

Rare vegetation conservation in Gobustan National Park, Azerbaijan

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The Gobustan State National Park (GSNP) is a nationally important desert/semi-desert located west and south-west of Baku, Azerbaijan. In 2007, Gobustan was declared a UNESCO World Heritage Site considered being of "outstanding universal value" for the quality and density of its rock art engravings. The Study Area at Gobustan contains a wealth of historical and archaeological sites and is also known for its rare vegetation.

The desert communities in GSNP represent the most ecologically important habitat. The great age of many of the desert communities and their slow growth rate further enhance their botanic significance. Climate change and various anthropogenic activities are causing large losses to natural habitats in this area. The importance of this habitat type is one of the reasons that the Gobustan desert has been proposed as the State National Park, so that some level of protection is offered to this desert. Plant communities such as these, which develop very slowly are particularly susceptible to this disturbance and are easily lost, taking many years to recover (at least 10-12 years).

Remote sensing technology in combination with Geographic Information System (GIS) can render reliable information on rare vegetation cover. The analysis of the spatial extent and temporal change of rare vegetation cover using remotely sensed data is of critical importance to rare vegetation monitoring. Change detection as defined by authors is temporal effects as Variation in spectral response involves situations where the spectral characteristics of the vegetation or other cover type in a given location change over time. The authors describe change detection as a process that observes the differences of an object or phenomenon at different times.

Change detection and monitoring involve the use of multi-date images to evaluate differences in vegetation distribution due to environmental conditions and human actions between the acquisition dates of images. In this study, The Vegetation Index techniques of change detection were applied.

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