

# Exploring the Spatial Humanities



Spatial Techniques for the Digital Humanities  
13 Aug 2012

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Center for Geographical Analysis  
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## Goals of Digital Humanities

- access to cultural / historical information
- tools to find, browse, mashup, query, map, and analyze this info
- communicate the resources, topics, and findings of digital scholarship
- utilize digital resources and methods for teaching and learning
- connect communities (across disciplines, across sectors, and the public )

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*movement from*

introverted projects by individual scholars ->

collaborative cross-disciplinary projects ->

exposing data and methods to wider academic communities & the public.

# Challenges in Digital Humanities

how to bridge the gaps between

- (a) primary sources,
- (b) scholars with domain expertise
- (c) technical implementations



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how to bridge the gaps between

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- (b) scholars with domain expertise, and
- (c) technical implementations?

large investment up front for organizing, digitizing, transcribing, annotating historical texts, images, facts and figures so they become accessible to the scholarly community.

further development is needed to make the digital resources useful for analysis, and to expose them, or at least their metadata, in machine readable formats, which enables integration and re-use across the broader community of potential users.

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*From raw data -> well organized information -> analysis -> knowledge*

# Pioneers in Spatial Humanities: ECAI



## Electronic Cultural Atlas Initiative

- (a) build a community in the humanities for research in space and time
- (b) develop metadata standard to federate datasets
- (c) foster collaboration across disciplines and language barriers

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Discussion about metadata for historical and spatial data

Implementation of software

Exposing collections



# ECAI example: Japan Maps

Welcome | Login | Register

Japanese Historical Maps | East Asian Library – University of California, Berkeley

Search Catalog Data ● Catalog Data & text in Documents

Advanced Search

◀ ▶ Collections Explore Create Share This Embed This Help

Media Information

### Shinpan Nihonkoku oezu. [after 1630] (Title on map:)

Printer Friendly Thumbnails

Add To Workspace Export

**Collection:** Japanese Historical Maps  
**Author:** Hayashi, Yoshinaga  
**Date:** 1630  
**Short Title:** Shinpan Nihonkoku oezu.  
**Publisher:** [Kyoto] : Hayashi-shi Yoshinaga  
**Type:** Pocket Map  
**Obj Height cm:** 68  
**Obj Width cm:** 166  
**Scale 1:** None shown  
**Note:** Description 1 map: hand col.; 68 x 166 cm., folded to 24 x 18 cm. Mounted cover title. Wood block print. In Japanese. Covers Matsumae to Tsushima and Ryukyu. Shows Ezo east from Kanto region. Shows distance of sea routes and main roads and kokudaka of daimyo. Includes legend. East Asian Library call number Ca 11.  
**Country:** Japan

Privately developed software and website hosts Univ collection

## Pioneers in Spatial Humanities: CAA



- (a) focused on physical artifacts
- (b) developed advanced methods for mapping and classification
- (c) began to cross-over with Cultural Heritage projects in the 1990s

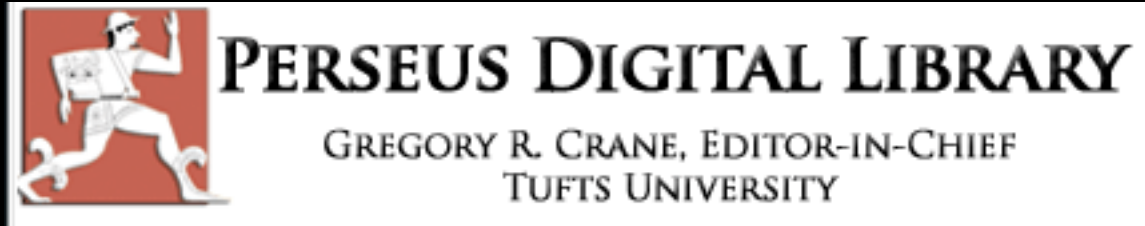
## Pioneers in Spatial Humanities: CAA



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- (c) began to cross-over with Cultural Heritage projects in the 1990s

Provided concrete models for handling digital objects in space and time

# Pioneers in Spatial Humanities: Perseus



- (a) parsing of classical texts
- (b) geocoding of historical placenames
- (c) integrating full text with mapping interface

# Pioneers in Spatial Humanities: Perseus



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Greg Crane's “million words” problem. When attempting computationally intensive research with texts:

insufficient funding for digital text repositories, variable quality and granularity of repository content, inaccuracies arising from errors made in optical character recognition (OCR) and metadata generation, research plans that are too narrowly defined to appeal to a broad audience, and access restrictions imposed by paid subscription and copyright laws.

# Perseus Project: Interface Example



**Herodotus, *The Histories***  
**A. D. Godley, Ed.**

("Agamemnon", "Hom. Od. 9.1", "denarius")  
[All Search Options](#) [[view abbreviations](#)]

[Home](#) [Collections/Texts](#) [Research](#) [Grants](#) [Open Source](#) [About](#) [Help](#)

Your current position in the text is marked in blue. Click anywhere in the line to jump to another position: [Hide browse bar](#)

book:   
chapter:   
section:

This text is part of:

[Greek and Roman Materials](#)

View text chunked by:

[book](#) : [chapter](#) : [section](#)

Table of Contents:



**12.**

Hdt. 3.12

I saw a strange thing on the site of the battle, of which the people of the country had told me. The bones of those killed on either side in this fight lying scattered separately (for the Persian bones lay in one place and the Egyptian in another, where the armies had first separately stood), the skulls of the Persians are so brittle that if you throw no more than a pebble it will pierce them, but the Egyptian skulls are so strong that a blow of a stone will hardly crack them. [2] And this,

Notes (W. W. How, J. Wells) [focus load](#)

Greek (1920) [focus load](#)

Places (automatically extracted) [hide](#)

[View a map](#) of the most frequently mentioned places in this document.

Sort places [alphabetically](#), [as they appear on the page](#), by [frequency](#)

Click on a place to search for it in this document.


[Egypt \(Egypt\)](#) (1)

[Visualize](#) the most frequently mentioned Pleiades ancient places in this text.

Download [Pleiades ancient places geospatial dataset for this text.](#)

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Download [Pleiades ancient places geospatial dataset for this text.](#)

History experts + NLP researchers + GIS analysts = gazetteers & TEI texts

## GIS Examples in the Spatial Humanities

- (a) change over time was (and still is) not adequately handled in desktop GIS
- (b) projects focused on national administrative systems
- (c) prohibitive cost of compilation



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- (a) change over time was (and still is) not adequately handled in desktop GIS
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## Outcomes:

- 1) publicly available datasets
- 2) metadata and database schemas for handling change over time
- 3) gazetteers, web-services, and methods for geo-temporal queries
- 4) spatial data for development of analysis tools and models

# GIS Examples: Great Britain HGIS

- (a) pioneer of HGIS, developed database of historical boundaries
- (b) built originally as a spatial analog to map existing census datasets
- (c) evolved through several major updates and repurposings

The screenshot shows the University of Portsmouth website. The header includes the university logo and name, navigation links (Home, Site map, Accessibility, Contact us), and a search bar. A purple navigation bar contains links for Courses, Student Life, About Us, Research, Business, and Staff and Students. The main content area features a breadcrumb trail: Research > Great Britain Historical Geographical Information System (GBHGIS). The title is "Great Britain Historical Geographical Information System (GBHGIS)". The text describes the system as a unique digital collection of information about Britain's localities as they have changed over time, derived from census reports, historical gazetteers, travellers' tales, and historic maps. It mentions a separate website, "A Vision of Britain through Time", which presents the history of Great Britain through places, available at [www.visionofbritain.org.uk](http://www.visionofbritain.org.uk). A map of Great Britain is shown on the right side of the page, with various regions shaded in different shades of green.

University of Portsmouth

Home | Site map | Accessibility | Contact us

Search >

Courses Student Life About Us Research Business Staff and Students

Explore

- About the GB Historical GIS
- About the project
- About historical GIS
- Working Digitally course
- Media resources
- Contact us

Go back to: [Research](#) > [Great Britain Historical Geographical Information System \(GBHGIS\)](#)

## Great Britain Historical Geographical Information System (GBHGIS)

The Great Britain Historical Geographical Information System is a unique digital collection of information about Britain's localities as they have changed over time. Information comes from census reports, historical gazetteers, travellers' tales and historic maps assembled into a whole that is much more than the sum of its parts. This site tells you more about the project itself and about historical GIS.

A separate website, created by funding from the UK National Lottery and extended and re-launched with funding from the Joint Information Systems Committee, makes this resource available on-line to everyone, presenting our information graphically and cartographically. That site is called *A Vision of Britain through Time* and presents the history of Great Britain through places. It can be found at [www.visionofbritain.org.uk](http://www.visionofbritain.org.uk).

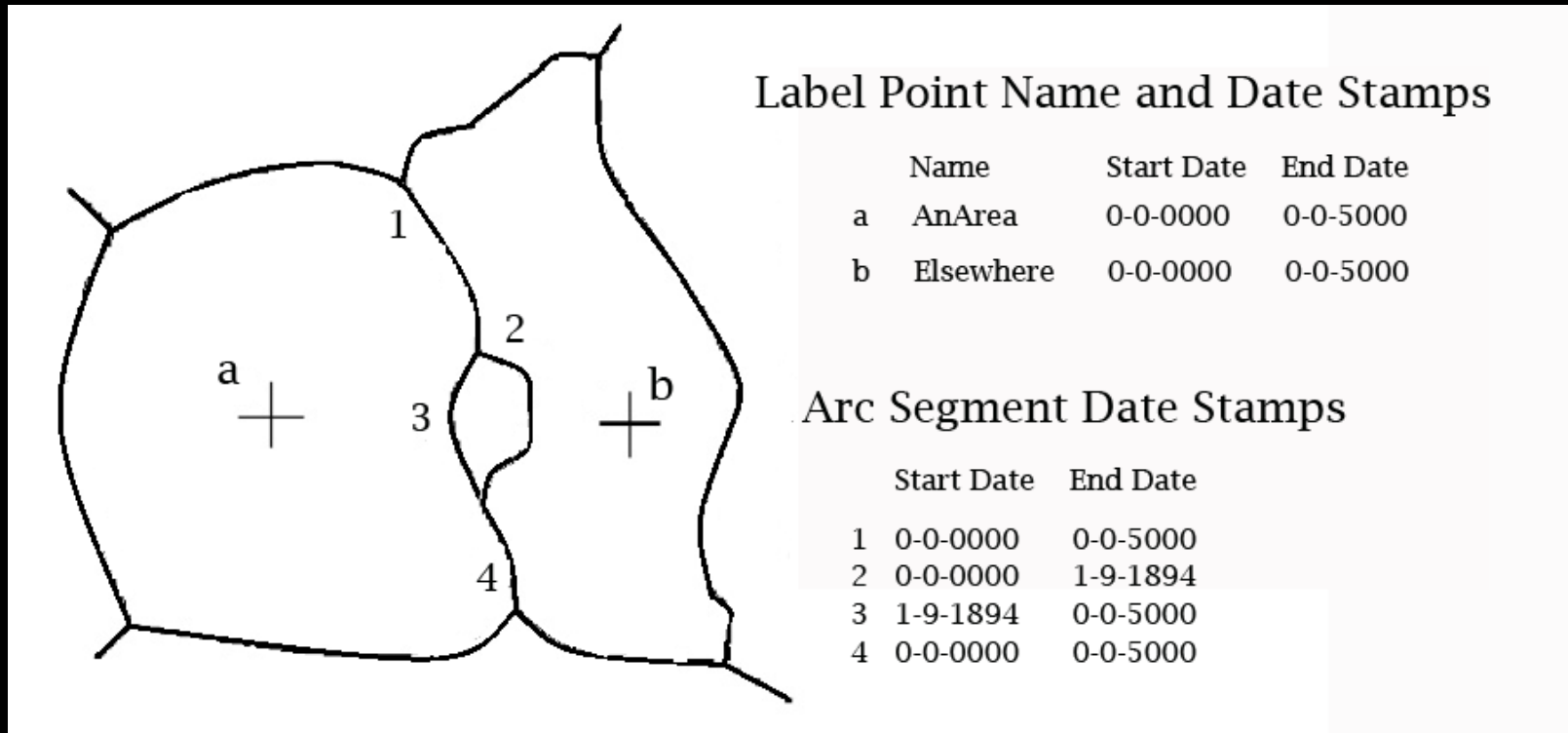


# GIS Examples: GBHGIS Data Compilation

Smallest geographic units: parishes (~14,000)

