Co-funded by the
Erasmus+ Programme
of the European Union

Razzakov Kyrgyz State Technikal University

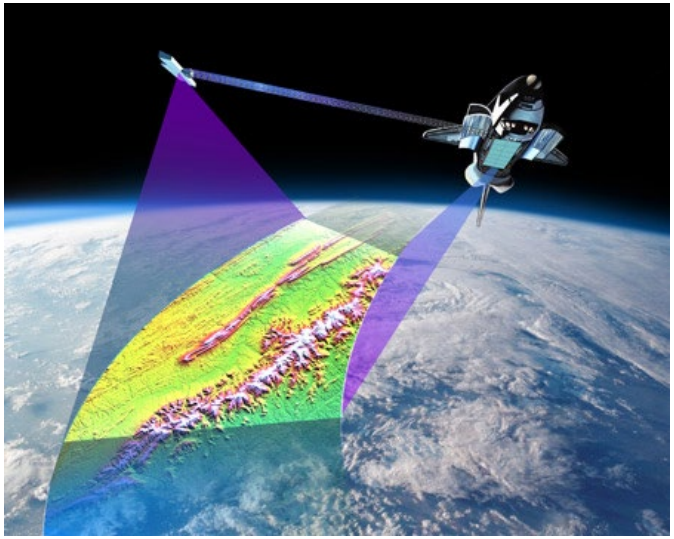
GIS for thematic mapping of the Issyk-Kul Lake basin

Saltanat Chymyrova, Senior Lecturer
Department of Geodesy and Geoinformatics
saltanat.chymyrova.kstu.kg

Co-funded by the
Erasmus+ Programme
of the European Union

On this practical work I wanted to tell and show in practice the creation of a thematic map of the basin for example Issyk-Kul Lake using SRTM images in the program complex ArcGIS Map.

An SRTM image is a satellite image of the Earth's surface created using radar equipment. Therefore, the exact outlines of the Earth's surface cannot be seen on it. The purpose of such images is to display elevation data. This SRTM image can be downloaded from : https://earthexplorer.usgs.gov/

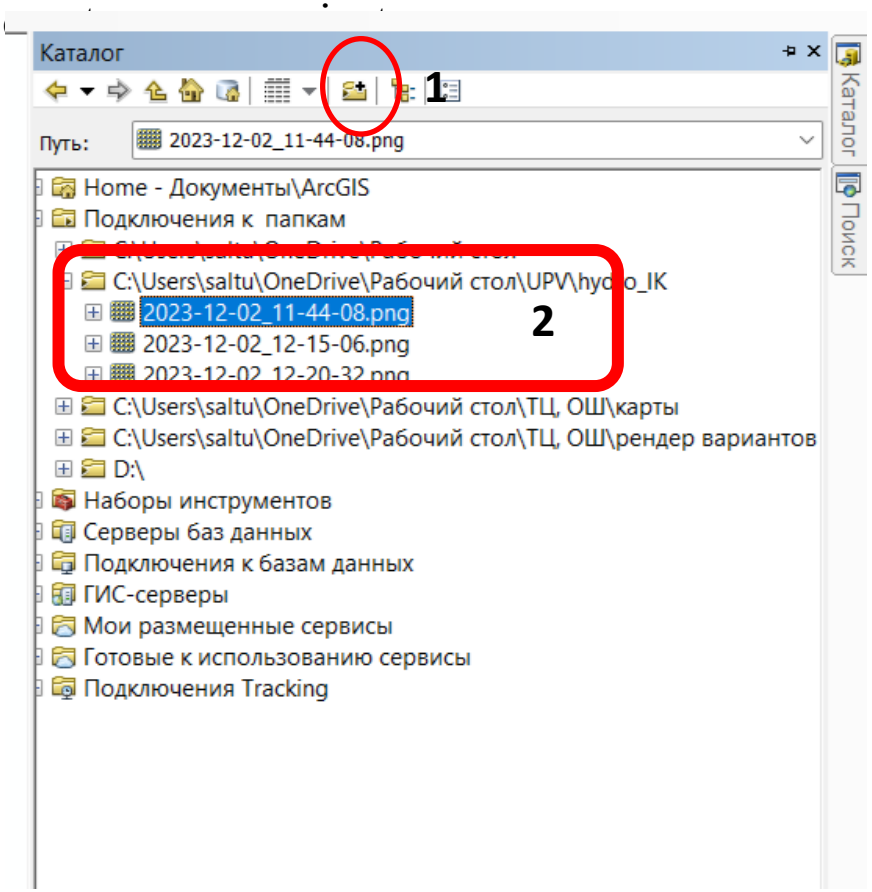


Co-funded by the
Erasmus+ Programme
of the European Union

To save you and me time I created a folder with SRTM data of Issyk-Kul Lake in advance. The data is saved in the UPV_KSTU_Saltanat folder, which is located on the desktop.

