

DATA COLLECTION ON THE KEY COMPONENTS OF NATURAL GEOGRAPHY FIELD RESEARCH

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Abstract

In field conditions, the researcher collects valuable information and analyzes it to achieve his goal. During field research, the main and constant attention should be paid to the connection and relationship between the components. In particular, the interrelationship between geological structure, lithology and relief, water, climate, soil and vegetation, animal world, and economic activity of people is determined.

Keywords. Landscape, relief forms, geographical complex, relief forms, climate, water resources, soil, vegetation.

In order to properly understand the structural and functional relationships in geocomplexes, it is necessary to collect information about the components that form natural complexes during field work. Determining the functional relationship of components in each concrete complex remains the most important issue. The reason is that in the same complexes lithology, in the second one, structure or relief, climate, etc. can play a leading role.

When studying geocomplexes - facies, urochisha, landscapes, first of all, it is necessary to start with researching their lithology and structure. Then, by studying the relationship between relief forms and types, the relationship between climate and water, the soil, flora, and fauna, their relationship with the previous components is determined. Undoubtedly, the household activities of people are closely related to the above factors. Of course, literature and fund materials are added to the collected data, especially during the reporting period. Data collection in the field is carried out in the following ways.

Methods and equipment for collecting field materials in geology and geomorphology. In order to know and understand the development of the geographical complex, it is important to study its lithological composition. It is also useful in determining features such as natural components - relief, flow, microclimate. In the field, natural and artificial geological openings play the role of windows to look inward from the surface of the earth. Natural openings: steep banks, chinks, ravines, depressions, furrows, rocky bedrock, outcrops; artificial openings, quarries, canals, canals, surfs, funnels of blasted areas, pits, trenches, tunnels.

Borehole data provides valuable evidence. In order to study the complexes of small taxonomic units, it is required to know the rocks and their structure to a depth of 10-20 m. Usually, they are distributed in loess rocks, soil, sand, rocky rocks, gravels in plains and foothills. These rocks are young (Q) sedimentary rocks. In mountainous regions, representatives of metamorphic and igneous rocks are exposed to the surface of the earth, and sedimentary rocks are also found. In the course of field work, the following information is collected: 1) about the position and orientation of the rock layers with the help of a mountain compass; 2) Rock thickness; 3) Components of rocks; 4) foreign rocks found in rocks; 5) Layering; 6) Description of interlayer contact; 7) color; 8) humidity; 9) density; 10) Granulometric, petrographic composition, qualitative and quantitative indicators are studied.

A geologic opening is often written from top to bottom, sometimes from bottom to bottom depending on the conditions. Necessary samples of bedrock are taken in the size of 4x5x8 cm, loose, porous rocks are taken in special bags or placed in paper bags. Cracks and their direction are determined in bedrock, because water, plant veins, organisms settle through them, weathering, erosion, collapses and collapses occur. This, in turn, damages the integrity of the complexes. Each rock sample taken is labeled or placed in sediment bags. On the label: address, date, person who took the sample and his signature, point and sample number. A complete description and details of the sample will be recorded in the journal. Almost all geological openings are photographed, drawings-plans, cross-sections, block diagrams are drawn. When taking a photo, something for scale - a pen, a pen, a match hammer or a person - is definitely placed next to the open.

The following equipment is required for field work: mountain or simple compass, geological hammer, aneroid, roulette, meter, 10% hydrochloric acid for determining the carbonate level of rocks, magnifying glass, hardness scale, scale for determining the size of rocks for sedimentary rocks, earth auger, Saper shovel, binoculars, camera, pocket microscope, for sample wrapping, paper, bags, twine, backpack, notebook, field bag, topographic map, special cards: geological, tectonic, natural complex, climate, etc. All lists, photos, and special order numbers are attached to certain openings.

To carry out geomorphological research, in addition to the equipment listed above, the following are taken: an instrument for measuring height, an ecliptic, a theodolite or a scale, an Andrianov compass installed on a tablet, a field distance meter, a shagometer (with the help of which relief forms can be accurately and quickly mapped on a specified scale) and etc. Different landforms are usually found in permanent and temporary river valleys. Natural and artificial landforms can be observed here. During the field period, it is necessary to check and determine the proportionality of geological structures with landforms. It is also necessary to know the ratio of relief types and forms. In addition, it is necessary to determine the types of relief: accumulative plains, denudation, erosion, tectonic, etc.

It is also necessary to collect information about artificial relief forms - quarries, subsidence phenomena in the places where bore wells are dug, unevenness on the roads - tunnels, bridges, road belts in the mountains, canals, ditches, dams, reservoirs, piles of garbage and waste, terricones, mounds, etc. . It is better to study the terrain of the district on the basis of routes. In this case, it is necessary to determine the typical forms of the relief, their morphometric indicators - indicators such as height, depth, length, width, area, size, and rocks. Rock samples embodied in landforms are studied in the same way as geological research. It is necessary to know the ratio of landforms and rocks, especially geological structures. Geomorphological cross-sections are made in order to know the relationship of rocks and tectonics with relief forms. The cross-section shows the genetic types of the rocks, their age and their bedding. In general, issues such as relief morphography, morphometry, genesis, age, stages of development, economic use, relief protection are studied.

Only some features of climate, including microclimate, are studied in field conditions. All descriptions of the climate can be obtained from cpravochnik and atlases. Data on the microclimate of various complexes or landforms can be collected using psychrometer, aneroid, anemometer, thermometer and other equipment. It is better to measure temperature changes three times during the day, humidity, evaporation, direction and speed of winds from the soil surface, from the plant surface and from a height of 2 m. These results are important for scientific and practical specialization. A lot of information about the climate can be obtained by asking the local population: the recurrence of dust, snow storms, hail,

floods, floods, etc. Such information is the most valuable evidence for the report. Information about the microclimate of a place helps to better understand the interrelationship between components. Determining the leading weather type, its intensive changes, changes in the year and seasons. For example: wet type of weather, dry type, transitional type that varies between them.

