

Determining the Absolute Height of the Ground using the Global Mapper Program and Creating the Relief of Eroded Lands on the Basis of an Automated System

Shoxrux Fayziev, Zulfizar Esanova, Nuriddin Abdiraxmatovich Abdiraxmatov

Senior Lecturer, Karshi Engineering and Economic Institute, Karshi, Uzbekistan

ABSTRACT

The main goal is to use modern GAT technologies to determine the absolute height of the ground using the Global Mapper program and to create a relief of eroded lands on the basis of an automated system and to create and apply maps that will increase a number of economic savings based on regional data.

KEYWORDS: Height, database, format, icon, topography, topographic map, eroded areas, coordinates

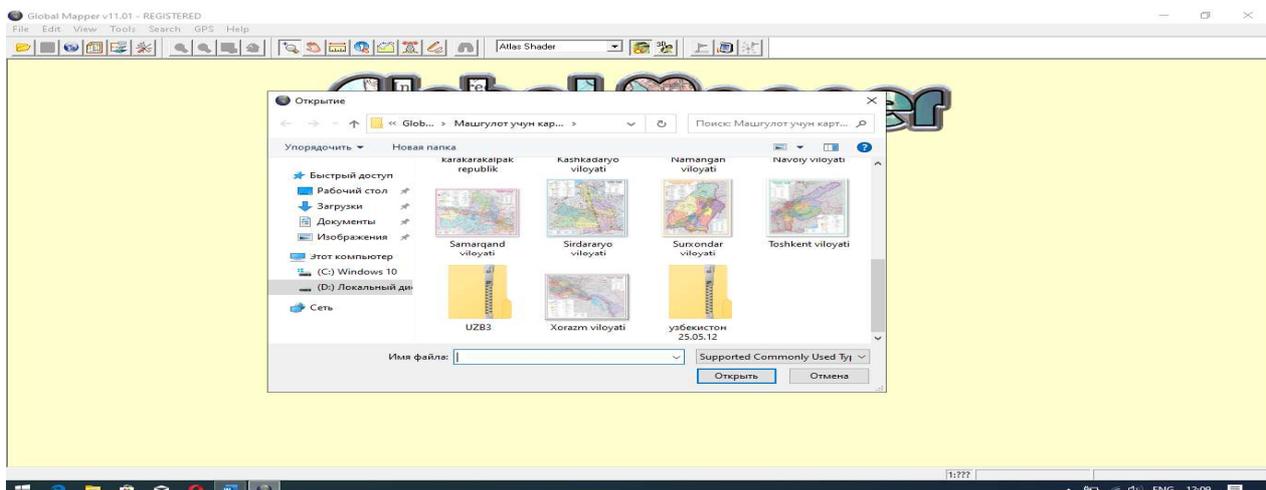
1. Nowadays, GAT programs, such as Global Mapper, can also create three-dimensional images of maps based on altitude data. All you have to do is open the file
2. Global Mapper can read altitude data in hgt format. There are several types and types of hgt altitude database downloads:

where the altitude database is stored. As mentioned above, the program describes the terrain based on the elevation data of the place, which makes the use of the map a bit more complicated. But there is an opportunity to solve this problem through software. All you have to do is link the thematic map of the area to the relief map. As a result, the program first places a relief image of the place and a thematic map on it. To create 3D geospatials based on GIS technology, we need an altitude database and raster images.