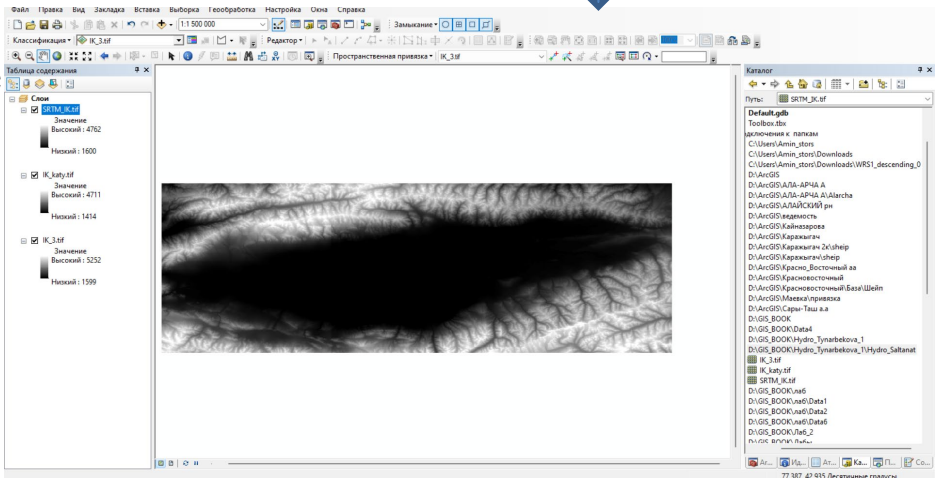
1. First, let's open ArcGIS Map and

The second step is to load our data.

