

Raszteres adatok hatékony megjelenítése

QGIS/GDAL

Kép mozaik és
kép piramis

MapSlicer

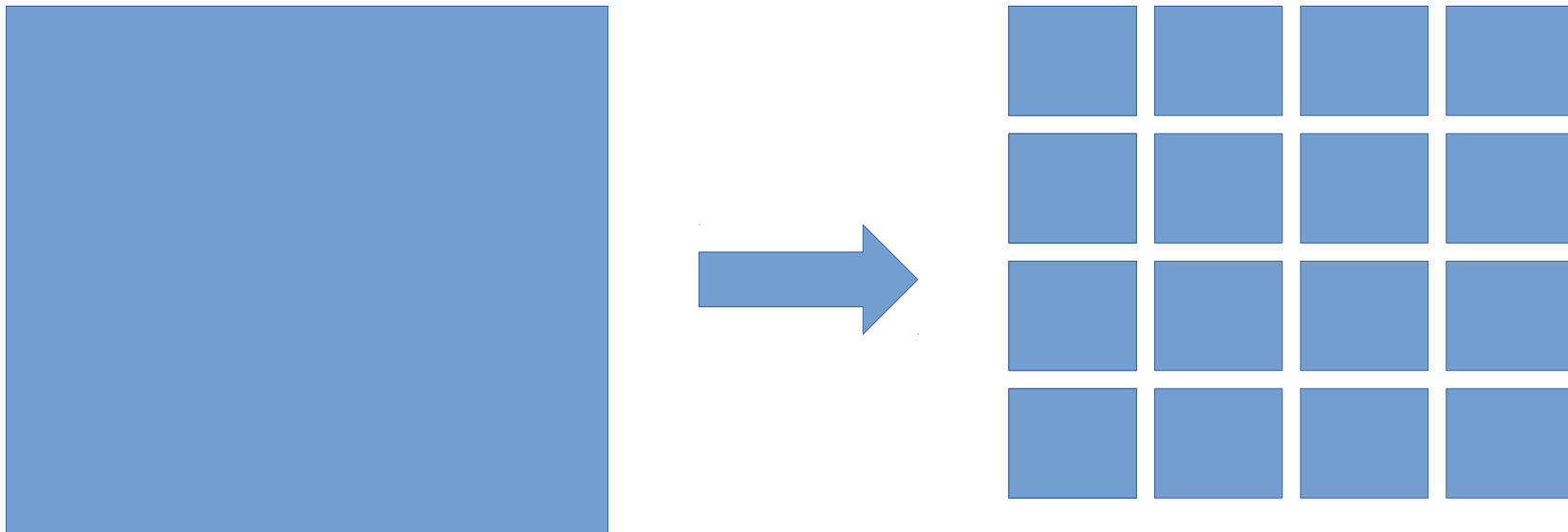
Csempék létrehozása
csempe szerverhez

Tömörített/tömörítetlen formátum

- Tömörített képek – kevesebb háttértár szükséges
- Tömörítetlen képek – hatékonyabb megjelenítés a helyi lemezről
- Tömörített képek – hatékonyabb átvitel az interneten

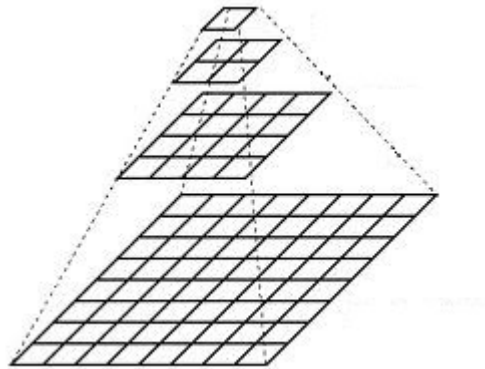
Kép mozaik

- Egy óriási raszter helyett több kisebb kiterjedésű raszter
- Egy részletre nagyítva nem kell a teljes képet kezelni csak kisebb részleteket



