Abstract

The Charles University Faculty of Science KFGG team took part in an intensive research in the area of Kyrgyz glacial lakes. The collecting of records from three meteorological stations in the locations of Kolor (2,700 m above sea level) and Adygine (3,500 and 3,800 meters above sea level) was part of the research. The aim of this thesis was to analyze the homogeneity of climatic data measured in experimental locations using the SNHT method (Standard Normal Homogeneity Test), process the data using general climatological processes, create a classification of circulation types for the area of interest using Jenkinson´s and Collinson´s method, and finally, to quantify the relationships between individual circulation types and the values of chosen climatic elements. The analysis results are homogenized climatic sets for the Adygine H station (3,800 m above sea level) and a summary of basic statistics and trends of climatic elements in the area. Furthermore, a catalogue of circulation types was created for the period from August 2007 to July 2011, and finally, the relationships between individual circulation types and manifestations of climate elements (air temperature, precipitation and global radiation). The results of this thesis may be used to identify the types connected with bursts of glacial lakes.

Key words: climatological records, homogeneity, circulation types, synoptic climatology, Kyrgyzstan