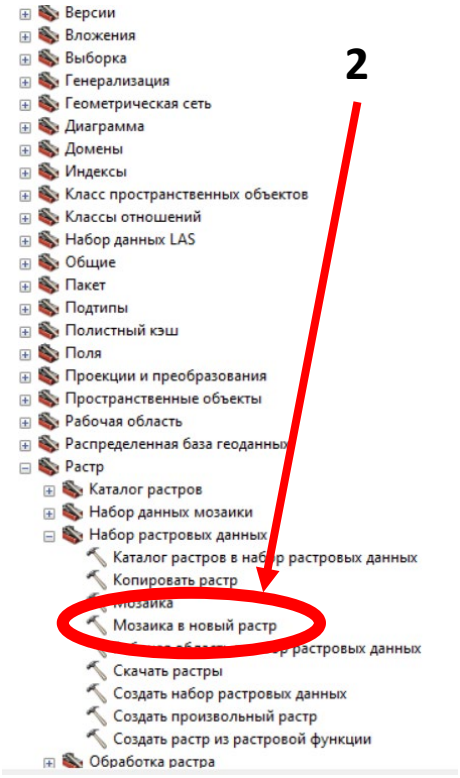


Co-funded by the
Erasmus+ Programme
of the European Union

- Next, we make one image out of three images using ArcToolbox

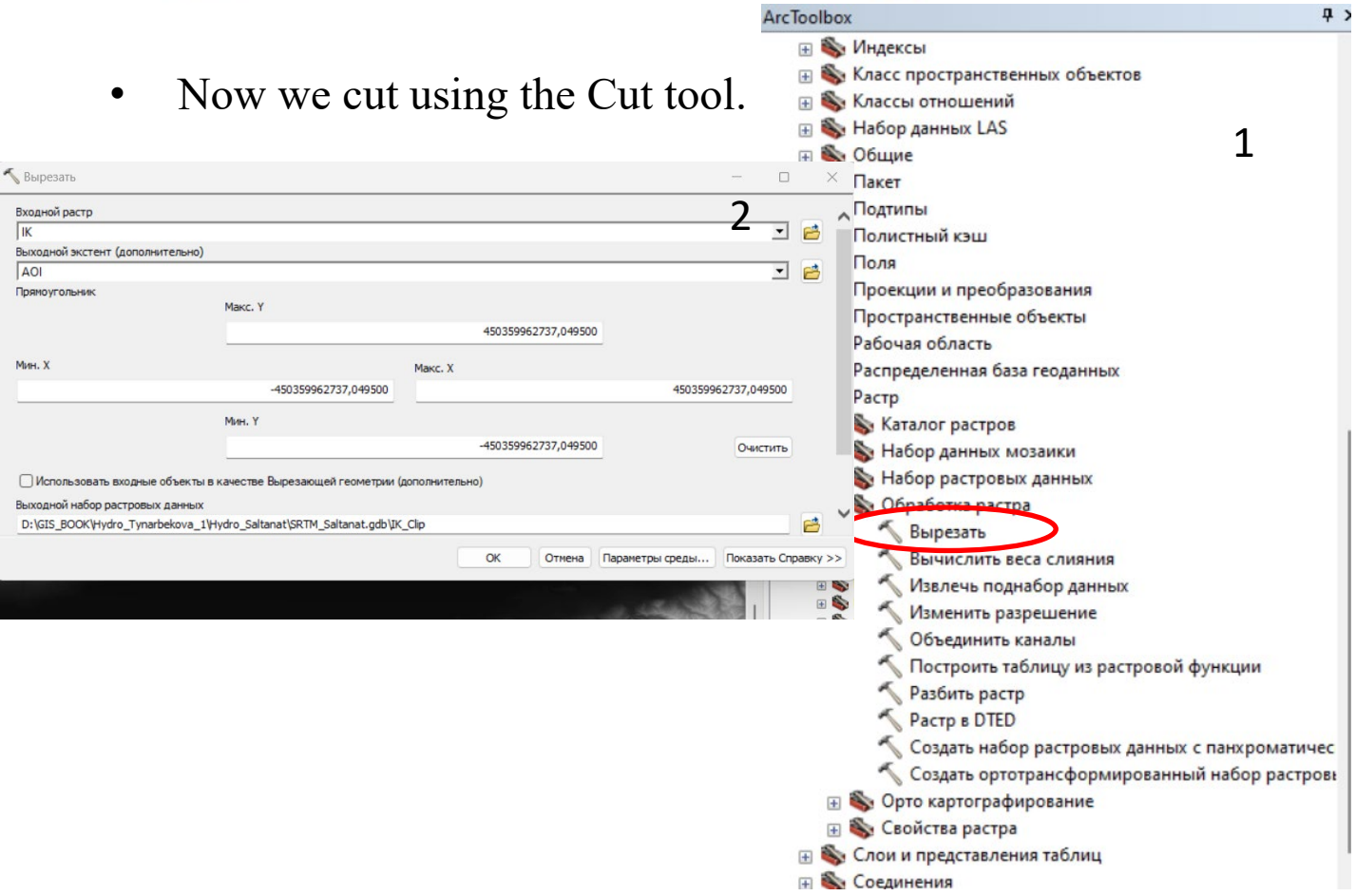


Next, open the raster tool and choose to create a new mosaic.



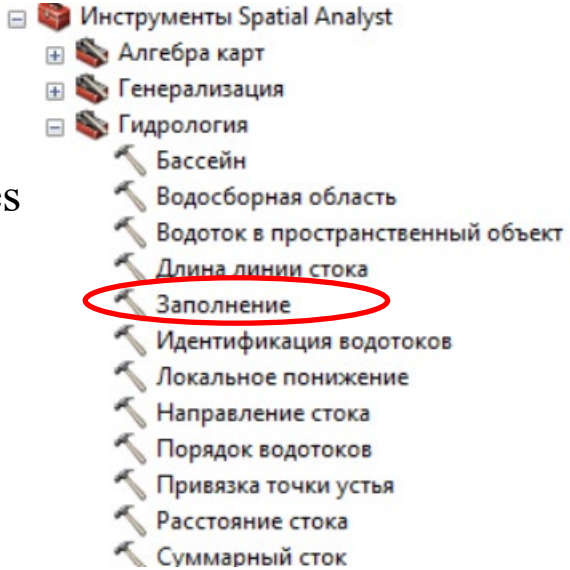
Co-funded by the
Erasmus+ Programme
of the European Union

- Now we cut using the Cut tool.

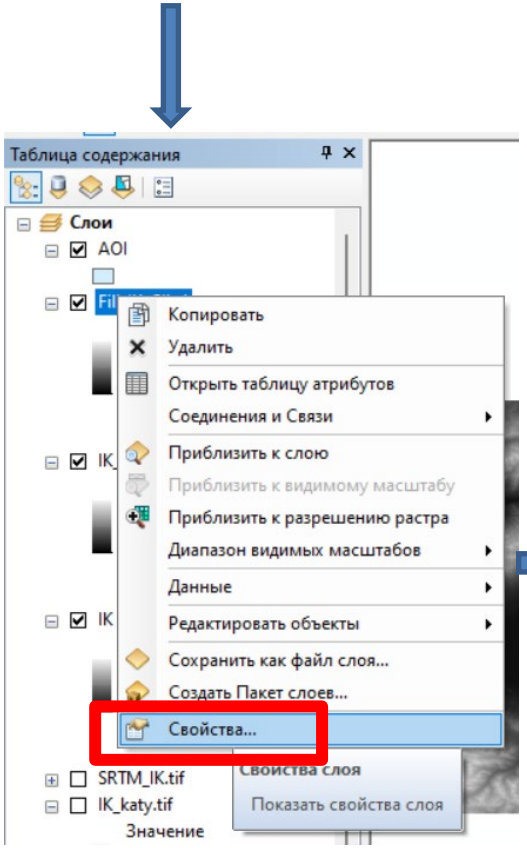


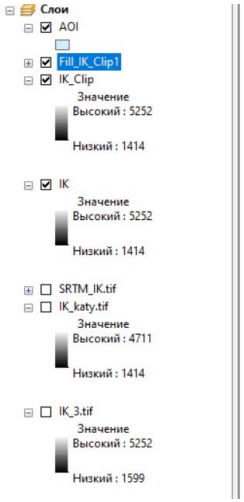
Co-funded by the
Erasmus+ Programme
of the European Union

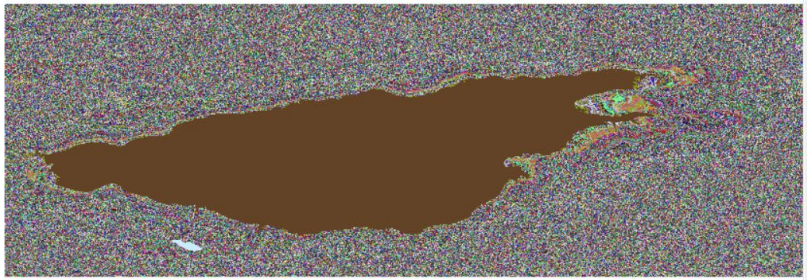
- Next, fill the cells using the Fill tool



