

Overview of Gansu

Geographical Features

Located in the geographical center of the country, Gansu finds itself between 32°11' and 42°57' north latitude and between 92°13' and 108°46'. It features complex and diverse landforms, including mountain, plateau, plain, valley, desert and gobi. Descending from southwest to northeast, the territory is 1,655 km long from east to west, and 530 km wide from south to north. The complex terrain can generally be divided into six distinctive areas.

Longnan mountainous area: high mountains undulate with deep valleys and thick vegetation. Limpid streams can be seen everywhere. It is the western extension of Qinling Mountains, covering the mountainous areas south of the Weishui River and east of Lintan and Diebu.

Longzhong loess plateau: located in central and east Gansu, it stretches from the boundary between Gansu and Shaanxi provinces in the east to the Wushao Mountain in the west. It ever fostered the ancestor of Chinese nation, and was the hometown of the descendants of the Yan and Huang Emperors. The crustal evolution for aeons, wars and disasters had ever fragmented it. The central part of Dingxi is one of the most barren places in China, but rich in oil and coal resources.

Gannan plateau: located at the eastern edge of Qinghai-Tibetan Plateau, known as the "roof of the world", it has an average altitude of over 3,000 meters, a typical plateau. With broad meadow, lush grass, fat cattle and strong horses, it is one of the major animal husbandry bases in Gansu.

Hexi Corridor: it reclines north of Qilian Mountain and south of North Mountain, extending from Wushao Mountain in the east and the boundary between Gansu and Xinjiang in the west. The long Corridor tilts from east and west and from south to north, with an altitude of 1,000-1,500 meters. It extends over 1,000 km long, and its width ranges from several km to over 100 km. The flat terrain facilitates tractor-ploughing. With abundant sunshine and water resources, it is a famous gobi oasis. It boasts broad prospects for agricultural development, being a major commodity grain base in Gansu.

Qilian mountainous area: it stretches over 1,000 km south of Hexi Corridor, mostly standing more than 3,500 meters above the sea level. Covered with snow all the year round, it has winding glaciers, a natural solid reservoir of Hexi Corridor. There is obvious vertical distribution of vegetations on the desert, meadow, forest and snow-covered mountain.

Area north of Hexi Corridor: it extends over 1,000 km from east to west at an altitude of 1,000-3,600 meters, customarily called North Mountain area. Close to Tengger Desert and Badain Jaran Desert, it suffers heavy wind and sand. Rocks are exposed, and there is a large stretch of deserts, forming a scene that "a plume of smoke rises up into the evening sky of the Great Desert, while the Yellow River dims as the setting sun goes down".

Climatic Conditions

Climate varies greatly in different places in Gansu, and the ecological environment is complex and diverse.

Lying in the northwest inland of China, Gansu has a strong continental temperate monsoon climate since it is hard for warm and humid ocean currents to reach there, and there are few opportunities to have rain. It is dry in most parts of Gansu. The winter is long and cold, the boundary between spring and summer is not clear, and the summer is short

and hot. Temperature falls rapidly in winter. The annual average temperature in the province ranges from zero to 16°C. Due to different altitude in different areas, the temperature varies greatly. There is abundant sunshine but the daily temperature range is large.

The annual rainfall in the province reduces from 734.9 mm in the southeast to 36.6 mm in the northwest. It decreases sharply in the area west of Wushao Mountain, but the Longnan mountainous area and east section of Qilian Mountain have more precipitation. Affected by the monsoon, rainfall concentrates mainly from June to August, accounting for 50% to 70% of the total precipitation. The frost-free period also differs greatly in different areas in the province. It lasts for about 280 days in the Longnan river valley but only 140 days in Gannan plateau. The attitude of the province mostly ranges between 1,500 meters to 3,000 meters, and the annual rainfall is 300 mm or so (40-800 mm).

Land Resources

The total land area of Gansu is about 454,400 square km (425,800 square km as demarcated by the State Council), ranking seventh in the country and equivalent to 45.44 million hectares. The mountainous and hilly areas make up 78.2% of its total land area. The utilization ratio of land of the province is about 56.93%, and 19.12 million hectares of land, or 42.05% of the province's total, haven't been used, which include desert, gobi, stone mountains in high and cold areas, naked rock, low-lying saline and alkali land and marshland, etc. The total land area reaches 45.4402 million hectares, two hectares per capita, ranking fifth in the country. Except the land hard to be used directly such as desert, gobi, marsh, stone mountains, naked rock, permanently snow-covered mountains and glaciers, there are still 27.3141 million hectares of land which can be used for production and construction, accounting for 60.11% of the total. Various kinds of woodland total 3.9665 million hectares. There are large stretches of primary forests along the Bailong River, Taohe River and Daxia River and on the Qilian Mountain Range, with more than 4,000 kinds of wild plants. There are 54 species or subspecies of wild animals listed as the national rare animals. Various kinds of grassland add up to 15.7529 million hectares, accounting for 34.67% of the total. They include 15.6483 million hectares of natural grassland, about 99.34% of the total grassland area, making Gansu one of the major animal husbandry bases in China.

Energy Resources

Gansu boasts a variety of energy, such as coal, oil, natural gas and such new energy as solar energy and wind energy. The recoverable oil reserves reach 600 million tons, and the proven natural gas reserves 3.157 billion cubic meters, concentrated in two oil domes - Yumen of Hexi and Changqing of Longdong. The province's forecasted coal reserves amount to 142.8 billion tons, including 12.5 billion tons proven. The retained resource reserves stand at 12 billion tons. The coal resources concentrate in Qingyang, Huating, Jingyuan, Yaojie and other mining areas. Gansu is rich in wind energy, with a total reserve of 237 million kW, ranking fifth in the country. The available and seasonally available area reaches 176,600 square km, mainly distributed in Hexi Corridor and some mountain passes in the province. The Guazhou of Hexi has been known as the "world wind library". The world's largest wind power base of ten million kW is under construction here. Gansu is one of the three areas with the richest solar energy in China. The total solar radiation value in the province is about 4,800-6,400 MJ/m². The west Hexi and southwest Gannan boast the richest solar energy resources in China. Calculated according to the existing level of utilization, the exploitable resources are about 5.2 million tons of standard coals per year.