

APPLYING SPACE TECHNOLOGY TO GEOPARKS

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A Geopark is a nationally protected area containing a number of geological heritage sites of particular importance, rarity or aesthetic appeal. It achieves its goals through a three-pronged approach: Conservation, Education and Geo-tourism. Space Technologies are technologies that are used to observe, measure and understand our planet through earth observation from space, including Remote Sensing (RS), Geographical Information System (GIS), Global Position System (GPS), Virtual Reality and so on. As it has many advantages like large-scale, lower-cost, near real-time, etc, it can play a very important role in the three prongs. 1) Conservation Geological heritage is unique and non-renewable, it represents the geological history and evolution of specific regions. Space technologies have clear and direct benefit for monitoring geological features since RS data can analyze way larger spectrum range than human eyes. By building dynamic monitoring systems using RS data, GIS and GPS, managers can get an objective and comprehensive view of our parks and make a timely response to natural and human-induced disasters. 2) Education A Geopark should organize activities and provides logistic support to communicate geo-scientific knowledge and environmental concepts to the public. With the help of virtual reality, people will have a more visualized and interesting approach for knowledge acquisition and concept formation. 3) Geo-tourism Tourism is really a double-edged sword for geoparks. A GIS-based tourism management system can analyze footfall and classify it on both spatial and time dimensions, which will definitely help our parks develop in a sustainable way.