Then change the style using the properties command

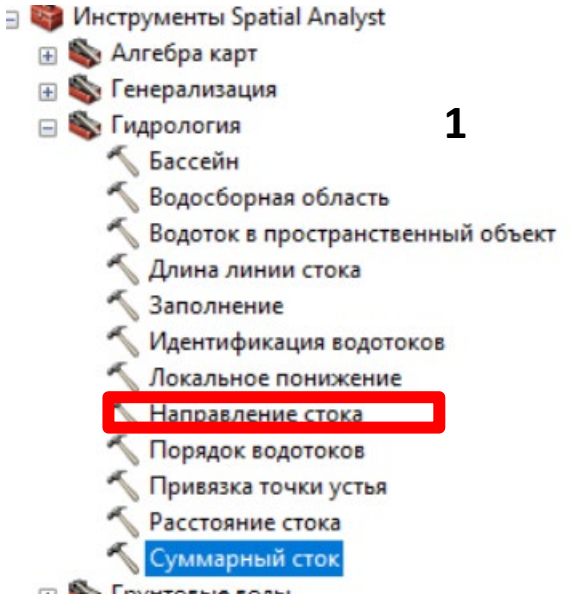


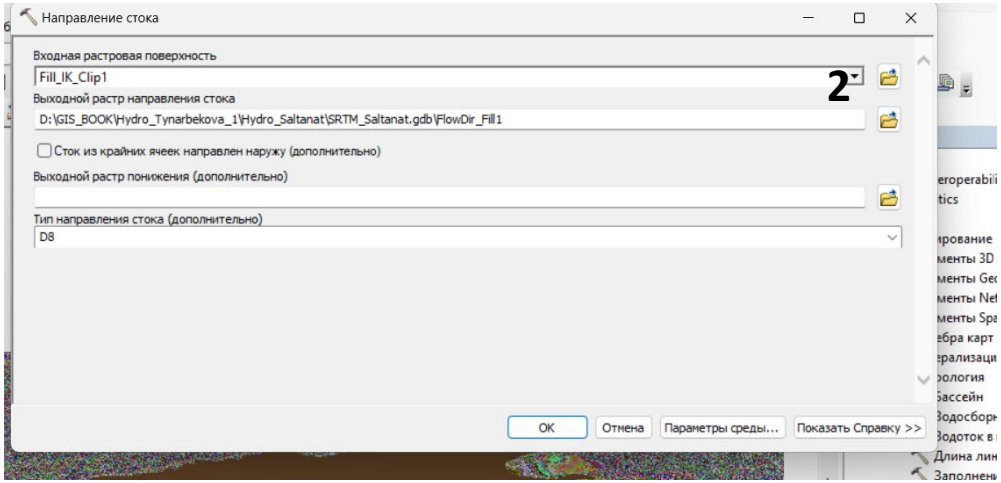


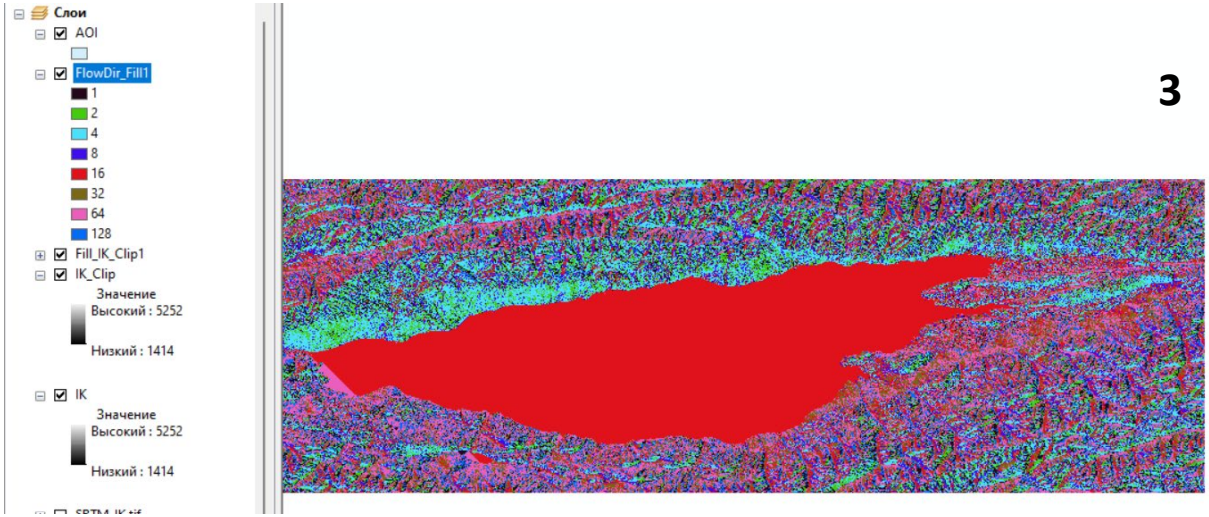


Co-funded by the
Erasmus+ Programme
