

Kazakhstan

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Location and area

Kazakhstan is a republic in Central Asia (with a small portion in Europe), bordered on the north by Russia, on the east by China, on the south by Kyrgyzstan, Uzbekistan, and Turkmenistan, and on the west by the Caspian Sea and Russia. It has an area of 2,717,300 km². (Microsoft Encarta Encyclopedia 2002).

Topography

Kazakhstan is composed of a vast, generally low-lying plain, fringed by mountains on the east and southeast. Differences in elevation are extreme. Mountainous areas along the border with Kyrgyzstan reach a height of nearly 5,000 m, while considerable areas near the Caspian Sea lie below sea level. The Caspian Sea, the lowest point in Europe, lies at an elevation of about 28 m below sea level, while the Karagiye Depression, located to the east of the Caspian, lies even at a depth of 132 m below sea level. (Microsoft Encarta Encyclopedia 2002).

Climate

The climate of Kazakhstan is extremely continental, and, owing to the vastness of the country, characterized by great internal variations. Average daily temperature in January ranges from -19° to -4° C, while the average daily temperature in July is 19° to 26° C. In the summer temperatures can reach 45° C, and in the winter temperatures can fall below -45° C. Rainfall also shows great variation, with an annual average of 1,500 mm in mountainous areas to less than 100 mm in central desert areas. (Microsoft Encarta Encyclopedia 2002).

Water

Most of Kazakhstan's major rivers drain internally, mainly into Lake Zaysan, Lake Balqash, and the Aral and Caspian seas. Diversion of river water from the Syr Darya and Ili rivers, principally for irrigation purposes, has led to a decline in the surface level of the Aral Sea and Lake Balqash. A few rivers, such as the Ishim, Irtysh, and Tobol, flow north to the Arctic Ocean. The riverbeds of most of the small and medium-size rivers remain dry for much of the year. Precipitation is meagre and generally decreases southward. (Microsoft Encarta Encyclopedia 2002).

Land use

Deserts and semi-deserts, including stone, salt, and sand wastelands, cover more than two thirds of the country's surface area. Before 1920 agriculture consisted primarily of nomadic herding. During the Soviet period crop cultivation was greatly expanded, owing in part to widespread mechanization and the construction of large-scale irrigation projects. Kazakhstan is a major producer of wheat, which is grown primarily in the north, but bad weather had affected yields recently. Other crops include rice and cotton, which are grown on irrigated lands in the south (Microsoft Encarta Encyclopedia 2002).

Wetlands

Major wetland areas are the Tengis lakes in the north, that cover 330 km² and include huge areas with reeds (Brombacher et al. xxxx), and Lake Balkhash and the Ili River delta in the southeast, an 8,170 km² large network of river channels, bordered by dense riparian scrub, lakes of standing and running water, reed beds, and desert areas. The lake's level has declined by more than 2 m since 1970, when the Kapchagay dam on the Ili River was completed, and some of delta is today completely dry (Zhatkanbayev 2000).

Peatlands

Neishtadt (1946) (in Kazakov 1953) gives a total area of “peat resources” of 15 km² with peat reserves of 1.5 Mt of air-dried peat.

Dokturowsky (1938) mentions, on the basis of oral communications of B. Fedčenko, the presence of sedge “mires” with *Cobresia* and brownmosses in the Dzungarian Alatau (SE Kazakhstan).

According to the interpreted World Soil Map (Van Engelen & Huting 2002) 17,420 km² of histosols exist in Kazakhstan and 135,004 km² of gley soils.