During the field period, the study of water resources is of great importance, along with other components. The following equipment and tools are necessary for the research of water resources: spring and deep water thermometer, water flow rate is determined with the help of a vertushka, stopwatch, dalnomer, rudder, scoop takes soil from shallow water bodies, roulette, scale for determining water clarity and color, salinity meter, field chemical laboratory containers-bottles, jars, equipment for taking samples from water, soil, sinks-integrators, lots, etc. Complete information on underground water is collected - pressure, ground, artesian, thermal water - well, bore well water. The following information is determined: temperature, color, smell, debit - water consumption l/sec. It is necessary to learn about the water regimes from the local population by question-and-answer method - the water regime of springs, wells, and boreholes. A sample is taken for comprehensive water testing. Surface waters include rivers, tributaries, temporary streams, lakes, dam waters, swamps, reservoirs, canals, ditches. It is necessary to collect morphometric data length, depth, area, volume for each object. Hydrophysical data: data such as color, temperature, clarity, taste, turbidity, etc., speed, water consumption are collected and determined. Additional information is collected from local residents and hydroposts. In particular, the water regime, drying period, average floods, freezing characteristics are determined. All water resources are drawn on a card or scheme, a serial number is placed, and the most important properties and characteristics are recorded in a side notebook.

Various equipment is needed for soil research in field conditions: shovel, soil knife, soil drill, magnifying glass, bags for samples, paraffin for monolith, gauze and boxes, 10% hydrochloric acid mixture, special paper for wrapping samples, twine, roulette, cumulative meter, Andrianov compass, aneroid or altimeter, soil color scale. Soil research is carried out along the route or on terrain complexes. Natural open pits, if necessary, shurf are dug and samples are taken. The soil is re-examined with the help of an auger, and the main soil layers and sub-layers are separated. They depend on the mechanical composition, density, presence or absence of foreign rocks, newly formed rocks, structure, location, fewness of veins, etc. evaluated in terms of Attention is also paid to the cracks in the soil layer and the rocks inside them.

All records are numbered and recorded on a card or chart, recorded in a journal and diary, and if necessary, a soil profile is created. For example, psammophyte plants are characteristic of sand dunes, and moisture-loving plants are characteristic of river banks. The plant grows according to the type of soil. In accordance with the landforms, the exposure of the northern and southern slopes determines the distribution of plant species, one or another species of animals in pastures, forests, meadows, lakes, swamps, fields, and plows. All necessary equipment for plant research: shovel, hoe, soil knife, herbarium folder (28x42 cm, 30x50 cm), press grid, roulette, tape measure, gardener's scissors and knife, Andrianov's compass or compass, eclimometer, thermometer, psychrometer, geobotanical writing paper, aneroid height meter (a metal obruch with a diameter of 0.5 m), roulette, geological hammer, apothecary's scale, scissors, saw, fork shot for measuring the diameter of a tree, camera, binoculars, topo map and special cards, also a color detector used to determine the type of plant necessary.

Plant species are studied in complexes along routes. Their phenological stages: germination, development, flowering, harvest, and dormancy are studied. The area of the main spreading plants, which layer, thickness, productivity, including the thickness of the plant is determined using metal circles or nets. There are fodder reserves, medicinal, decorative, natural and cultural types of plants. Plant yield is determined by wet or dry weight. When writing the form-table, it is better to choose the following areas: 100 m² for meadows and steppes, 1000 m² for forests, 250-500 m² for deserts. A section is made along the relief forms. All data collected in the field will be analyzed and mapped and described in comparison with known complexes.

Information about the animal world is collected depending on the goals and tasks set by the researcher. For geographers, it is enough to know the main animals of the studied areas. For example, it is enough to know the animals distributed in the landscape, urochisha, facies, sometimes in a certain type of landscape. Here, the role of the animal world in the development of this type of landscape is determined. For example, rodents, reptiles, ungulates, predators, etc., their migration numbers are studied by year, seasons. Sometimes you have to catch animals. In Kyzylkum, biologists-medics caught and examined the cholera-spreading lumps. In this case, if it is necessary to determine whether it is a disease spreader or a new type of animal, it is caught and chemically processed, placed in a special container (chuchela is made) and given a detailed description. Often, during the field period, it is determined where and where the species of animals are gathered, the daily and seasonal lifestyle of animals, their activity, migration, reproduction, etc. are studied. Necessary information about biotypes, the most interesting, animal species included in the Red Book, are recorded on a diagram or card. In this way, it is possible to determine the suitability of one or another animal species to certain complexes - landscape conditions. In the mountains, only footpaths are sprinkled with water for a certain distance. In the morning, it will be determined what kind of animal left a trail, its number, migration.

It is necessary to assess the role of each natural component in the formation of the geocomplex in the initial analysis of the observation work during the field period up to the camera stage. In this case, both quantity and quality are approached, albeit temporarily. Obviously, this assessment will be qualitative in nature. Because, during the cameral period, a clear and objective description is given. But the leading role in the formation of one or another complex for many components should be determined in the field. After all, the work becomes easier and faster during the cameral period, but there are such quantitative indicators that it is better to determine them in the field (number of animal species, abundance, spread area, water consumption, speed of rivers, etc.). Quantitative significance is that with their help, it will be possible to accurately assess the role of rocks or relief, or climate, or water, soil, or vegetation, and the economic activity of people in the formation of geocomplexes. Everything should be approached from the point of view of rational, economical usage, restoration and protection of natural resources.

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