of the European Union

Create a flow direction using the flow direction tool

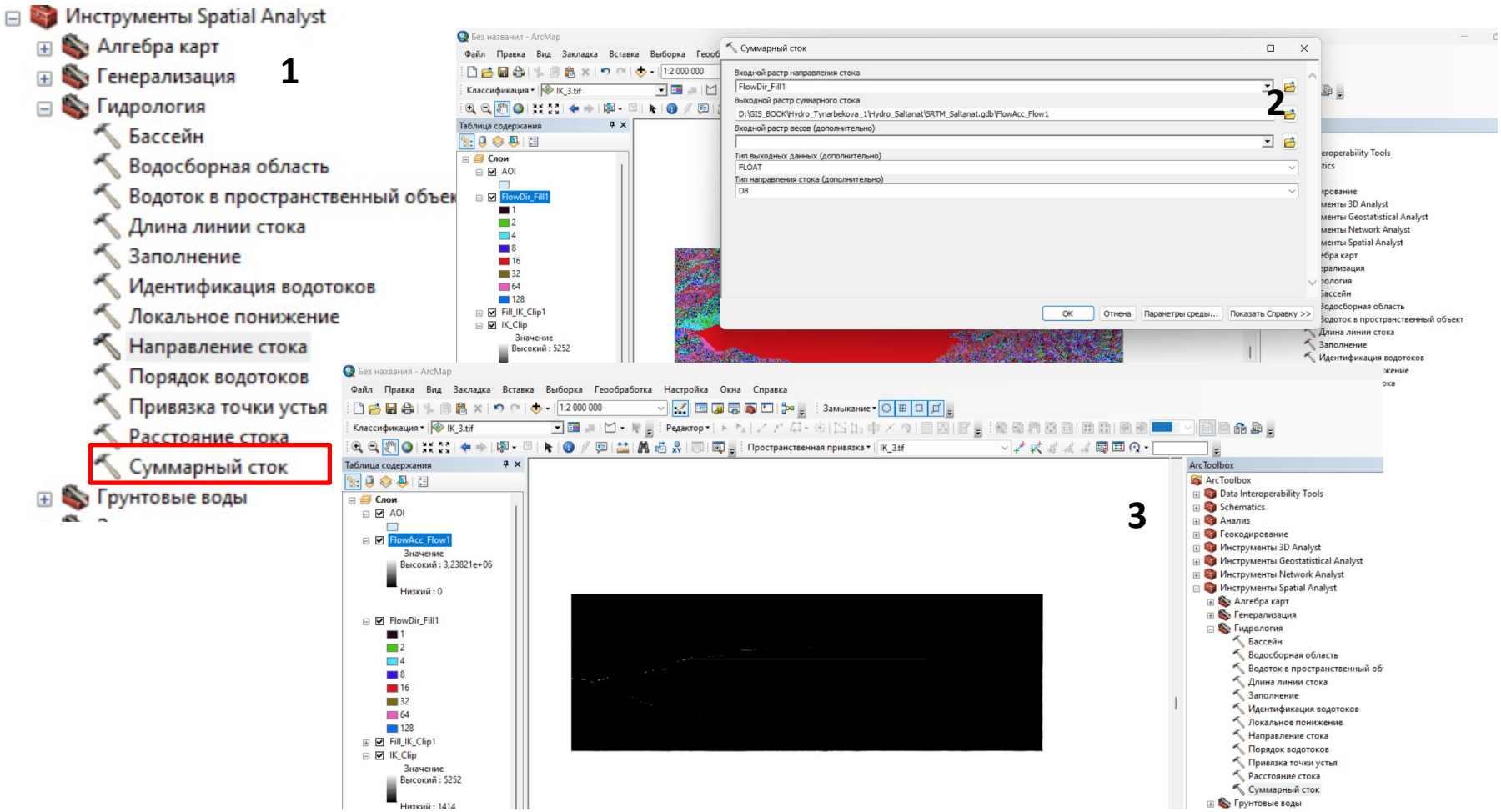






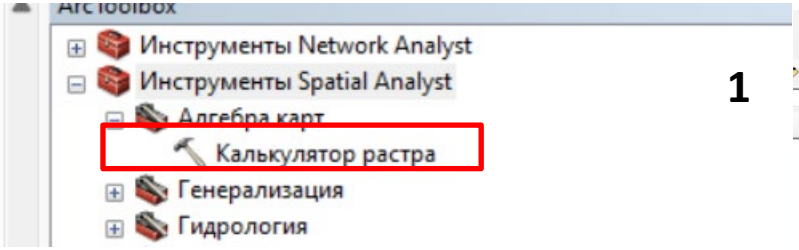
Co-funded by the Erasmus+ Programme of the European Union

