

Global Change Data Encyclopedia

Gahai Lake, Qinghai-Tibet Plateau (Delingha), China

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Gahai Lake, also called Balkhazhinor which was transliterated from Mongolian language with the mean of “Small black lake”, is located at the northeast corner of Qaidam Basin in the northeast of the Qinghai-Tibet Plateau. It is 25 km away from Delingha city, Haixi Mongolian autonomous prefecture, Qinghai province^[1]. It is an enclosed salt water lake on the plateau, with an elevation of 2,851 m. The geo-location of the Lake is 37°05'58"N-37°10'00"N, 97°31'05"E-97°35'47"E, with the central location at 37°07'30"N, 97°33'03"E (Figure 1, Figure 2).

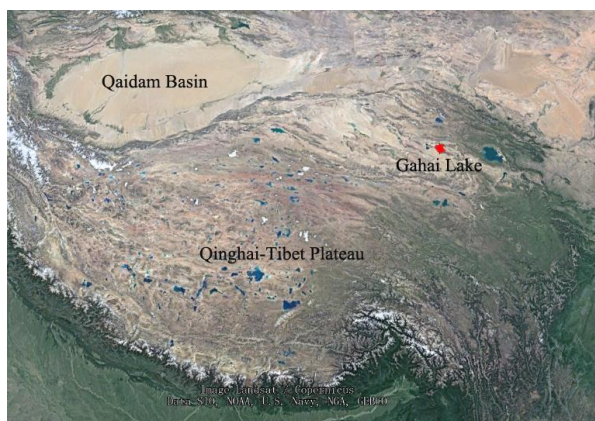


Figure 1 Geo-location of the Gahai Lake (Google Earth image)

The Gahai Lake is in the Delingha-Xiligou basin, northeast of Qaidam Basin, which was formed by faulting in geology. Zongwulong Mountain, the south offset in the mid of Qilian Mountain, is in the north of the Lake, while the Nanshan Mountain (4,472 m) and Maoni� Mountain (3,947 m) are in the south of the Lake from west to east. Gahai Lake is connected by intermittent rivers to Keluke Lake and Toso Lake at its west, and it is connected to Salt Lake Keke by rivers at its east^[2].

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[2] Gou, Z. J., Liu, F. G. Gahai Lake [DB/OL]. Global Change Research Data Publishing & Repository, 2018. DOI: 10.3974/geodb.2018.08.15.V1.

The Lake is 7.1 km long from east to west, and 5.9 km wide from north to south. The area of the Lake (2015) is 33.46 km², and the shoreline is 28.20 km^[3], with the average water depth of 2.7 m. The Lake is in the desert and semi-desert arid climate zone, with annual average temperature of 3.0 °C, annual average precipitation of 126.6 mm (Table 1), annual average evaporation of 2,242.8 mm, and the solar radiation of 166 kcal/cm². There is no perennial surface runoff recharge, so the water mainly depends on seasonal precipitation and groundwater flow. The Bayinguole River is the only seasonal recharge runoff in flood peak season^[5]. The bottom of Gahai Lake is composed of medium-fine sand sediment and sludge sediment. The Gahai Lake is one of the lakes rich in *Artemia* which is called “soft gold”^[6].

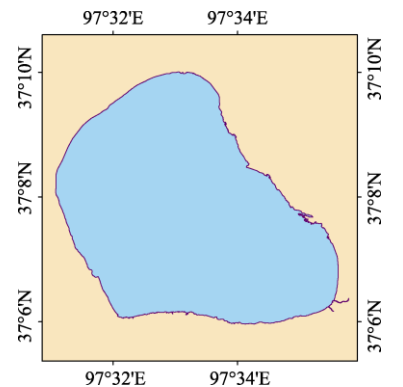


Figure 2 Data map of the Gahai Lake (.shp format)

Table 1 The weather records from the Delingha Farm meteorological station near the Gahai Lake^[4]

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Annual average
Solar radiation (kcal/cm ²)	8.22	9.60	13.81	16.24	18.11	18.07	19.09	17.66	14.60	12.55	9.07	7.70	166.00
Temperature (°C)	-13.2	-8.9	-1.5	5.6	10.9	14.0	16.5	15.7	10.6	3.1	-5.4	-11.9	3.0
Precipitation (mm)	2.0	2.4	1.8	3.2	15.0	24.0	28.8	24.9	13.8	6.4	1.2	1.1	126.6
Evaporation (mm)	42.1	67.3	61.4	42.9	308.1	309.2	332.4	294.7	226.9	144.6	70.0	43.2	2,242.8

The dataset was developed based on Google Earth images (2015) and related maps. The dataset is consisted of 15 data files, archived in both .shp^[7] and .kmz formats with the data size of 374 KB (Compressed to 146 KB in two files).

References

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Data Computing Environment

[7] ESRI. ArcGIS campus license of Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences.

URL for Data Downloading

<http://www.geodoi.ac.cn/WebEn/doi.aspx?Id=1105>.
Or search through: <http://www.geodoi.ac.cn>.