Applicant UNESCO Global Geopark

Caminhos dos Cânions do Sul Global Geopark, Brazil

Geographical and geological summary
1. **Physical and human geography**

The geopark is located in the Southern Brazilian region, encompassing the extreme south-southeast of the state of Santa Catarina (SC) and the extreme northeast of the state of Rio Grande do Sul (RS), and the total area reaches 2,830.8 km². CCSAG coordinates are around 28°37'48''S / 49°42'00''W in the North and 29°26'42''S / 49°48'7.2''W in the South. The distance from CCSAG to Florianópolis (SC) and to the Porto Alegre (RS) is 210 km and 184 km, respectively, and the main roads access from these is through BR-101 and BR 295. The population of the territory is 74,120 inhabitants, estimated for 2019.

Climate of the region is diversified due to the topographic differences, which varies from sea level height to 1,346 m altitude in less than 40 km, corresponding to the Cfb subtropical climate (cold winter and moderate summer); and the subtropical type Cfa (cold winter and hot summer). The relief type include canyons developed in the Serra Geral Formation escarpments, as well as an extensive Coastal Plain as a result from the progressive recoil of the escarpments of the Serra Geral plateau. The nature is characterized by Atlantic Forest Biome, which is considered to be the richest in terms of biodiversity in the whole world. The Human occupation in the territory and the associated economic activities, is historically related to interactions between the native pre-Columbian people and the relief, that used the paleoburrows as a shelter.

2. **Geological features and geology of international significance**

Caminhos dos Cânions do Sul Aspiring Geopark (CCSAG) geological history dates back to Paleozoic and includes Paraná Basin final stages of deposition, followed by Gondwana Supercontinent fragmentation. Gondwana I Super Group corresponds to the older sedimentary unit in the studied area and comprises terrigenous sequences which suggests transition features from coastal to continental systems at Permian period. A desertic environment took over at Jurassic and its register is dominated by remaining wind dunes. Mesozoic evolution is related to the fragmentation of Gondwana Supercontinent and a huge basaltic magmatism is overspread generating space for Atlantic Ocean.

The complete break-up of Gondwana Supercontinent led to an uplift of east-side of the newly-created South America Continent and also formed Serra do Mar unit. Geomorphological heights reach around 1500m and include significance of CCSAG. Structural control related to primary basement structures and to the ones from the opening of the Atlantic Ocean generated the canyon system. The current fluvial system is intimately related to these older structures eroding and outcropping the canyons of the region.

The relationship between the rock sequences ages expresses an important event of Earth history that requires site preservation and scientific enhancement study in the region of CCSAG.