a lot longer as outcrops. Once they have been harmed by either natural or artificial processes, they cannot be repaired.

Therefore, it is vital to safeguard geoheritage sites before they sustain unintentional damage or disappear over time. Major damage to geological features is frequently caused by catastrophic events rather than by ongoing daily, seasonal, and annual regular processes that occur as a result of natural changes. Thus, in order to preserve their natural conservation status, it is vital to comprehend their general governing elements. The keys to its effectiveness are choosing and examining suitable monitoring indicators while taking qualities into account. Based on a thorough assessment of the regulating elements, appropriate sets of monitoring indicators should be carefully selected to sustain the geodiversity and geoheritage values of protected areas. Additionally, because of the recent rapid changes in the climate brought on by global warming, natural processes are now more inconsistent.

As a result, it's important to maintain baseline recordings of certain geological occurrences and vulnerable locations that could experience changes. However, a specification of how to conduct geological monitoring in protected regions has not yet been provided elsewhere (World Heritage sites, geosites in national and global geoparks, etc.).

**The following objectives are attempted through monitoring activities**

- Analyzing the state and evolution of natural systems to generate fundamental scientific knowledge.

- Recognizing the elements that affect how geological (and geomorphic) sites change through time and how to conserve them.
- The basis of continuous, effective monitoring, assessing the state of both natural and man-made changes, developing and implementing appropriate protection and management strategies for nature conservation and visitor satisfaction.

Depending on the specifications of the monitoring indicators and their specifics, several monitoring techniques may be used by various institutions at various time periods. Therefore, a platform must be provided for ongoing discussion and collaboration between pertinent entities. The technology would enable several agencies to effectively separate their applications in practice and exchange monitoring results.

In the process of developing an implementation strategy, the entity in charge of managing protected areas must gather and combine all the monitoring data. Geo-monitoring could not only be critical for tourist areas but also for the safety of the infrastructure and tourists. There are various types and levels of geo-monitoring techniques, ranging from *in situ* field monitoring at minor geological sites to monitoring from the air (*via* airplane or satellite). For vulnerable exposures that are frequently made of sediments, unlithified sedimentary rocks, or outcrops that could experience rock falls and mass flows, photo monitoring is effective.

Carbonate speleothems in show caves can be efficiently monitored by routine photography at particular sensitive locations. Although the frequency of photo monitoring can differ, it is important to take pictures of outcrops after every significant physical event, such as a hurricane, tsunami, earthquake, etc. Because it depends on the type of tourism and the number of visitors, the management office should decide how often pictures are monitored in show caves. For other features or objectives, such as detecting tourist-caused damage to infrastructure and trails, photo monitoring is possible.

**Correspondence to:** Artem R Oganov, Department of Geosciences, State University of New York, New York, USA, E-mail: oganovr.artem@gmail.com

**Received:** 30-Nov-2022; Manuscript No. JGG-22-21122; **Editor assigned:** 02-Dec-2022; PreQC. No. JGG-22-21122 (PQ); **Reviewed:** 16-Dec-2022; QC. No. JGG-22-21122; **Revised:** 23-Dec-2022; Manuscript No. JGG-22-21122 (R); **Published:** 30-Dec-2022, DOI: 10.35248/2381-8719.22.11.1059.

**Citation:** Oganov AR (2022) Geo-Monitoring of Protected Geographical Space. J Geol Geophys. 11:1059.

**Copyright:** © 2022 Oganov AR. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.