



Impact of Climate Change on the Shift of Landscape and Climate Boundaries

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Abstract: In the article for the territory of the Kabardin-Balkar Republic (the central part of the northern slope of the Greater Caucasus) there are calculations of the displacement of the main landscape and climatic boundaries, the snow line and the upper boundary of the forest-under the influence of climate change. Moreover, based on the analysis of the climate of the Greater Caucasus, three preferable scenarios of climate change are selected, taking into account the anthropogenic impact. In all 3 scenarios, all landscape and climatic boundaries are shifted up to the south-west. The marked increase in the area of forest landscapes will be "smoothed" due to anthropogenic impact. The main anthropogenic load will be transferred from the low-mountain to the high-mountain landscapes. With the general warming of the climate, the snow-avalanche situation will also change. Moreover, the change in the snow-avalanche situation according to these scenarios can complicate the development of high-mountain areas, where the main recreational resources of the Republic are concentrated. This will happen due to the increase of avalanche danger and, as a result, it is create tense and even crisis environmental situations. Therefore, economic activity in this region should be carried out taking into account avalanche activity. This will lead to additional costs of anti-avalanche measures to reduce the impact of avalanches on the natural environment. A specialized GIS-editor was used in the analysis of avalanche danger in the mountainous areas of Kabardino-Balkaria (upper reaches of the Baksan River).

Keywords: Geosystem, Landscape, Transformation of landscapes, Landscape-climatic border, Avalanche activity