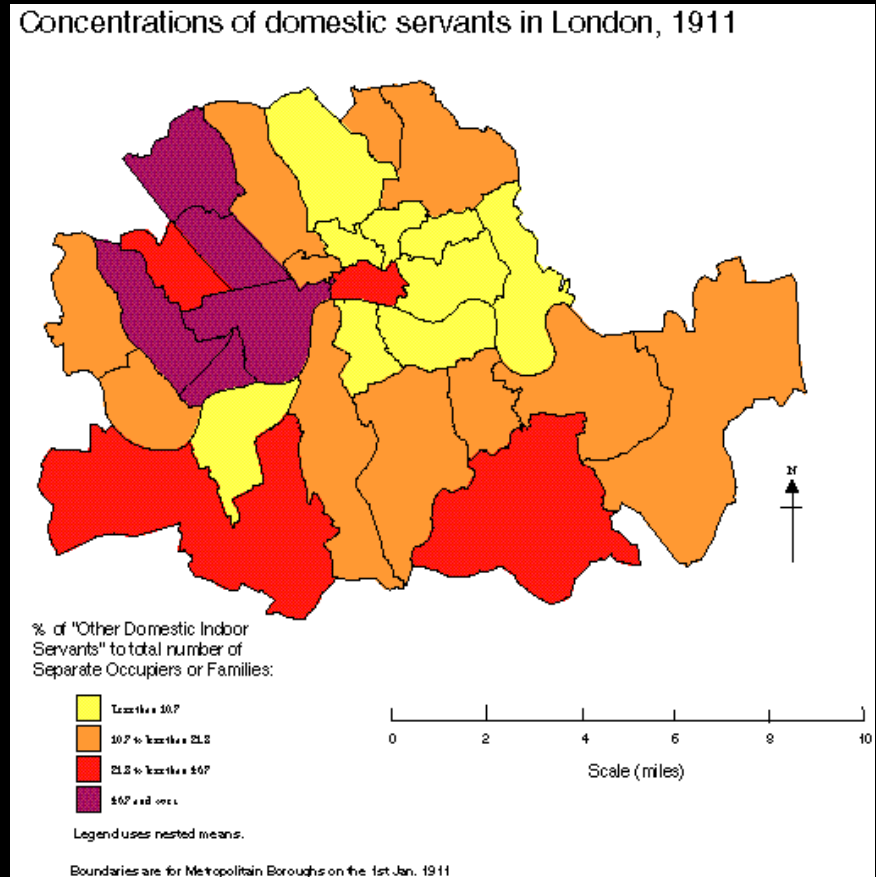
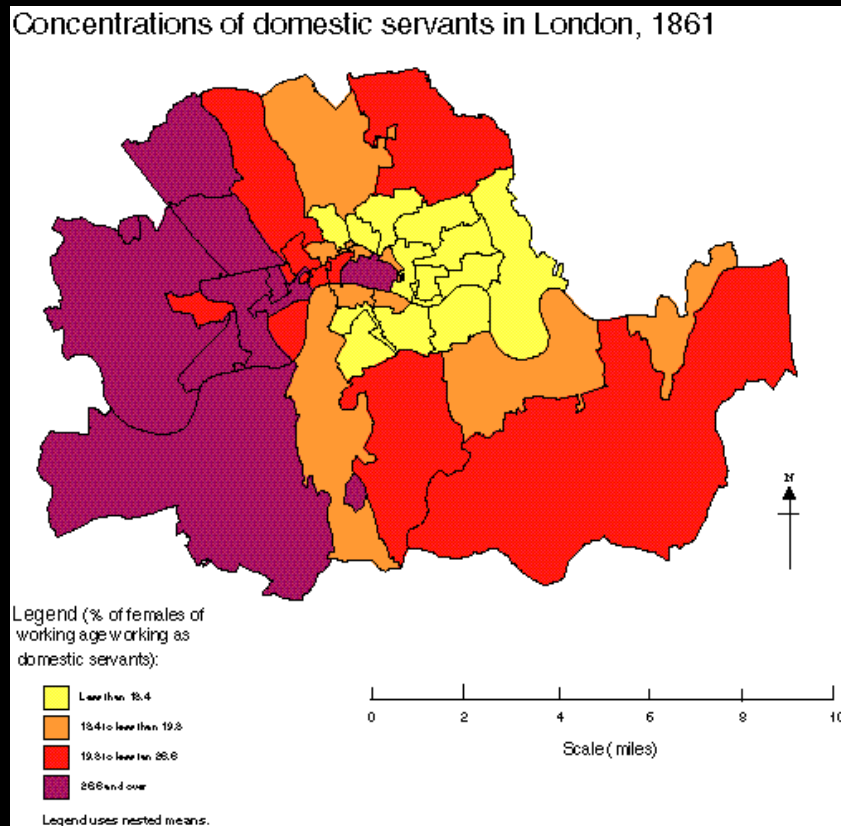
Boundaries constructed from multiple map sources into timestamped arc segments

Relational tables used to compile Space Time Composite polygons and Label Points for various levels of aggregation to show Local Government Districts

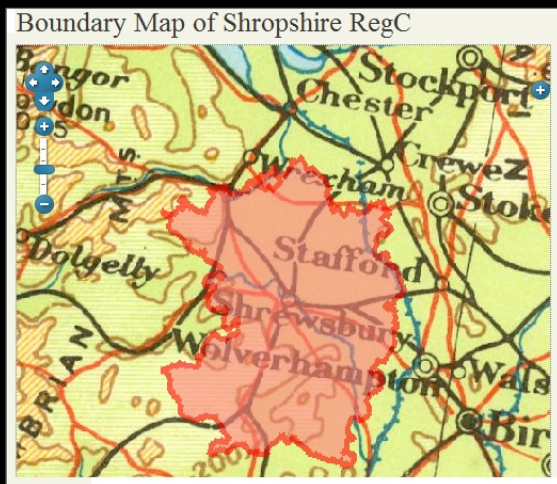
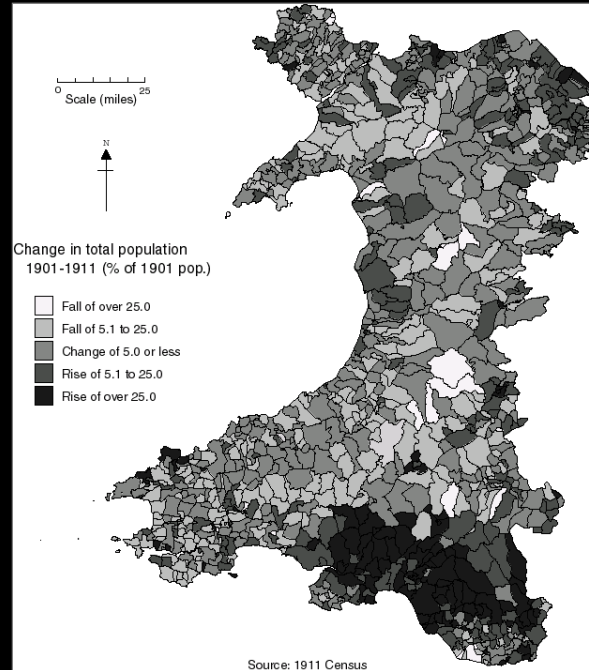
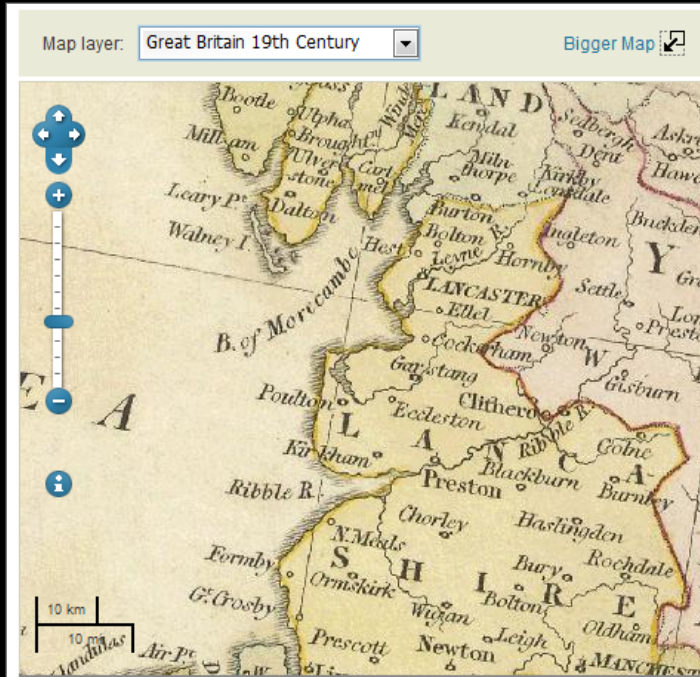


# GIS Examples: GBHGIS for Analysis

Statistics related to local government districts can be visualized for change over time



# GIS Examples: Vision of Britain



Place: [Manchester](#) [Lancashire](#)

Location

Historical writing

Units and statistics

Related websites

Place names

**Names from historical writing:**

The following appear as names for Manchester. Follow the links for what the author actually said:

Name	Author	Source
MANCHESTER	<a href="#">John Bartholomew</a>	<i>Gazetteer of the British Isles</i> (Edinburgh: Bartholomew, 1887).
	<a href="#">John Marius Wilson</a>	<i>Imperial Gazetteer of England and Wales</i> (Edinburgh: A Fullarton & Co., 1870-72).
MANCUNIAM	<a href="#">William Camden</a>	<i>Britain, or, a Chorographical Description of the most flourishing Kingdoms, England, Scotland, and Ireland</i> (London: George Bishop and John Norton, 1610).
MANCUNUM	<a href="#">William Camden</a>	<i>Britain, or, a Chorographical Description of the most flourishing Kingdoms, England, Scotland, and Ireland</i> (London: George Bishop and John Norton, 1610).
MANUCIUM	<a href="#">William Camden</a>	<i>Britain, or, a Chorographical Description of the most flourishing Kingdoms, England, Scotland, and Ireland</i> (London: George Bishop and John Norton, 1610).

