

Towards a Convention on Geological Heritage (CGH) for the protection of Geological Heritage

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The history of the biological conservation essentially began with the IUCN and the global awakening following publication of “The Silent Spring”. Since then the IUCN has been active in species conservation and later, when recognising the importance of biodiversity, in the development of a Convention on Biological Diversity. However, even in a framework of Convention on Biological Diversity, there are organisations, political systems/parties, and personnel that strive to subjugate and control nature and biology and use nature for profit or to benefit humankind (e.g., genetically modified foods, use of terrain for food production, use of forests as a resource, managed ecosystems, construction of luxury resorts and tourist resorts in wildernesses). This has been the same for geology, in that geological materials are fundamental to industrialisation in the use of metals, building materials, other commodities, and fossil fuels, and have been exploited often regardless of their geoheritage values.

The history of geology and its conservation actually predates the focus on conservation of biology – Siccar Point, numerous palaeontologic sites, and other iconic geological sites serve as examples. But in spite of their recognition as iconic geological sites, areas such as Siccar Point, Cliefden Caves, Hallett Cove, and the Kimberley are still under threat. Given that firstly there is an importance to geological features of the Earth per se and, secondly, geological features as geodiversity underpin and sustain biological systems, there is a critical need to develop a convention, similar to the Convention on Biological Diversity, that recognises the importance of geology as a part of Nature.

The scope of Geoheritage and the diversity of Geology is such that it involves all sub-disciplines of Geology (e.g., palaeontology, mineralogy, igneous, sedimentary, and metamorphic geology, structural geology, hydrology, geomorphology, and pedology) and, as such, Geoheritage must encompass the full diversity of Geology in scope and scale. Focusing on palaeontology to illustrate the principle: if extant biodiversity is afforded global conservation status through the Convention on Biological Diversity, and this generally involves species that have been in existence only for 10,000 to 1,000,000 years, then Phanerozoic palaeontology spanning the diversity and history of life over 500,000,000 years is far more (bio)diverse; additionally, palaeontology in combination with stratigraphy carries the story of evolution and the history of life and is the nature field library of Earth Heritage.

We suggest therefore that the abiotic realm also requires a similar procedure of protection to the Convention on Biological Diversity, and we suggest a Convention on Geological Heritage.