Geophysical Research Abstracts
Vol. 12, EGU2010-15302, 2010
EGU General Assembly 2010

On the Hydrological Regime of Teniz-Kurgaldzhinsk Lakes, Kazakhstan

Zh.D. Dostay (1), S.K. Alikumov (1), and A.K. Kurbaniyazov (2)

(1) Institute of Geography, Ministry of Science and Education, Kazakhstan, (2) International Kazakh-Turkish University, Kazakhstan

Situated in the lower reaches of Nura River, Kazakhstan, Teniz-Kurgaldzhinsk system of lakes and the associated wetlands are an important ground for migrations of waterfowl. They are home for 321 species of birds, 17 species of fishes, and 43 species mammals. The area is the only object in Kazakhstan mentioned in the international Ramsar Convention (1974). The variability of level and mineralization of Teniz-Kurgaldzhinsk lakes is mainly detrmined by the runoffs of Nura River and its tributaries.

In this poster, we present a series of Nura runoffs measured at the Romanovskoye hydrological post (1940-2006) together with the data on mineralization of the lakes. The river runoffs were relatively low (19 m3/s on the average) for 1940 through 1974, but started to gradually increase thereafter, averaging to 27 m3/s for 1975 through 2006.

The maximum runoffs of Nura River result almost exclusively from snow melting. Floods associated with rainfalls are extremely rare. The highest spring flood runoffs have been registered in 1960 and 1977. The annual mean mineralization of the river water varied slightly between 0.91 and 1.22 g/l.

The annual mean mineralization of water in the Teniz-Kurgaldzhinsk system of lakes spanned between 1.75 and 4.32 g/l. The mineralization variability was generally in inverse relation with the lake level. However, the Teniz Lake itself, as a terminal water body, was characterized by much higher salinity, which was also subject to strong annual cycling. For example, during a single year of 1991, it varied from 22.1 to 55.9 g/l. Although there is no direct data, from salt budget evaluation, it is likely that, the mineralization of Teniz Lake must have been up to 120-130 g/l in the mid- and late 1930s.