



# Cataloguing and Presentation Tools for Old Maps and Map Series

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[www.mzk.cz](http://www.mzk.cz)



# Moravian Library Map Collection



- > 22 000 maps
- ? atlases
- Moll's map collection

<https://mapy.mzk.cz>

<http://digitalniknihovna.cz/mzk/>



Maps in Libraries, Regensburg, 13<sup>th</sup> - 14<sup>th</sup> March 2019

B.P.Moll's (1697-1780) map collection inspired us to:

- digitize and publish the collection at [mapy.mzk.cz](http://mapy.mzk.cz)
- start cataloguing bounding box data
- facilitate jpeg2000 support in IIPIImage
- adopt of jpeg2000 as a national standard for presentation and preservation of digitized images
- first versions of georeferencer being developed
- and much more...



# Moravian Library Map Collection



50% of visitors from

[www.OldMapsOnline.org](http://www.OldMapsOnline.org)



<https://mapy.mzk.cz>

Maps in Libraries, Regensburg, 13<sup>th</sup> - 14<sup>th</sup> March 2019

# Moravian Library Map Collection



- Currently digitizing 1000 old maps/year
- Publishing in Kramerius digital library system through

<http://digitalniknihovna.cz>

- IIF image & presentation API available



International  
Image  
Interoperability  
Framework

The screenshot displays the Moravian Library Map Collection interface. At the top, there is a search bar with the text "Search in digital library ..." and a search icon. Below the search bar, the text "Results: 1 - 60 10419" is visible. The interface is divided into several sections:

- Active filters:** A section on the left with a red 'x' icon, showing "Map" as the active filter.
- Accessibility:** A section on the left with a dropdown arrow, showing counts for "Public" (9140), "Private" (1279), and "All" (10419).
- Keyword:** A section on the left with a dropdown arrow, listing various keywords and their counts: "Mollova mapová sbírka" (4997), "Mapové sbírky" (4997), "Vojenská topografie" (3120), "Magy. Atlasy, Glóby" (983), "Vojenská technika" (507), "Bojiště" (361), and "Show more".
- Author:** A section on the left with a dropdown arrow, listing authors and their counts: "Rakousko-Uhersko." (2237), "Militärgeographisches institut" (1628), "Vojenský zeměpisný ústav" (694), "Rakousko-Uhersko" (412), "Militärgeographisches institut" (412), "Německo Heer. Generalstab" (349), and "Bodenehr, Gabriel" (349).
- Search Results:** A grid of map thumbnails with titles and metadata. Each result includes a small map image, a title, an author, and a date. A "Map" button is visible next to each result.

Title	Author	Date
Hofitz und Jičín. Zone 4 Kol. XIII	Rakousko-Uhersko	[mezi 1881 a 1918]
Frankfurt a/M. L51	Německo Reichsamt für	1940
Danzig. Q55	Německo Reichsamt für	1936
Munkács. S49	Německo Reichsamt für	1940
Lemberg = Lwow. S50	Německo Reichsamt für	1941
Marosvásárhely = Schäßburg. T47	Německo Reichsamt für	1941
Marienwerder. Q54	Německo Reichsamt für	1939
Brest Litowsk. S53	Německo Reichsamt für	1941
Leutschau. R50	Německo Heer. Generalstab	1940
Danzig. Q55	Německo Reichsamt für	1940
Tilsit. R56	Německo Reichsamt für	1939
Neuschl. Q49	Německo Reichsamt für	1937

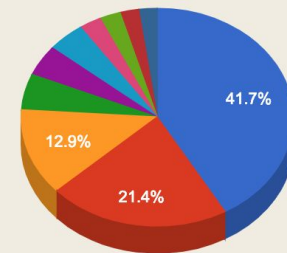
Maps in Libraries, Regensburg, 13<sup>th</sup> - 14<sup>th</sup> March 2019