# GIS Examples: United States NHGIS

- (a) based on time slices (keyed to every census year)
- (b) built originally as a spatial analog to map existing census datasets
- (c) offers a statistical overview of the US over time

**NHGIS** National Historical Geographic Information System

Home | Select Data | FAQ | Login

## Welcome to NHGIS

**Percent of Population 16+ in the Labor Force, by County**  
*2010 5-Year American Community Survey*

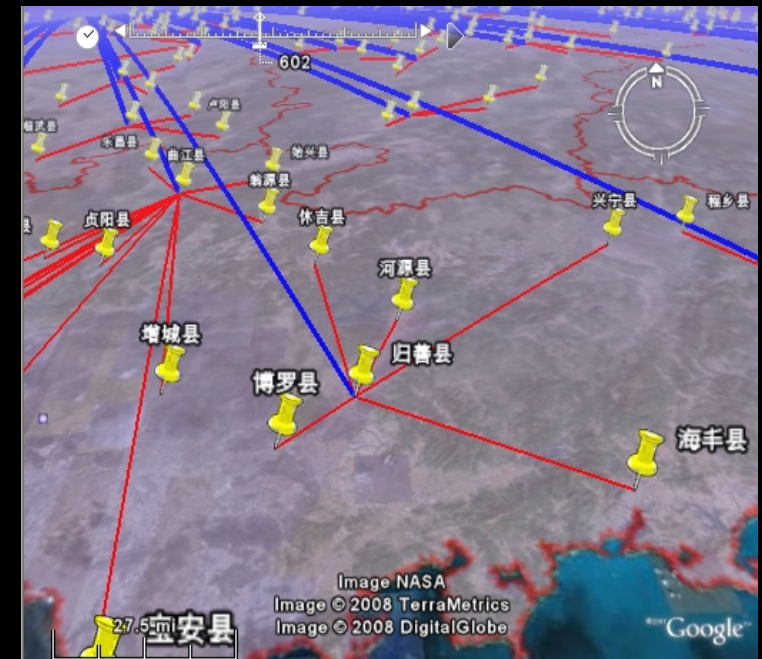
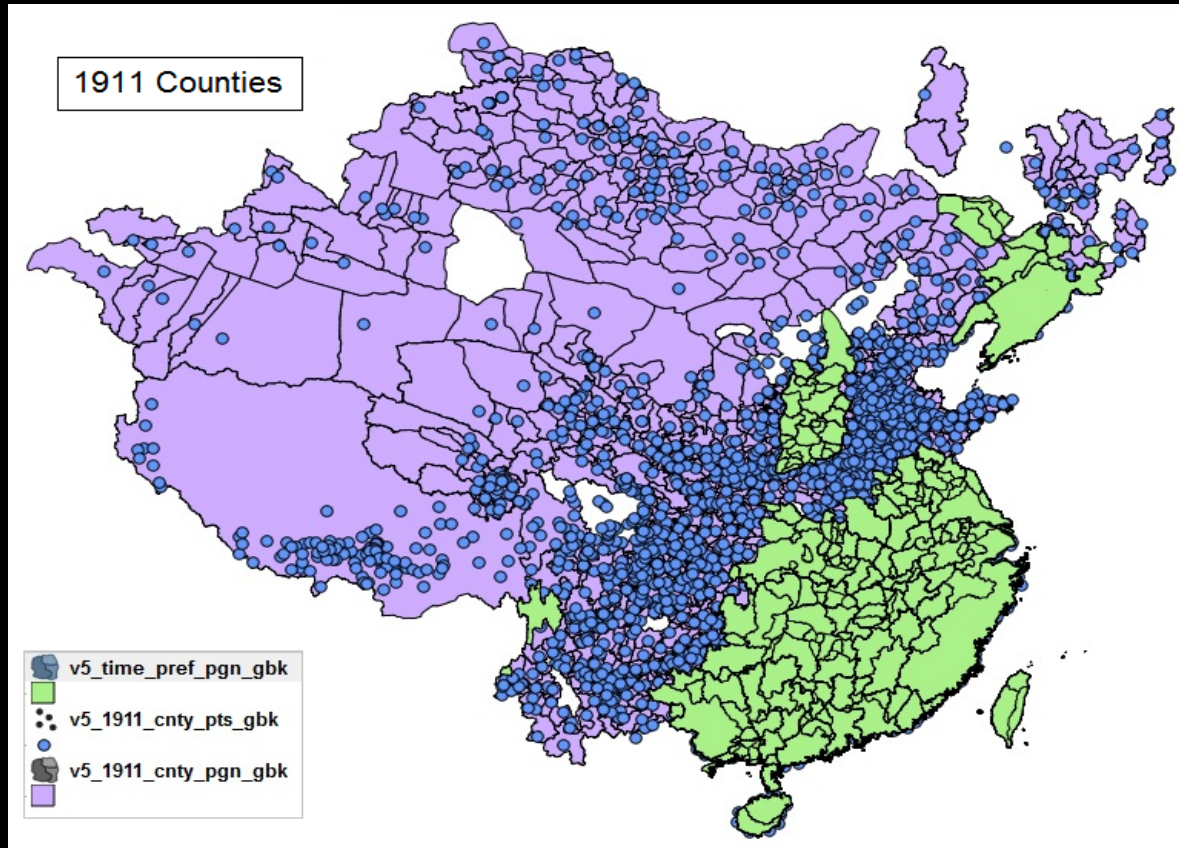
**NHGIS News**

- [2008-2010 ACS 3-Year Summary File now available](#)
- [2006-2010 ACS 5-Year Summary File now available](#)
- [2010 ACS 1-Year Summary File now available](#)

[<read more>](#)

# GIS Examples: China HGIS

- (a) based on changing administrative divisions over time
- (b) contains relationships between administrative units
- (c) can be used to model change over time as a network



# GIS Examples: CHGIS Data Compilation



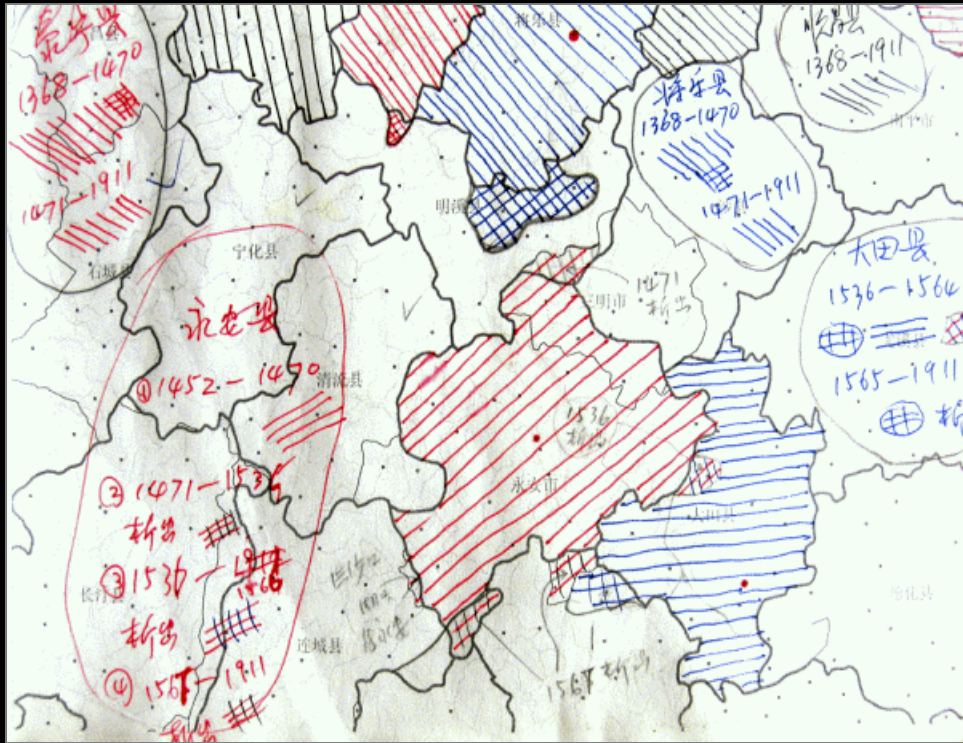
Historical map sources for 1911 counties from late Qing atlas sheets



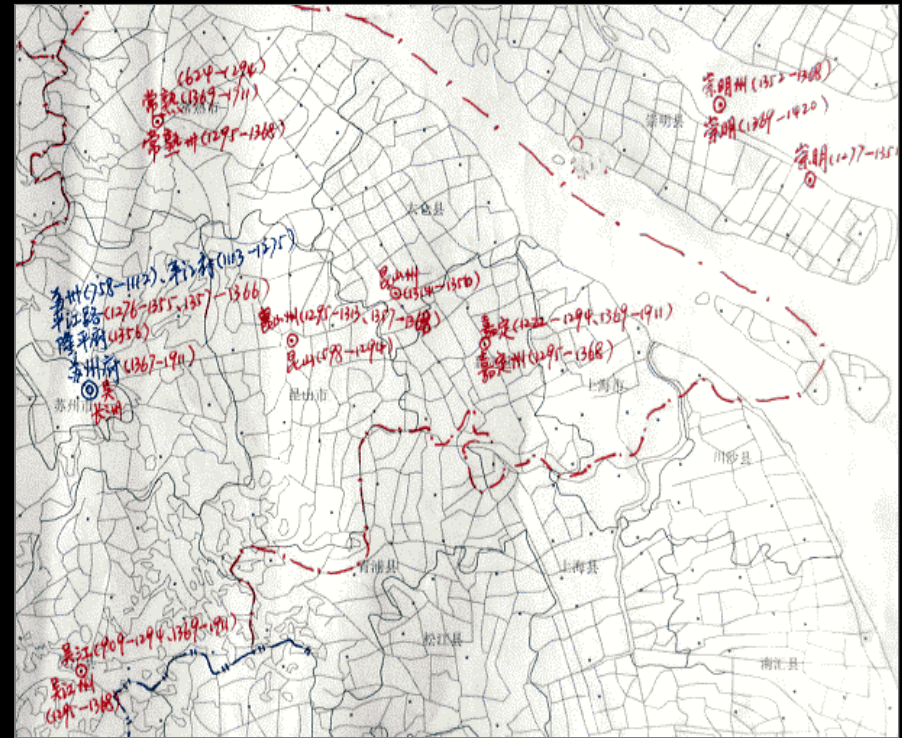
Modern basemaps used for digitization of points and polygons



