

## MAPS OF NATURAL RESOURCES POTENTIAL OF NORTHERN OSSETIA

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The regional geographical atlases should necessarily contain section "Evaluation of natural resources potential". It is especially important for the states which chose the way of independent development and for which it is necessary to define the most perspective, effective and ecologically safe directions of economic development. It fully refers to the Republic of Northern Ossetia which is a part of Russia.

Northern Ossetia located in the Eastern part of the Northern slope of the Central Caucasus has unique natural landscapes: those of mountains, piedmonts and plains. People began to settle on these territories in Aeneolith and Early Bronze (the second half of IV-III thousand years BC). Ossetians, descendants of the legendary Alans, have passed a long way of complex ethnic and historical development. A peculiar system of economy has been developed in the Northern Ossetia: a combination of agricultural manufacture, powerful base of non-ferrous metallurgy and recreation. The crisis condition of all the aspects of modern life requires that an outcome from this situation should be searched urgently. Interethnic conflicts have resulted in war and as the consequence in mechanical migrations of the population - refugees. The position of the population of the Northern Ossetia which was difficult enough has become even more complicated. Being a republic of insignificant area (8,000 square kms) it is characterized by the highest density of population in Russia (more than 80 persons per square km) and extreme non-proportionality of its spreading. The non-proportionality of population distribution can be explained first of all by the natural conditions which are rather variable and have certain restrictions both for residing and cultivation. Within the 125 km of the longitude extension of Northern Ossetia one can observe the shift of landscape zones analogous to that of the Eastern European Plain (from Arctic desert and tundra to steppes and semidesert). The contrast of landscapes reaches its maximum in the mid-height mountains, where on the slopes of northern exposition one can observe wide-leave wood formations, while on the southern slopes - highland xerophytes and dry steppes. Mountainous landscapes compared to those of plains are characterized with extreme parameters of many natural characteristics: absolute height, steepness of slopes, their exposition, temperature regime and intensity of exogene processes. In Northern Ossetia there are 17 kinds of landscapes united into 2 classes - mountains and plains, and represented by 5 types (Fig. 1). The plain landscapes are zonal ones and are presented in the northern part of the Republic. The mountain landscapes are related to the Bolshoi Caucasus system and are presented in the southern part where altitude zones are brightly expressed both for components of nature and for natural complexes.

The most favorable for residing are the landscapes of plains and foremountains, as well as those of intermountain basins. The plain landscapes of steppe and forest-steppe zones always attracted people. The reason for their being cultivated is the economic value of fertile soils there and favorable environmental conditions.

Intermountain basins acquire unique natural conditions and resources. The climatic conditions allow to breed cattle here all year round, feeding it on the southern slopes in winter. The climate here is also very favorable for climate treatment that in combination with numerous outputs of mineral water and high ionization of air opens wide opportunities for recreation.

The scientific basis of any applied research connected with the usage, transformation and protection of natural medium must be fundamental landscape investigation and its main derivative - common scientific landscape map. For applied purposes it is more convenient to use typological landscape maps where separate geosystems are classified.

The process of classification turns to collection, comparison and arrangement of data characterizing landscape or another geosystem, therefore it is desirable to arrange the characteristics of geosystems into tables or forms. The contents of tables are easy to be interpreted and if necessary to be transferred to resource maps which simultaneously serve as

estimation maps because they characterize geocomplexes in respect of the supply of this or that natural resource - warmth, moisture, fertile soil, mineral wealth, etc. (Fig.2)

The most important problem in this method is the fact that natural resources maps are derivatives of common scientific landscape maps. Data about natural conditions and resources are put onto one and the same net of contours.

In the process of making resource maps the landscapes or groups of landscapes more or less useful for some economical application or demanding special measures for improvement or protection are necessarily found. For the detection of the most perspective directions of economical application and all-round optimization of landscape it is necessary to give full characteristics of the natural complexes investigated. Therefore besides the information on natural conditions and resources it is necessary to have data about the spread of geomorphological processes and the degree of territory exploitation - ploughing, forestry, melioration, erosion of lands.

Recently special importance has been gained by ecological landscape condition estimation.

The classification of the landscapes of Northern Ossetia looks as follows:

TYPE	CLASS	SUBCLASS	LANDSCAPE
1	2	3	4
- Eastern-European Steppes	- Plains	- Lowland plains	I. Lowland plains with forest-like loams, with dry grass steppes on carbonate chestnut soils
		- Piedmont plains	II. Piedmont plains and synclinal valleys with forest-like clays and loams, with forbmeadow-grass steppes on carbonate blackearths
- Eastern-European Forest-Steppes	- Plains	- Piedmont plains	III. Piedmont basins composed of thick layers of fluvio-glacial shingle, covered by forest-like clays and loams with meadow and meadow-steppe vegetation on alluvial and meadow-blackearth soils
			IV. Piedmont sloping plains covered by forest-like loams and clays with meadows, meadow steppes and sites of oak woods on sod-gley soils
	- Mountains	- Low mountains	V. Advanced anticlinal ridges formed by scarcely located paleogenic-neogenic sand-clay deposits covered by forest-like clays and loams with different grass steppes on carbonate blackearths
			VI. Advanced anticlinal ridges composed of paleogenic-neogenic sand-clay conglomerate deposits with oak-hornbeam forests on mountain-forest grey podzolic soils