Kép piramis

- Több felbontásban ugyanaz a kép
- Több méretarányban hatékony megjelenítés



```
gdal_translate -srcwin 0 0 4001 4001 big.tif mosaic00.tif
gdal_translate -srcwin 0 4000 4001 4001 big.tif mosaic04000.tif
gdal_translate -srcwin 0 8000 4001 4001 big.tif mosaic08000.tif
gdal_translate -srcwin 0 12000 4001 4001 big.tif mosaic012000.tif
gdal_translate -srcwin 0 16000 4001 4001 big.tif mosaic016000.tif
gdal_translate -srcwin 4000 0 4001 4001 big.tif mosaic40000.tif
gdal_translate -srcwin 4000 4000 4001 4001 big.tif mosaic40004000.tif
gdal_translate -srcwin 4000 8000 4001 4001 big.tif mosaic40008000.tif
gdal_translate -srcwin 4000 12000 4001 4001 big.tif mosaic400012000.tif
gdal_translate -srcwin 4000 16000 4001 4001 big.tif mosaic400016000.tif
gdal_translate -srcwin 8000 0 4001 4001 big.tif mosaic80000.tif
gdal_translate -srcwin 8000 4000 4001 4001 big.tif mosaic80004000.tif
gdal_translate -srcwin 8000 8000 4001 4001 big.tif mosaic80008000.tif
gdal_translate -srcwin 8000 12000 4001 4001 big.tif mosaic800012000.tif
gdal_translate -srcwin 8000 16000 4001 4001 big.tif mosaic800016000.tif
```

```
width=4001
height=4001
for i in 0 4000 8000
do
```

```
    for j in 0 4000 8000 12000 16000
do
```

```
        gdal_translate -srcwin $i $j $width $height big.tif mosaic$i$j.tif
```