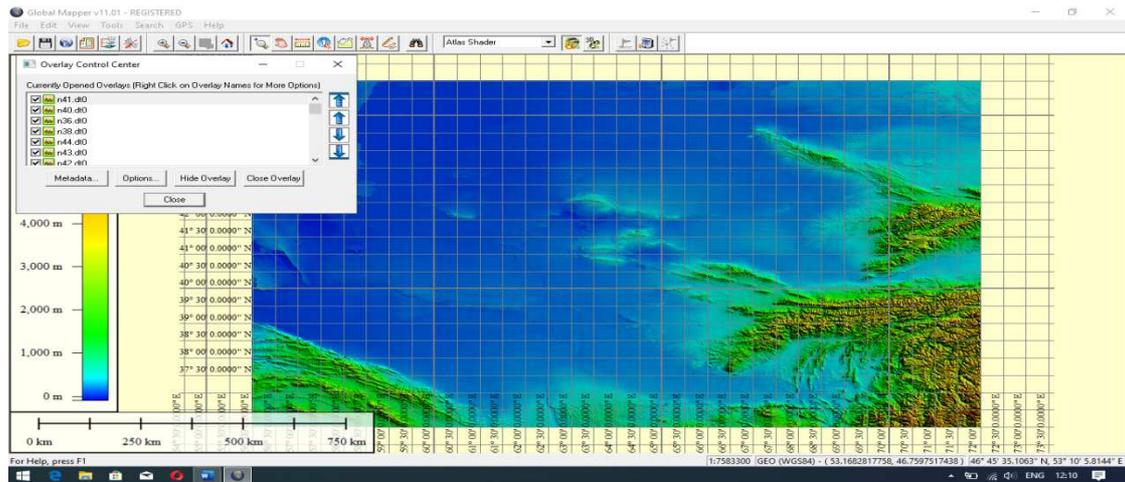
(Figure 1) NGA, DTED is the agency's altitude database.

Once selected, the name of the selected field and the corresponding coordinates will appear on the left side of the map (Figure 1). If we do not like the parameters of the given coordinate system, we select the Raster Exporter button at the bottom of the window, placing the desired coordinates at the desired distance and width (Figure 2).



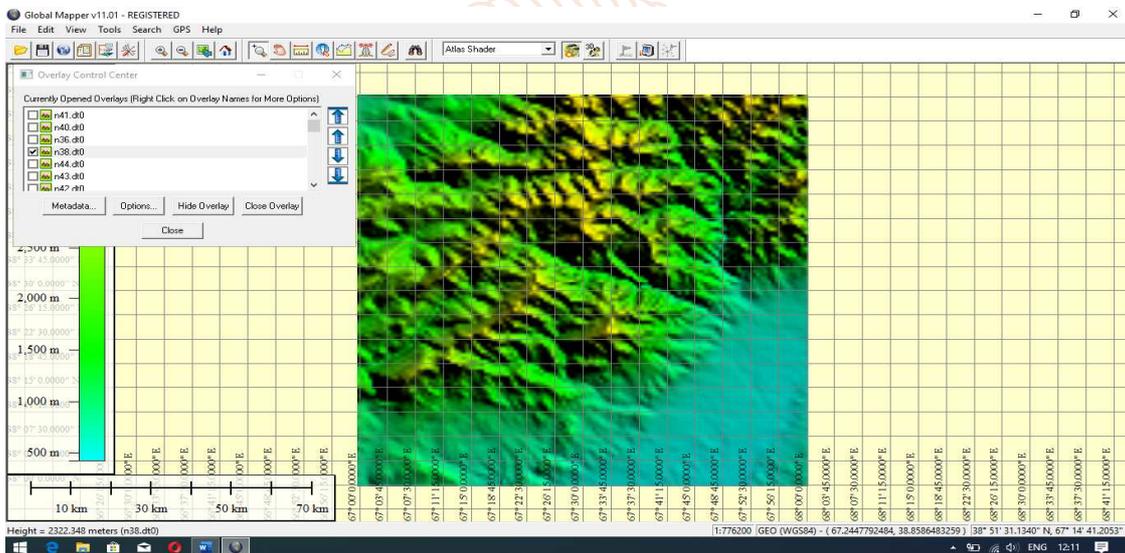
(Fig. 2) Placement in distance and width

As a result, the height database of the selected area will appear in the form of a zip file (Figure 3). When you select this file, the database will be automatically uploaded to your computer. Just show us where to copy the file. During the download process, it is recommended that you name the area in the file that contains the elevation data. For example, altitude and map for Tashkent.