# StareMapy.cz georeferencing



- 18 Czech institutions working together
- Running since 03/2013
  - 357,000 users,
  - 1.8 mil. pageviews

Jméno	Skóre
Milada Jiraskova	403722
dedeon	207394
Jaroslav Lehečka	124780
michal.navara@centrum.cz	51659
jandrs	44351
Janep	43290
charvat	25597
Elisvacl	24061
Ivan Birndt	21455
Honza Gemela	21333



Zbývající mapy



- Bounding Box

<https://boundingbox.klokantech.com/>

- Scale Calculator

<http://scale-calculator.mzk.cz/>

- Mapseries

<http://mapseries.mzk.cz/>

# Geographical Search in Library Catalogue 1/1

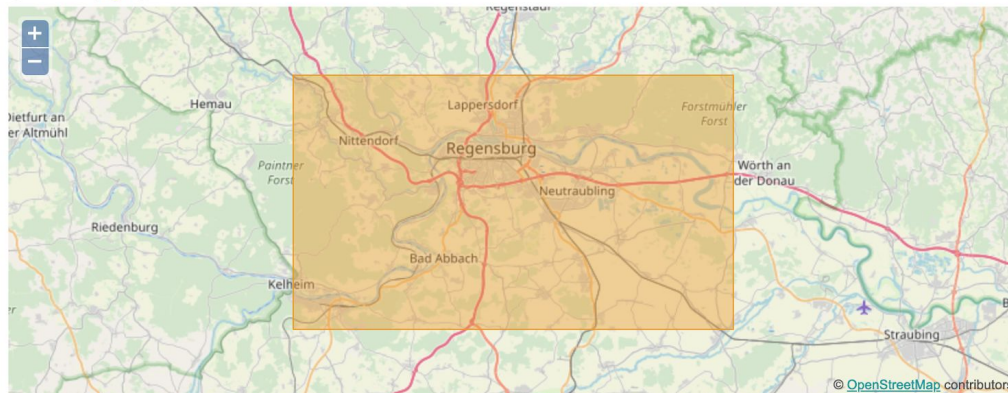
- Cataloguing old maps bounding box metadata since 2005
- Newly published maps since 2011
- Bounding box data stored in Aleph in MARC field 034
- Indexed and searchable in Solr-based VuFind library catalogue

<https://vufind.mzk.cz>



# Geographical Search in Library Catalogue 1/1

Move map  Vyběr oblasti



Showing 1 - 10 of 1,275 for search: "", query time: 0,22s

Results per page 10

Sort Relevance

Select Page [Get RSS Feed](#) [Email this Search](#) [Save Search](#)

1.



Map

[\[Exactissima Statuum Totius Ducatus Bavariae Tabula Secundum Omnes & Praefecturas, cum Insetis et Finitimis Regionibus in IX. Mappis Geograph. : Le Duchè de Baviere divise en Neuf...](#)

by [Buna, Wilhelm C.](#) Published mezi 1745 a 1760]

★ [Add to favorites](#)

HOLDINGS

Availability : **No available items**

[Digitalizovaný dokument](#)

## Narrow Search

### Remove Filters

Other: Intersects(11.875012207031126 x  
[48.885685297382494](#)  
[12.369396972656432](#)  
[49.073162074000194](#))

### Availability

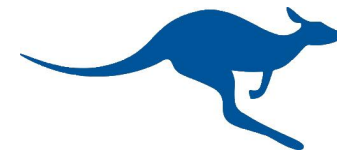
available online	408
present	314
absent	41
available for EOD	19

### Language

German	569
Czech	381
Latin	363
French	152

- First version of bounding box tool developed in MZK, now using much improved Klokantech version
- coordinates defining the map field in MARC21:
  - bounding box - 034 \$d,\$e,\$f,\$g and 255 \$c
  - polygons - 034 \$t, \$s and 255 \$f

<https://boundingbox.klokantech.com/>



# Bounding Box



**BoundingBox** Georeferencer | MapRank Search | Old Maps Online

Find a place with OpenStreetMap ...