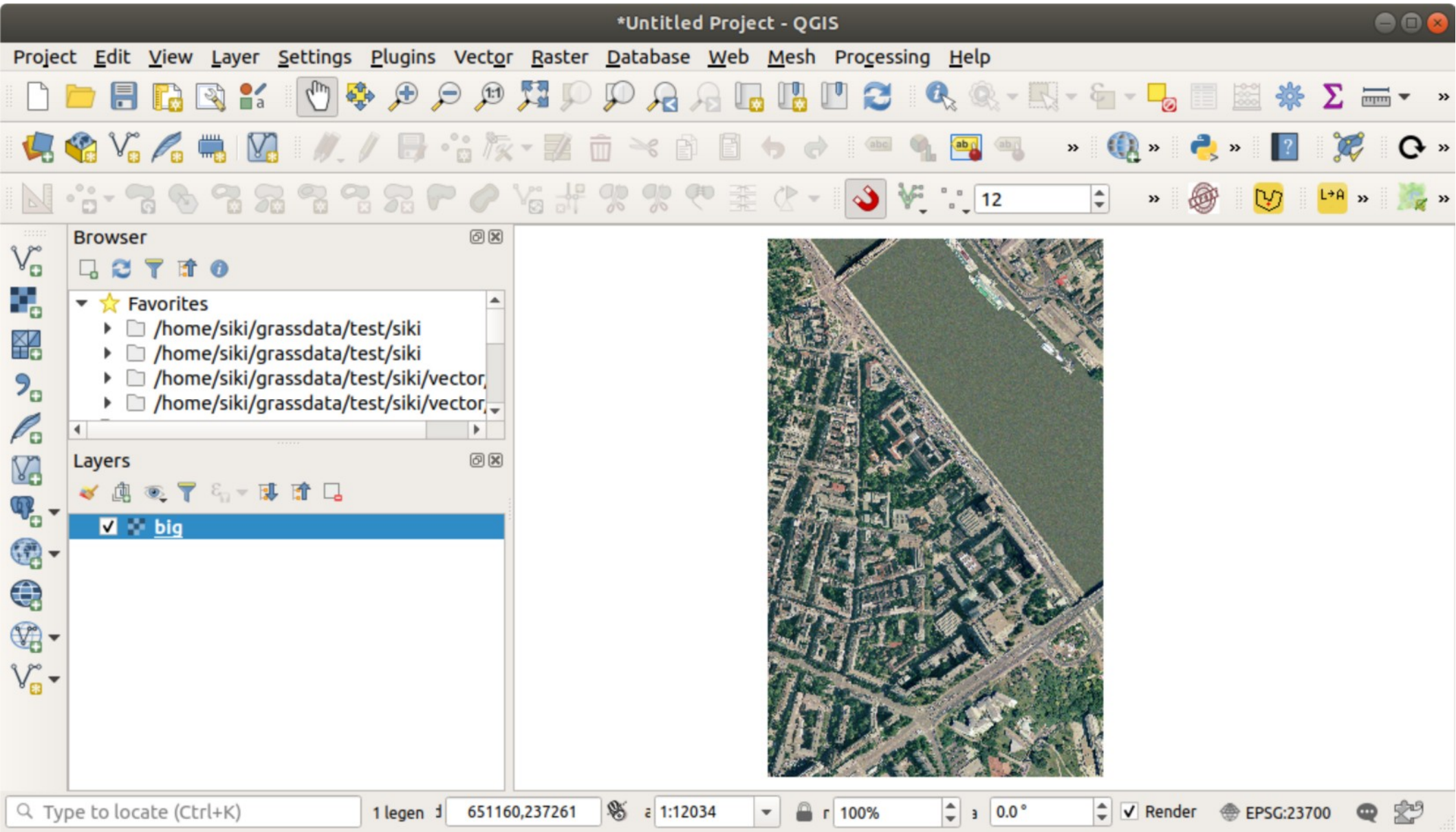
```
    done
```

```
done
```

Egy pixeles átfedés

```
for fname in mosaic*.tif
do
    gdaladdo -ro $fname 2 4 8 16
done
```

```
gdalbuildvrt mosaic.vrt mosaic*.tif
```



xyz csempék

Google, Bing, Yahoo map és az OpenStreetMap által alkalmazott rendszer

Nem kell hozzá szerver oldali szoftver

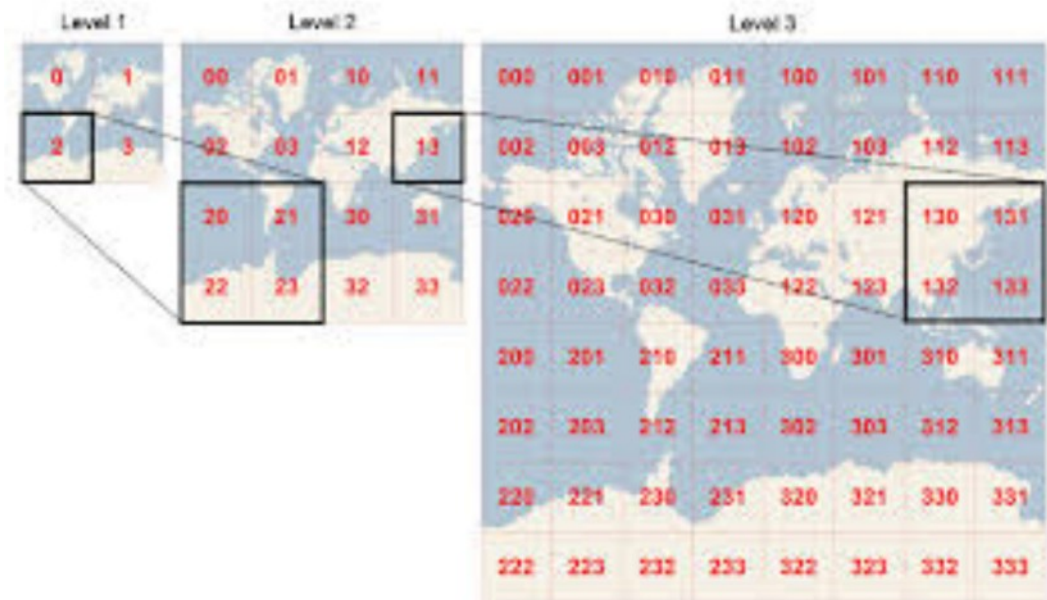
Piramist és mozaikot hoz létre a képből

256 x 256 pixeles csempék

<http://.../z/x/y.png> alakú hivatkozások z – nagyítási szint,

x, y sor- és oszlopszám

Max. 23 szint



Adat-előkészítés

Hozzuk létre egy **tile** nevű könyvtárat a saját könyvtárunkban

`cd` *a saját könyvtárba ugrás*

`mkdir tile` *könyvtár létrehozása*

Töltsük le a csempézendő képeket a **tile** könyvtárba:

<http://www.agt.bme.hu/siki/bme.zip> (kb. 50 MB)

Tömörítsük ki a képeket a **tile** könyvtárba

`unzip bme.zip`


Egyesítsük a kép fájlokat, jelenleg a MapSlicer 1 képből tud dolgozni

`gdal_merge.py -o bme.tif *.tif`

Indítsuk el a MapSlicer-t

SpatialTools csoportból

Csempe típus



Tile Profile

Source Data Files

Spatial Reference

Tile Details

Destination

Viewers

Viewer Details

Rendering

MapSlicer - Tile Generator for Map Mashups

Selection of the tile profile

What kind of tiles would you like to generate?

