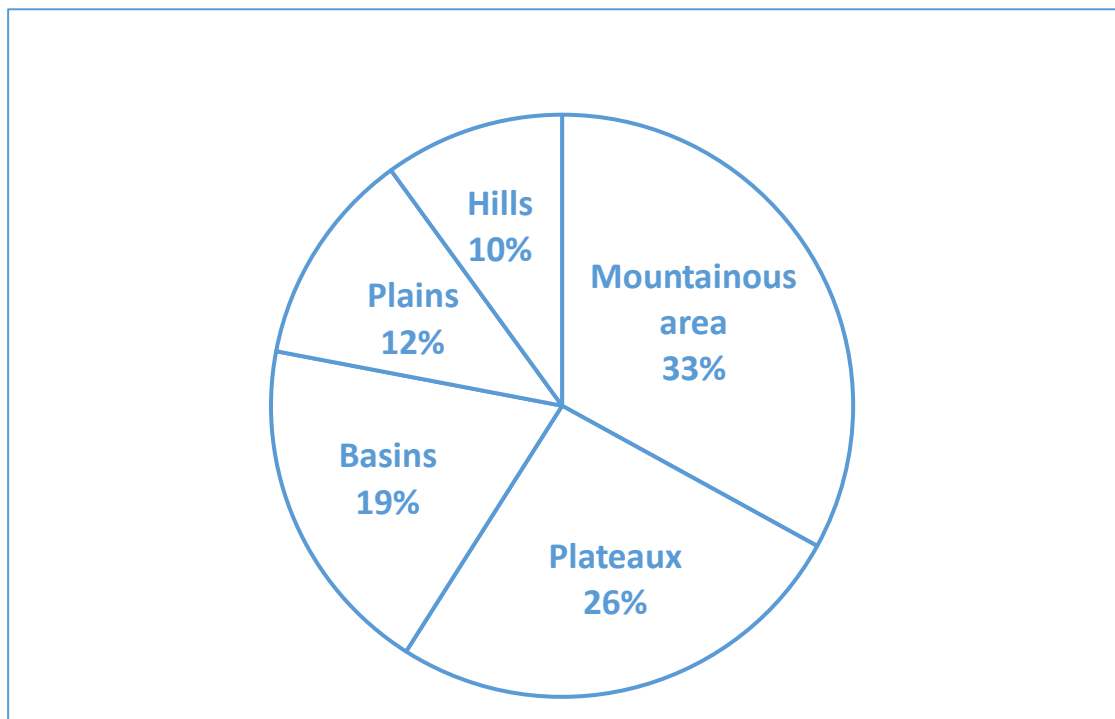


Our Country's Major Relief

I. The topography of our country

- Mountainous terrain is an important feature of our country's terrain. Lowlands below 500 m only account for 28% of the country's total land area, while highlands above 500 m account for about three-quarters (中華人民共和國中央人民政府, 2005).
- Sloping fields (including mountains, plateaux, hills, and so on) account for about 69% of the country's total land area (中華人民共和國中央人民政府, 2005).
- On the contrary, flat land (including basins, plains with flatter terrain, and so on) only accounts for 31% of the country's total land area (中華人民共和國中央人民政府, 2005).

Figure 1 Proportions of different landform features in our country's total land area