**Copy & Paste**  Always include bounding box

034: `$$tE0142400$$sN0483000$$tE0123400$$sN0493000$$tE0122000$$sN0501500$$`

255: `$$f E 14°24'00"/N 48°30'00" ; E 12°34'00"/N 49°30'00" ; E 12°20'00"/N 50°15'00" ; E`

MARC Copyright © 2017 [Klokian Technologies](#) – Software applications for libraries and archives. [Contact us.](#)

**Copy & Paste**  Always include bounding box

034: `$$tE0141900$$sN0483200$$tE0140000$$sN0483600$$tE0140000$$sN0483900$$`

255: `$$f E 14°19'00"/N 48°32'00" ; E 14°00'00"/N 48°36'00" ; E 14°00'00"/N 48°39'00" ; E`

MARC Copyright © 2017 [Klokian Technologies](#) – Software applications for libraries and archives. [Contact us.](#)

Maps in Libraries, Regensburg, 13<sup>th</sup> - 14<sup>th</sup> March 2019



# Scale Calculator



- computes scale value for maps with graphical scale or without scale
- converter of older units (from 18th and 19th century)
- MARC 21 034 \$b a 255 \$a

Scale calculator

Search place on the map:

Calculation About scales Help

Calculator for computing of scale

Scale: 1:56400

system: metric

used system unit: km

length: 100 mm

on the old map is: 5.64

units on the ground

Map Series: Online | Map Series: Cataloging

Authors | © Contributors OpenStreetMap

# Scale Calculator - Graphical Scale



**Calculator**  
for computing of scale

system:

used system unit:

length:  
 mm

on the old map is

units on the ground

**Scale: 1:112248**

<http://scale-calculator.mzk.cz/>



<https://github.com/moravianlibrary/scale-calculator>

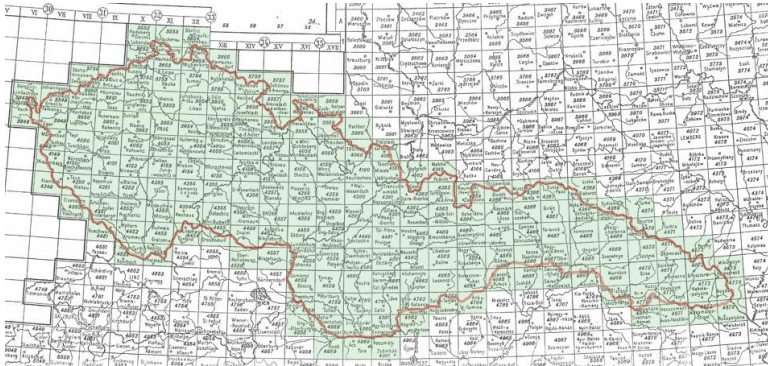
Maps in Libraries, Regensburg, 13<sup>th</sup> - 14<sup>th</sup> March 2019



# Map Series



- group of maps having the same scale and cartographic specifications (map published over several sheets)
- updated sheets exist in many editions
- bibliographic records differ only in some key metadata
- there are many similarities between records of different sheets of one map serie



Maps in Libraries, Regensburg, 13<sup>th</sup> - 14<sup>th</sup> M

- tool for cataloguing and presentation of map series
  - **admin view** (preparing of map layout and metadata)

create or import a shapefile, create a template

- **cataloger view** (record creation - MARC21)

<http://mapseries.mzk.cz/catalog/>

- **presentation view** (choosing map series, map sheet and edition)