1	2	3	4
- Eastern-European Broad-Leaved	- Mountains	- Low mountains	VII. Monoclinial folded ridges formed by paleogenic-neogenic conglomerates with longitude depressions in sand-clay mass with prevalence of beech forests on mountain-forest brown soils
		- Midheight mountains	VIII. Folded ridges formed by upper jurassic and cretaceous carbonate minerals with beech forests on mountain-forest brown soils on the slopes of northern exposition and with oak forests and xerophytes on southern slopes
			IX. Cuestas composed by jurassic and cretaceous carbonate minerals with longitude depressions in sand-clay deposits with prevalence of beech forests on mountain-forest brown soils
			X. Monoclinial folded ridges composed of limestone-dolomite mass with beech forests on mountain-forest brown soils
- Central Caucasus Variant of Kazakhstan Semi-Desert Type	- Mountains	- Midheight mountains	XI. Longitude schist valleys and intermountain bassins with a complex of dry steppes and mountain xerophytes
			XII. Mountain valleys with pine forests
- Central Caucasus High Mountans	- Mountains	- High mountains	XIII. High limestone cuestas with subalpine and alpine meadows on mountain meadow blackearth soils
			XIV. Limestone monoclinial folded ridges with subalpine and alpine meadows on mountain meadow soils
			XV. High ridges composed of mesozoic flysh strata with alpine meadows, heaths, rocks and glaciers
			XVI. High block ridges composed of crystal minerals processed nivally and erosively with mountain forests, subalpine and alpine meadows, rocks and glaciers
			XVII. High crystal ridges processed by glaciers and nivally with glaciers, heaths, taluses and alpine meadows

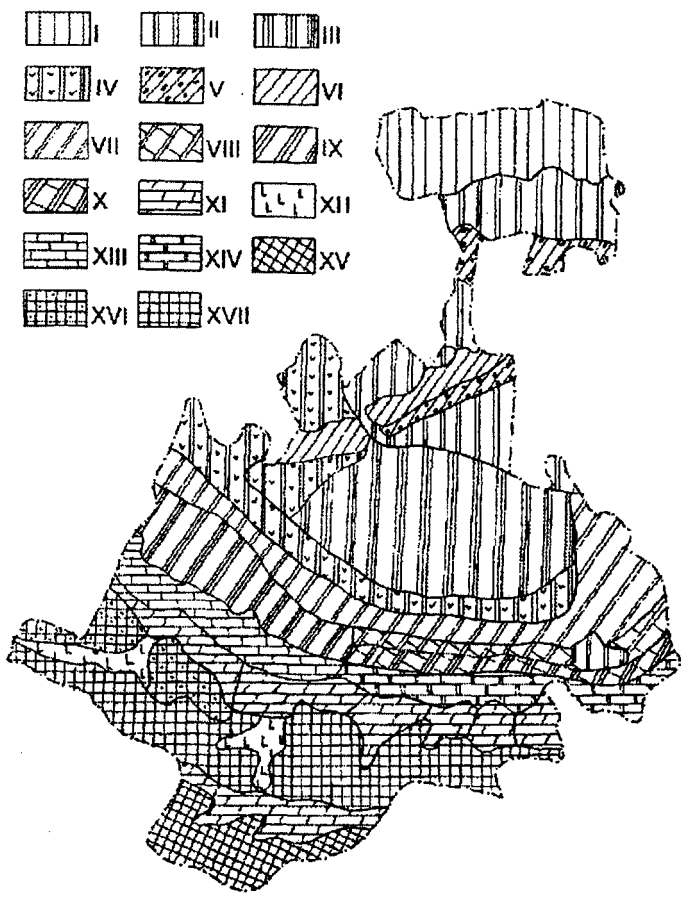


Figure 1: The classification of the landscape of Northern Ossetia

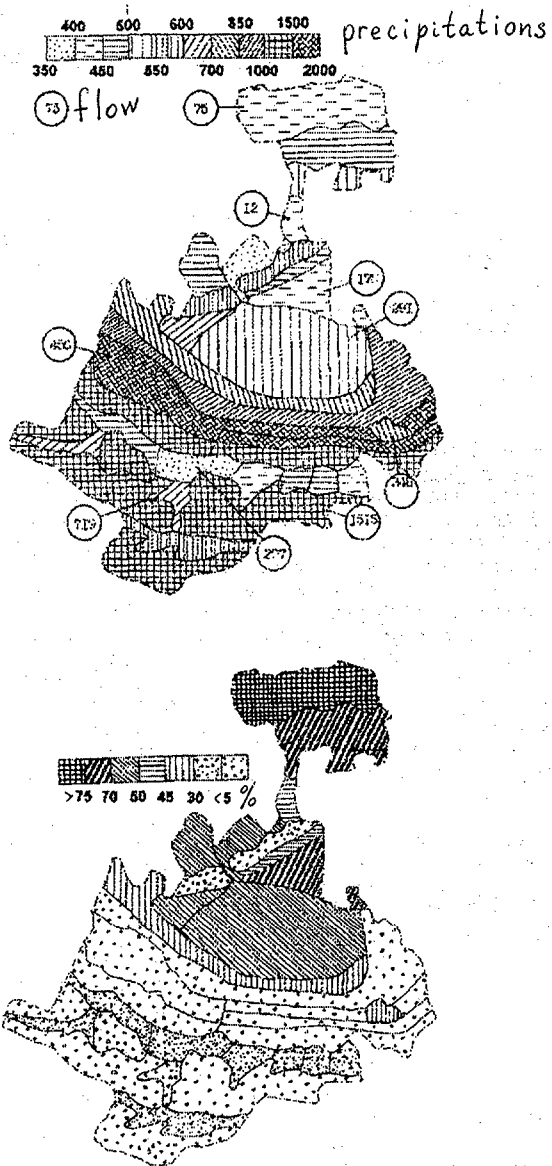


Figure 2: Characteristics of humidifying (above) and ploughing (below) landscapes of Northern Ossetia