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**SMALL-SCALE DIAGRAM OF THE ALTITUDINAL ZONATION
OF MOUNTAIN PROFILE OF THE MIDDLE URALS**

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Аннотация: в статье изучена высотная поясность части горной системы Среднего Урала. На основании изучения состояния растительности с использованием данных дистанционного зонирования и ГИС-программ выделены ландшафтные зоны для горных территория по исследуемому профилю. В результате построена мелкомасштабная схема высотной поясности.

The article examines the altitudinal zonation of a part of the mountain system of the Middle Urals. Landscape zones for mountainous areas were identified with using remote zoning data and GIS. Research is based on the study of the state of vegetation. As a result, a small-scale scheme of altitudinal zonation was built.

Ключевые слова: Средний Урал, высотная поясность, ландшафтная зона, макросклон.

Keywords: Middle Ural, altitudinal zonation, landscape zone, macroslope.

Altitude is the most important location factor for mountainous areas. Another factor used in small-scale mapping is macro-orientation (belonging to the macro-slope of a mountain system). Other location factors such as rock composition, steepness of

slopes, etc. are not applicable for small-scale research.

The Middle Ural is the lowest part of the Ural Mountains. A profile with a direction from west to east crossing the highest point Mount Oslyanka was chosen to study the structure of the altitudinal zonation of the Middle Urals [1]. The length of the profile is 136 km. The heights in the area are in the range from 150 to 1119 m.

Altitude intervals were plotted with a step of 200 meters. The state of the landscapes was investigated separately on the macroslopes of the mountain system for each interval, then merged into the same categories [2]. The study of the diversity of vegetation was carried out using remote sensing data [4] and building a model in the Grid format. The GRID model was created in the Global Mapper program. The graphic representation of the altitudinal zonality in the form of a profile is made in the programs Global Mapper and MapInfo. The profile under consideration contains 6 landscape zones (Fig. 1) [3].

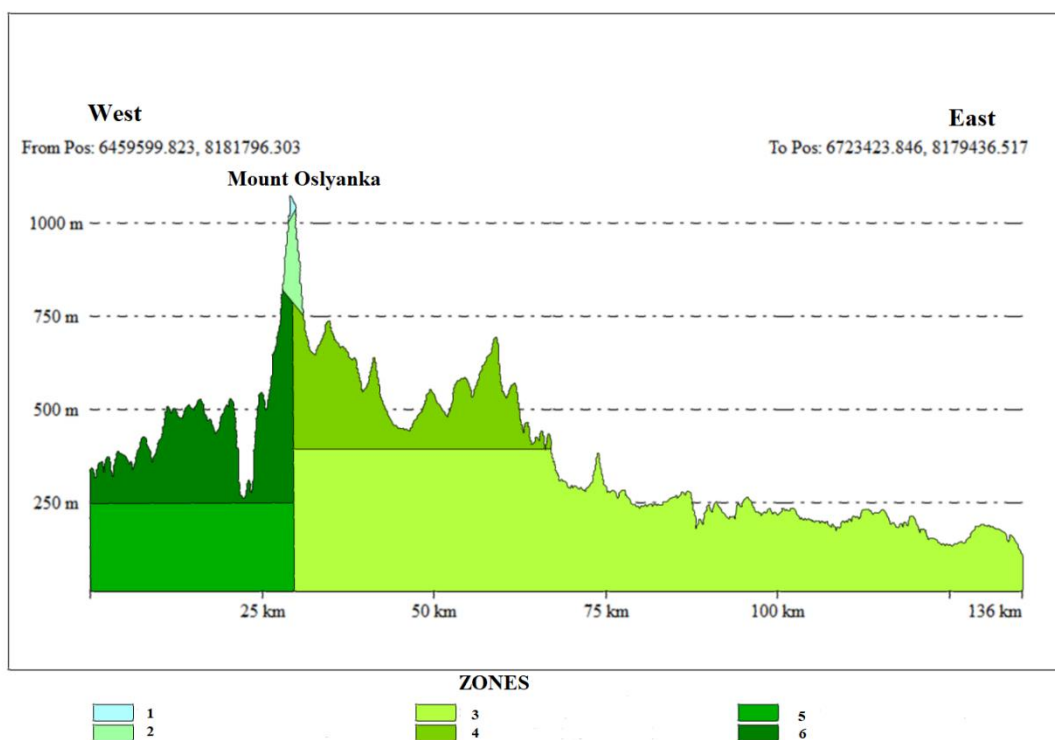


Figure: 1 Diagram of the altitudinal zonation of the Middle Urals as a profile.

Legend: 1 - Mountain-tundra zone; 2 - forest-meadow zone with spruce and fir-spruce light forests; 3 - zone of light coniferous (larch-pine) forests; 4 - Zone of dark coniferous (cedar-fir) forests; 5 - Zone of dark coniferous (spruce-fir) forests; 6 - Zone of dark coniferous (fir-spruce) forests.

The western macroslope is represented by the following landscape zones:

Zone of dark coniferous (spruce-fir) forests. It is located at altitudes up to 250-300 meters. The foothills of the mountains are covered with dark coniferous spruce-fir herb-moss forests with broad-leaved undergrowth (linden, elm, maple, oak).

Zone of dark coniferous (fir-spruce) forests. It is located at altitudes up to 800-850 meters. The forest is represented by fir-spruce forests with some participation of birch. The undergrowth consists of shrubs: bird cherry, rose hips, etc.

Forest-meadow zone with spruce and fir-spruce light forests. It is located at altitudes up to 1000 meters. The forest-meadow zone consists mainly of spruce and fir-spruce woodlands in combination with subalpine meadows and large-grass.

Mountain-tundra zone. It is located on the highest parts of the mountains in the range of heights from 1000 to 1119 meters. The loach belt is insignificant, represented by stone outliers with fragments of mountain-tundra vegetation.

The eastern macroslope has a similar set of landscape zones, differing in the tree species (Siberian species) [5]:

Zone of light coniferous (larch-pine) forests. It is located at an altitude of 400-500 meters. The foothills of the mountains are covered with light coniferous taiga. This taiga is characterized by a larch-pine forest with a grass-shrub ground cover in the eastern part of the country.

Zone of dark coniferous (cedar-fir) forests. It is reached heights of up to 750-800 meters. Dark coniferous forests are acquired a Siberian southern taiga character. The forests become cedar-fir with spruce and grass-moss ground cover.

A forest-meadow zone with fir-spruce woodlands. It is risen higher than on the western macroslope – up to 1050-1100 meters.

Mountain-tundra zone. It is extended up to 1119 meters. As in the western macroslope.

It should be noted that the mountain-tundra zone is widespread at heights of more than 1 km. It is not widespread because the average heights of the Middle Urals of 500-600 meters.

The study of the structure of the altitudinal zonation of the Middle Urals makes it possible to assess the natural potential and plant composition of the mountain range., It is necessary to take into account the peculiarities of macro slopes for the rational use of natural resources in the regional economy.

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