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IES-03 Geosites and landscape? conservation and management strategies

Inventorying geological heritage in vast territories: First proposal for paraná state, brazil

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Brazil has an area of 8,514,876 square kilometres, occupying almost half (47%) of the area of South America. This territory shows an exceptional geodiversity resulting from a great variety of geological materials, geoforms and processes. The concept of geoconservation in Brazil is relatively new, what makes incentives and investments in research in this area necessary. However, the vast dimension of Brazilian territory makes the task of studying and implementing strategies to ensure the conservation of the national geological heritage rather difficult. Therefore, the best way to initiate the studies of the Brazilian geoheritage would be by starting from the 26 Federated States, which are political and administrative subdivisions of Brazil. The ideal strategy would be to direct the efforts, firstly to the definition of geological frameworks and their more representative geosites for each State and lately, carry out the correlation with the categories at national level. This approach is being conducted in many European countries following the recommendations of ProGEO (www.progeo.se). Based on this proposition, a proposal to make a systematic inventory of the geological heritage of Paraná State is being developed, in order to establish a scientific basis which will allow the study and protection of geosites at the state, country and international levels. This work is based on a consensus of ideas with the support of the geoscientific community in Paraná. Paraná State is located in the South of Brazil and has an area of 199,314,850 square kilometres. The geological history of the territory of Paraná State started more than 2,8 million years ago, although discontinuous. The geosites inventory is based on the establishment of criteria to select the frameworks and the geosites which represent these frameworks. For a particular item of a geological process or product to be selected as a framework in the context of the Paraná State, it must be representative and there must be a certain degree of scientific knowledge about it. Following the same reasoning that each geosite will materialize a certain framework, it must be representative in the framework and have integrity. Geosites may also present other less important features, not presenting selective capacity, such as: rarity, diversity of elements of geological interest and association with other elements (ecological, cultural, archaeological, etc). In a preliminary geological assessment of the Paraná State the following frameworks can be highlighted: Archean, Paleoproterozoic and Neoproterozoic in the Paraná: metamorphism and tectonics: Serra do Mar; Volcanic-sedimentary and sedimentary restricted basins; Tectonic structure of Ponta Grossa Arc; Devonian-Permian in the Paraná basin; Paleozoic Fossils; Carboniferous?Lower Permian in the Paraná basin; Jurassic-Cretaceous of Paraná basin; Guarany Aquifer; and Middle-Upper Cretaceous of the Paraná basin.

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