# GIS Examples: CHGIS Data Compilation

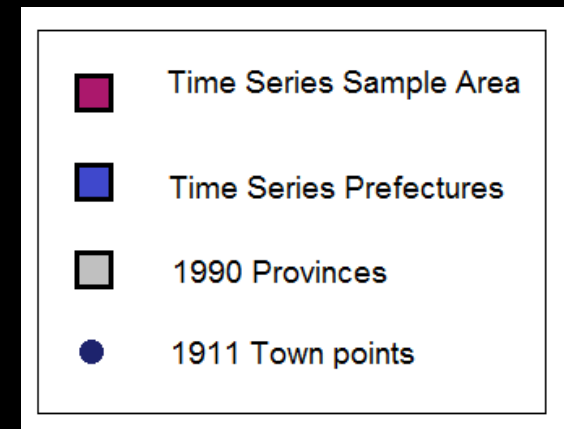
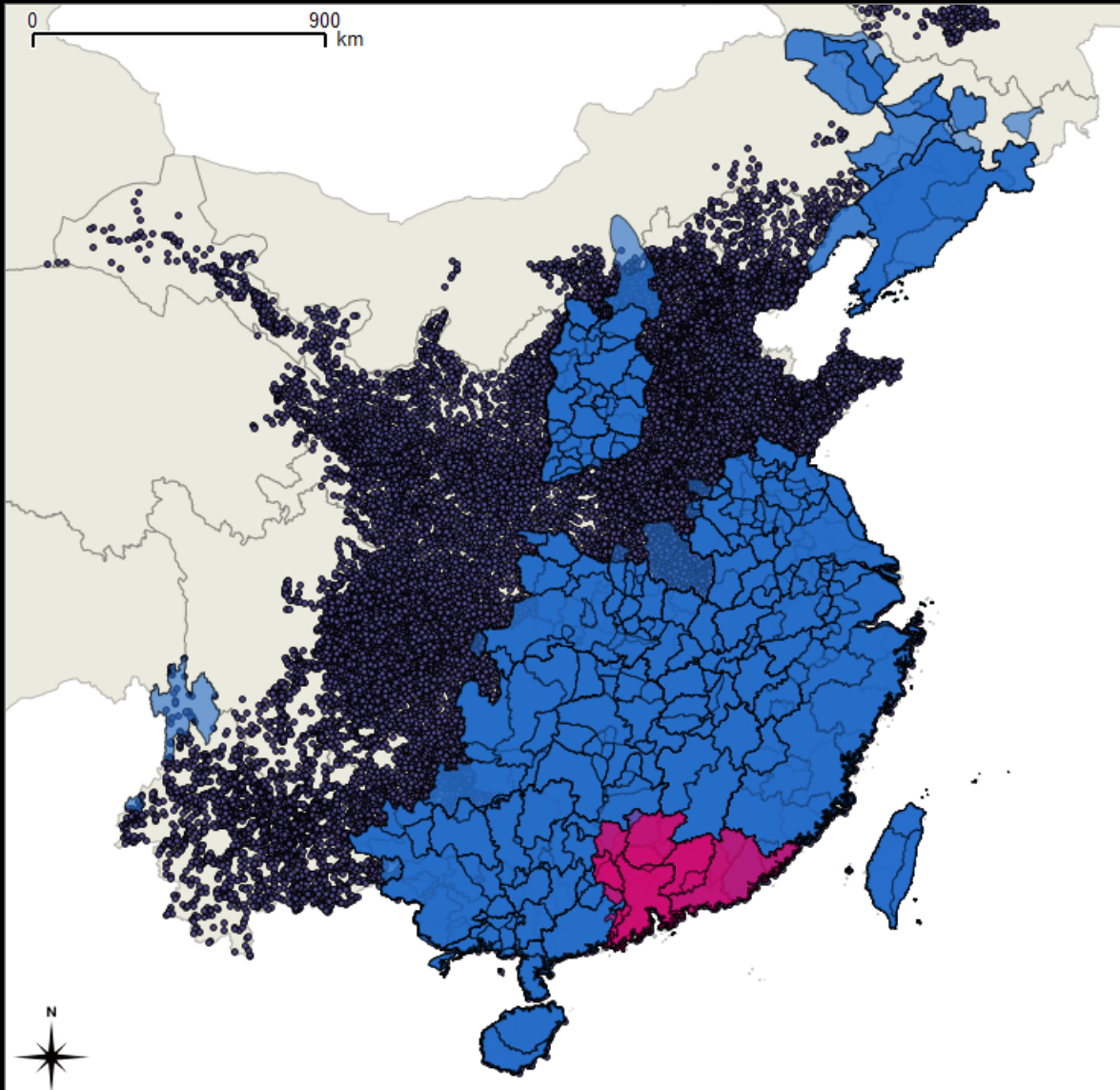


Boundary changes are annotated with color shading on printed maps



Locations of administrative capitals Are marked up with dates of change

# GIS Examples: CHGIS Data Compilation



Historical boundaries are combined into the working draft of all boundary changes

# GIS Examples: CHGIS Buddhist Temples

			崇聖寺
2220	267	285	285
224 大、和泉蒼山十 六峰	77 柳州の北郭外	73 昌昌果治東	67 崎果治東
唐、開元中	宋、熙寧中		宋、政和
今名、三塔寺。七樓八殿三塔あり	明、洪武令重建		

今名、三塔寺。七樓八殿三塔あり  
 2220  
 224  
 大、和泉蒼山十  
 六峰  
 崇聖寺  
 唐、開元中

# GIS Examples: CHGIS Source Texts

崇聖寺

在太和县西北蒼山十六峰  
之下。寺有七樓八殿。三塔高  
十餘丈。凡十六級。唐開元中  
建。今名三塔寺。

今名三塔寺。七樓八殿三塔あり

2220

224

大、和県蒼山十六峰

唐、開元中

崇聖寺

Name:	崇聖寺
Temple ID:	2220
Site ID:	224
Location:	大和县蒼山十六峰
Established:	唐開元中
Notes:	今名三塔寺，七樓八殿三塔

# GIS Examples: CHGIS Geocoding

227 澄江府 (227) 州 (253)  
 228 大理府 (228) 州 (254)  
 229 广南府 (229) 州 (255)  
 230 开化府 (230) 州 (256)  
 231 昭通府 (231) 州 (257)  
 232 普洱府 (232) 州 (258)  
 233 楚雄府 (233) 州 (259)  
 234 大理府 (234) 州 (260)  
 235 开化府 (235) 州 (261)  
 236 昭通府 (236) 州 (262)  
 237 普洱府 (237) 州 (263)  
 238 楚雄府 (238) 州 (264)  
 239 大理府 (239) 州 (265)  
 240 开化府 (240) 州 (266)  
 241 昭通府 (241) 州 (267)  
 242 普洱府 (242) 州 (268)  
 243 楚雄府 (243) 州 (269)  
 244 大理府 (244) 州 (270)

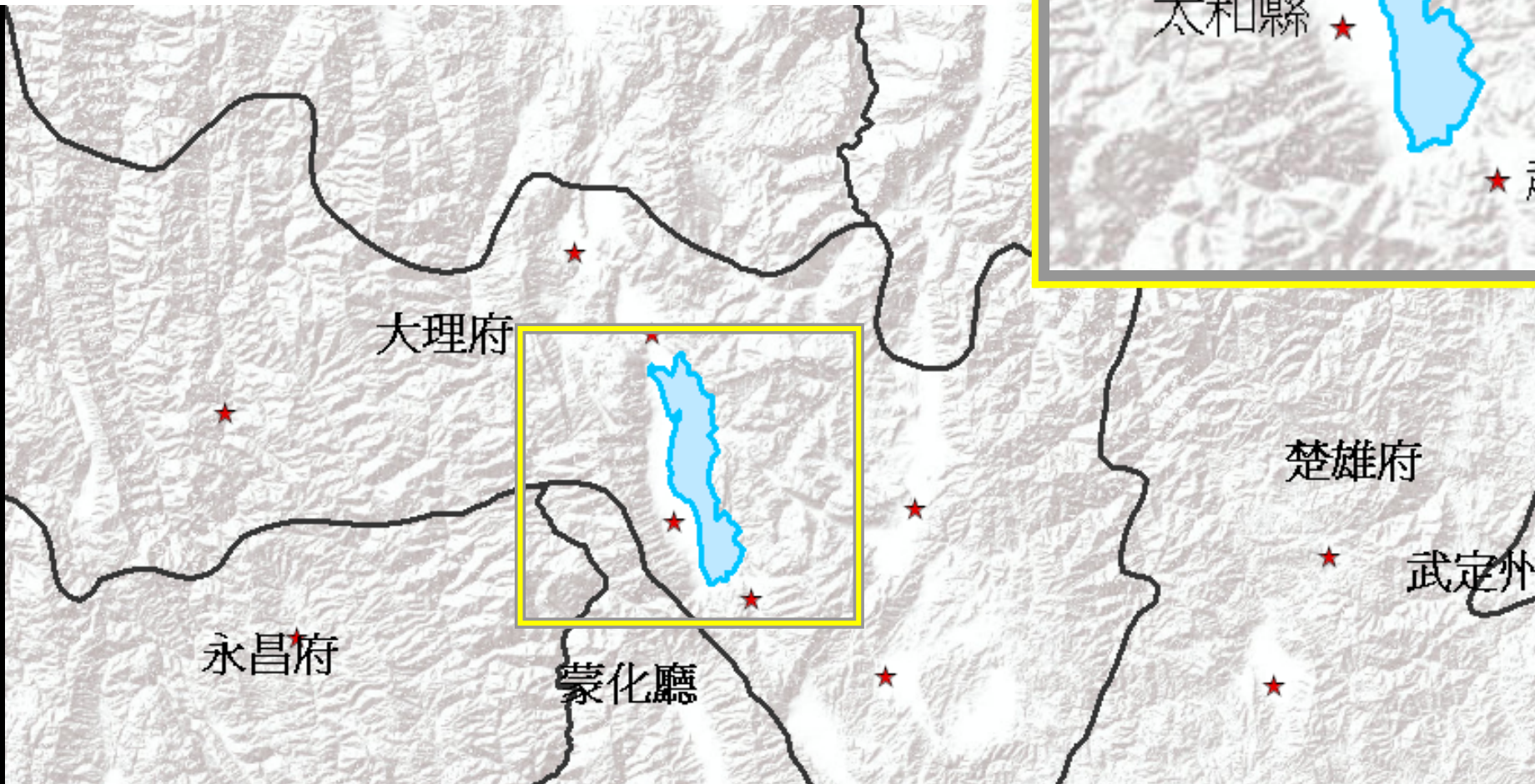
224  
 大理府  
 ( )  
 2219  
 )  
 2229  
 )

site_id	site_ch	site_alt	site_rom	chgis_id
217	曲靖府	曲靖府	Qujing Fu	9757
218	临安府	臨安府	Linan Fu	9765
219	澄江府	澄江府	Chengjiang Fu	9760
220	广南府	廣南府	Guangnan Fu	9762
221	开化府	開化府	Kaihua Fu	9766
222	昭通府	昭通府	Zhaotong Fu	9747
223	普洱府	普洱府	Puer Fu	9767
224	大理府	大理府	Dali Fu	9753
225	楚雄府	楚雄府	Chuxiong Fu	9754

