

**Mgr. Petr Přidal - Klokan**  
**[info@klokantech.com](mailto:info@klokantech.com)**



# **OLDMAPSONLINE.ORG: OPEN SOURCE AND ONLINE TOOLS FOR OLD MAPS**



**Moravian Library Brno: [OldMapsOnline.org](http://OldMapsOnline.org)  
R&D grant of the Czech Ministry of Culture (DC08P020UK006)**



**FOSS4G 2010  
Barcelona  
SEP 6<sup>th</sup> - 9<sup>th</sup>**



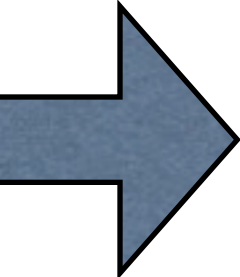


# PROJECT OLDMAPSONLINE.ORG

- **Research project of Moravian Library in Brno, Czech Republic (Bernhard Moll's Map Collection, 12k+ scans).**
- **Development of a workflow based on open-source software: to assist in the management, manipulation and visualization of historical map collections on the web**
- **Best practices and step-by-step guides for use of the free software**
- **Online tools to explore, georeference, annotate and visually integrate online old maps in a Web 2.0 style, following OGC standards and known best practices**



# THE RESULTS?

- 
1. Documentation and links to free software tools, and relevant scientific articles. Presentations.
  2. We have produced open-source software you can use right now for publishing your scanned maps online: IIPImage JPEG2000, MapTiler, .. + contributed patches in OpenLayers (Zoomify), GDAL (gdal2tiles), GeoTools
  3. An online service: [Georeferencer.org](http://Georeferencer.org)

# HTTP://HELP.OLDMAPSONLINE.ORG/

Old Maps Online: Sites

http://help.oldmapsonline.org/ Google

## Old Maps Online: Sites

Welcome

Blog & News  
Code repository

IIPImage JPEG2000: Free Software for Zoomable High Resolution Online Images!

MapTiler: fast map publishing from geodata

Scanning and digitization - parameters and formats

Online publishing of scanned maps

Georeferencing tools

Metadata

Geospatial Search

More information about this project and latest news are available in [our blog](#).

Contact (email): [info@oldmapsonline.org](mailto:info@oldmapsonline.org)  
Technical manager: [Klokan Petr Pridal](#)

## Welcome

OldMapsOnline.org is a research project which aims to develop software to assist in the management, manipulation and visualisation of historical map collections on the web. We are designing online tools for collaborative georeferencing, annotation, 3D visualisation, accuracy analysis and geometadata specification. To use these tools you need only a web browser.

With our online tools it should be possible to find maps of a particular area within different online map collections, as well as allowing the visual integration of historical map layers and overlaying these on top of Google Maps and similar base maps.

We provide free software and tutorials for online publishing of your scanned maps on your own hardware infrastructure - either as pre-rendered tiles (Zoomify) or in a dynamic form directly from your TIFF / JPEG2000 images. You can use our open-source tools for publishing maps on your own websites and even choose one of the attractive pan&zoom web viewers for the visualisation of your scanned maps.

### How to, links & best practice:

1. [Scan your maps](#)
2. [Online publishing of scanned maps](#)
3. [Georeference and analyse online](#)
4. [Metadata creation](#)
5. [Search the map collection](#)


### News from our project (the blog):

Displayed from: <http://blog.oldmapsonline.org/>


## Old Maps Online: Blog

### MapTiler: Desktop application for map online publishing from GIS tools

We actively contributed to the development of the MapTiler application, which is an excellent tool for fast and easy to use publishing of any existing raster maps, which are already georeferenced with GIS tools.



MapTiler runs under Windows, MacOSX and Linux. It is a desktop application



### Project outputs and software published:

Published open-source applications:

- **MapTiler** (desktop application): simple online publishing as mashups, for old maps in GIS formats. <http://www.maptiler.org/>
- **IIPImage Zoomify + JPEG2000** (image delivery system): Zoomify-compatible image delivery directly from JPEG2000 or TIFF images on your own hardware infrastructure: <http://iipimage.sourceforge.net/> and <http://help.oldmapsonline.org/jpeg2000/>
- **TransGen/gcps2wld** (command line utility) - georeference using ground controls points, generates best-fit affine transformation with optional limits on rotation or skew + modification of GeoTools library.
- **OAI-PMH client** (prototype) written in Python for harvesting metadata from map collections with open access catalogs.

We have several prototypes of online tools available:

- [Georeferencing Tool \(early prototype\)](#) - You can zoom&pan and select control points on the scanned image as well as on a the reference base map
- [Bounding Box \(prototype\)](#) - Visual selection of the area covered by a paper map you are cataloguing. The tool creates MARC metadata. Look at [older stable version](#)
- [MapAnalyst Online \(gui prototype\)](#) - We are going to generate an accuracy visualisation for old maps and display this on top of online images ([vector gui](#)

# Map Curators' Workshop 2009



## *From paper to screen: Putting maps on the web*

Christopher Fleet <c.fleet@nls.uk>  
Klokan Petr Přidal <klokan@klokan.cz>



Edinburgh, 9-10th September, 2009



# THE RESULTS?

1. Documentation and links to free software tools, and relevant scientific articles. Presentations.
2. We have produced open-source software you can use right now for publishing your scanned maps online: IIPImage JPEG2000, MapTiler, .. + contributed patches in OpenLayers (Zoomify), GDAL (gdal2tiles), GeoTools
3. An online service: Georeferencer.org



# PUBLISHING OF THE SCANS

- Easiest and fastest: Zoomify or DeepZoom/OpenZoom via “prerendered tiles”. Step by step tutorial:

<http://help.oldmapsonline.org/publish/>



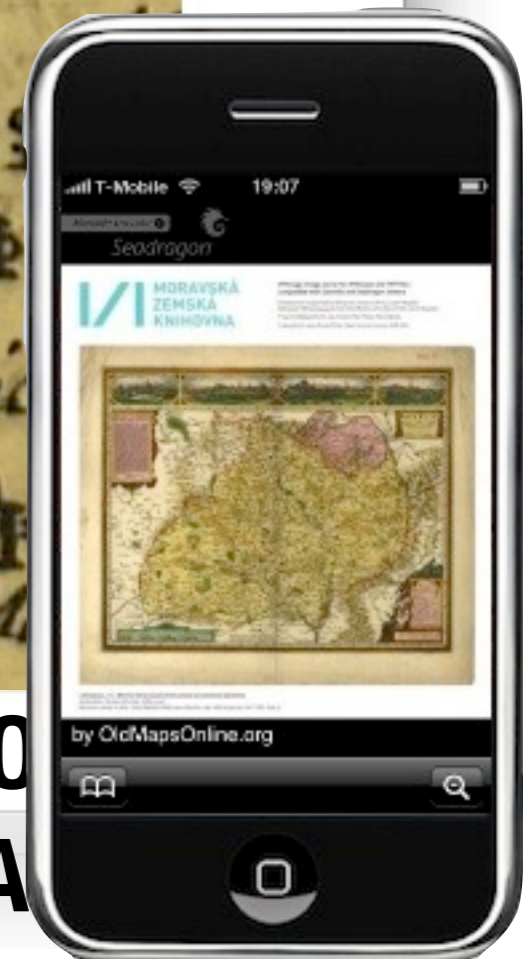
**Zoomify**

- Image Server software as an alternative:
  - For collections with thousands of images and their own hardware servers connected to the Internet
  - Possibly one image file for both online distribution and digital archiving (“open archive”)
  - Save the disk space thanks advanced compression





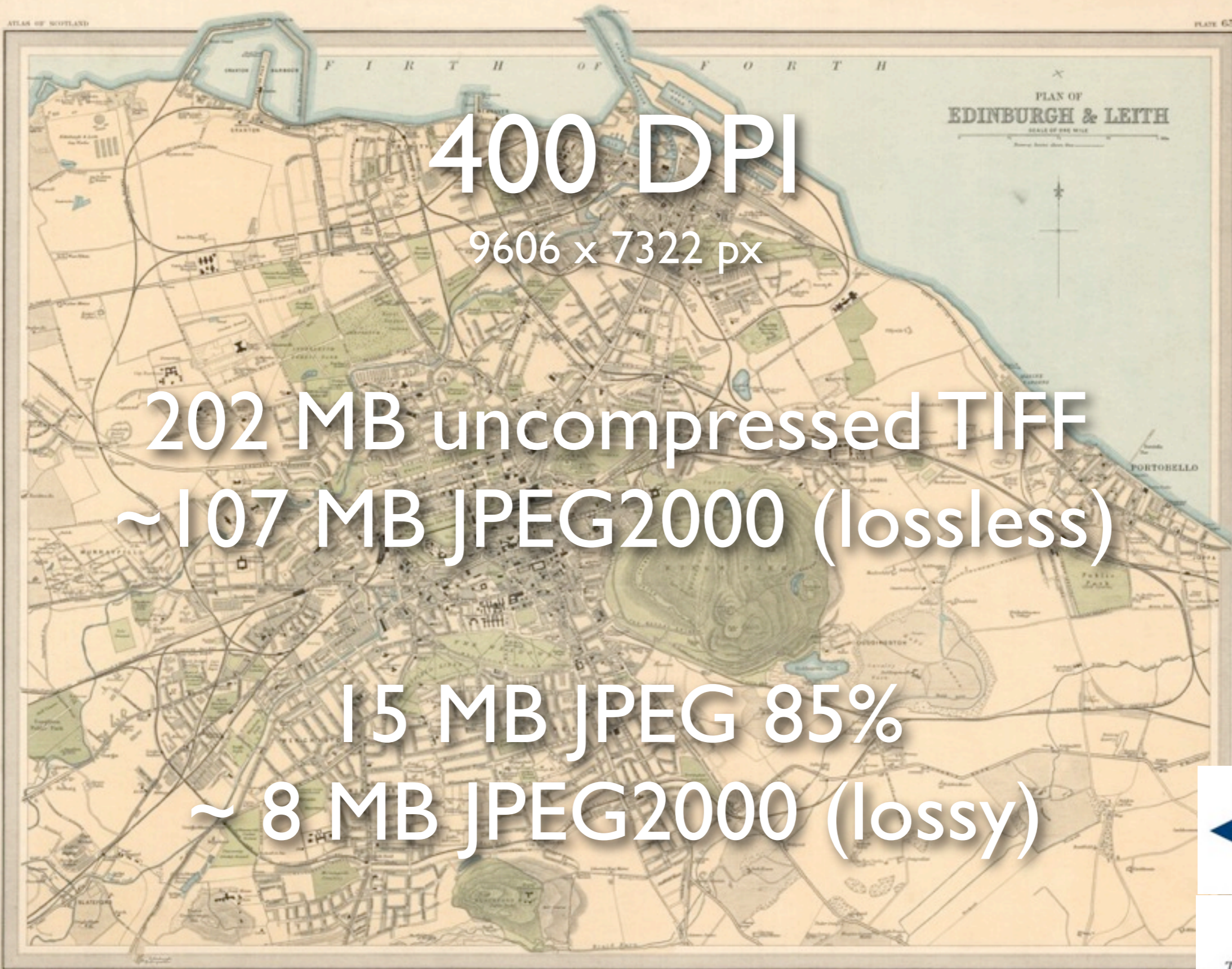
**OPENLAYERS, ZOOMIFY, MOOVIEWER, OPENZOOM**  
**TILES PREGENERATED OR SERVED BY IIPIMA**





# IIPIMAGE JPEG2000

- **Free and open-source software, runs best on a Linux server**
- **Compatible with several popular viewers (Zoomify, SeaDragon, IIPMooViewer, OpenLayers, PanoJS, ...) and iPhone or Google Earth**
- **Easy to install (prepared step-by-step tutorial and a Debian package)**
- **Alternative to commercial products such as Lizardtech ExpressServer (MrSID), ERDAS Image Web Server (ECW)**
- **Direct distribution of TIFF images (with encoded pyramid)**
- **Support for JPEG2000 format (via Kakadu library - non-commercial use only, 100% free OpenJPEG library later on)**



