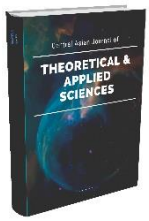


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# Systematic Groups of Soils of the Fergana Valley


**Hamidov Abdusamad Abdumalikovich**
Fergana State University, Fergana Polytechnic Institute, Associate Professor of Geodesy, Cartography and Cadastre, Candidate of Geographical Sciences



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***Annotation:*** *In this article, the geographical distribution of soils in the Fergana Valley is divided into co-groups along with system equipment.*



***Keywords:*** *Fergana Valley, Central Asia, lithological-geomorphological, insurance technology, agro-landscape, soil fertility, soil-climatic conditions, soil systems.*


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**Introduction:** The report "Pearls of Central Asia" opens in Central Asia, which is unique from other regions of the country due to the unique nature and climatic conditions of the Fergana Valley. Natural, especially climatic, conditions are necessary for the transformation, development and evolution of the soil cover of the valley, as well as the formation of production productivity. This is because the Fergana Valley is one of the largest intertidal basins in Central Asia and has its own defenders. The Fergana Valley is an important region in the economy of the republic, especially in agriculture.

**Main part:** The beginning of the XX century is also unique in terms of the application of new ecological and geographical methods. Especially noteworthy are the complex soil-geobotanical expeditions conducted on the basis of the method of integrated approach to the study of natural components and processes used by VV Dokuchaev in the study of soils.

Depending on the lithological and geomorphological structure of the study area and soil formation factors, there are soils with different origins (genesis), fertility and varying degrees of salinity, erosion and other adverse processes, which differ in ameliorative and ecological status.

Today, most of the surface water is used in irrigation, as a result of which most of it is used to irrigate large areas. At the same time, in some places, the infiltration of a large part of irrigation water into the ground also leads to an increase in groundwater levels and an increase in their level of mineralization [1-10].

It should be noted that the soil map of the Fergana Valley, compiled in 2015, divides the valley into 10 geomorphological regions, taking into account the soil-climatic, lithological-geological, relief, orographic and agro-landscape structures (Ismonov, 2016). Soils distributed in these geomorphological regions differ radically in their properties and characteristics, depending on hydrogeological conditions and other natural factors. Without taking into account the conditions of their development, the properties of natural and anthropogenic microorganisms, and their full account, the benefits in irrigated agriculture lead to negative consequences.

**Conclusions and Discussions:** The process of soil formation in the soil cover of the Fergana Valley is formed under the influence of geomorphological and soil-climatic conditions of the region. The flatness and elevation zoning of the region is obvious, with various factors in the formation and formation of soils, including climatic conditions, orographic structure, topography, hydrography, as well as the ancient development of irrigated agriculture [11-20].

In the valley there are all types, types and subtypes of soils of the Republic of Uzbekistan, distributed along the plane and vertical zoning. During the many years of research and studies conducted in the valley soil coverings, the following systematic groups of soils have been distinguished:

**A. In the mountainous region:**

- light brown meadow steppe soils;
- mountain brown soils;
- dark gray soils;
- typical gray soils;
- light gray soils;
- Gray-grass soils:
- meadow-gray soils;

**B. In the desert (plain) region:**

- calcified gray soils;
- brown soils;
- barren-meadow soils;
- meadow-grass soils;
- meadow soils;
- meadow alluvial soils;
- alluvial soils;
- meadow-swamp soils;
- swamp-meadow soils;
- swampy soils;
- sandy desert soils;
- salt marshes;

These soils occupy large areas of the Fergana Valley, are the most common and widespread in various geomorphological regions, and are intensively used in agriculture.

In addition, the above-mentioned soil groups have been studied in recent years in small groups based on some of their properties or reclamation conditions. [21-30].

Genetic groups of soils. In 1987-2017, in the research of irrigated soils of the Fergana Valley, with in-depth analysis of soil-climatic conditions, lithological-geological and relief structures of the valley, in recent years on small-scale soil maps (Kuziev, Sektimenko, Ismonov, 2008) land areas and soil cover are divided into 10 major geomorphological regions.

At the same time, each of the above large geomorphological regions is divided into smaller regions. The studies were conducted in all geomorphological areas isolated from the irrigated areas of the valley. A significant part of irrigated soils is found in the main geomorphological regions, which in turn is of great importance in the study of soil formation, reclamation status and their properties [31-40].

The morphogenetic characteristics, agrochemical, chemical, biological and water-physical properties of each irrigated soil group in the geomorphological regions of the soils of the Fergana Valley are described.

On the soil map of the Fergana Valley, in the geomorphological regions of the irrigated zone, the main genetic groups of these soils are:

- irrigated dark gray soils; typical gray soils irrigated;
- irrigated light gray soils;
- irrigated meadow-gray and gray-meadow soils;
- irrigated columned gray soils;
- irrigated brown soils; irrigated bare-grass soils;
- irrigated grassland;
- irrigated grassland soils;
- irrigated meadow alluvial soils;
- irrigated meadow (alluvial) soils;
- irrigated meadow-swamp soils;
- irrigated swamp-meadow soils;
- irrigated wetlands; irrigated sandy-desert soils. [1-45]

**Conclusions:** An analysis of the scientific literature and soil maps under consideration shows that soil-geobotanical studies conducted in the early twentieth century were mainly years of describing the geographical distribution of soils in the region (Hamidov, 1995).

Many soil scientists have been engaged in the development and detailed study of methods for the development of the soils of Central Fergana. The years 1950-1965 can be assessed as the "period of substantiation of reclamation measures" based on the directions of soil research (Hamidov, 1996).

The results of research on valley soils since the 70s can be considered as a period of complex study of soils in relation to other natural factors in the complex ecological conditions that have arisen (Hamidov, 2002).

By the end of the last century, the ecological condition of the soils of the Fergana Valley has really changed a lot. In particular, soil erosion covered a large area, which is described in the book "Irrigation of Uzbekistan", published in 1975, "Lands of Central Fergana and their changes in relation to irrigation" by A. Maksudov in 1990 and "Soils of Uzbekistan" in 1996. ».

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