<b>Name:</b>	崇圣寺
<b>Temple ID:</b>	2220
<b>Site ID:</b>	→ 224
<b>Location:</b>	→ 大和县苍山十六峰
<b>Established:</b>	唐开元中
<b>Notes:</b>	今名三塔寺，七楼八殿三塔

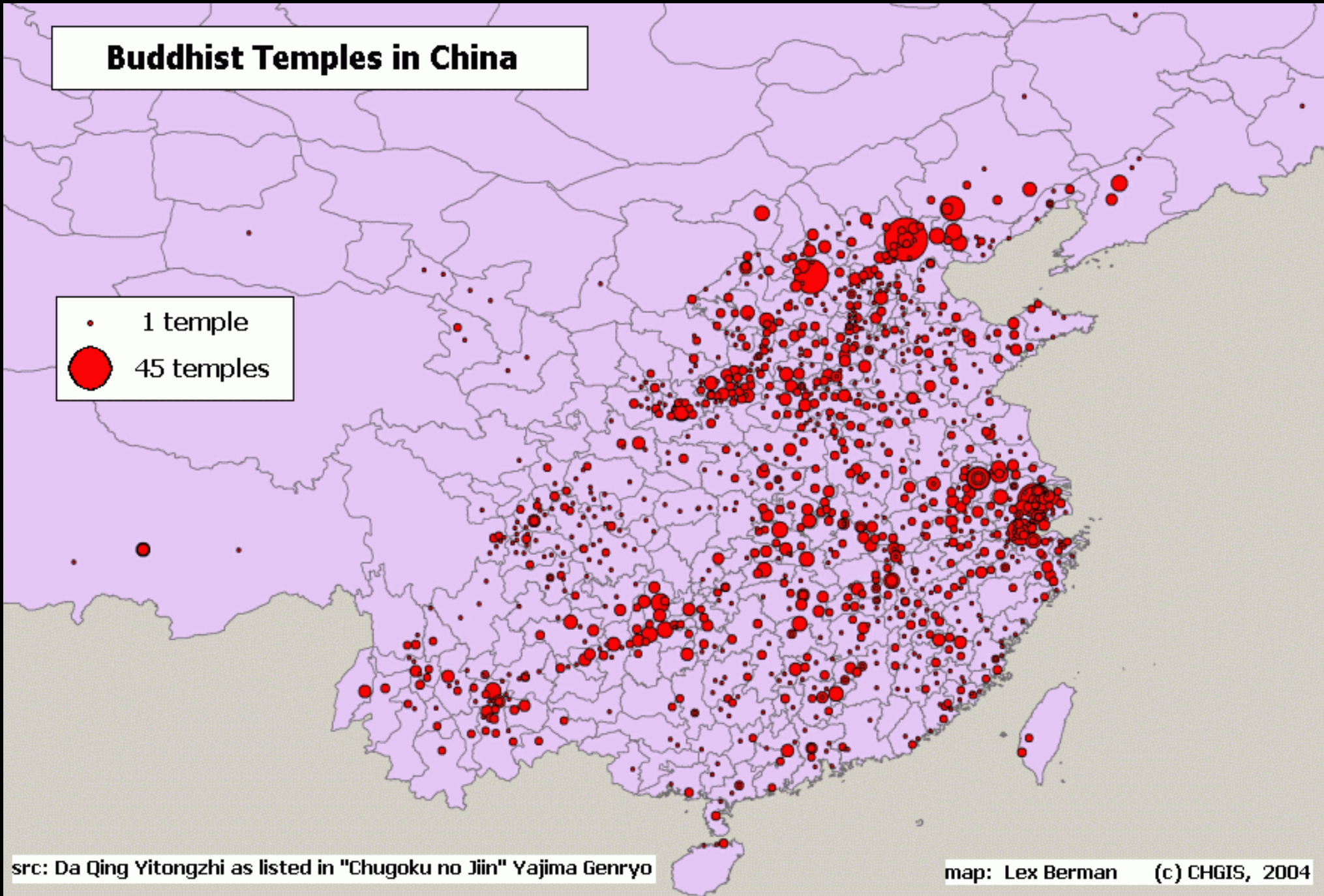
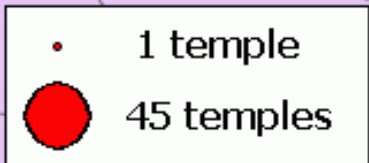
# GIS Examples: CHGIS Mapping Points

Name:	崇圣寺
Temple ID:	2220
Site ID:	224
Location:	大和县苍山十六峰
Established:	唐开元中
Notes:	今名三塔寺，七楼八殿三塔