400 DPI

9606 x 7322 px

202 MB uncompressed TIFF  
~107 MB JPEG2000 (lossless)

15 MB JPEG 85%  
~ 8 MB JPEG2000 (lossy)



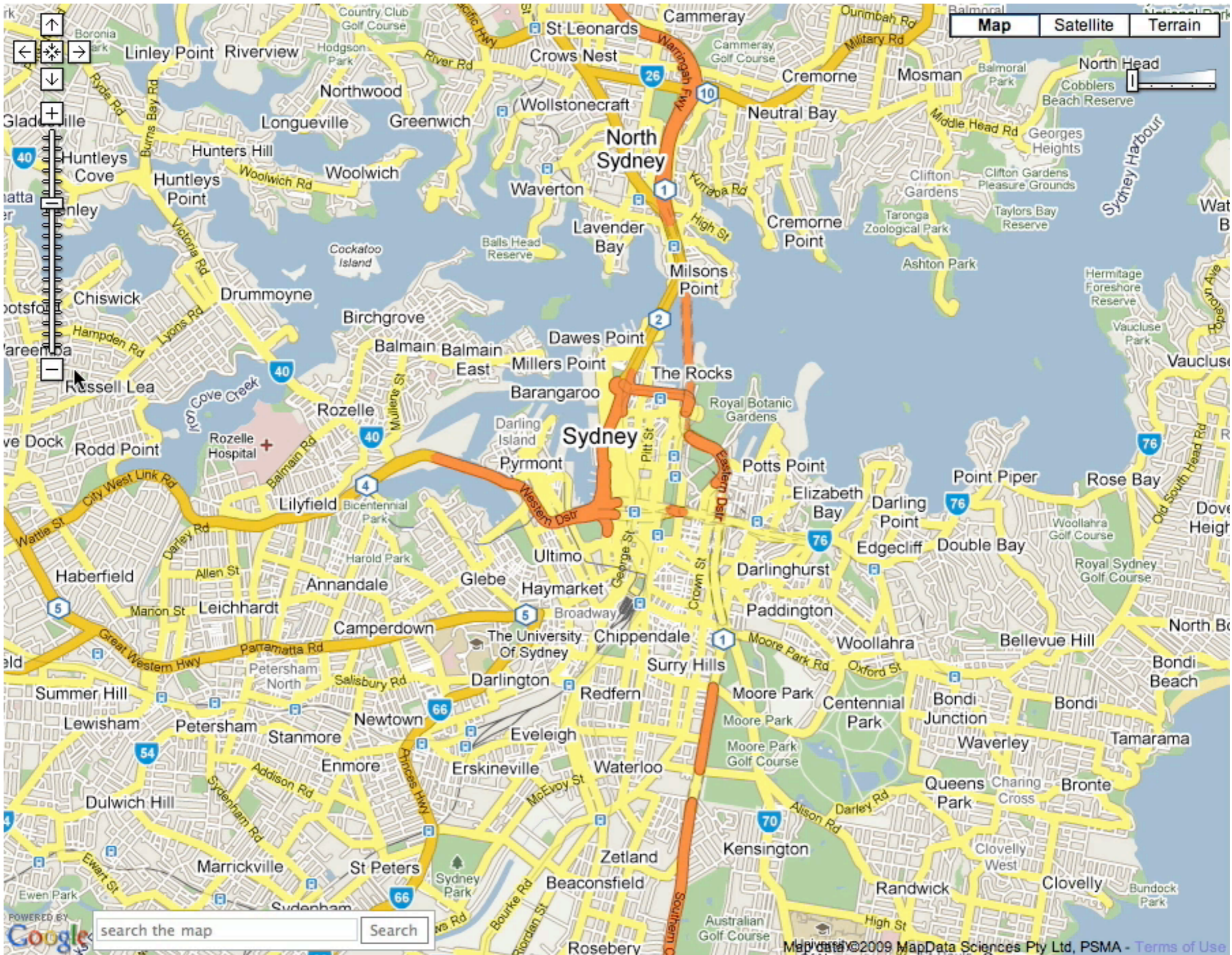
Promoting the Art and Science of Mapmaking