<http://mapseries.mzk.cz/>

# MapSeries - Admin interface



table geojson template config

Speciální znaky

Přepni na mapu

Potvrd změny

	SHEET	KOLONNE	TITLE	SCALE	N43	N80	N245A	N651	POZNAMKA	ZONE_KOL	ZONE_COL	ZONE_CSR
173	4156	XIV	Polička	75000	\$\$ae-xr--\$\$be-xr-pa\$\$be-xr-vy	\$\$a913(437.314)\$\$2MRF\$\$a913(437.324)\$\$2MRF	Polička und Neustadt Polička Politschka. Polička	\$\$aPolička (Česko : oblast)\$\$7ge130475 \$\$aNové Město na Moravě (Česko : oblast)\$\$7ge130227		Zone 7 Kol. XIV	Zone 7 Col. XIV	7-XIV
174	4157	XV	Jevíčko	75000	\$\$ae-xr--\$\$be-xr-pa	\$\$a913(437.314)\$\$2MRF	Jevíčko Gewitsch. Jevíčko Brüsa u und Gewitsch	\$\$aJevíčko (Česko : oblast)\$\$7ge223779 \$\$aBřezová nad Svitavou (Česko : oblast)		Zone 7 Kol. XV	Zone 7 Col. XV	7-XV
175	4158	XVI	Olomouc	75000	\$\$ae-xr--\$\$be-xr-ol	\$\$a913(437.325)\$\$2MRF	Olmütz Olomouc Olmütz (Olomouc) Olmütz. Olomouc	\$\$aOlomouc (Česko : oblast)\$\$7ge128534		Zone 7 Kol. XVI	Zone 7 Col. XVI	7-XVI
176	4159	XVII	Hranice	75000	\$\$ae-xr--\$\$be-xr-ol	\$\$a913(437.325)\$\$2MRF	Weisskirchen in Mähren Hranice Mährisch-Weiskirchen (Hranice) Mährisch-Weiskirchen. Hranice	\$\$aHranice (Přerov, Česko : oblast)\$\$7ge134230		Zone 7 Kol. XVI	Zone 7 Col. XVI	7-XVII
177	4160	XVIII	Nový Jičín	75000	\$\$ae-xr--\$\$be-xr-ol	\$\$a913(437.325)\$\$2MRF	Neutitschein N	\$\$aNový Jičín (		Zone 7 Kol. XVI	Zone 7 Col. XVI	7-XVIII

Maps in Libraries, Regensburg, 13<sup>th</sup> - 14<sup>th</sup> March 2019

# MapSeries - Cataloguing

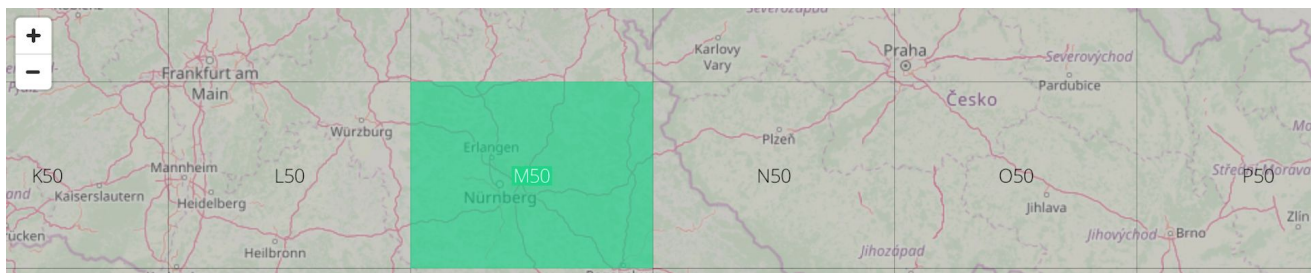


The screenshot displays the MapSeries web application interface. On the left, a map of Europe is shown with a grid overlay. The grid cells are labeled with alphanumeric codes (e.g., G52, H52, J52, K52, L52, M52, N52, O52, P52, Q52, R52, S52, T52, U52, V52, W52, X52, Y52). The map includes various geographical features and city names. On the right, a green sidebar contains the following elements:

- Moravian Library logo and language selector (EN).
- Section title: **MapSeries**
- Subtitle: **Cataloguing of Map Series**
- Search prompt: **Find a place on the map:** with an input field.
- Navigation menu: **Serie**, **Map Series**, **Help**.
- Section: **Choose a map serie:**
- Filter by region: **Evropa** (dropdown).
- Grid: **Deutsche Heereskarte 1:300** (dropdown).
- Section: **Choose a map serie:**
- Grid: **Deutsche Heereskarte 1:300** (dropdown).
- Footer: **Map Series: Online**, **Scale calculator**, **Authors**, **Admin**, **© MZK, OpenStreetMap**.