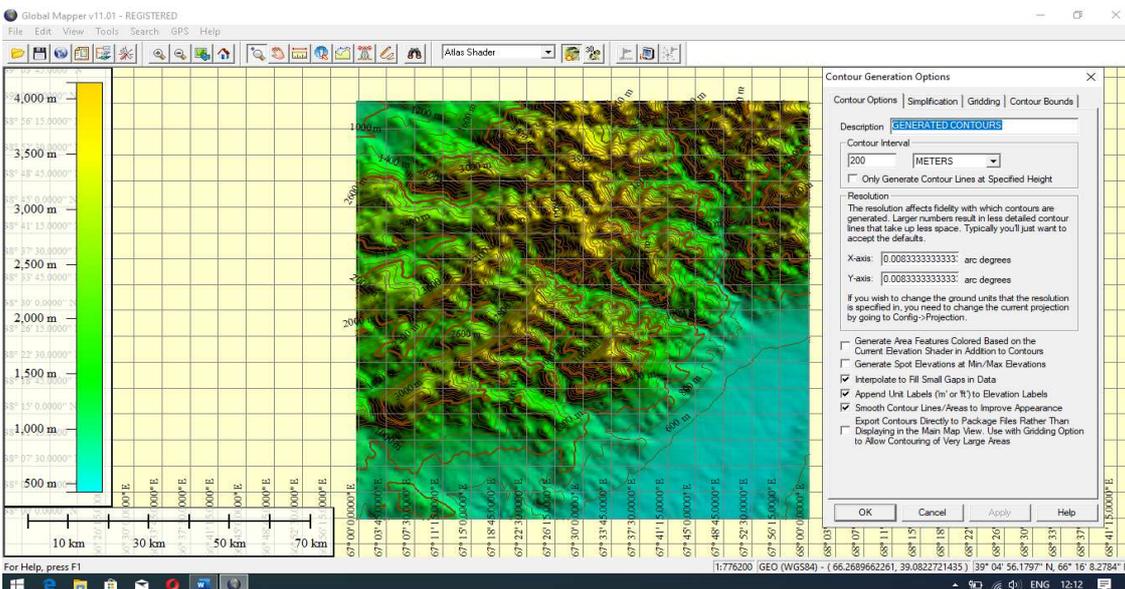
(Figure 3) Height for Tashkent city

To get started in the Global Mapper app, double-click the Global Mapper icon. After a few seconds, the program window will open (Figure 4). We will do this on the example of Tashkent.



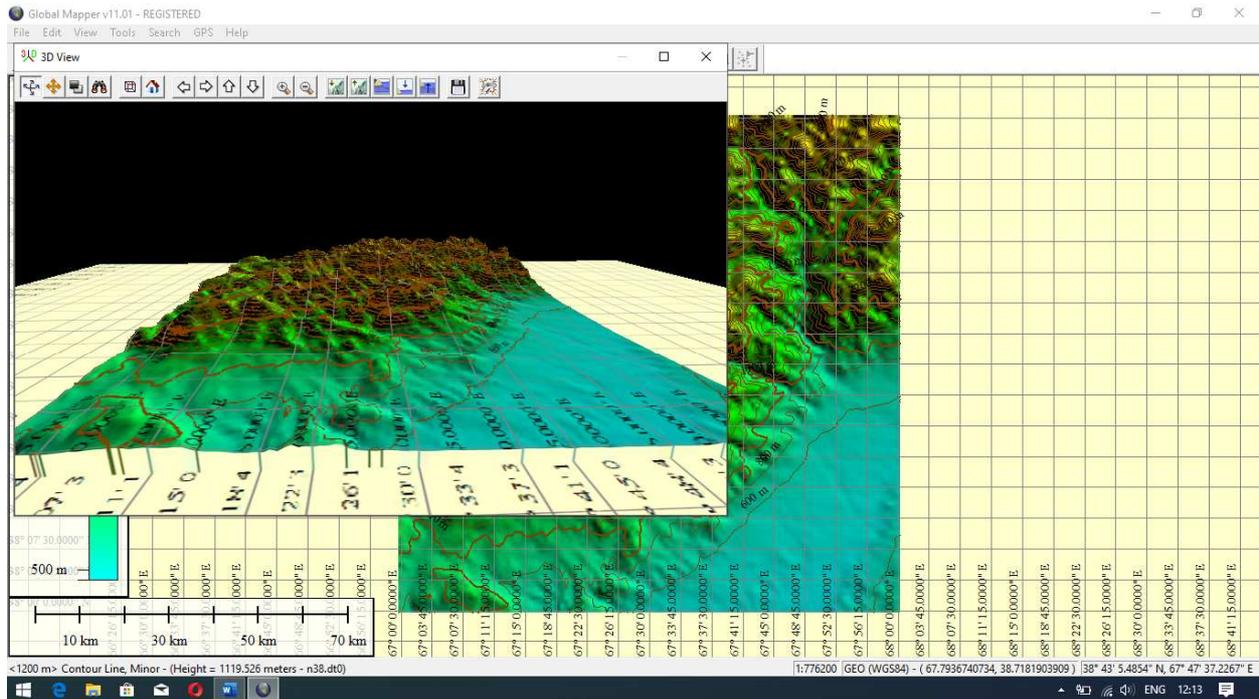
(Figure 4) "Opening the data file".