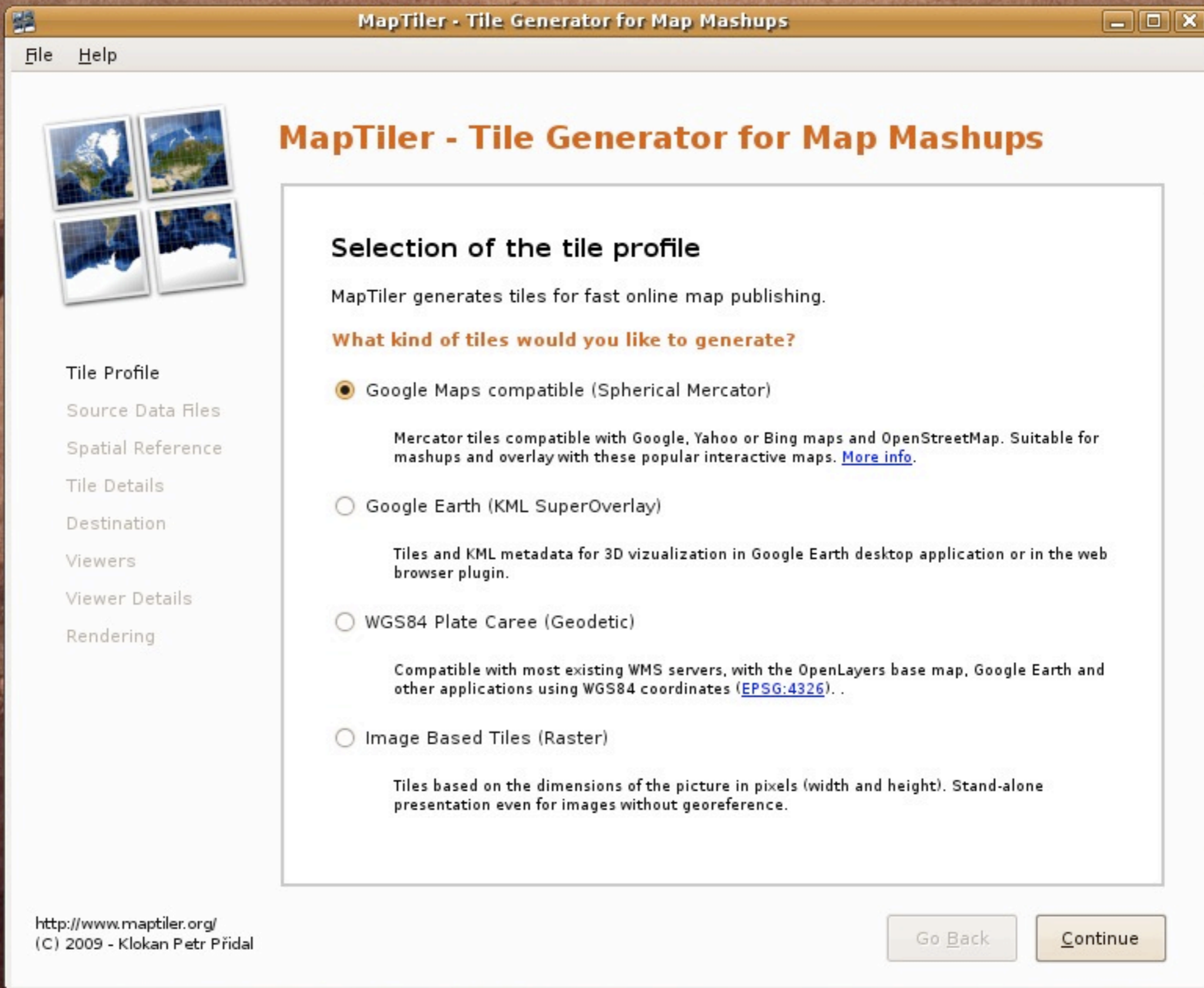


# IIPIMAGE JPEG2000

- **Considering to use JPEG2000 format for archiving?**
- **Do you want to publish high resolution images online?**
- **Have a look at our open-source project!**
- **Documentation, best practice articles related to encoding to JPEG2000, software for download:**


**<http://oldmapsonline.org/jpeg2000/>**







MapTiler - Tile Generator for Map Mashups



## MapTiler - Tile Generator for Map Mashups

### Selection of the tile profile

MapTiler generates tiles for fast online map publishing.

**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. [More info.](#)
- Google Earth (KML SuperOverlay)**

Tiles and KML metadata for 3D vizualization in Google Earth desktop application or in the web browser plugin.
- WGS84 Plate Caree (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). Stand-alone presentation even for images without georeference.

<http://www.maptiler.org/>  
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[Go Back](#) [Continue](#)





# MapTiler - Tile Generator for Map Mashups

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Image Based Tiles (Raster)

Tiles based on the dimensions of the picture in pixels (width and height). Stand-alone presentation even for images without georeference.

Tile Profile

Source Data Files

Spatial Reference

Tile Details

Destination

Viewers

Viewer Details

Rendering

Go Back

Continue





MapTiler



usgs-drq-gra...



usgs-drq-gra...



# MapTiler - 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

- Add
- Delete
- Up
- Down
- Georeference

Set transparency for a color (NODATA):



MapTiler



usgs-drg-gra...



usgs-drg-gra...

MapTiler - Tile Generator for Map Mashups

File Help

### Choose a file

Look in: My Documents

usgs-drg-grand-canyon-o36112a2.tiff

My Recent Documents  
Desktop  
My Documents  
My Computer  
My Network

File name:

Files of type: Supported raster files

Open Cancel

Georeference

publish.

Georeference

Add Delete Up Down Georeference

Set transparency for a color (NODATA):

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MapTiler



usgs-drg-gra...



usgs-drg-gra...

MapTiler - Tile Generator for Map Mashups

File Help

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My Recent Documents  
Desktop  
My Documents  
My Computer  
My Network

File name:

Files of type: Supported raster files

Open  
Cancel

Down Georeference

Go Back Continue

http://www.maptiler.org/  
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- Supported raster files
- TIFF / BigTIFF / GeoTIFF (.tif)
- BSB Nautical Chart Format (.kap)
- JPEG2000 - JPEG 2000 (.jp2, .j2k)
- MrSID - Multi-resolution Seamless Image Database
- ECW - ERMapper Compressed Wavelets (.ecw)
- HFA - Erdas Imagine Images (.img)
- NITF - National Imagery Transmission Format (.nitf)
- NDF - NLAPS Data Format (.h1, .h2, .hd)
- MFF - Vexcel MFF Raster (.hdr)
- INGR - Intergraph Raster Format (.cit, .rgb...)
- EIR -- Erdas Imagine Raw (.raw)
- BLX -- Magellan BLX Topo File Format (.blx)
- JPEG - Joint Photographic Experts Group JFIF (.jpg)
- PNG - Portable Network Graphics (.png)
- GIF - Graphics Interchange Format (.gif)
- BMP - Microsoft Windows Device Independent Bitmap
- WMS - GDAL driver for OGC Web Map Server (.wm
- VRT - GDAL Virtual Raster (.vrt)
- All files (\*.\*)



MapTiler



usgs-drg-gra...



usgs-drg-gra...



# MapTiler - 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
C:\Documents and Settings\Administrator\My Documents\usgs-drg-grand-...	386638.171478 2....

Set transparency for a color (NODATA):



MapTiler



usgs-drq-gra...



usgs-drq-gra...

# MapTiler - Tile Generator for Map Mashups

File Help



## MapTiler - 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. More info in the [MapTiler help](#).

#### What is the Spatial Reference System used in your files?

Custom definition of the system (WKT, Proj.4,...)

Custom definition of the system (WKT, Proj.4,...)

