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HIGHLAND LANDSCAPES OF THE CHECHEN REPUBLIC: PATTERNS THEIR FORMATION AND DISSEMINATION

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Abstract

Highlands occupy the southern, highest part of the Chechen Republic, they are formed by links of the Lateral ridge and intermountain depressions located between them. The general stretch of the highlands of the Chechen Republic - from the west-north-west to the east-south-east. The landscape diversity of the highlands is associated with complex paleogeography, mountain-forming processes, glaciation, interaction with flora and fauna of many biogeographical regions, fluctuations and climate changes that have resulted in a great variety of geological-geomorphological conditions, relief character, local air mass circulation formation, including seasonal variability climatic conditions.

Keywords: nival landscapes, soils, vegetation cover, rocks, glaciers, circulation of substances, solar radiation, valleys, air currents, winds.

Anthropogenic impacts on landscapes, leading to a loss of structural complexity and biological productivity, at the same time contributed to the emergence of many new plant species introduced into the culture or accidentally brought into the region. Landscape and biogeocenotic diversity requires consideration when planning the location of agricultural production, the creation of residential complexes.

The landscapes of the high mountains of the Chechen Republic include the subtype of mountain-meadow Alpine landscapes and the type of nival, subdivided into subtypes of subnival and nival-glacial landscapes.

With the increase in terrain in the mountains under conditions of a more severe climate, the influence of rocks and their bedding on the formation of soils and plant communities is sharply reduced. The main role here is played by temperature. Usually the southern slopes are steeper than the northern ones. Snow melts earlier on them and the surface dries faster. Therefore, on the southern slopes in drier conditions, black earth-like and mountain-steppe soils

are formed, and on the northern slope - mountain meadow or mountain meadow-steppe soils; but if on the southern slope - mountain-forest brown, then at the same height of the northern slope - podzolized soils. If on the southern slope typical feather grass and wormwood prevail, then on the northern slope - timothy grass, meadow grassland, mountain clover, cuff and other moisture-loving plants. Varieties of mountain soils and plant communities are formed as a result of prolonged exposure to complex interrelated natural conditions. Therefore, each type of soil corresponds to certain natural conditions in which it was formed, and a certain vegetation (grassy, forest-bushy) grows on the corresponding varieties of soils. Thus, in the nature of the mountains, a direct relationship exists between the parent rocks, the soils and the vegetation cover. This is especially evident in the natural conditions of the mountain relief [1,3].

Highland landscapes mainly occupy the upper parts of the slopes of the Lateral Range and its spurs. More than ten peaks rise above 4000 m, many reach 4000 m. Individual fragments of the high mountain range are found on the Rocky Range (Hakhalsh - 3,036 m, Dai-Khokh-2854 m, Kiri-Lam - 2808 m) and on the Kashker-Lam Range (2806 m) .

Mountain-meadow Alpine landscapes are formed at altitudes from 2600 to 2800 to 2900 m. From mountain-meadow subalpine landscapes, they primarily differ by their location (highlands) and, as a result, by a smaller volume of biomass, by a slower biogeochemical cycle of substances. On a stony substrate, mountain meadow alpine peaty soils are formed with low-grass meadows from grass-sedge, cereal, sedge and mixed-grass-cereal groups.

Starting from an altitude of 2,800 to 2,900 m and to 3,500 to 3,600 m, subnival landscapes are common. They are represented by fractional dissected slopes, trough valleys and cirques, ridge-hilly moraine massifs, proluvial-deluvial and colluvial plumes. The air temperature here, even in summer, often falls below zero. Characteristic of intense solar radiation, strong winds, low air humidity. Soils are in the initial stages of formation. Herbaceous vegetation does not have a continuous cover, it is strongly thinned [2].

Within the republic, nival-glacial landscapes are common only on the side ridge and on the crests of some of its spurs. The species of this subtype of landscapes are represented by peaked peaks, steep rocky slopes, cirques and hills, glaciers and snowfields, sharp ridges. Occasionally there are established watersheds with eluvial accumulation.