Now calculate the total runoff using the Total Flow Accumulation tool

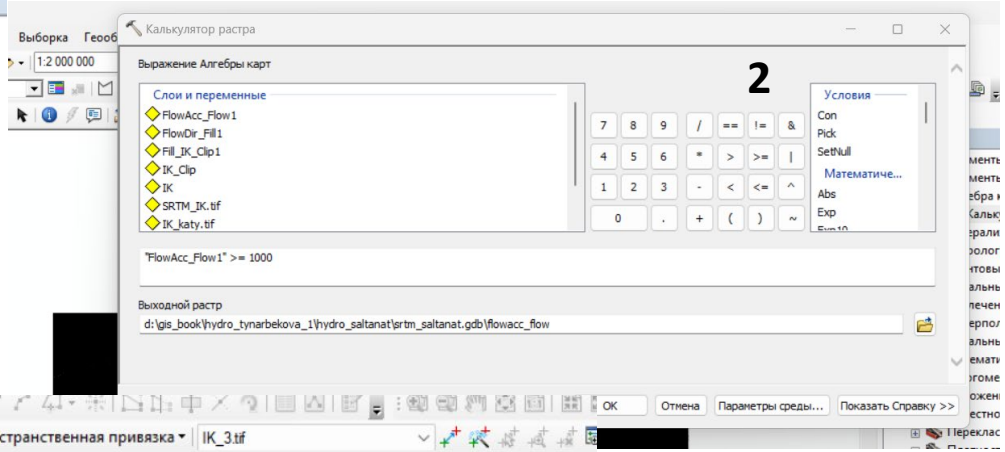


Co-funded by the
Erasmus+ Programme
of the European Union

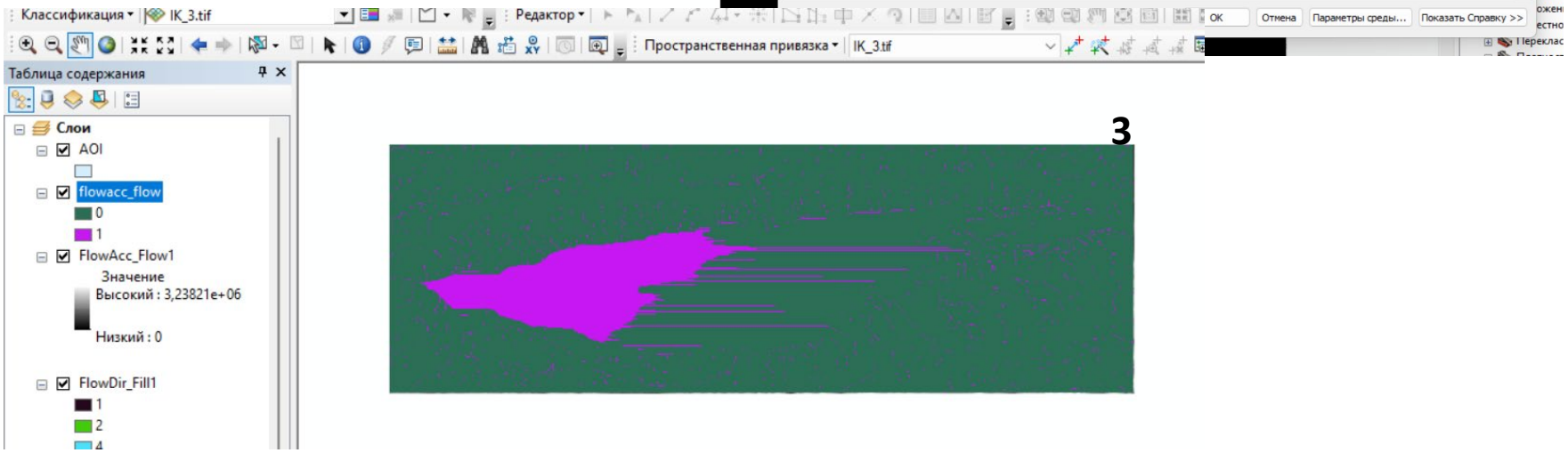
- We enlarge the river system using the image calculator with a selection of rivers greater than or equal to 1000 using the Map Algebra tool.