☐ Google Maps compatible (Spherical Mercator)

Mercator tiles compatible with Google, Yahoo or Bing maps and OpenStreetMap. Suitable for mashups and overlay with these popular interactive maps.

☐ Google Earth (KML SuperOverlay)

Tiles and KML metadata for 3D visualization in Google Earth desktop application or in the web browser plugin.

☐ WGS84 Plate Carree (Geodetic)

Compatible with most existing WMS servers, with the OpenLayers base map, Google Earth and other applications using WGS84 coordinates ([EPSG:4326](#)).


☒ Image Based Tiles (Raster)

Tiles based on the dimensions of the picture in pixels (width and height).


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Kép fájl kiválasztása



MapSlicer - Tile Generator for Map Mashups



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MapSlicer - Tile Generator for Map Mashups


Source data files


Please choose the raster files of the maps you would like to publish.


Input raster map files:

Filename	Georeference
/home/user/tile/bme.tif	650262.5 0.25 ...


+ Add

 Delete

 Up

 Down

Georeference

☐ Set transparency for a color (NODATA): 


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Vetület



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MapSlicer - Tile Generator for Map Mashups

Spatial reference system (SRS)

It is necessary to know which coordinate system (Spatial Reference System) is used for georeferencing of the input files.

What is the Spatial Reference System used in your files?

Specify the id-number from the EPSG/ESRI database

EPSG

23700

Set

[EPSG Registry](#)

```
PROJCS["HD72 / EOVS",  
  GEOGCS["HD72",  
    DATUM["Hungarian_Datum_1972",  
      SPHEROID["GRS 1967",6378160,298.247167427,  
        AUTHORITY["EPSG","7036"]],  
      TOWGS84[52.17,-71.82,-14.9,0,0,0,0],  
      AUTHORITY["EPSG","6237"]],  
    PRIMEM["Greenwich",0,  
      AUTHORITY["EPSG","8901"]],
```


Preview the map reference with this SRS

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Piramis szintek



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Details about the tile pyramid

In this step you should specify the details related to rendered tile pyramid.

Zoom levels to generate:

Minimum zoom: Maximum zoom:

Note: The selected zoom levels are calculated from your input data and should be OK in most cases.


Please choose a file format

Note: For PNG tiles, it may be advisable to use some kind of PNG compression tool on the produced tiles to optimise file sizes.


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Cél könyvtár



MapSlicer - Tile Generator for Map Mashups



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Destination folder and address

Please select a directory where the generated tiles should be saved. Similarly you can specify the Internet address where will you publish the map.

Where to save the generated tiles?

Result directory:

The Internet address (URL) for publishing the map:


Destination URL:

Note: You should specify the URL if you need to generate the correct KML for Google Earth.

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Megjelenítő

MapSlicer - Tile Generator for Map Mashups- + x



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MapSlicer - Tile Generator for Map Mashups

Selection of the viewers

MapSlicer can also generate simple web viewers for presenting the tiles as a map overlay. You can use these viewers as a base for your mashups. Similarly it is possible to generate KML files for Google Earth.

What viewers should be generated?

☐ Google Maps

Overlay presentation of your maps on top of standard Google Maps layers. If KML is generated then the Google Earth Plugin is used as well.

☒ OpenLayers


Overlay of Google Maps, Bing Maps, Yahoo Maps, OpenStreetMap and OpenAerialMap, WMS and WFS layers and another sources available in the open-source project [OpenLayers](http://openlayers.org).


☐ Google Earth (KML SuperOverlay)

If this option is selected then metadata for Google Earth is generated for the tile tree. It means you can display the tiles as an overlay of the virtual 3D world of the

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Info

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Details for generating the viewers

Please add information related to the selected viewers.

