Scientific values of unique geopark sites in South Korea: Jeju Island, Mt. Mudeung and Jeonnam Dinosaur Coast Geoparks

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Korea has more than five tentative global geoparks and one Global Geopark (Jeju Island). Among them, unique geopark sites with universal scientific values are located in the southwestern part of Korean peninsula: Jeju Island, Mt. Mudeung and Jeonnam Dinosaur Coast Geoparks.

Jeju Island is the emergent portion of an intraplate basaltic volcanic field developed during the last 1.8 Ma in the southern coast of Korea. The island is made up of a broad and gently sloping lava shield and also dotted by at least 360 volcanic cones and craters. The geopark includes 9 geosites: Mt. Hallasan, Manjanggul Lava Tube, Seongsan Ilchulbong Tuff Cone, Seogwipo Formation, Cheonjiyeon Waterfall, Jungmun Daepo Columnar-Jointed Lava, Mt. Sanbangsan Lava Dome, Yongmeori Tuff Ring, and Suweolbong Tuff Ring. Jeju Geopark became a member of the Global Geoparks Network in 2010.

Located near the center of Gwangju Metropolitan City, Mt. Mudeung has a wide range (> 11 km^2) of columnar joints in high altitude (> 750 m). The columnar joints are made up of Welded Tuff (or Dacite), which is thought to be a result of a large-scale volcanic activity during the Late Cretaceous. The length of one column surface measures 1 m to maximum 7 m. This is much larger in scale than any other columnar joints reported around the world. Also there is a variety of geo-heritage sites located near the area, including the Hwasun Dinosaur Track Site, Hwasun Dolmen Park, Rock Cliffs, Hot Springs, Coalfield, Caves, Talus Slopes etc.

The dinosaur fossil sites of Jeollanam-do province are well known by its universal and scientific significance, and are listed as a tentative site for the UNESCO World Heritage. The tentative name for this geopark is ‘Jeonnam Dinosaur Coast Geopark (JDCG)’. JDCG consists of 40 geosite locations, which are under eleven main geosite groups.

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