1



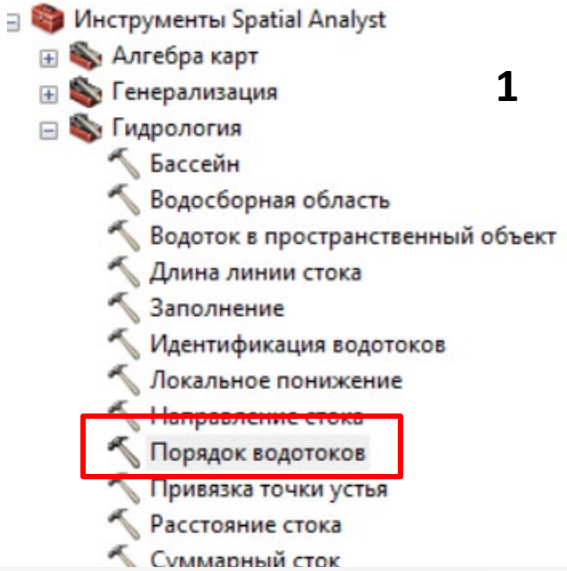
2

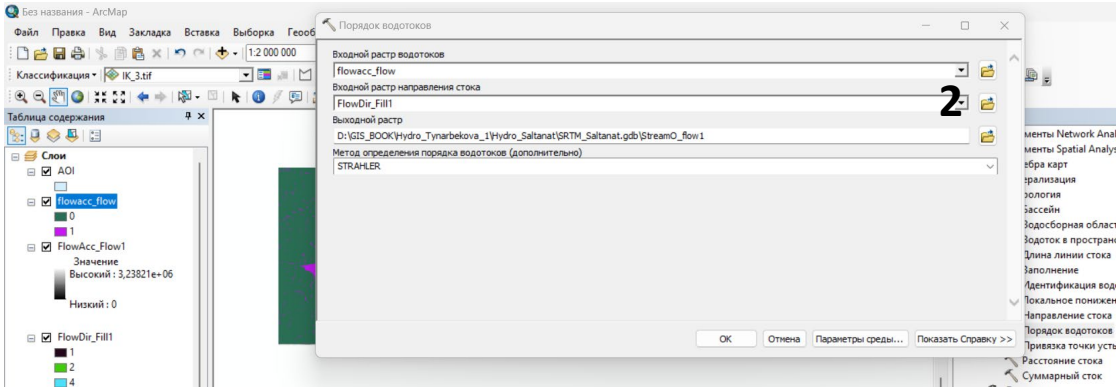


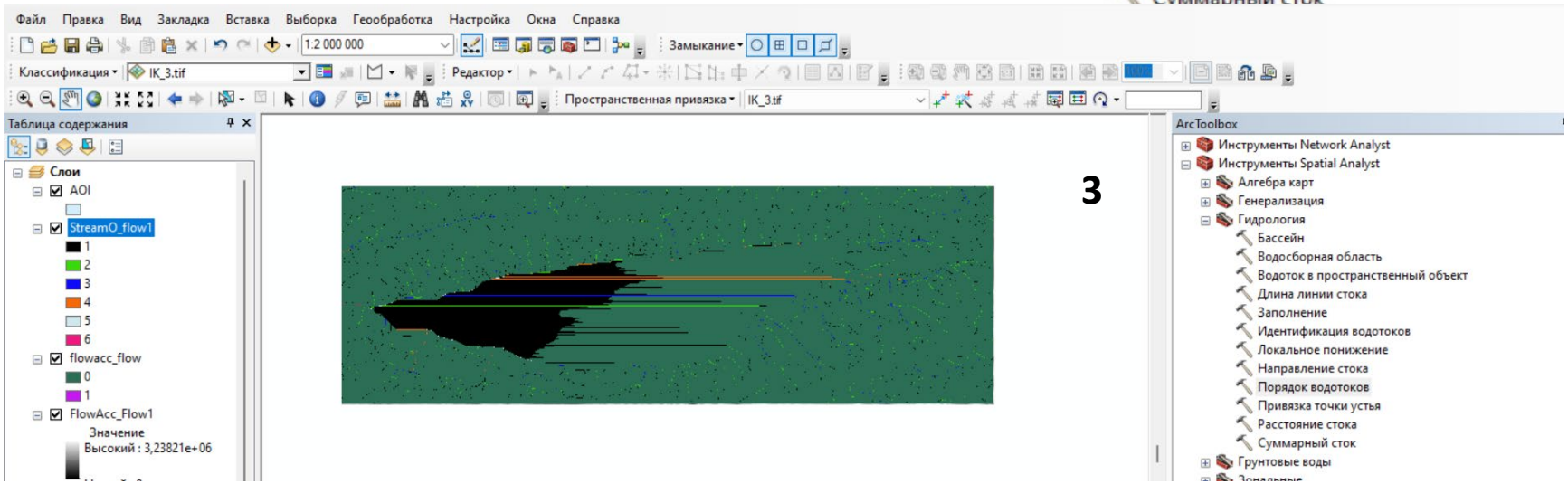
3

Co-funded by the
Erasmus+ Programme
of the European Union

- We are now determining the order of the waterways

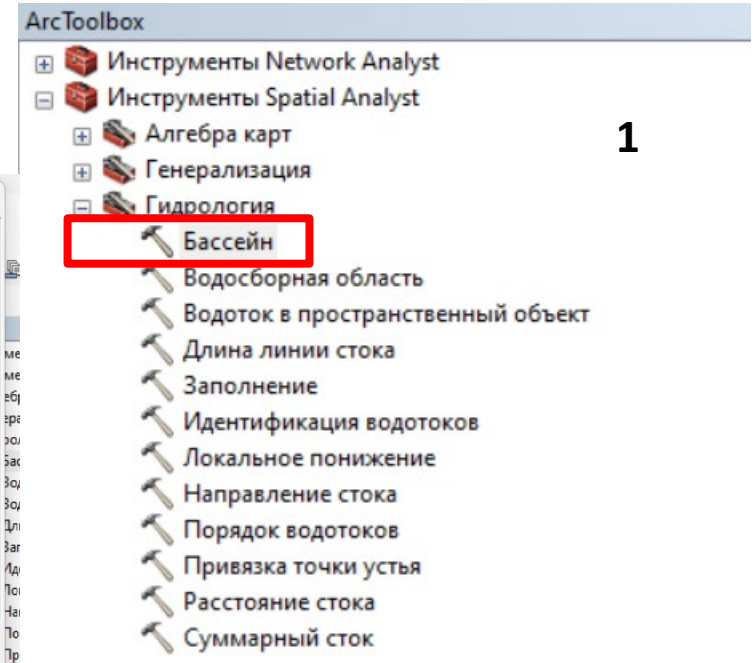




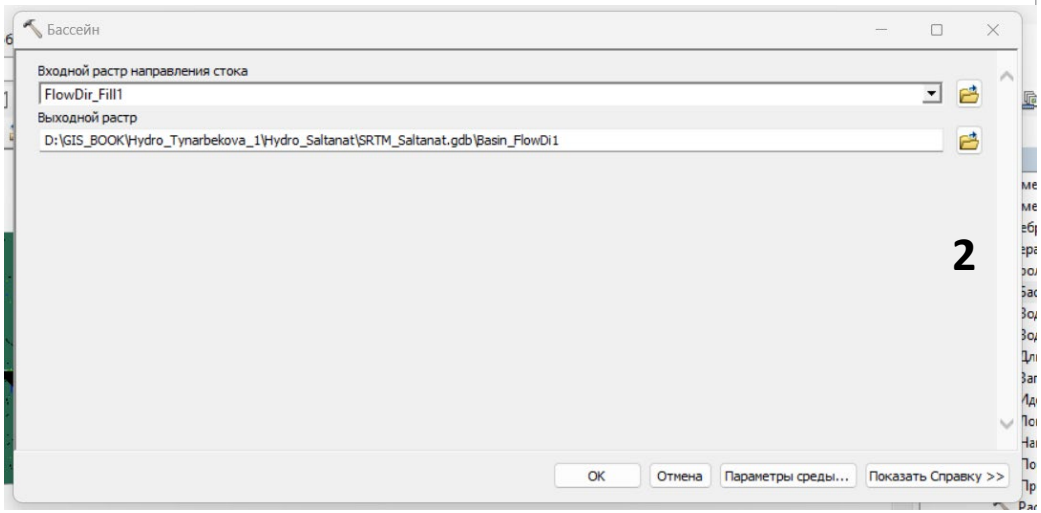


Co-funded by the
Erasmus+ Programme
of the European Union