WGS84 - Latitude and longitude (geodetic)

Universal Transverse Mercator - UTM (projected)

Specify the id-number from the EPSG/ESRI database

Search the coordinate system by name

```

AUTHORITY["EPSG", "6267"],
PRIMEM["Greenwich", 0],
UNIT["degree", 0.0174532925199433],
AUTHORITY["EPSG", "4267"],
PROJECTION["Transverse_Mercator"],
PARAMETER["latitude_of_origin", 0],
PARAMETER["central_meridian", -111],
PARAMETER["scale_factor", 0.9996],
PARAMETER["false_easting", 500000],

```

Preview the map reference with this SRS

- Tile Profile
- Source Data Files
- Spatial Reference
- Tile Details
- Destination
- Viewers
- Viewer Details
- Rendering

<http://www.maptiler.org/>  
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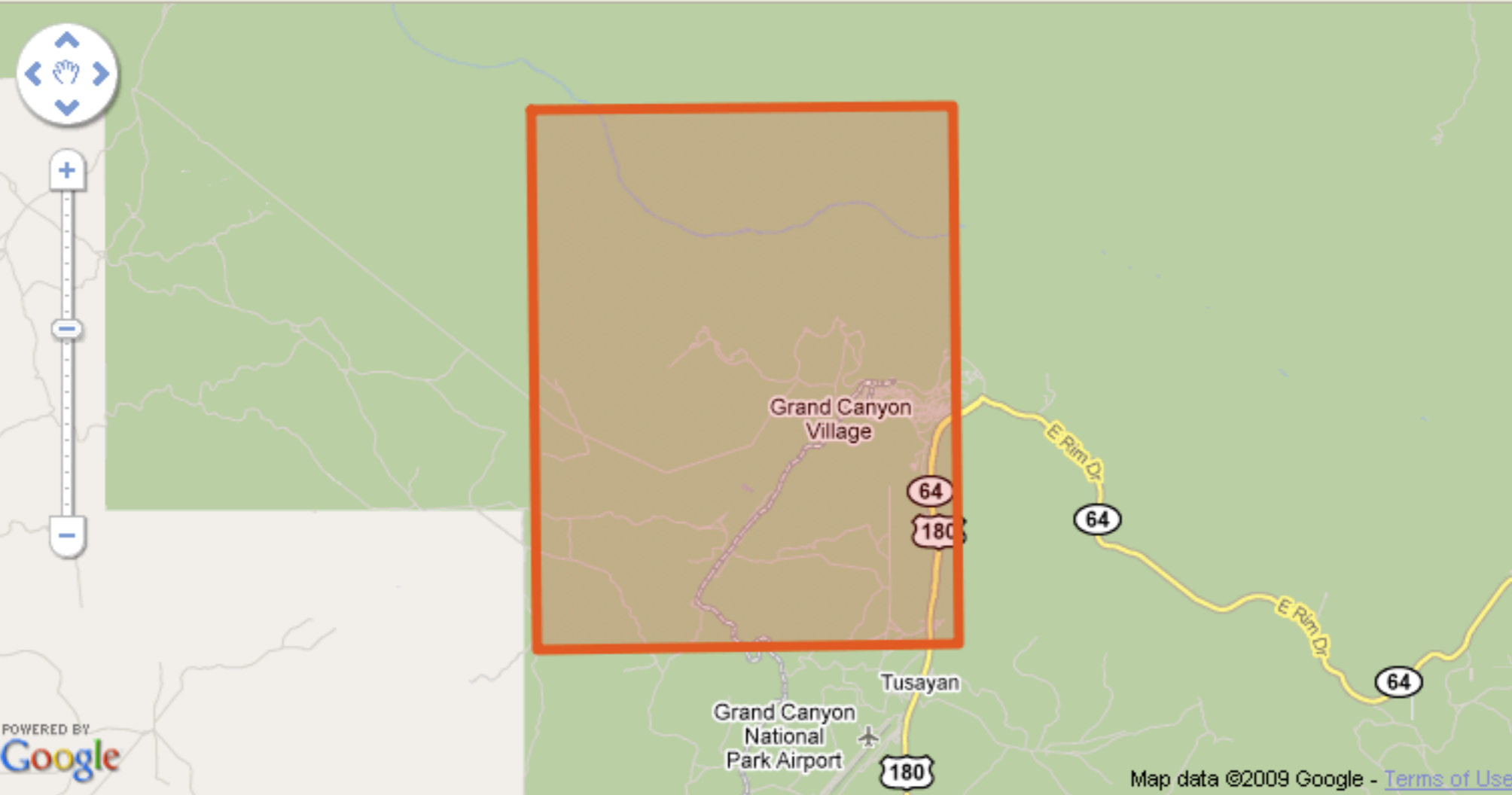
Go Back Continue

Polygon Preview - for MapTiler - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.maptiler.org/preview/?points=36.1317059514,-112.259; Google

Polygon Preview - for MapTiler



Done

S3Fox

http://www.maptiler.org/ (C) 2009 - Klokan Petr Přidal

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Continue



# MapTiler - Tile Generator for Map Mashups

## 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: We recommend to [postprocess the produced PNG tiles with the PNGNG utility](#).

- Tile Profile
- Source Data Files
- Spatial Reference
- Tile Details
- Destination
- Viewers
- Viewer Details
- Rendering

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Continue



MapTiler



usgs-drg-gra...



usgs-drg-gra...



- Tile Profile
- Source Data Files
- Spatial Reference
- Tile Details
- Destination
- Viewers
- Viewer Details
- Rendering

# MapTiler - Tile Generator for Map Mashups

## 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:

C:\Documents and Settings\Administrator\Desktop

Browse

### The Internet address (URL) for publishing the map:

Destination URL:

http://

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

Go Back

Continue





# MapTiler - Tile Generator for Map Mashups

## Selection of the viewers

MapTiler 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, Virtual Earth, Yahoo Maps, OpenStreetMap and OpenAerialMap, WMS and WFS layers and another sources available in the open-source project [OpenLayers](#).

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 Google Earth desktop application or browser plug-in.

- Tile Profile
- Source Data Files
- Spatial Reference
- Tile Details
- Destination
- Viewers
- Viewer Details
- Rendering

Go Back

Continue



- Tile Profile
- Source Data Files
- Spatial Reference
- Tile Details
- Destination
- Viewers
- Viewer Details
- Rendering

# MapTiler - Tile Generator for Map Mashups

## Details for generating the viewers

Please add information related to the selected viewers.

### Info about the map

Title of the map:

usgs-drg-grand-canyon-o36112a2.tiff

Copyright notice (optional):

&copy;

### 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):

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

Go Back

Continue



MapTiler



usgs-drg-gra...



usgs-drg-gra...



# MapTiler - 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...

- Tile Profile
- Source Data Files
- Spatial Reference
- Tile Details
- Destination
- Viewers
- Viewer Details
- Rendering

Thank you for using MapTiler application. This is an open-source project - you can help us to make it better. Join the [MapTiler User Group](#) to speak with other MapTiler users and tell us about the maps you are publishing! You can also [suggest improvements](#) or [report bugs](#).

