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Geological features of Global Geoparks in China

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China is characterized by complex and diversified geological configuration with frequent crustal movement. Therefore its landform is zoned into three parts in an obvious way, with the east being featured by plain, hill and coastal landscape, the middle by medium and low-altitude mountains and plateau basins, and the west by high mountains and plateaus as the Qinghai-Tibet Plateau. The above mentioned, coupled with the obvious climate division, resulted in China's rich and diversified resources of geological relics. According to the Technical Requirements for the Compilation of the Plan of National Geoparks, geological relics can be classified into seven types: geological section, geological structure, paleontology, mineral deposits, geomorphologic landscape, water landscape, and hazard geology. Diversity of geological relics has laid solid foundation for the establishment of geoparks.

So far, up to 33 geoparks in China have been nominated as members of UNESCO Global Geopark, among which their geoheritage is mainly classified into types of geological section, geomorphologic landscape (including granite, karst, sandstone, volcano and glacier), paleontology, and geological structure. There are 7 geoparks classified into the geological section and structure type, including Songshan, Yuntaishan, Taishan, Wangwushan-Daimeishan, Qinling Zhongnanshan, Shennongjia and Kunlunshan, corresponding to China's main orogenic belt in the western region and typical stratigraphic section revealed by differential uplifting of ancient blocks in the middle and eastern region. There are 5 geoparks classified as granite type, including Huangshan, Sanqingshan, Tianzhushan, Hexigten and Ningde, reflecting the activity of the plate suture zones and deep faults. Three are 5 geoparks classified as karst type, including Shilin (Stone Forest), Xingwen, Leye-Feng, Fangshan and Zhijindong Cave, representing extensively developed canyons, peak-cluster depression areas, and karst caves in the southern and northern China. There are 4 geoparks classified as sandstone and Danxia landform type, including Zhangjiajie, Danxiashan, Taining and Longhushan, characterized by the most typical landforms of sandstone peak forest and red-bed fault basin. There are 5 geoparks classified volcano and lava type, including Wudalianchi, Jingpohu, Leiqiong, Yandangshan and Hongkong, located within the Circum-Pacific volcanic active belt along the continental margin. There are 3 geoparks classified paleontology type, including Funiushan, Zigong and Yanqing, featured by dinosaur fossils and trace fossils of eggs and footprints. In addition, Dali Cangshan and Lushan Global Geoparks boast the typical geoheritage of Quaternary glacier. Alxa Desert and Dunhuang Global Geoparks are featured by desert and aeolian Yardang landform in the arid areas of northwestern China.

As for the above-mentioned regions, besides geological landscapes that have recorded significant geological events and with unique landforms, the aesthetic values and great potentials in geotourism enable them to become UNESCO Global Geoparks as well.

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