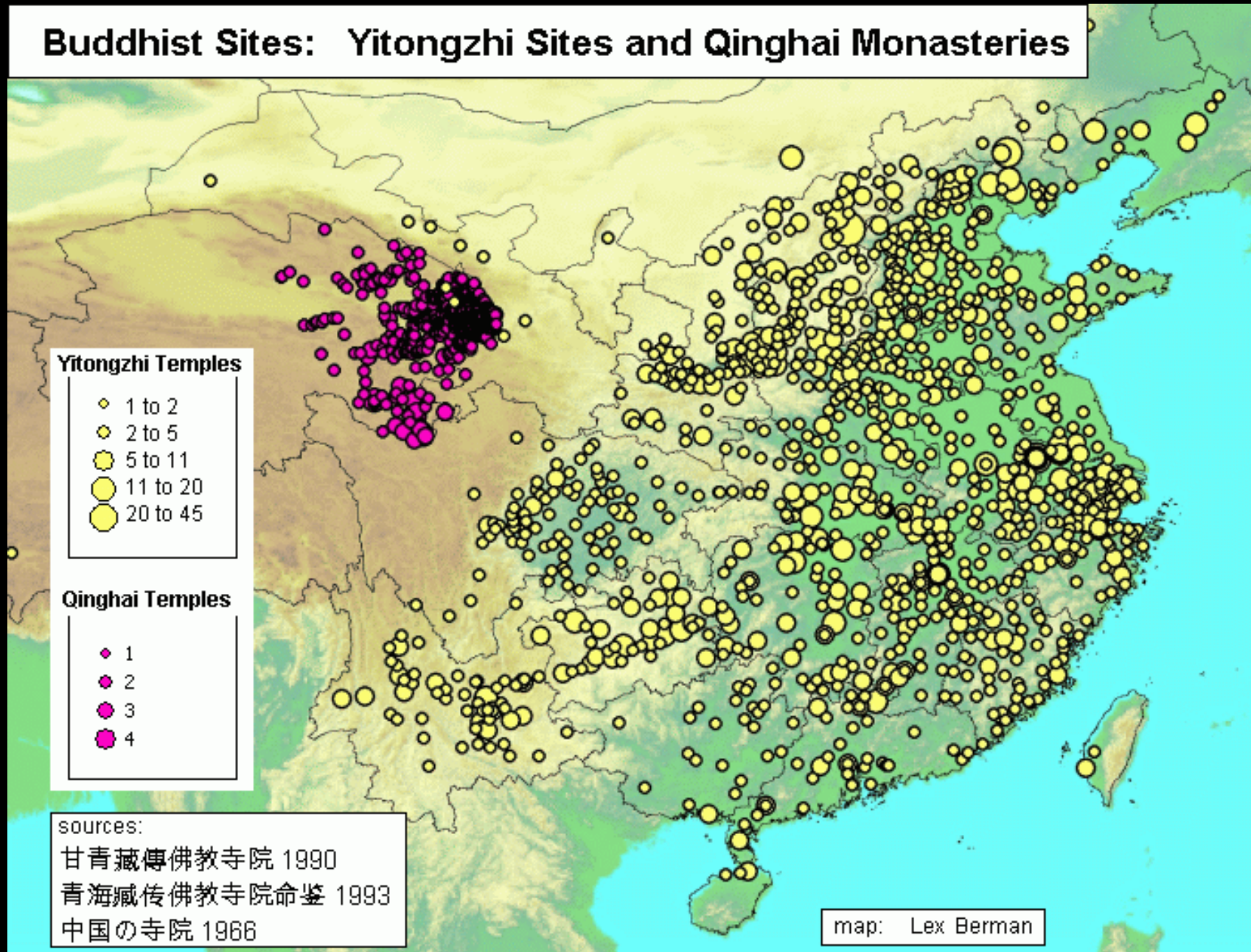
# GIS Examples: CHGIS Distribution Map

## Buddhist Temples in China



# GIS Examples: CHGIS Bias in Sources

## Buddhist Sites: Yitongzhi Sites and Qinghai Monasteries





**Data** | **Legend**

**N. Song Entry Exams (Persons)**

- 1 - 5
- 6 - 10
- 11 - 15
- 16 - 30
- 31 - 45
- 46 - 90
- 91 - 215

**High Speed Railways (2011)**

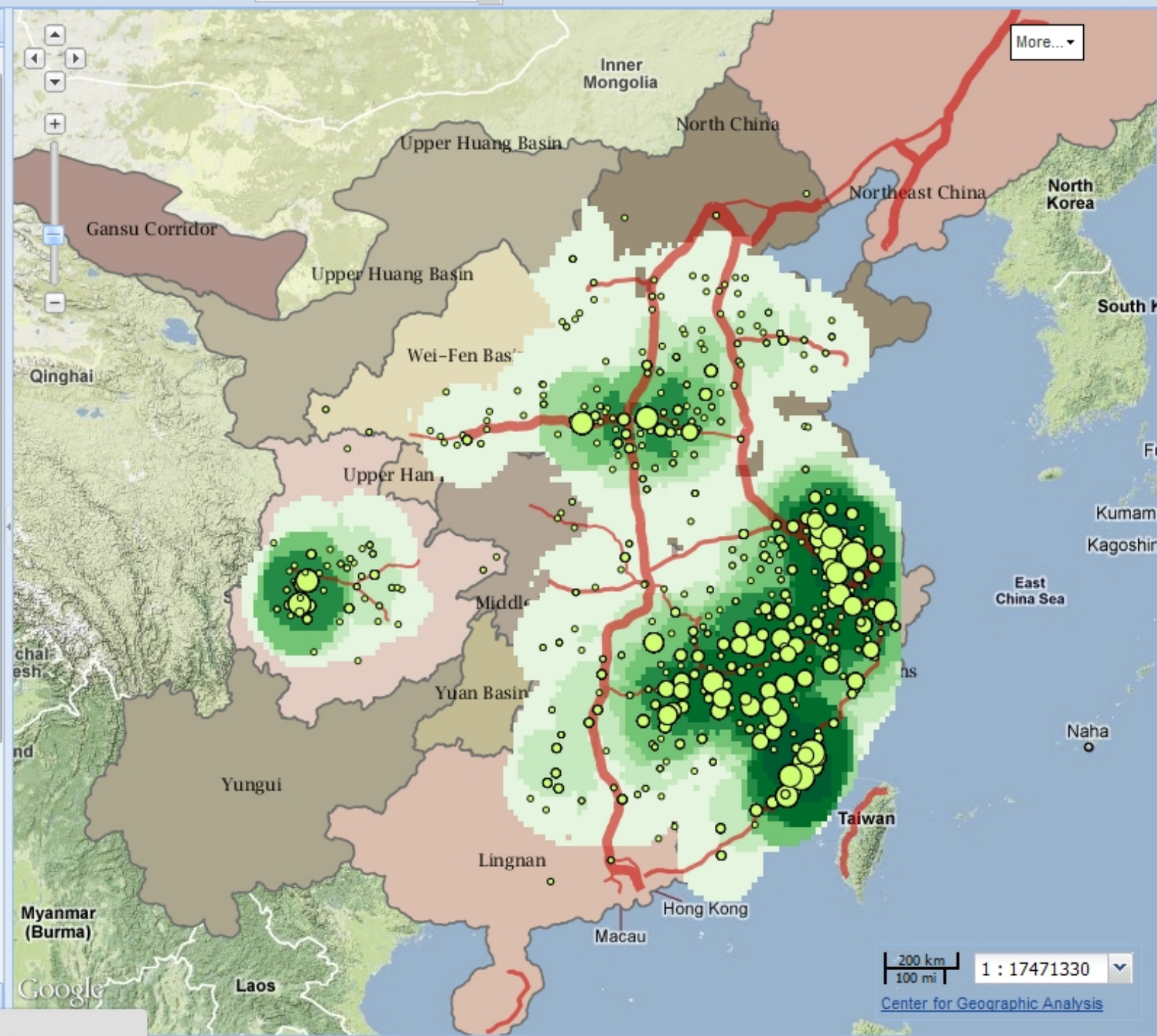
- 200 kmh
- 250 kmh
- 300 kmh
- 350 kmh

**N. Song Exams (Heat Map)**

- n/a
- 1 - 5
- 6 - 10
- 11 - 15
- 16 - 30
- 31 - 45
- 46 - 90
- 91 - 215

**Physiographic Macroregions**

- Yungui
- Lingnan
- Yuan Basin
- Middle
- Upper Han
- Wei-Fen Basin
- Upper Huang Basin
- Gansu Corridor
- Inner Mongolia
- North China
- Northeast China



**Data** | **Legend**

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- 1 - 5
- 6 - 10
- 11 - 15
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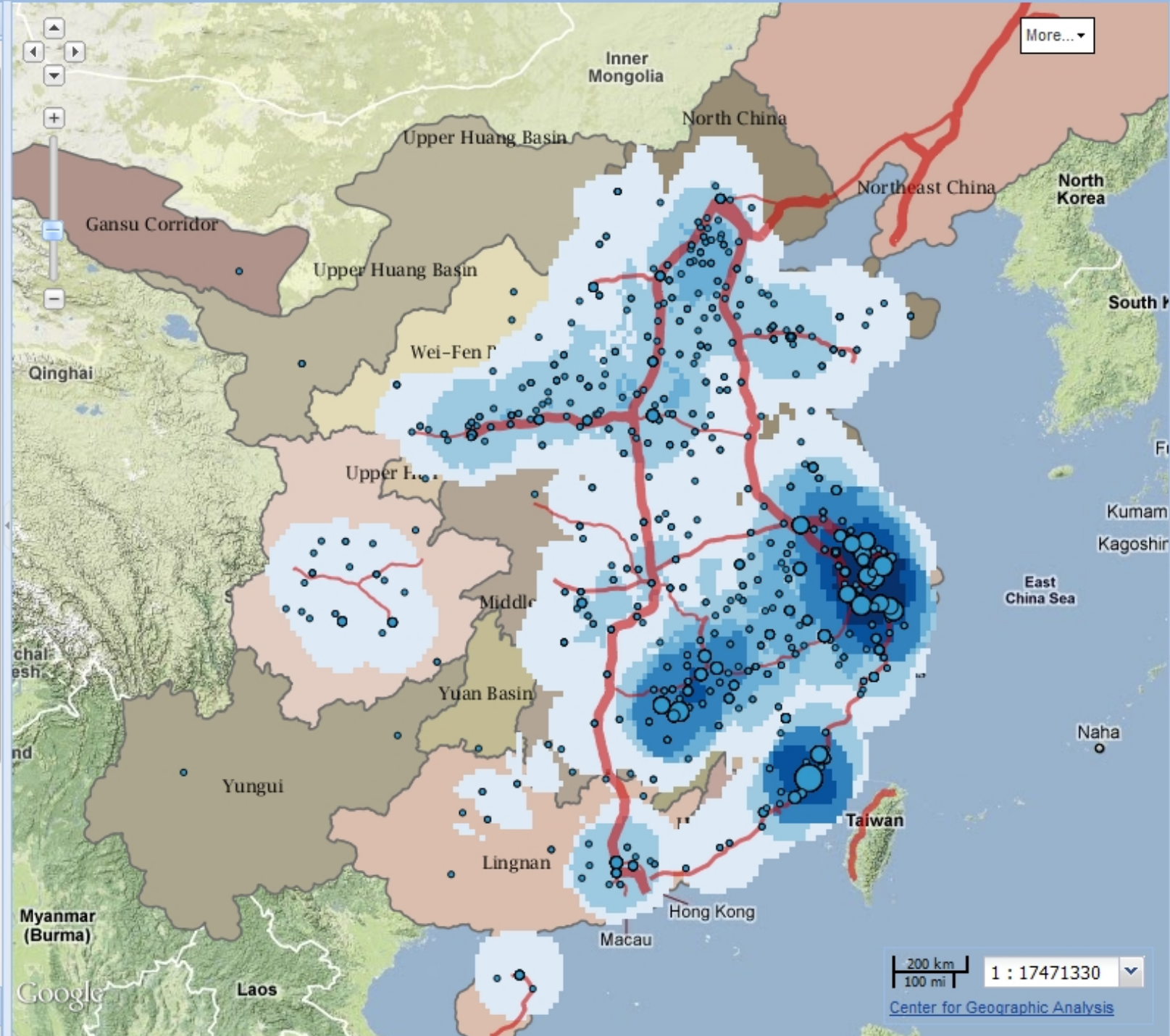
**Ming Exams (Heat Map)**

- n/a
- 1 - 5
- 6 - 10
- 11 - 15
- 16 - 30
- 31 - 45
- 46 - 90

**Physiographic Macroregions**

- [Color swatches]

Enter search... [Search](#) [Reset](#)



**Data** | **Legend**

**Qing Entry Exams (Persons)**

- 1 - 5
- 6 - 10
- 11 - 15
- 16 - 30
- 31 - 45
- 46 - 90
- 91 - 215

**High Speed Railways (2011)**

- 200 kmh
- 250 kmh
- 300 kmh
- 350 kmh

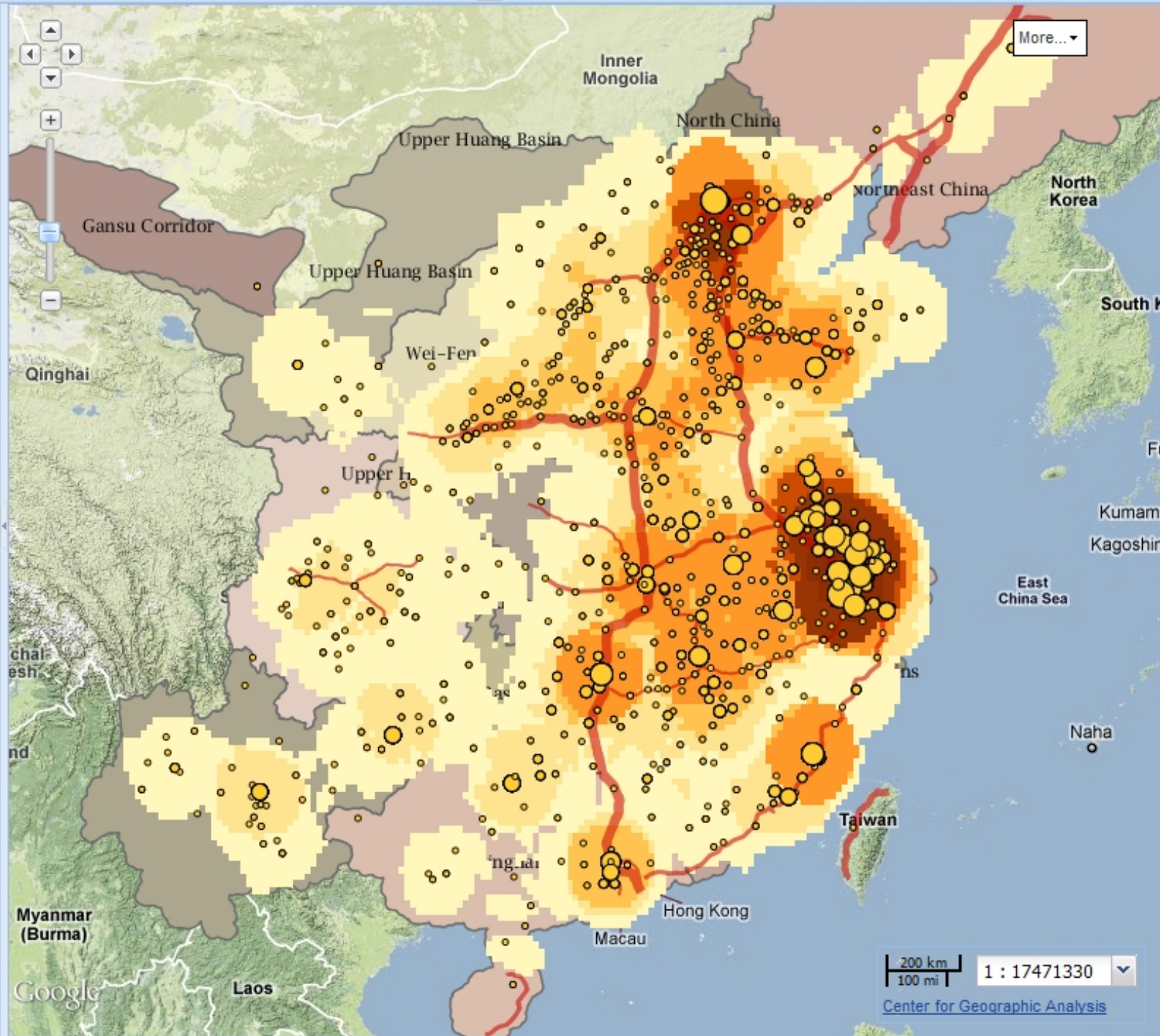
**Qing Exams (Heat Map)**

- n/a
- 1 - 5
- 6 - 10
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- 16 - 30
- 31 - 45
- 46 - 90
- 91 - 215

**Physiographic Macroregions**

- [Color swatches]

Enter search... [Search](#) [Reset](#)



# GIS Examples: Change over time



# GIS Examples: Tibetan Himalayan Library



The screenshot displays the website for The Tibetan & Himalayan Library. The header features the library's logo and name, along with navigation links for Home, Collections, Reference, Places, Literature, Community, Tools, and Projects. A search bar and language options (Login, བོད་སྐད།, རྫོང་ལ།, 中文, English) are also present. The main content area is titled 'Knowledge Maps of Subjects' and includes a descriptive paragraph and a list of subject categories.