Please consider [donation via PayPal or Credit Card](#). We welcome contribution to the source code, help with documentation, localization or with user support. Thanks belongs to [those who have already helped!](#)

Authors of this utility provide [commercial support](#) related to the map tile rendering, geodata processing and customization of open-source GIS tools. We have developed also a [fast parallelized utility](#) for efficient tile rendering on Multi-Core processors and on clusters like Amazon EC2.

Go Back

Render



MapTiler



usgs-drp-gra...



usgs-drp-gra...



# MapTiler - 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:



Rendering the base tiles



- Tile Profile
- Source Data Files
- Spatial Reference
- Tile Details
- Destination
- Viewers
- Viewer Details
- Rendering

Thank you for using MapTiler application. This is an open-source project - you can help us to make it better. Join the [MapTiler User Group](#) to speak with other MapTiler users and tell us about the maps you are publishing! You can also [suggest improvements](#) or [report bugs](#).

Please consider [donation via PayPal or Credit Card](#). We welcome contribution to the source code, help with documentation, localization or with user support. Thanks belongs to [those who have already helped!](#)

Authors of this utility provide [commercial support](#) related to the map tile rendering, geodata processing and customization of open-source GIS tools. We have developed also a [fast parallelized utility](#) for efficient tile rendering on Multi-Core processors and on clusters like Amazon EC2.

Stop

Render



# MapTiler - Tile Generator for Map Mashups

## Your rendering task is finished!

Thank you for using this software. Now you can see the results. If you upload the directory with tiles to the Internet your map is published!

### Available results:

The generated tiles and also the viewers are available in the output directory:

<C:\Documents and Settings\Administrator\Desktop>

(click to open)

Donate



Please support development and maintenance of this project. Even a small amount helps! You can use PayPal or credit cards like VISA, MasterCard, American Express.



MapTiler




usgs-drg-gra...



usgs-drg-gra...

MapTiler - Tile Generator for Map Mashups

File Help



## MapTiler - Tile Generator for Map Mashups

### Your rendering task is finished!

Thank you for using this software. Now you can see the results. If you upload the directory with tiles to the Internet your map is published!

- Tile Profile
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- Tile Details
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- Viewer Details
- Rendering

<http://www.maptiler.org/>  
 (C) 2009 - Klokan Petr Přid

My Documents

File Edit View Favorites Tools Help

Back Search Folders

Address My Documents Go

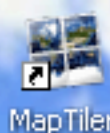
**File and Folder Tasks**

- Rename this file
- Move this file
- Copy this file
- Publish this file to the Web
- E-mail this file
- Delete this file

**Other Places**

- Desktop
- Shared Documents
- My Computer
- My Network Places

10	11
12	13
14	15
doc.kml KML File 3 KB	googlemaps.html Firefox Document 13 KB
openlayers.html Firefox Document 9 KB	tilemapresource.xml XML Document 1 KB



MapTiler



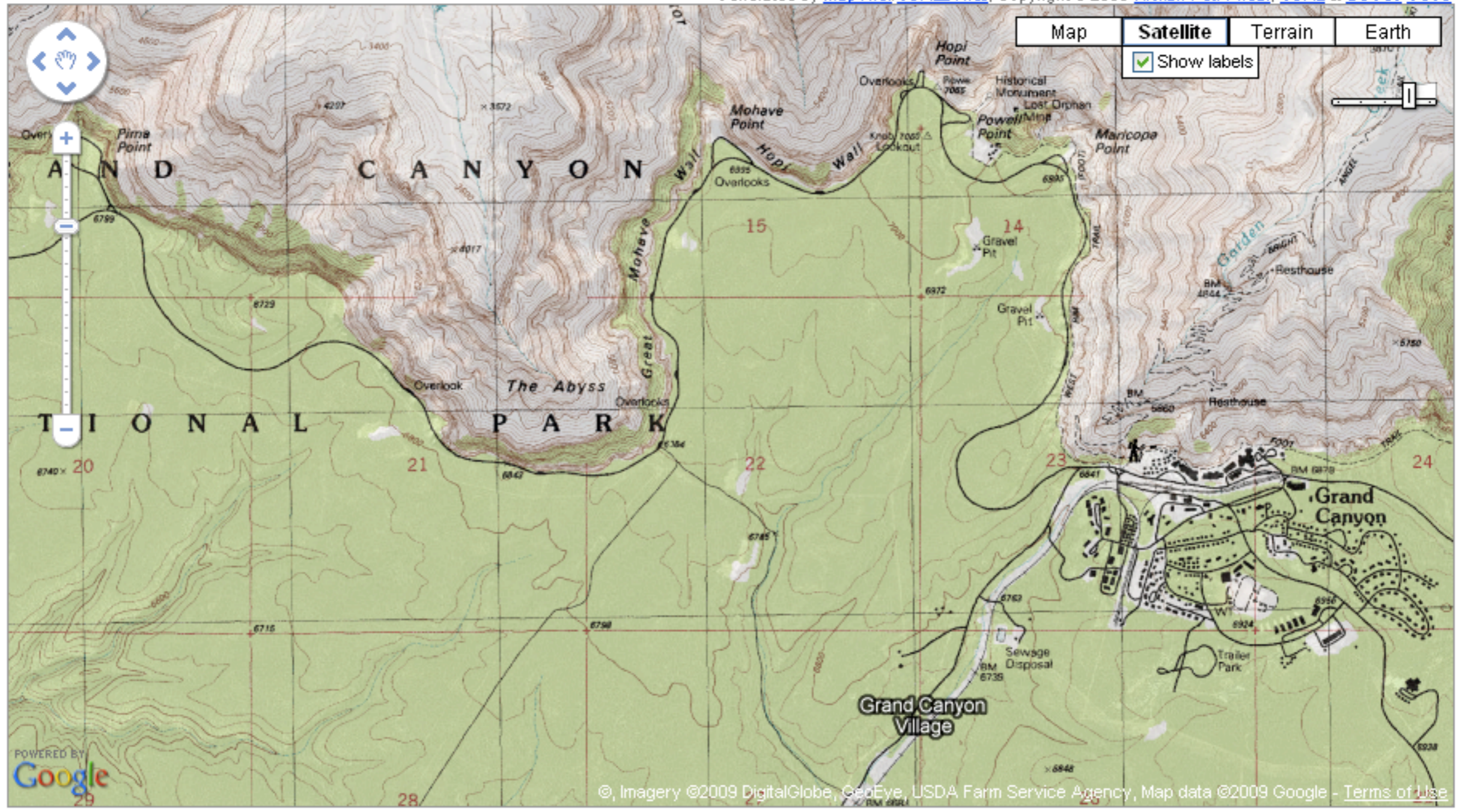
usgs-drg-gra...



usgs-drg-gra...