The lower boundary of the nival-glacial landscapes assumes the height of the snow (firn) line, above which the balance of solid atmospheric precipitation is positive and nival-glacial denudation predominates.

High-mountain types of landscapes are represented by two groups. Species composition of these landscapes was formed on glacial, nival-solifluction, gravitational and fluvial morphosculptures.

The structure of the landscapes of the republic is complex, especially the species categories of its mountainous part. The clan subdivisions of

landscapes are characterized by the unity of origin, the development of structure and appearance, the zonal and azonal physico-geographical processes taking place in them.

Individual features of types of landscapes are manifested in the generic and specific categories of their morphological units (terrain, tract, facies).

Morphological units differ from each other geological and geomorphological conditions and form a complex interrelated structure of types of landscapes, which obeys zonal regularities.

Plains of flat types of landscapes, as well as mountain landscapes, are characterized by a combination of certain relief forms, soil-forming rocks, as well as features of the hydrothermal regime, soil formation, a set of vegetation and the nature of human activity. Plain and leveled plakors, ridge-barchan, bumpy-cumulus, flood-plain, supra-plague-terraced and other terrain are examples of flat types of landscapes.

In the locality there are tracts, which, in turn, consist of facies. The tract is a section of terrain with very bright borders (ravine, girder, firm field, lateral moraine). Faction is the lowest indivisible landscape unit (beam bottom, ravine slope, convex or concave slope section).

Several types of tracts located in the mountains are deluvial slopes of the forest low mountains and mountain meadow middle mountains, ridge-hilly moraine massifs, glaciers. Examples of tracts in the mountains of the republic are the eluvial watersheds of the nival-glacial highlands, the karst slopes of the mountain-meadow middle mountains, the slope-scrée slopes of the forest low mountains.

Studied individually, the morphological landscape complexes are combined into typological series (classified). Slopes of deluvial demolition is one of the types of landscape, very widespread in the mountains. Slope types of landscapes differ from each other by the history of development, the nature of the constituent rocks, the hydrothermal conditions and the soil-vegetation cover. All this is reflected in the classification of landscapes: the deluvial slope of the structural and denudational forest lowlands, the deluvial slope of the erosion-denudation mountain-meadow middle reaches. In this example, the deluvial slopes act as species of landscapes in a certain territory, united in a group (genus), type and subclass of the mountain class of landscapes [4,5].

Monocline-folded limestone ridges occupy the system of Pasture and Rocky ridges, the structure of which is heavily complicated by the Cori-Lam anticline fold in the west and the large Varandian anticlinal fold in the east. The pasture and the rocky ridges do not represent a single whole, but are broken down into a series of ridges. The climate is temperate continental, with a significant impact on it from the height above sea level, as well as the local circulation of the atmosphere.

The main soils of the okrug on the northern slopes are mountain meadow typical. They are located subalpine moist and subalpine meadow meadows. On the southern slopes, these soils and vegetation are absent.

Mountain meadow Alpine soils occupy both northern and southern slopes. On the southern slopes, on these soils there are herbaceous-squat-fescue dry meadows, and on the northern-squat-fescue-moss-grassy mesophilic meadows.

Intermountain hollows are largely a closed territory, which naturally left an imprint on the formation of its landscape structure. The climate here is dry, close to a semi-desert type, the precipitation does not exceed 400-500 mm per year. Soils are typical mountain-steppe soils.

Landscapes of meadow steppes with vegetative groupings: mixed-low-loamy, motley-fescue, with timothy feather grass, mixed grass with a straight and sedge low grass. The main plants of these landscapes: medium plantain, thyme Marshall, common oregano, sage whorled, fescue, feather grass, basilain, almost all are represented everywhere.