Select the file menu on the toolbar of the window and select the "Open data file" dialog. Then from the folder where the height data is stored, click on the zip file of the zip archiver file in hgt format, corresponding to the city of Tashkent.



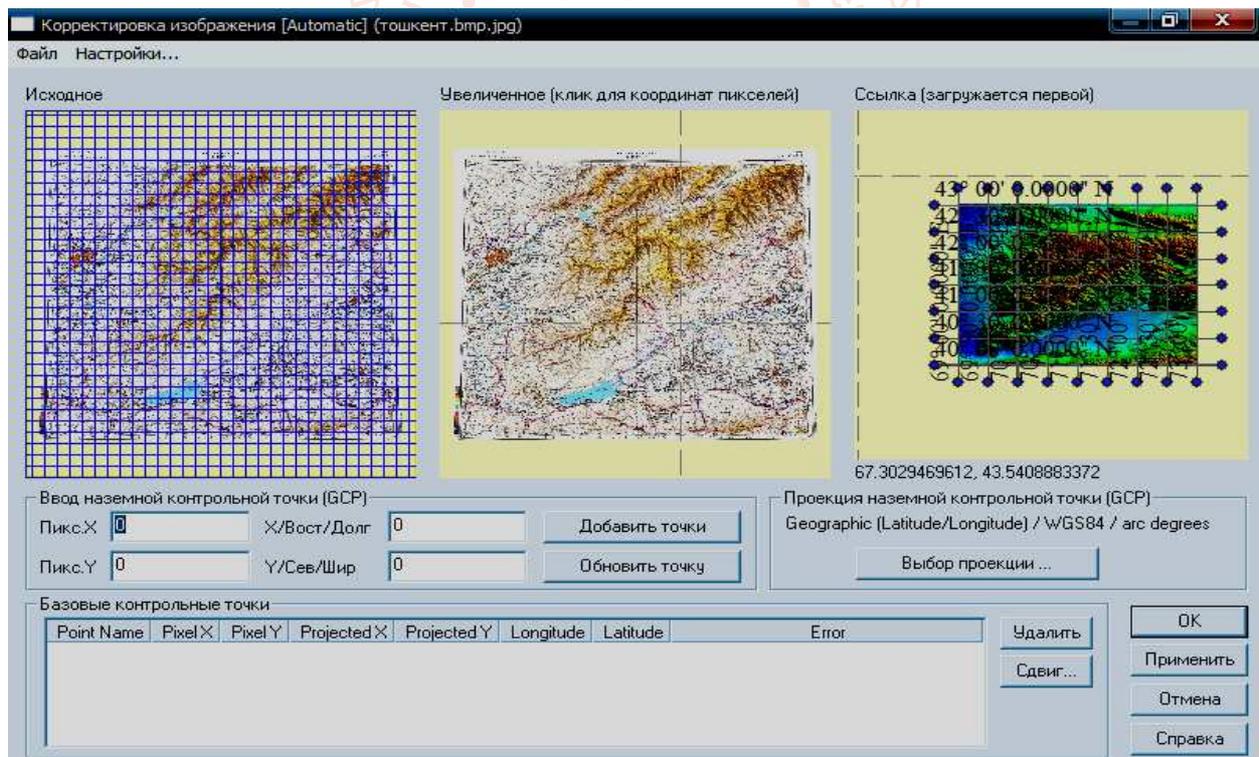
(Figure 5) Open the zip file in hgt format corresponding to Tashkent, "Open".