## The Tibetan & Himalayan Library

Google™ Custom Search THL Index

Home Collections **Reference** Places Literature Community Tools Projects Show Menu

PLACES SUBJECTS RESOURCES TIBETAN HIMALAYAN

Home Kmap

### Knowledge Maps of Subjects

Knowledge Maps present annotated hierarchies that "map" out a subject, such as rituals or geographical feature types, and then link each subject to corresponding places, photographs, audio-video, and other such resources

- [Administration](#)
- [Bibliographic Classification](#)
- [Collections](#)
- [Controlled Vocabulary THL Scheme](#)
- [Cultural Regions](#)
- [Economics](#)
- [Event](#)
- [Geographical Features](#)
- [Grammars](#)
- [Historical Periods](#)
- [Human Status Terms](#)
- [Knowledge Maps Under Construction](#)
- [Language Tree](#)
- [Literary Genres](#)
- [Material Object](#)
- [Meditation](#)
- [Monastery Characteristics](#)
- [Oral Genres](#)
- [Organizations and Organizational Units](#)
- [Philosophical Systems](#)
- [Population](#)
- [Religious Sect](#)
- [Rituals](#)
- [Script](#)
- [Topics](#)
- [Zoologies \(Biological and Spiritual\)](#)

# GIS Examples: Tibetan Himalayan Library

## Kartenwerk der erdmagnetischen forschungsexpedition W. Filchner nach Zentral-Asien 1926-28, tile 1 of 7

Paper map for the area crossed by Filchner in Kham and Amdo during his expedition in 1926-28, tile 1 of 7.

We miss tile #7.

THL ID: M55a.

### Download

- Download this map in 400ppi

Year	1937
Author	Tibetan and Himalayan Library
Scale	1 : 500 000
Presentation Form	mapHardcopy
Category	Scanned Paper Map



 [View in Interactive Map](#)

### Location of this Map



### Geographic Bounding Box

North bound latitude  
37.5

East bound longitude  
103

West bound longitude  
100

# GIS Examples: Tibetan Himalayan Library

## Drupalung

### National Administrative Units Location

[World](#) > [Asia](#) > [China](#) > [Tibet Autonomous Region](#) > [Chamdo](#) > [Markham](#) > [Drupalung](#)

### Object type

- [ADM4](#)
- [Township \(without urban registered population\)](#)

### Map



[View the full map](#)

[View in Google Maps](#)

[View in Google Earth](#)

Search

Options

Browse

- [Tibet](#)
- [Tibet Autonomous Region](#)
  - [Chamdo](#)
    - [Chamdo](#)
    - [Drakyap](#)
    - [Dzogang](#)
    - [Gonjo](#)
    - [Jomda](#)
    - [Lhorong](#)
  - [Markham](#)
    - [Bumpa](#)
    - [Chörten](#)
    - [Chutsenkha](#)
    - [Dem Pa](#)
    - [Drupalung](#)
    - [Gardo](#)

# GIS Examples: Tibetan Himalayan Library

THL Interactive Map Hide Place Names

**Search**

**Go To**

**Options**

**Browse**

**Map Layers**

**Active Layers**

**Legend: Archaeological sites of Pre-Buddhist Upper Tibet (Datasets)**

- Residential, summit, all-stone corbelled buildings
- ⊕ Residential, summit, edifices built with timbers
- ⊕ Residential, summit, solitary rampart networks
- ⊕ Residential, summit, indeterminate subtype
- Residential, all other, all-stone corbelled structures
- Residential, all other, other freestanding building types
- Residential, all other, buildings integrating caves and escarpments
- Residential, all other, indeterminate subtype
- Stelae, isolated pillars
- Stelae, pillars erected within a quadrate enclosure
- Stelae, quadrangular arrays of pillars appended to edifices
- Superficial structures, primarily funerary superstructures
- Cubic-shaped mountaintop tombs
- Shrines, minor stone constructions and misc. structures
- ★ Rock art, petroglyphs
- ★ Rock art, pictographs

**Features**

**Ngari (ADM2, Prefecture)**  
[Caption will be here] [Read more...](#)

**Gertsé (ADM3, County)**  
[Caption will be here] [Read more...](#)

**China (Nation)**  
[Caption will be here] [Read more...](#)

**Tibet Autonomous Region (ADM1, Autonomous region)**  
[Caption will be here] [Read more...](#)

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# GIS Examples: Tibetan Himalayan Library

college affiliation

on

off

## Sera Monastery

Please put your mouse over a building to see its name;  
click on it to view a database entry about it.

feature colors

on

off

- Apartment
- Assembly Hall Complex
- Classroom Building
- Clay Tablet Repository
- Debate Courtyard
- Empty Field
- Hermitage
- Individual Monk's House
- Kitchen Building
- Lama's Residence
- Museum
- Printing House
- Regional House Headquarters
- Restaurant
- Ruins
- Self-Arisen Image
- Stables
- Stone-Paved Courtyard
- Stūpa
- Other



# GIS Examples: Republican Beijing

- (1) Urban morphology
- (2) Market culture
- (3) Education culture
- (4) Public health
- (5) Legal culture
- (6) Religious culture

民国时期北京都市文化历史地理信息数据库  
A Historical GIS Dataset of Urban Cultures in Republican Beijing

## 数据库输出示例地图一览表 Demo Maps List

项目名称 Project Name	
项目简介 Project Description	图1: 题名录(1929), 礼拜寺(1937), 律师会员
经费来源 Funding Source	图2: 工商业机构(1932), 教会(1929), 贩毒人员
主题 Main Theme	图3: 寺庙(1928), 会馆(1929), 派出所
项目团队 Team Members	图4: 政府机关(1929), 寺庙(1936), 粥厂(1937)
线上资源 Online Resources	图5: 医院(1914), 教会(1920), 银号
地图示例 Demo maps	图6: 医院(1929), 教会(1929), 庙会 图7: 公园(1919), 教会(1920), 学校 图8: 戏园(1929), 寺庙(1928), 教育机构(1929) <u>图9: 电影院(1936), 寺庙(1936), 佛教人口(1937)</u> 图10: YWCA(1923), 报纸(1920), 人口(1918) 图11: YWCA(1923), 律师公会(1923), 药房(1923) 图12: 教会(1923), 贩毒人员, 国医工会(1930) 图13: 道院授经人(1921), 律师(1913), 中医(1914) 图14: 教会(1929), 政府机关(1929), 私立学校(192)
常用链接 Useful Links	图15: 寺庙(1928), 贩毒人员, 中等学校(1925) 图16: 寺庙(1928), 中学和师范学校(1914), 贩毒人 图17: 电车(1937), 教会(1920), 派出所

图9: 电影院(1936), 寺庙(1936), 佛教人口(1937)