Landscapes of dry steppes are common on the steep and steep, often stony, dry slopes of southern and eastern exposures. Stone screes occupy more than 50% of the area. The vegetative cover includes the following plants: a bearded hemostatic, a feather-grass hippopotamus, a thin-legged slender beard, occasionally a medium-sized camphor, a whorled sage, a cornflower wormwood, a wormwood grasshopper.

Landscapes of dry steppes are subdivided into subtypes: bearded, fescue-bearded, mixed-bearded, bearded-wormwood with immortelle. This includes the common oregano, clover grass, medium plantain, plantain lanceolate. The bearded hemostatic is 25 - 30% of the projective coating. Often there are also landscape varieties: herbage-grassy and wormwood-slender-grassy. The main vegetation of these landscape varieties: gray grass, wormwood chamomile, wormwood wormwood, timothy feather grass.

The northern slopes of the Lateral Range occupy the southernmost part of the republic. The geological structure here is dominated by Jurassic deposits. Especially powerful thickness of the Lower Jurassic, consisting of dark gray clay and slate shales. The Middle Jurassic is composed of adobe schists with interlayer sandstone, which are more friable than the Lower Jurassic sediments.

The northern part of this massif consists mainly of tertiary rocks, limestones, marls and sandstones, which are easily exposed to surface destruction. The central part is composed of Upper Jurassic limestones and dolomites. Their outcrops meet along the slopes of the promontane, along the watersheds, in the gorges of the Argun River.

In the landscapes under consideration, mudflow processes have developed sufficiently, the development of which is facilitated by hemorrhological features: a straight erosion-tectonic relief with a clear morphological reflection of structural elements in it, disturbed Neogene's new

folding, a relatively fresh terrain, actively formed in the confrontation of intense modern uplifts and progressing erosion, with increased precipitation from 800 to 1000 and more mm. in year.

Glacial-nival landscapes, or glaciers, are distributed in the most elevated part of the mountain structure, from an altitude of 3400-3800 m. The total area of modern glaciation on the northern slope of the Greater Caucasus is estimated from various sources from 368 to 800-900 km² [4].

High mountain snow and glaciers are the highest part of the Lateral Range. The huge Lateral ridge stretches along the southern border of the republic. In this part of the Caucasus it is higher than the Main Range by almost 1000 m. The highest point of the Eastern Caucasus Tebulos-Mtta (Tembolat-Lam) rises to 4494 meters above sea level.

In the relief, the Lateral Range is well expressed in the form of a gigantic mountain chain, only in two places cut by the valleys of the rivers Assi and Chanty-Argun. The height of its ridges and peaks ranges from 3000 to 4000 meters, and 13 of them within Chechnya have a height of more than 4000 m and are covered with eternal snows and glaciers. The Lateral ridge is dense with dense slate and is represented by a typical alpine relief.

High-mountain snow and glaciers are located at an altitude of 3250 - 3500 m and above sea level. Precipitation here falls more than 800 mm per year, they are distributed extremely unevenly. The northern slopes facing the moisture-bearing northern winds are irrigated more than the southern ones. In the highlands, where Western air masses dominate, the western slopes receive more precipitation than the slopes facing east.

Steady snow cover in the district appears in September and lasts until the end of May. The number of days with snow reaches 150 - 200 or more. The height of the snow cover depends on the relief: from open places it is blown away by the wind, and in deep valleys and on windy slopes it accumulates. At altitudes of 3800 m and above, snow remains throughout the year. In the lower belt of high-mountain snows and glaciers dominate saxifrage, a lot of grain, veronica, Georgian pappas, cross and others.

The consequences of neglect of nature are not immediately apparent. Only when it is discovered that the ecological situation is approaching the catastrophic, the society begins to sound the alarm. Anthropogenic impact on high-mountain landscapes has led to their transformation into agricultural landscapes. In turn, this affected the transformation of the landscape components, both the geomorphological situation, the soil cover, and the transformation of the vegetation cover in some tracts.

Referecens:

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