As a result, the program describes the relief view of the selected area in the nomenclature. The left and right sides of the image, along with the grids, show the cartographic distance and latitude. In addition, on the left side of the program window, the elevation data of the area are displayed in color in a hypsometric way



(Figure 6) Nomenclature area

The reference points can be the intersection of topographic grid lines, turning points of land use boundaries and the mark of settlements.

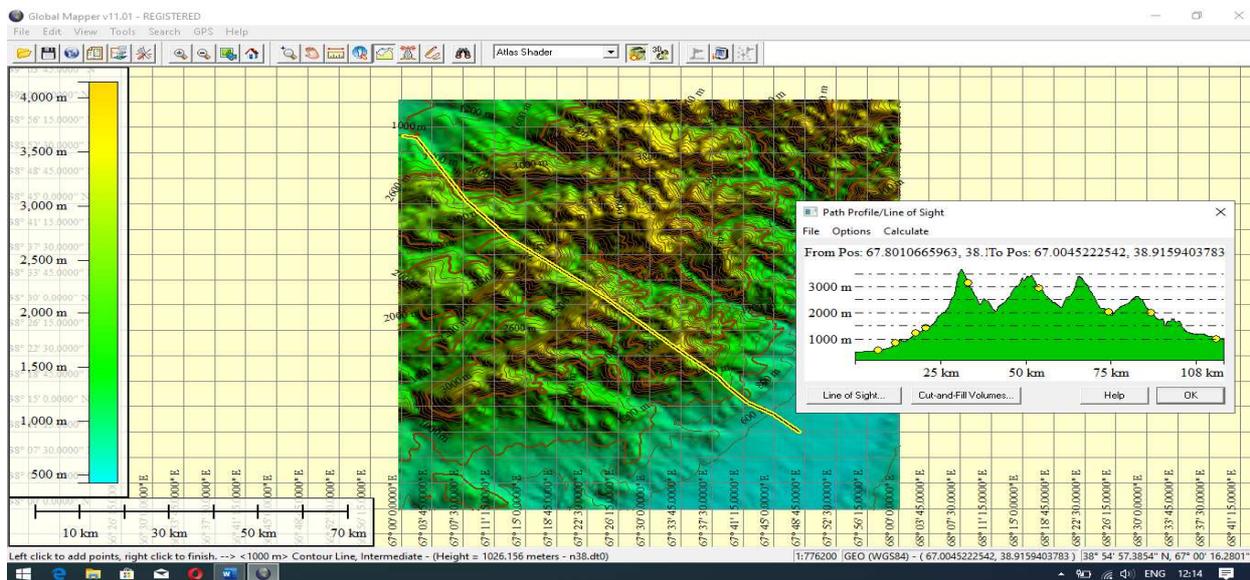


(Figure 7) Definition of boundary turning points and settlements

This dialog shows 3 different types of windows. Window 1 shows our first topographic raster map, window 2 shows a magnified map (to select coordinate values), and window 3 shows a relief map. Enlarge the map in window 2, select point 1, and in window 3, select the location that corresponds to this coordinate and place point 1. Then click the "Add Point" button and save the checkpoint. In this way, we select at least 4 high-resolution points and memorize them.

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Once we have saved the points, we click the "Accept" button, which will help us to accept the entered coordinate points. Click OK.



(Figure 8) Acceptance of coordinate points

The relief map serves as the base card when we create a 3D map. After we connect the topographic map to the base map, the program places the base card first and then the topographic map in a layer view.

3. Using the above software sequence, the process of updating topographic maps is followed on the basis of the following step and the map is generated as follows. on the basis of which a number of symbols are equipped with additional diagrams. As a result, data on all indicators of the surveyed area were reflected.

4. Conclusion.

Thus, by using the Global Mapper program to determine the absolute height of the land and create a relief of eroded lands on the basis of an automated system, the region's agricultural land can be used extensively in the development of measures on soil eroded lands using the Global Mapper program. In addition, in the production of a number of relevant industry representatives can be used to generate relief data and obtain distance markings to determine the distance.

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