# usgs-drg-grand-canyon-o36112a2.tiff

Generated by [MapTiler/GDAL2Tiles](#), Copyright © 2008 [Klokan Petr Pridal](#), [GDAL](#) & [OSGeo GSoC](#)



POWERED BY Google

© Imagery ©2009 DigitalGlobe, GeoEye, USDA Farm Service Agency, Map data ©2009 Google - [Terms of Use](#)

Done

S3Fox



# PUBLISHING OF THE MAPS

- **Easiest and fastest: prerendered tiles via MapTiler:**

**<http://www.maptiler.org/>**

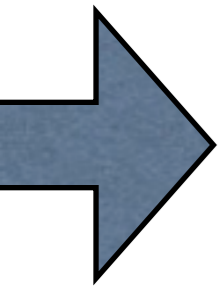
- **Alternative to map servers, which are harder to install/  
configure/maintain:**
  - **MapServer, GeoServer, ...**
- **Available on the OSGeo LiveDVD!**
- **It generates OSGeo TMS tiles, same like GDAL2Tiles.**





# THE RESULTS?

1. Documentation and links to free software tools, and relevant scientific articles. Presentations.
2. We have produced open-source software you can use right now for publishing your scanned maps online: IIPImage JPEG2000, MapTiler, .. + contributed patches in OpenLayers (Zoomify), GDAL (gdal2tiles), GeoTools
3. An online service: [Georeferencer.org](http://Georeferencer.org)



**Technology Preview:**



**ONLINE SERVICE**

**GEOREFERENCER.ORG**



# WHAT IS IT?

- **Online tool designed to bookmark, georeference and annotate high resolution images of maps on the web.**
- **Collaborative Web 2.0 online service for all of us!**
- **You can create your personal virtual map collection and do a research and genealogy studies online.**
- **Share the results of your work with online old maps, compare and synthesize maps published at different websites**
- **Automatic 3D visualization and overlays of Google Maps-like base maps**
- **You need only a web browser to process the maps!**

# DEMO

<http://georeferencer.org/>

**Still under development!**

**PUBLIC ALPHA VERSION**

**AVAILABLE NOW!**



## Georeferencer (alpha version)

### Online Georeferencing Tool For Scanned Maps

<http://www.oldmapsonline.org/>

You can add the Georeferencer browser button into your browser's Links Toolbar.  
While surfing the web, if you find an interesting old map you'd like to bookmark, simply click the Georeferencer browser button.

[Georeferencer](#)

TIP: To add this button into your browser: Click on the upper "Georeferencer" link with the right mouse button and select Add to Favorites... or Bookmark This Link... from the menu. In some browsers, you can also drag and drop the link to your toolbar or bookmarks.

**Or you can type here the address of a website with the map or address of the image:**

[Georeference](#)

TIP: You can copy&paste an URL of an image or a website you would like to georeference.  
A path to Zoomify presentation (ending with ImageProperties.xml) is supported as well.

TIP: You can try to georeference one of the [images of early maps on the web](#).  
Maps collections: [MZK](#), [VKOL](#), [UJEP GeoLab](#), [Ryhiner](#), [Afriterrra](#), [David Rumsey](#), ..

Developed by [Klokan Petr Pridal](#) and [Moravian Library Brno](#) (project [OldMapsOnline.org](#)).



# PLANS FOR THE FUTURE:

- Customization for libraries, adding of metadata.
- Clipping, composites of maps, correct merging of map series
- Map projections and custom coordinates (EPSG)
- Reference maps via OGC WMS - from national authorities
- Closer integration with library websites (via a link)
- Improvement of the community services, comments, links to research, etc.
- Image analysis: “colored version of ...”, automatic neat line detection, cropped maps and derivatives, deduplication
- A free service, hopefully a new grant (MZK + CUNI + MU)



# **WE NEED YOUR HELP!**

- **Try it and submit “feedback” via the online button!**
- **Ideas for improvement? Do you want to collaborate?**
- **Developers? We have a REST API to access the data. Need for JavaScript API for development of external tools?**

**Please contact us, feedback wanted!**

**<http://georeferencer.org/>**

Support for all JPEG images, Zoomify maps and David Rumsey's maps with and an improved georeferencing interface now! Support for more formats of maps coming soon!

**ONE MORE THING...**



# **GEOGRAPHICAL SEARCH**

- **Intuitive interface: Where, When, Who, What**
- **Ranking to sort the maps, even in a large catalog**
- **Tested projects:**
  - **TimeMap.net - (ECAI.org)**
  - **Alexandria Digital Library**
  - **DigMap.eu Lucene GeoTemporal (LGTE)**
  - **Google GeoSearch API**