# MapSeries - Cataloguing



EN

## MapSeries Cataloguing of Map Series

Find a place on the map:

**M50 - Nürnberg**

Sheet template for Aleph

008	L	s Rok vydě   Kód   z     Jazyk-d
0341	L	\$\$\$300000\$\$\$E0102000\$\$\$E0122000\$\$\$fN0500000\$\$\$gN0490000
0410	L	\$\$\$a Kód ja \$\$\$a Kód ja \$\$\$a Kód ja
043	L	\$\$\$ae-gx-
072	7	L \$\$\$a623\$\$\$xVojenská technika\$\$\$2Konspekt\$\$\$919
072	7	L \$\$\$a912\$\$\$xMapy. Atlasy. Glóby\$\$\$2Konspekt\$\$\$97
080	L	\$\$\$a623.64\$\$\$2MRF
080	L	\$\$\$a913(430.129)\$\$\$2MRF
080	L	\$\$\$a(084.3)528.42 \$\$\$2MRF
080	L	\$\$\$a(084.3)355/359 \$\$\$2MRF
110	Ide	L \$\$\$a Vydavatelská korporace... \$\$\$4ctg\$\$\$4pbl\$\$\$7 Kód autority...
245	10	L \$\$\$a Ni Select or type another value...
2463	L	\$\$\$a Va Německo. \$\$\$bHeer. \$\$\$bGeneralstab
24630	L	\$\$\$a Ne Německo. \$\$\$bOberkommando der Luftwaffe
250	L	\$\$\$a Ci Německo. \$\$\$bReichsamt für Landesaufnahme
255	L	\$\$\$a Mě Prusko. \$\$\$bLandesaufnahme. \$\$\$bKartographische Abteilung
264	1	L \$\$\$a
300	L	L \$\$\$a1 mapa : \$\$\$b Další fyzické údaje... ; \$\$\$c Výška x Šířka. cm, na listu Výška x Šířka. cm
4901	L	L \$\$\$aDeutsche Heereskarte 1:300 000 ; \$\$\$v Označení svazl, Označení

Close

Serie Map Series Help

### Choose a map serie:

Filter by region:

Evropa

Grid:

Deutsche Heereskarte 1:300

Choose a map serie:

Deutsche Heereskarte 1:300

Copy to clipboard / Copy 008 to clipboard

Map Series: Online

Scale calculator

Authors

Admin

© MZK, OpenStreetMap



# MapSeries - Presentation View



## About map series online

The MapSeries tool provides visual search in large series of map sheets with a common layout. The tool covers both national map series as well as numerous specialized derived maps. After selecting the appropriate map series, a layout of map sheets available in one or more editions is displayed. Subsequent sheet selection will allow you to study individual scanned map sheets or order them from a library catalog. Please note that online access to some of the map sheets is limited by copyright restrictions.

MapSeries is being developed by the Moravian Library in Brno with the help of the Geographical Institute of the Faculty of Science. Contact us at [mapy@mzk.cz](mailto:mapy@mzk.cz).