Info about the map

Title of the map:

Copyright notice (optional):

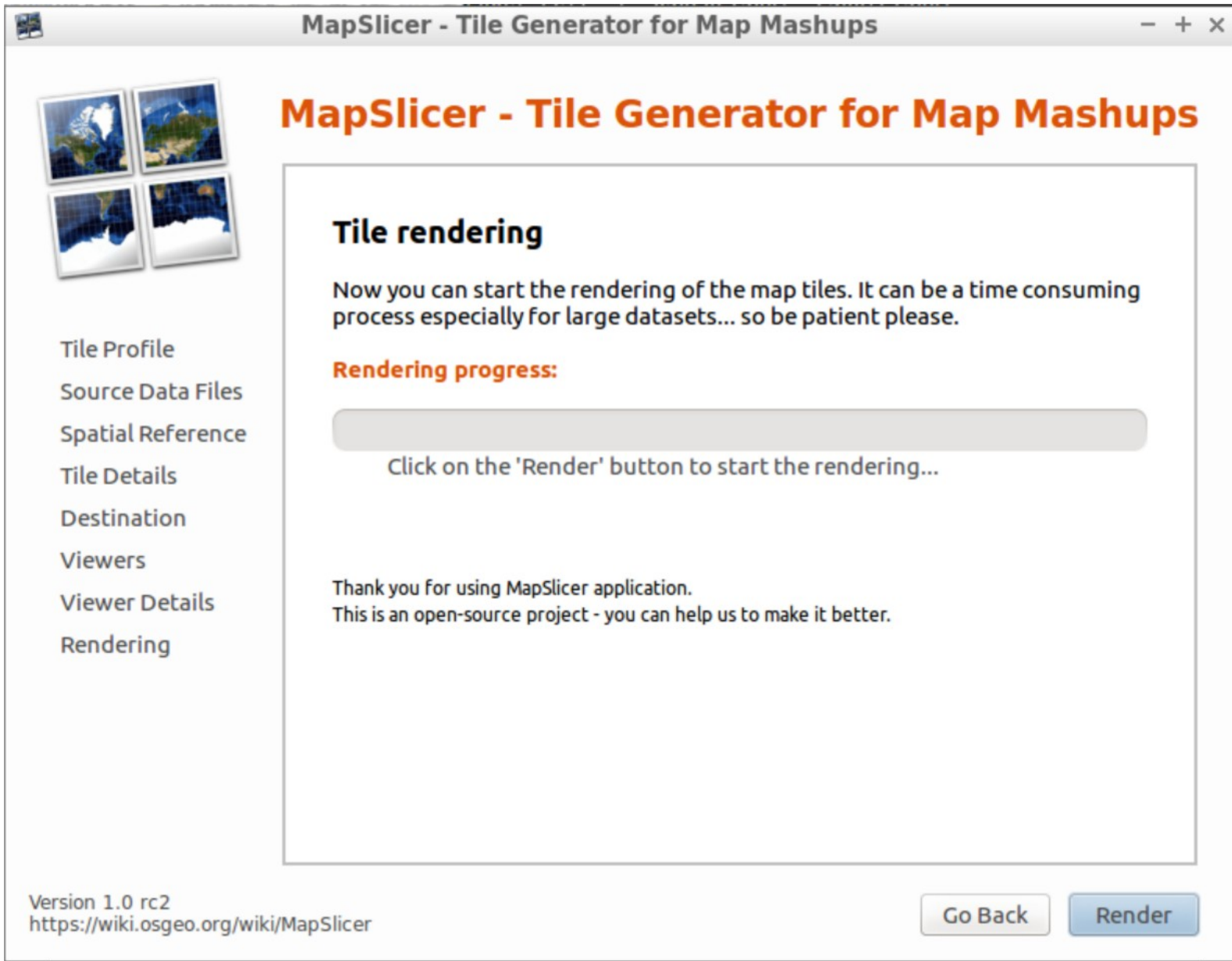
The API keys for online maps API viewers

Google Maps API key (optional):

Note: You can get it [online at this address](#).

Yahoo Application ID key (optional):

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MapSlicer - Tile Generator for Map Mashups

Tile rendering

Now you can start the rendering of the map tiles. It can be a time consuming process especially for large datasets... so be patient please.