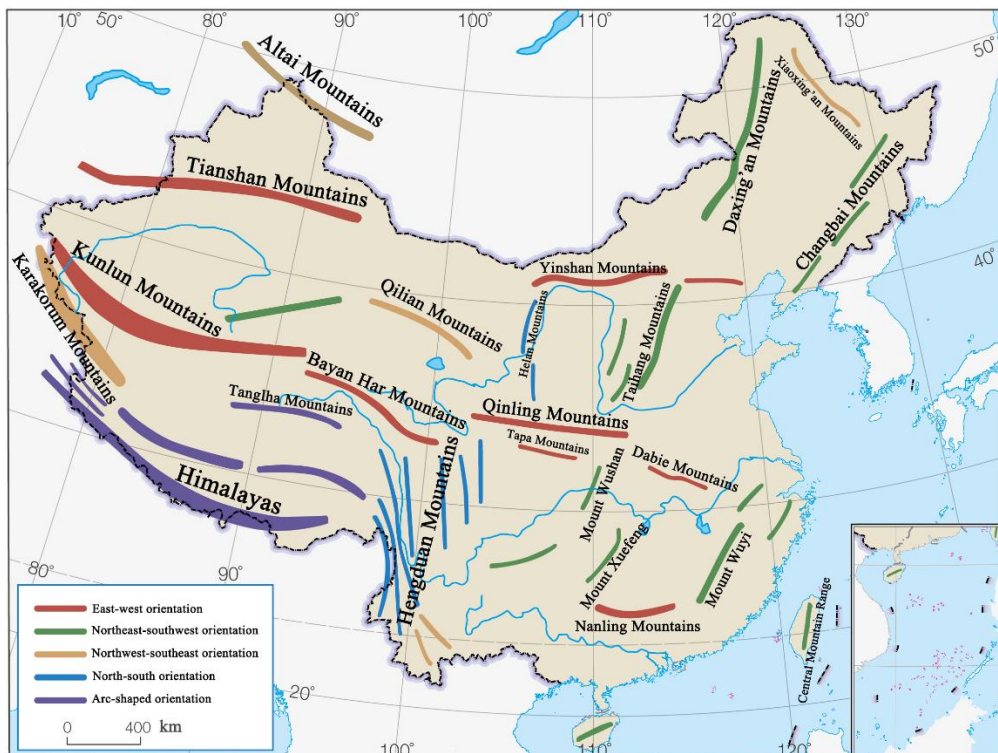
- The landform features (Figure 1) of our country are briefly described as follows:
 - Plateaux: Plateaux are elevated flat or gently sloping land that rises sharply above the surrounding terrain. Plateaux are characterised by their relatively high altitude and extensive flat surfaces, often surrounded by cliffs or slopes. They can be formed through various geological processes, including volcanic activity, tectonic uplift, or erosion. Our country has four major plateaux: The Qinghai-Tibet Plateau, the Inner Mongolian Plateau, the Loess Plateau, and the Yunnan-Guizhou Plateau (Figure 2), which are mainly concentrated on the first and second steps of our country's terrain (Figure 4). The plateaux's appearance and characteristics vary depending on its altitude, location, causes, and external erosion.
 - Basin: Basins are low-lying land areas typically surrounded by higher terrain, such as mountains or hills. They are formed through geological processes like erosion, sediment deposition, or tectonic activity. Our country has four major basins: the Tarim Basin, Junggar Basin, Qaidam Basin, and Sichuan Basin (Figure 2). They are primarily found on the first and second step of the terrain (Figure 4). Because of their different locations, their characteristics differ.
 - Plains: Plains are broad, flat, or gently rolling expanses of land that are typically characterised by low elevation and minimal relief. They can be formed through geological processes, including glacial activity, erosion or sediment deposition by rivers. Our country has three major plains: The Northeast Plain, the North China Plain, and the Middle and Lower Yangtze Valley Plain (Figure 2), which are spread across the third step of our country's terrain (Figure 4). They have unique topographic characteristics because of their different locations, causes, climatic conditions, and so on. The three major plains are connected from north to south and have fertile soil. They are the most important agricultural areas in China. In addition, our country also has the Chengdu Plain, Fenwei Plain, Zhujiang Delta, and Western Taiwan Plain, which are also important farming areas.
 - Mountains and hills: Mountains are landforms that rise prominently above their surroundings, typically characterised by steep slopes, significant elevation, and a defined peak or summit. Hills are raised areas of land that are smaller and less steep than mountains. They typically have a rounded summit and gentle slopes, making them less prominent than mountains. They are formed through various geological processes, including tectonic activity, volcanic activity, and erosion.