EN ▾

## Map Series Map series online

Search place on the map:

### Available series:

By clicking on a serie you will be forwarded to map sheet selection



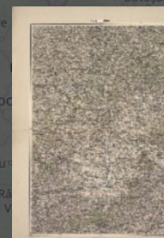
Spezialkarte der österreich-ungarischen Monarchie im Maße 1:75 000



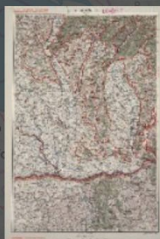
Generální mapa Československé republiky 1:200 000



Speciální mapa Československé republiky v měřítku 1:75 000



General-Karte von Mittel-Europa im Masse 1:200 000



List Map Series Help

### Choose serie:

- Spezialkarte der österreich-ungarischen Monarchie im Maße 1:75 000
- Generální mapa Československé republiky 1:200 000
- Speciální mapa Československé republiky v měřítku 1:75 000
- General-Karte von Mittel-Europa im Masse 1:200 000
- Generální mapa Protektorátu Čechy a Morava 1:200 000
- Generální úpatnicová mapa Československé republiky 1:200 000
- General-Karte von Mittel-Europa im Masse 1:200 000

Map Series: Cataloguing

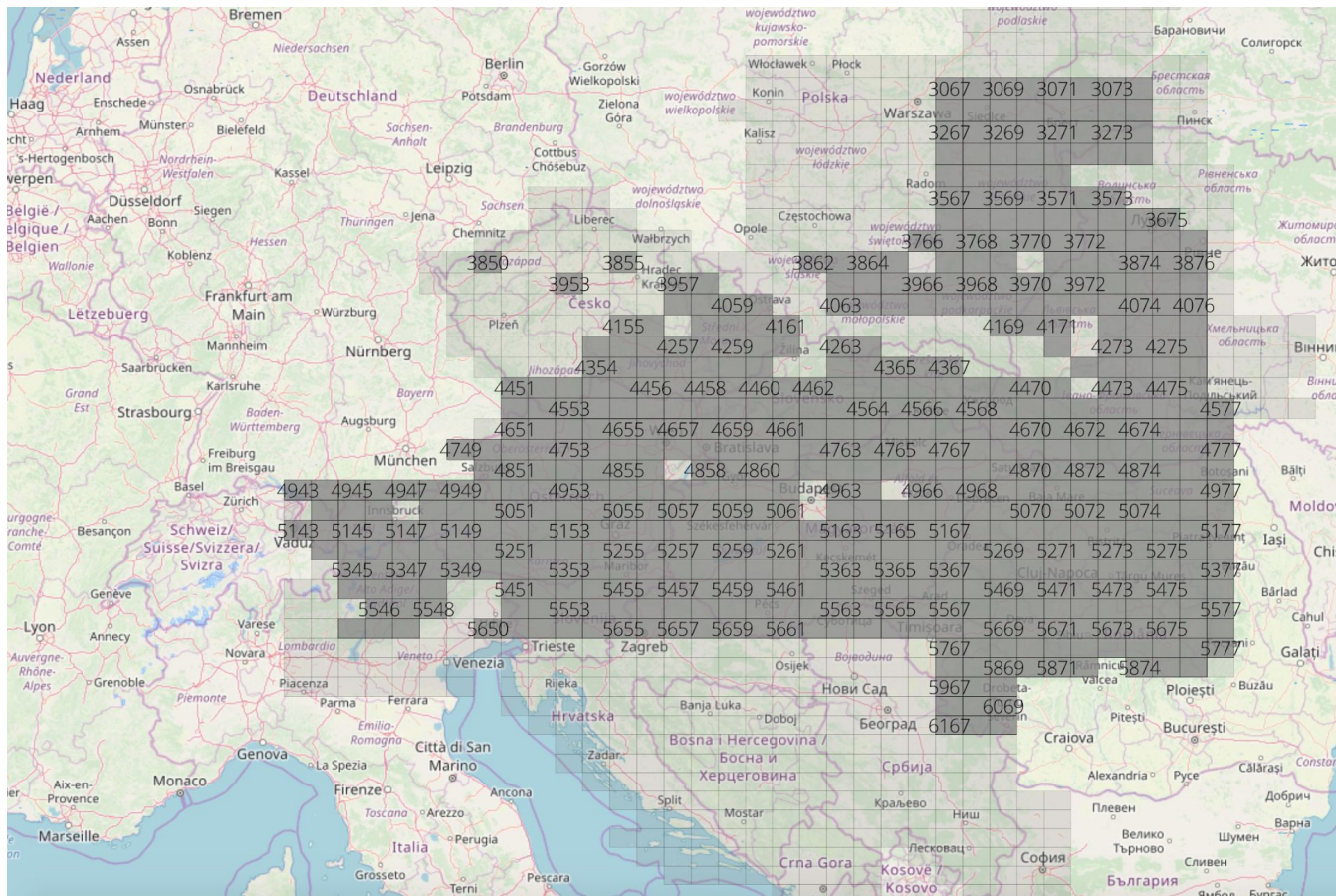
Scale calculator

Authors

Admin

© MZK, OpenStreetMap

# MapSeries - Presentation View



EN

## Map Series Map series online

Search place on the map:

List Map Series Help

### Choose serie:

– Spezialkarte der österreich-ungarischen Monarchie im Maße 1:75 000

– Generální mapa Československé republiky 1:200 000

– Speciální mapa Československé republiky v měřítku 1:75 000

– General-Karte von Mittel-Europa im Masse 1:200 000

– Generální mapa Protektorátu Čechy a Morava 1:200 000

– Generální úpaticová mapa Československé republiky 1:200 000

Map Series: Cataloguing | Scale calculator

Authors | Admin | © MZK, OpenStreetMap



# MapSeries - Presentation View



4458