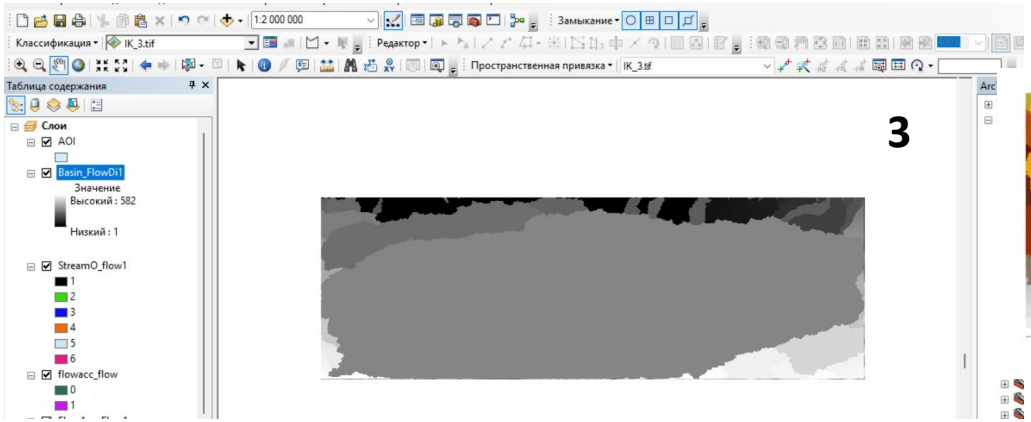
- Now model the pool using the Pool tool



1



2

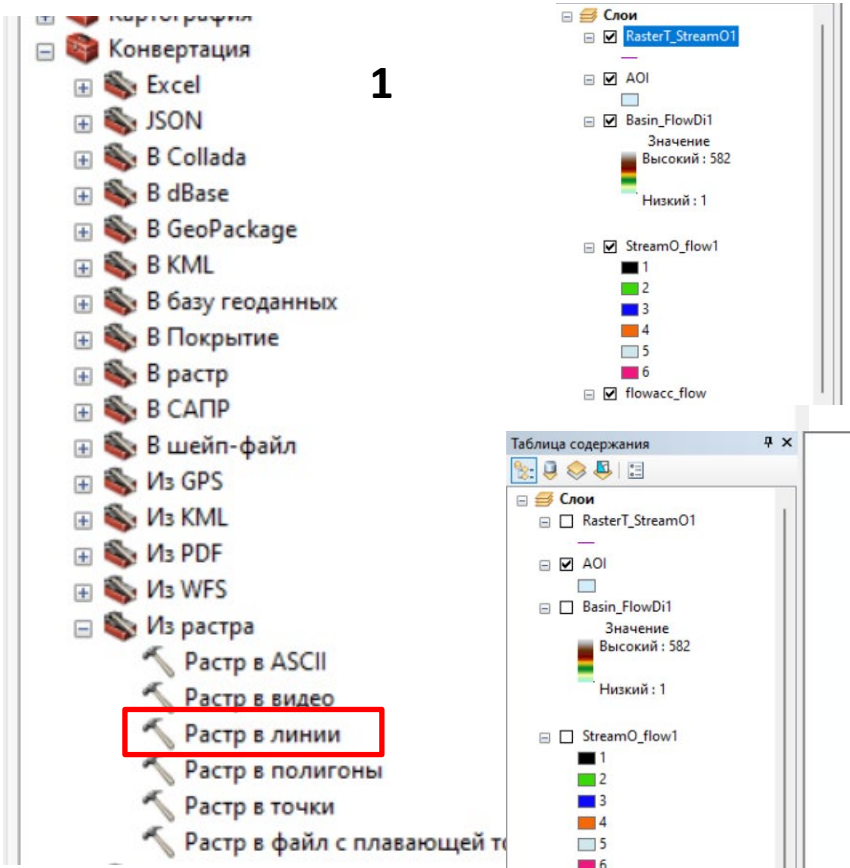


3

4

Co-funded by the
Erasmus+ Programme
of the European Union

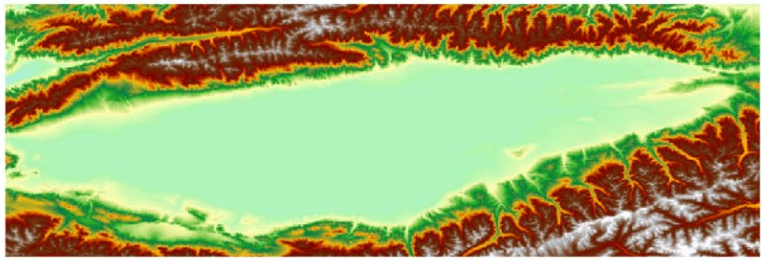
- For design, convert our file to a vector using the Convert tool



1

2

Final Result



3

Co-funded by the
Erasmus+ Programme
of the European Union

GRACIAS

POR SU ATENCION!!!!!