

Abstract (要旨)

The World's largest central Asian closed drainage basin occupies an area equal the territory of Europe. Despite of very arid climate, deserts and prairies central Asian glaciers comprise approximately 10,000 km³ fresh water that is a vital source of life for more than 200 million of people living in this area. Seasonal snow cover in mountains also play very important role in the regional hydrology. Historically, water has been always an important subject of trade or even war between people living in central Asia fruitful oasis's. Hydrology and hydrological engineering studies were known since the ancient Chorasnia Empire (7-6 BC). During the Kang-chu Kushang period (100-500 AD) central Asia had 35-38,000 km² area of irrigated lands, 4 times larger than in present time (Muhamedjanov, 1999). However, since then the population of central Asia grows from 1.5 to over 200 million while the glacier recession accelerated, notably from the middle of 1970s. The intensive melt of glaciers may also destroy invaluable climatic and environmental records stored in the glacier accumulation areas. Both, climate change and increasing water demand create serious social/economic and political problems in central Asian countries. It is unlikely that resolution of these problems will be possible without past and modern climate and water resources evaluation and simulation.