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## **APPLICATION OF SRTM IN DEM CREATION AND ITS USE IN AGRICULTURE**

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The creation of a DEM, based on the initial SRTM data, is the basis for working with heights. A huge number of areas intended for arable land remain without attention to the relief in the cultivation of crops. This work is aimed at updating the creation of the DEM in agriculture.

The relief is one of the factors of soil formation, plays an important role in the formation and distribution of agricultural units in a certain area. Such units include: fields, their boundaries, areas and forms; cultivated crops, their biological and morphological needs for the soil, which is an integral part of the relief; climatic conditions depending on the relief elements [1].

All this indicates the importance of the relief and the need to take it into account in planning and shaping the structure of agriculture in a particular area.

In our studies, studies were carried out on the creation of a digital elevation model (DEM) based on the initial SRTM data, which is the basis for working with heights. This work is aimed at updating the creation of the DEM in agriculture [2].

The SRTM matrix is a DEM, which can then be subjected to spatial analysis and interpretation using GIS tools.

Below are a number of tasks that can be solved using the SRTM matrix and further by managing DEM data using GIS tools [3]:

- clarification of the boundaries of taxa of agricultural zoning;
- monitoring of the slopes of the relief on arable land;
- identification of relief elements that affect the growth and development of crops, such as depressions or gullies;
- mapping of the types of growth conditions according to the indicators of the terrain;
- forecasting the risks of water and wind erosion due to the steepness of the slopes;
- mapping of areas of individual species of flora and fauna;
- conducting environmental monitoring of agricultural activities.

These studies can be used in agriculture. For this you need:

1. File format SRTM, which is in the public domain;
2. GIS platform, with the possibility of interpolation (Creation of a spatial surface due to data of heights (points));

One source file and GIS platform makes it possible to visually create the relief of any territory.

The use of GIS technology as a platform makes it possible to work, in open access, with data obtained through the SRTM program and use them in creating a relief.

Research on the creation of a DEM from data in agriculture is a necessary and relevant tool for assessing geomorphological, soil and climatic conditions in Kazakhstan.

#### Reference

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