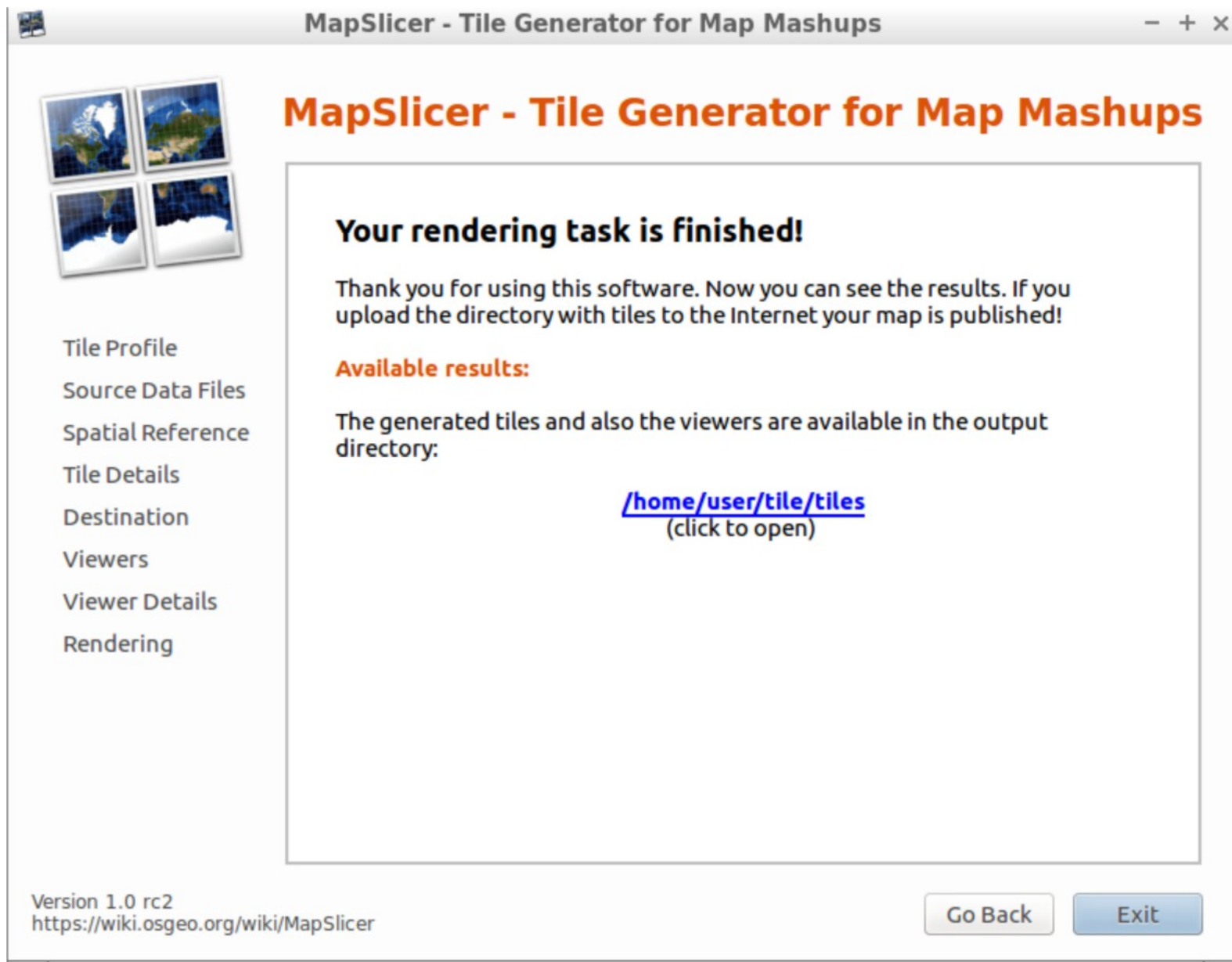
Rendering progress:



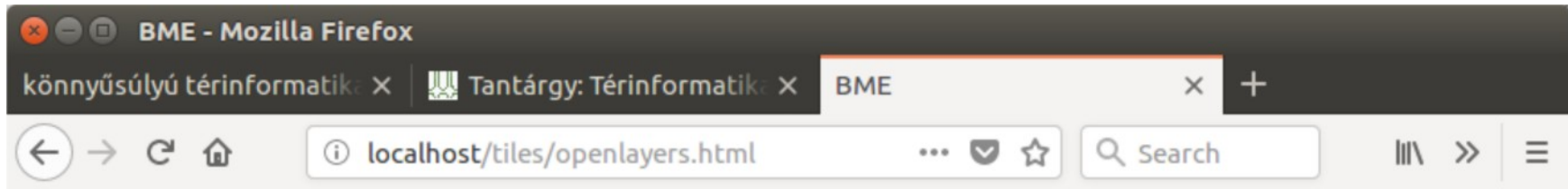
Click on the 'Render' button to start the rendering...

Thank you for using MapSlicer application.
This is an open-source project - you can help us to make it better.

Készen vagyunk!