Figure 2 The major plateaux, basins, and plains in our country



II. Mountain ranges

Figure 3 Mountain ranges in our country



- Our country's mountain ranges can be classified into five types based on their orientation (中華人民共和國中央人民政府, 2005). The orientation describes the direction in which the mountain ranges extend (Figure 3):
 - East-west orientation: The east-west mountain ranges are divided into three columns: The Tianshan Mountains-Yinshan Mountains in the north, the Kunlun Mountains-Qinling Mountains in the middle, and the Nanling Mountains in the south.
 - Northeast-southwest orientation: The northeast-southwest mountain ranges are primarily distributed in the eastern part of China, and there are three main series (mostly including seven mountain ranges): The Daxing'an Mountains-Taihang Mountains-Mount Wushan-Mount Xuefeng in the west, the Changbai Mountains-Mount Wuyi in the middle, and the Taiwan Mountains in the east.
 - Northwest-southeast orientation: The western part of our country is primarily covered with mountains that run northwest to southeast. There are two notable mountain ranges: The Altai Mountains and the Qilian Mountains.
 - North-south orientation: There are two major north-south mountain ranges in the southwestern and northwestern parts of our country: The Hengduan Mountains and the Helan Mountains.
 - Arc-shaped orientation: The arc-shaped mountain system comprises several parallel mountain ranges that run east-west to north-south and connect to the Hengduan Mountains. The Himalayas are the world's most famous mountain range, spanning 2,400 km across China, India, Nepal, and other countries. It has an average altitude of 6,000 m.

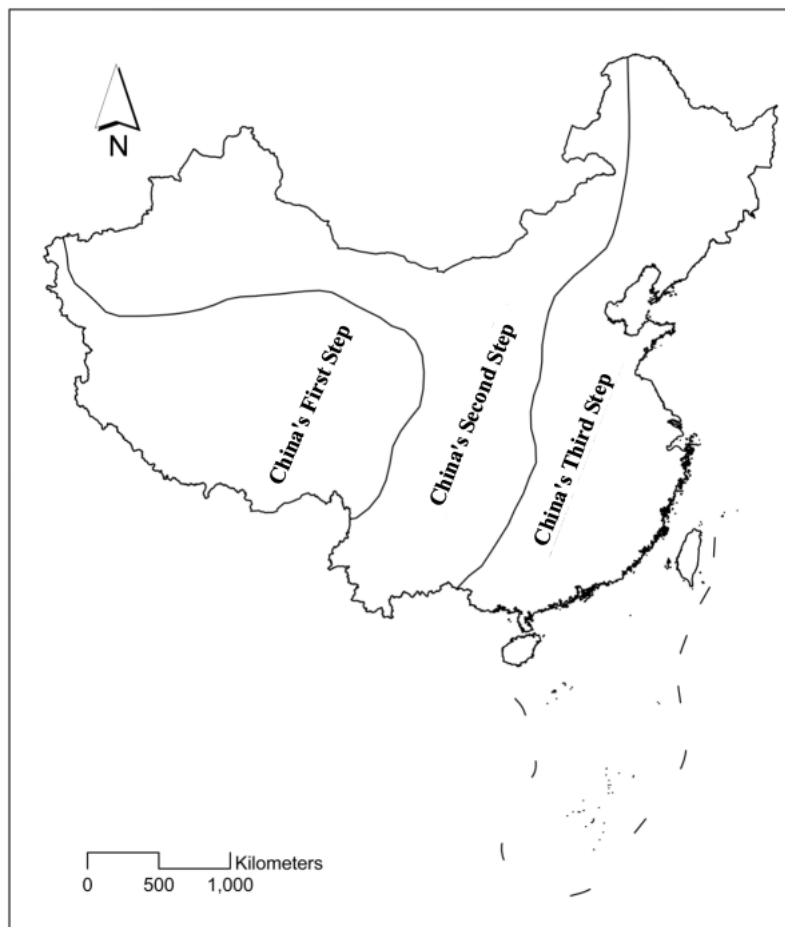
III. The “three-step ladder-like topography”

- The “three-step ladder-like topography” (Figure 4) describes our country's gradual decrease in relief from west to east (中國科學院地理科學與資源研究所, 2007):
 - First step: Qinghai-Tibet Plateau. It is located in the southwestern part of our country. It has an average altitude of 4,000 m or above. It is known as the “Roof of the World.” Mountain ranges such as the Himalayas, Kunlun Mountains, Qilian Mountains, and Tanglha Mountains are located there. Mount Qomolangma (Mount Everest), the world's highest peak is located on the Himalayas.
 - Second step: Northwestern and the central part of our country. Its altitude ranges from 1,000 to 2,000 m. It comprises mountain ranges, plateaux, and basins. Major mountain ranges include the Daxing'an Mountains, Taihang Mountains, and Qinling Mountains. Major plateaux include the Inner Mongolian Plateau, Loess Plateau, and Yunnan-Guizhou Plateau. Basins

include the Tarim Basin, Junggar Basin, and Sichuan Basin.