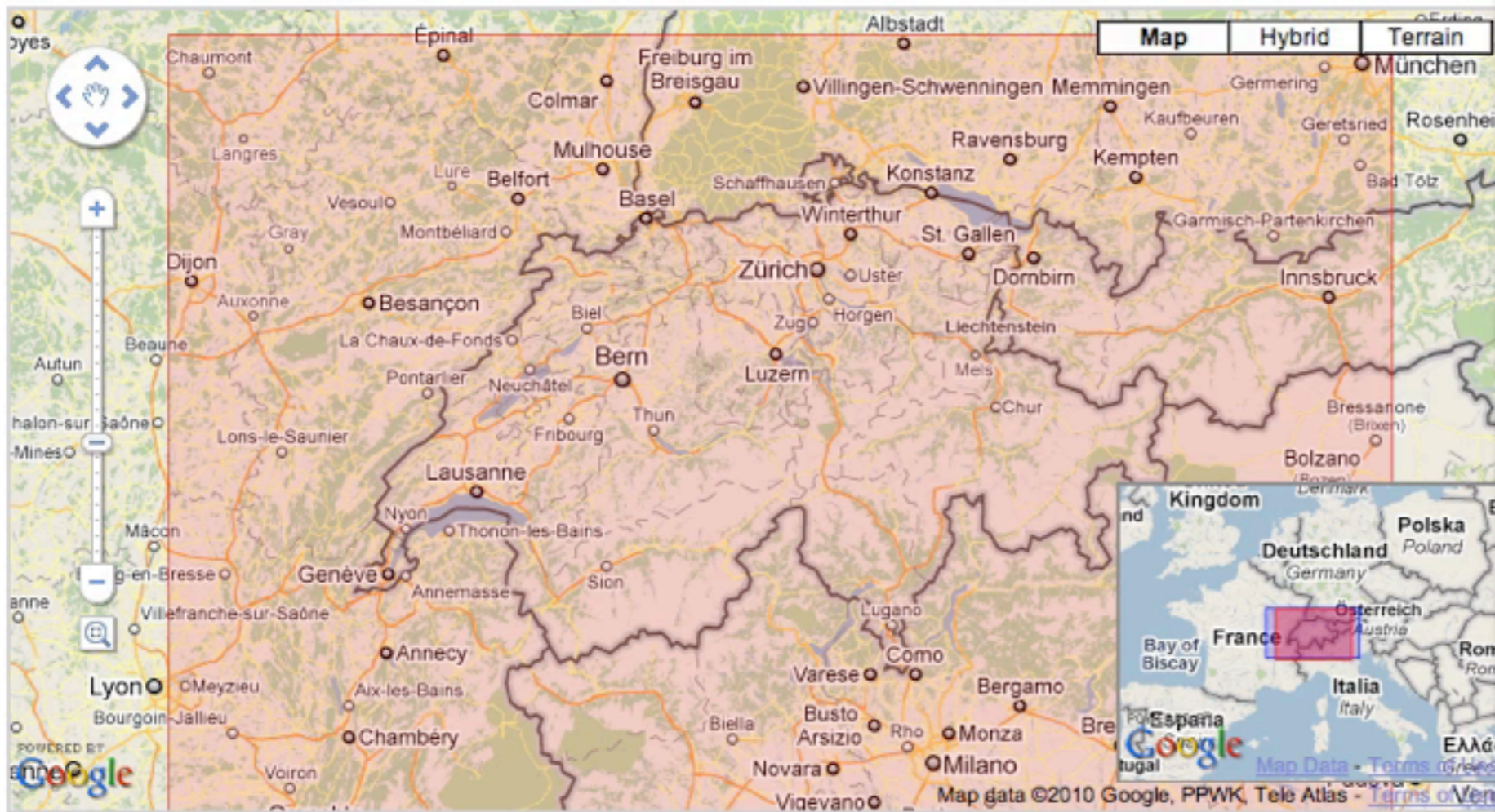


**MapRank**  
SEARCH

## 1. WHERE (zoom to a place)

Find a location on the base map

Find a place



Map Hybrid Terrain

Most relevant maps:

**Switzerland / publ. by Skyguide, AIM = Schweiz / hrsg. von Skyguide, AIM = Suisse / publ. par**  
 » 2010 Bundesamt für Landestopographie, 1:500 000

**Luftfahrtkarte ICAO 1:500 000, 2253-B, Schweiz / hrsg. vom Eidgenössischen Luftamt = Carte**  
 » 1962 Eidg. Luftamt, Bern 1:500 000

**Aeronautical chart ICAO, Switzerland, 2253-B / publ. by Skyguide, AIP Services = Luftfahrtkarte ICAO,**  
 » 2005 Bundesamt für Landestopographie, 1:500 000

**Schweiz / hrsg. von Skyguide, AIP Services = Suisse / publ. par Skyguide, AIP Services = Switzerland /**  
 » 2004 Bundesamt für Landestopographie, 1:500 000

**Luftfahrtkarte ICAO 1:500 000, 2253-B, Schweiz / hrsg. vom Bundesamt für Zivilluftfahrt = Carte**  
 » 1995 Bundesamt für Landestopographie, 1:500 000

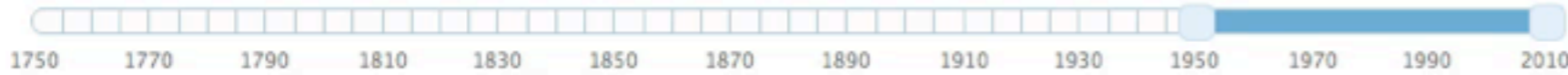
**Luftfahrtkarte ICAO 1:500 000**  
 Carte aéronautique OACI 1:500 000. 2253-B, Suisse =  
 » 1962 Eidgenössisches Luftamt, Bern 1:500 000

**Schweiz**  
 Suisse = Switzerland  
 » 2005 Michelin Reise-Verlag, Landau- 1:400 000

**Schweiz**  
 Touristenkarte = Suisse : carte touristique = Svizzera :  
 » 1998 Gesamtvertrieb: Photoglob AG, 1:350 000

## 2. WHEN (select a time range)

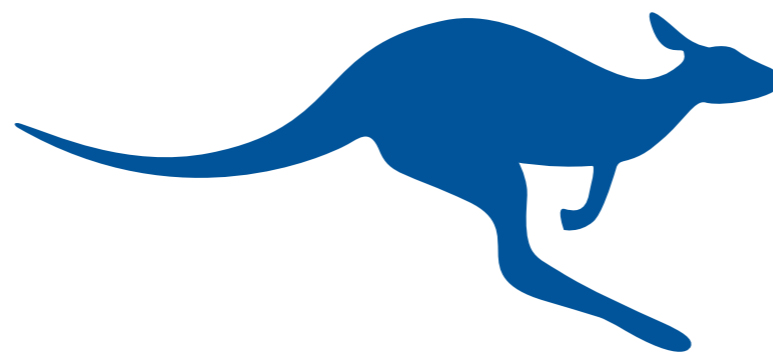
From: 1950 To: today



## 3. WHAT or WHO (type text)

Text search:

Map scale: 1:1 to 1:∞



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