Megjelenítés OpenLayers-ben



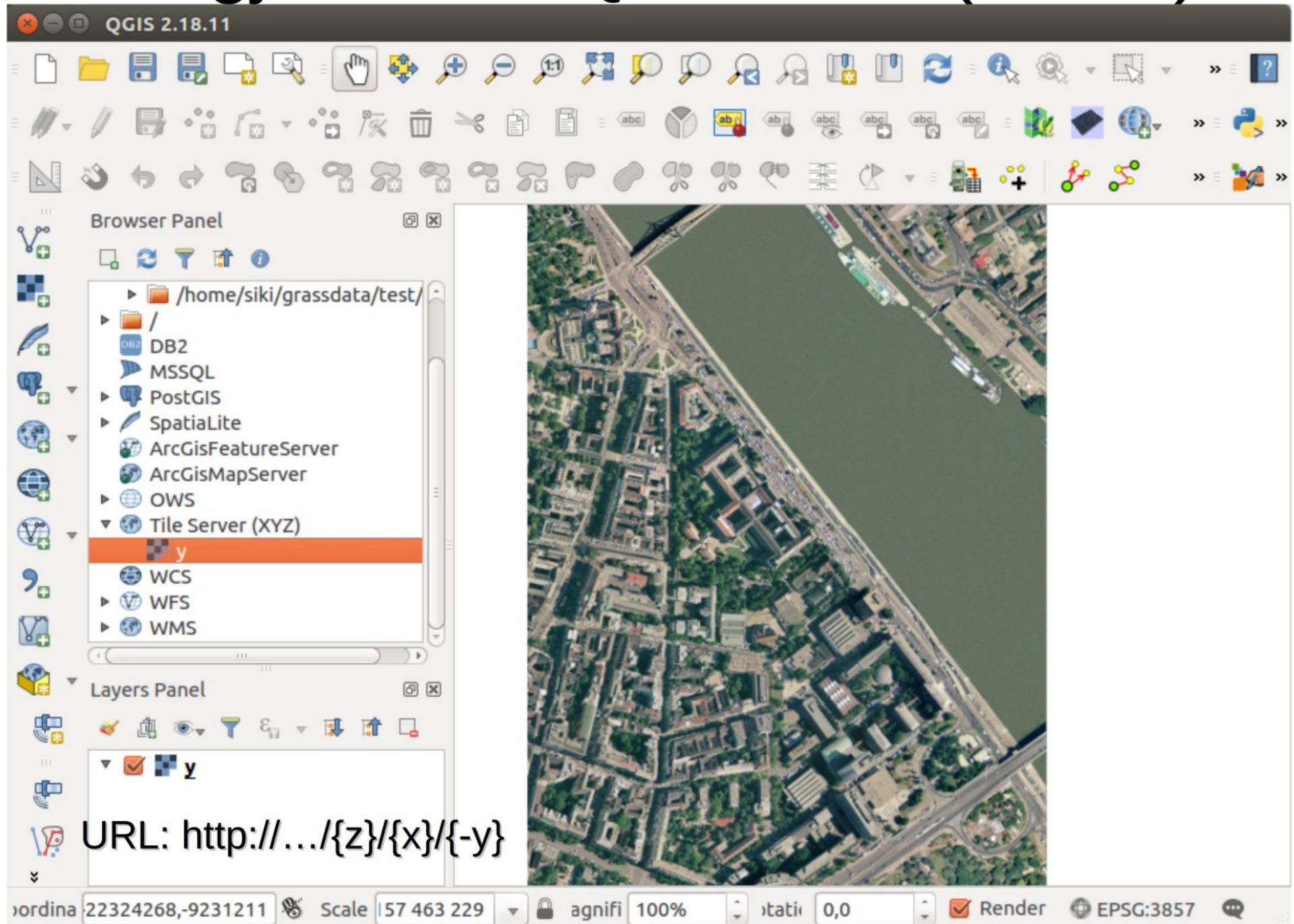
BME

Generated by [MapSlicer/GDAL](#) & [OSGeo](#)



650565.75000 237094.00000

Megjelenítés QGIS-ben (2.18+)



További megoldások

QTiles/QMetaTiles QGIS modulok

Mapnik (OSM megjelenítéshez is használják)

gdal2tiles.py (parancssori)

MBTiles generálás (egy SQLite adatbázis):

```
sudo easy_install mbutil
```

```
mb-util -h
```