

Changing of Snow Cover in Georgia on the Background of Climate Change

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Snow cover is the most sensitive element of climate system and the same time significant factor of global climate change. Regime of snow cover is determined by the main natural factors (latitude of place, orography, and circulation of atmosphere) as well as anthropogenic factor, which is provoked by pollution of atmosphere and increasing of carbon dioxide CO₂.

Duration of snow cover or determination of regularity of snowy days in space and time is one of the cardinal questions of contemporary climatology. It has huge practical, even decision impotence for hydropower, construction, road building sphere, recreation and other branch of economy.

In the territory of Georgia snow cover, like a precipitation is distributed unevenly. This is determined by snow causing factors as well as complexity of relief.

In mountainous parts according to height rise air temperature decreases (in average 6⁰C in every 1000m), which causes forming of solid precipitation. That is proofed by significant rising of snowy days.

For the description of snow cover of Georgia meteorological stations, posts and snow survey many year material were elaborated. As a result following issues have revealed:

On the 10% of the whole territory of Georgia height of snow cover is more than 90 sm in every year. In separate parts of this region, mainly Lebarde, Gudauri, Bakhmaro, Jvari pass and Tsiskara snow cover height reaches 100-145 sm. in west Georgia this region comprise mainly middle mountain and high mountain zones, while in northern part of east Georgia high mountain zone. In most parts of Middle mountain zone of western Georgia, middle and high mountain zones of northern part of eastern zone, and high mountain zone of southern Georgia minimal height of snow cover is 30-60 and 60-90sm. This region comprises 13 and 11% of the territory of Georgia. In the most part of territory of Georgia (67%) minimal height of snow cover is less than 30sm. This region in west Georgia comprise territory situated on the height of 800-1000m sea level, while in east Georgia comprises the territory as low mountainous as well as middle mountainous zones.