- Third step: Eastern part of our country. Its average altitude is 500 m or below. It is dominated by plains and hills. Major plains include the Northeast Plain, the North China Plain (where Beijing is located), and the Middle and Lower Yangtze Valley Plain (where Shanghai is located). These plains are known for their fertile soils, making them crucial for agriculture. This step also includes hills such as the Southeast Hills. Further east is the shallow sea area of our continental shelf, with water depths mostly less than 200 meters.

Figure 4 The three-step ladder-like topography in our country



- The first step is the region for the Qinghai-Tibet Plateau and the Qaidam Basin.
 - The Qinghai-Tibet Plateau is located in the southwest of our country, mainly including the western parts of Xizang, Qinghai, and Sichuan. It is our country's largest plateau with the highest altitude (>4,000 m). Mount Qomolangma, the main peak of the Himalayas on the plateau, is 8,844.43 m high and is the highest peak in the world.
 - The Qaidam Basin, which has an altitude of about 2,500-3,000 m, is also

located in the first step. It is the highest basin in our country.

- The second step is the region for the three major basins in our country, namely the Tarim Basin, Junggar Basin, and Sichuan Basin and the three major plateau, namely Inner Mongolian Plateau, Loess Plateau, and Yunnan-Guizhou Plateau.
 - The Tarim Basin is located in southern Xinjiang and is the largest basin in our country. Its altitude is about 780-1,300 m, and the terrain is high in the west and low in the east. The centre of the Tarim Basin is the Taklimakan Desert, the largest desert in our country, and its edges are oasis belts.
 - The Junggar Basin is located in northern Xinjiang, with an altitude of about 500-1,000 m. It is the second-largest basin in our country. Its terrain is higher in the east and lower in the west. The central part is the Gurbantunggut Desert, the second-largest desert in our country.
 - The Sichuan Basin is located in the eastern part of Sichuan, at an altitude of about 300-600 m. Its terrain is high in the north and low in the south. It contains plains, hills, low mountains, and rivers. Due to its warm climate and fertile land, the basin is rich in agricultural products and is known as the “Land of Abundance.”
 - The Inner Mongolian Plateau is located in the north of our country. It mainly includes most of Nei Mongol and parts of Gansu, Ningxia, and Hebei.
 - The Loess Plateau is the thickest and largest loess landform in the world. It is located south of the Inner Mongolian Plateau, including Shanxi, and parts of Shaanxi, Gansu, and Ningxia.
 - The Yunnan-Guizhou Plateau is located in the southwest of our country, including most areas of Yunnan and Guizhou.
- The third step is the region for the three major plains: Northeast Plain, North China Plain, and Middle and Lower Yangtze Valley Plain, and Southeast Hills, Liaodong Hills, and Shandong Hills.
 - The Northeast Plain is located between the Daxing’an and Xiaoxing’an Mountains and the Changbai Mountains in northeastern part of our country. It spans parts of Heilongjiang, Jilin, Liaoning, and Nei Mongol. It is the largest plain in our country, covering an area of approximately 350,000 km². Altitudes are mostly below 200 m, except for the slightly higher terrain in the middle part. The terrain is generally gentle. Its most distinctive features are swamps with fertile black soil and fresh water.
 - The North China Plain is located to the north and east, between the Yanshan Mountains, Taihang Mountains, and the Huaihe. It spans Hebei, Henan, Shandong, Beijing, Tianjin, and parts of Jiangsu and Anhui. The North China Plain is the second largest plain in our country, covering an area of

approximately 310,000 km². It is mainly formed by the alluvial deposits of the Huang He, Huaihe and Haihe. The surface is flat, mostly below 50 m above sea level.

- The Middle and Lower Yangtze Valley Plain includes multiple plains from the east of the Mount Wushan to the mouth of Chang Jiang, such as the Dongting Lake Plain, Jiangnan Plain, Poyang Lake Plain, Jiangsu and Anhui Riverside Plains, Yangtze River Delta, and so on, with a total area of about 200,000 km². It is the third-largest plain in our country.
- Southeast Hills, Liaodong Hills, and Shandong Hills are located on the third step of the eastern region. Some hilly areas are densely forested and rich in minerals. Some are even famous tourist attractions. Some hills have been turned into terraces land.

IV. Conclusion

- On the vast land of our country, there are plateaux, mountains, plains, hills, and basins. There are five basic landforms in the world, all of which can be found in our country, providing various choices and conditions for developing industry and agriculture in our country.

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