available map sheet  
versions



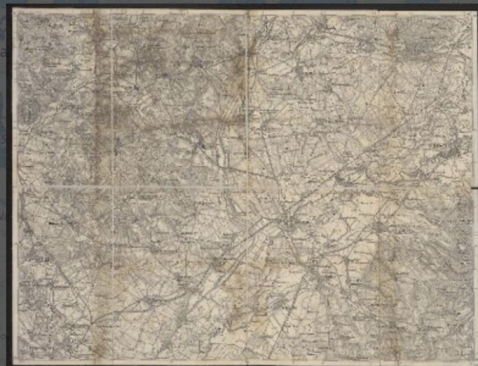
Göding und  
Lundenburg,  
1884



Göding und  
Lundenburg,  
1884



[Göding und  
Lundenburg].  
1884



## Göding und Lundenburg.

Author: Rakousko-Uhersko. Militärgeographisches Institut  
Publisher: [Wien] : [K.u.k. Militärgeographisches Institut], 1884  
Physical description: 1 mapa : černobílá, rozřezaná, podlepená plátnem ; 37 x 49 cm, na listu 39 x 50 cm  
Signature: Mpa-0081.473.4458-1884  
External references: [VuFind](#), [Digital library](#)



EN

Map Series  
Map series online

Search place on the map:

List Map Series Help

Choose serie:

— **Spezialkarte der österreich-  
ungarischen Monarchie im Maße  
1:75 000**

— Generální mapa Československé  
republiky 1:200 000

— Speciální mapa Československé  
republiky v měřítku 1:75 000

— General-Karte von Mittel-Europa  
im Masse 1:200 000

— Generální mapa Protektorátu  
Čechy a Morava 1:200 000

— Generální úpatnicová mapa  
Československé republiky 1:200 000

Map Series: Cataloguing

Scale calculator

Authors Admin © MZK, OpenStreetMap

Source code:



<https://github.com/moravianlibrary/mapseries>

Template and shapefile repository:



<https://github.com/moravianlibrary/mapseries-data>

Aleph Clipboard:

- watches windows clipboard for MARC data and changes their type indicator from text to a type recognized by Aleph



<https://github.com/moravianlibrary/AlephClipboard>

## Future work (?):

- templates are currently language/country dependent
- improve sheet layout display
- georeferencing extension
- presentation view improvement



# Thank you

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