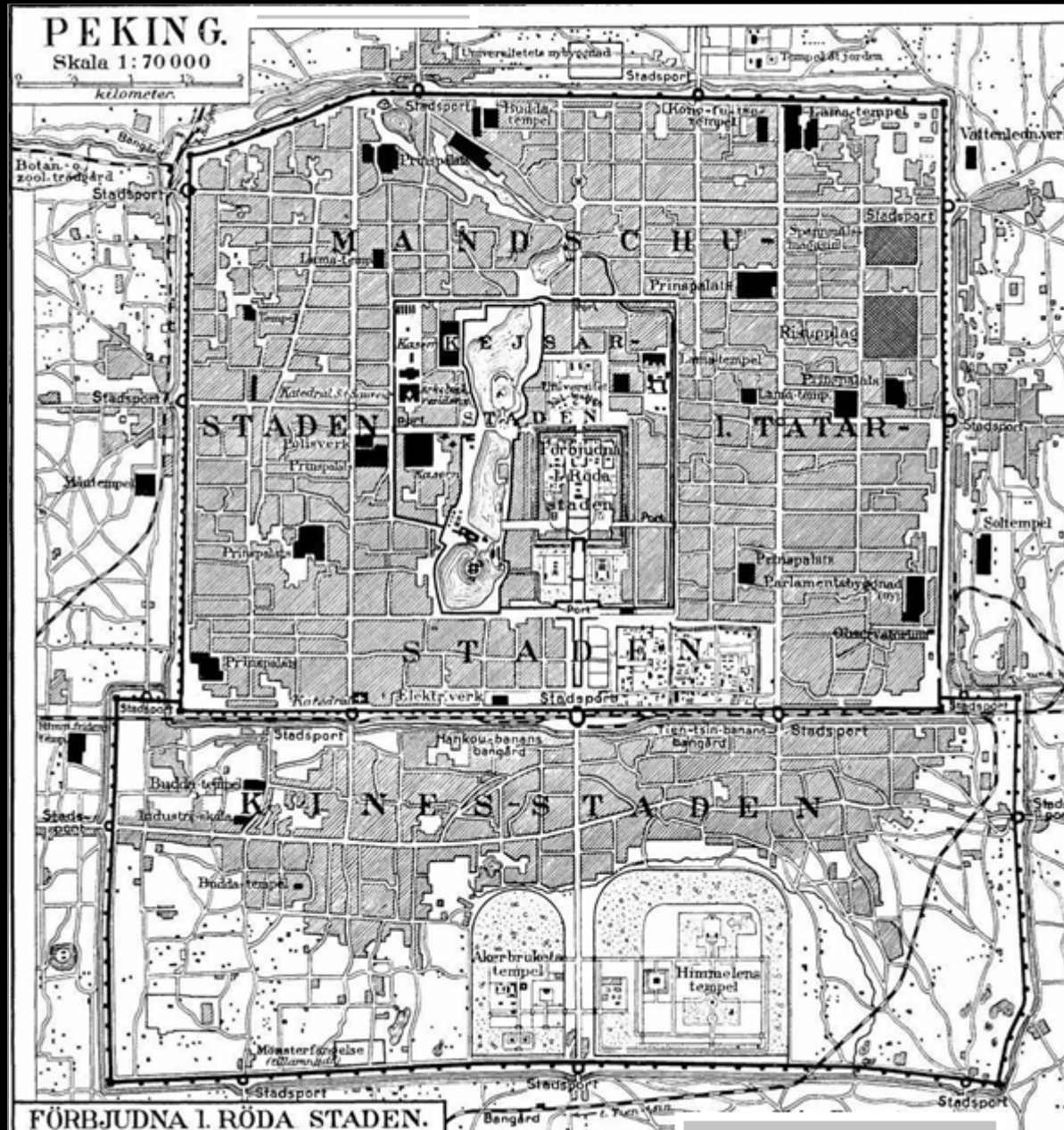
Legend

- Temple
- Theater
- Public, dens

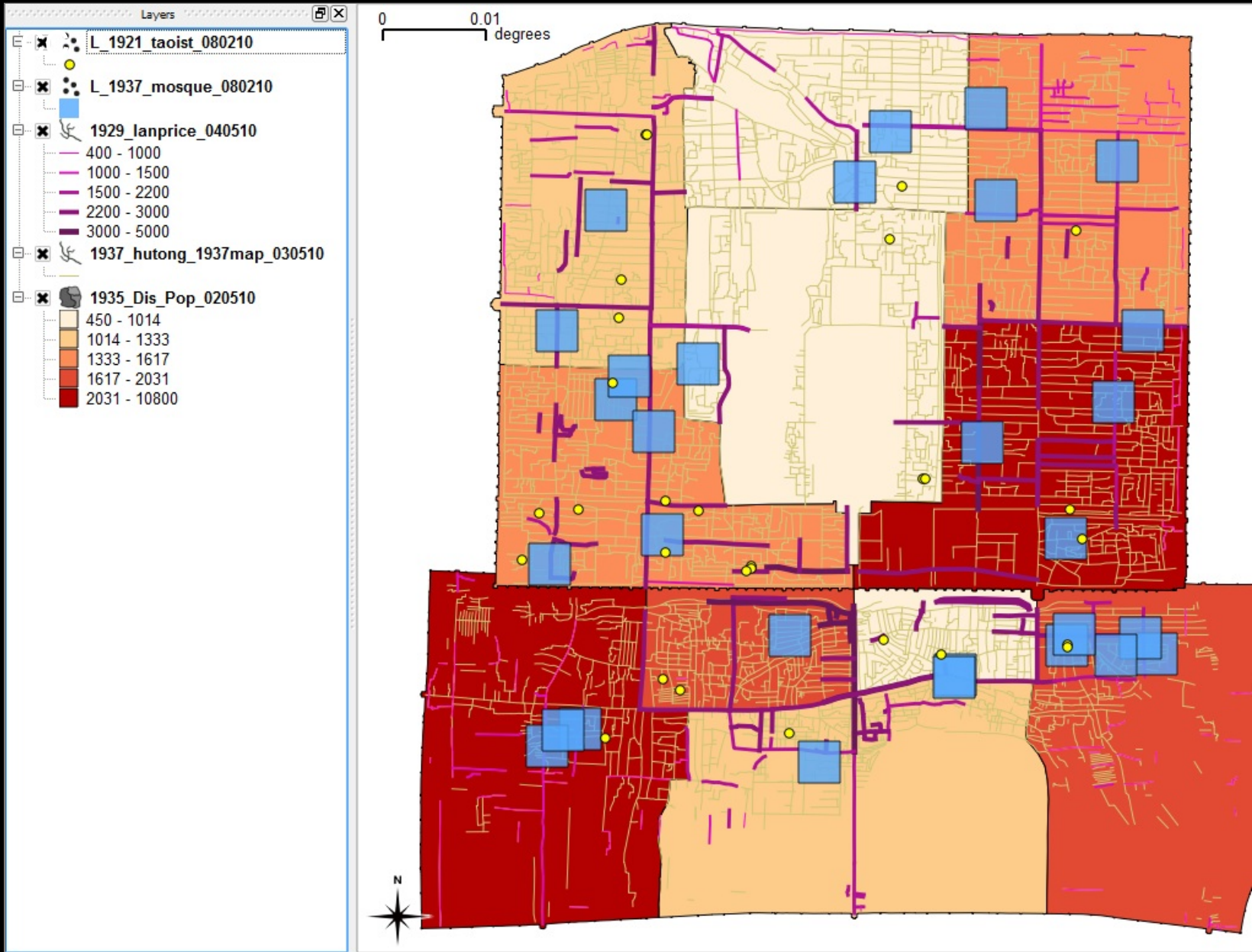
Pop. Buddhist

- 1024 - 1462
- 1464 - 2075
- 2077 - 3237
- 3239 - 4758
- 4760 - 11282

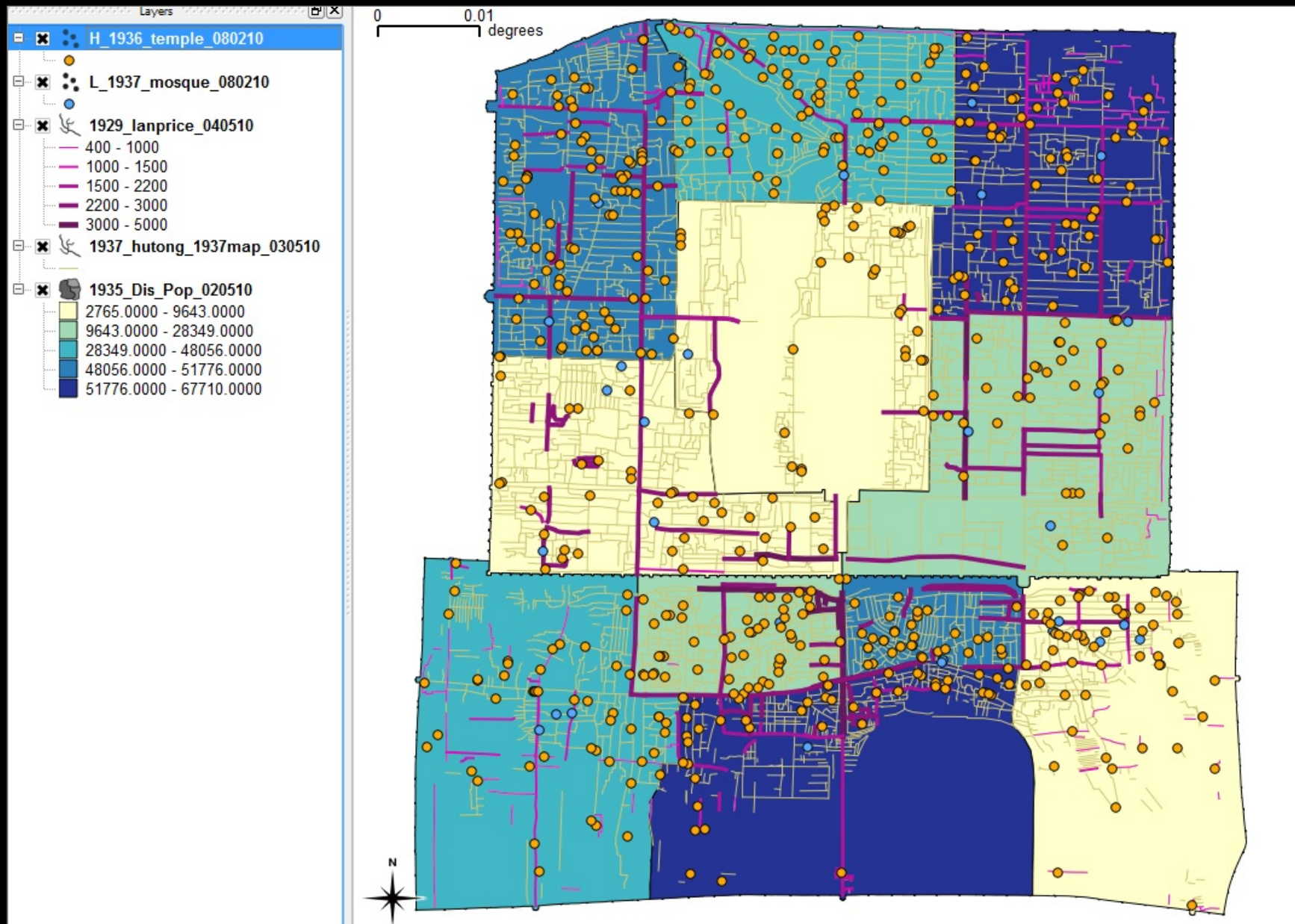
# GIS Examples: Republican Beijing



# GIS Examples: Beijing Islamic Pop (1937)



# GIS Examples: Beijing Buddhist Pop (1937)



# GIS Examples: ORBIS Roman Network

## ORBIS The Stanford Geospatial Network Model of the Roman World

Home

Introducing ORBIS

Understanding ORBIS

Building ORBIS

Using ORBIS

Mapping ORBIS

Applying ORBIS

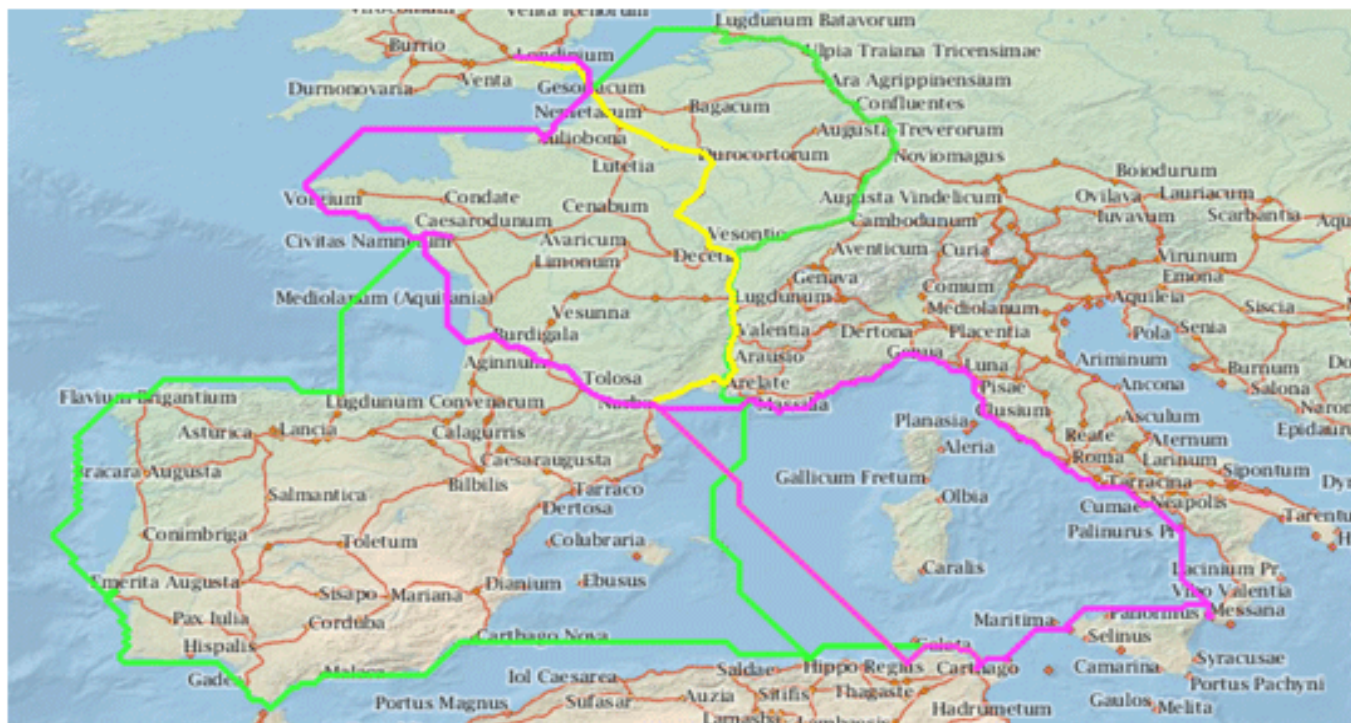
Overview

Examples

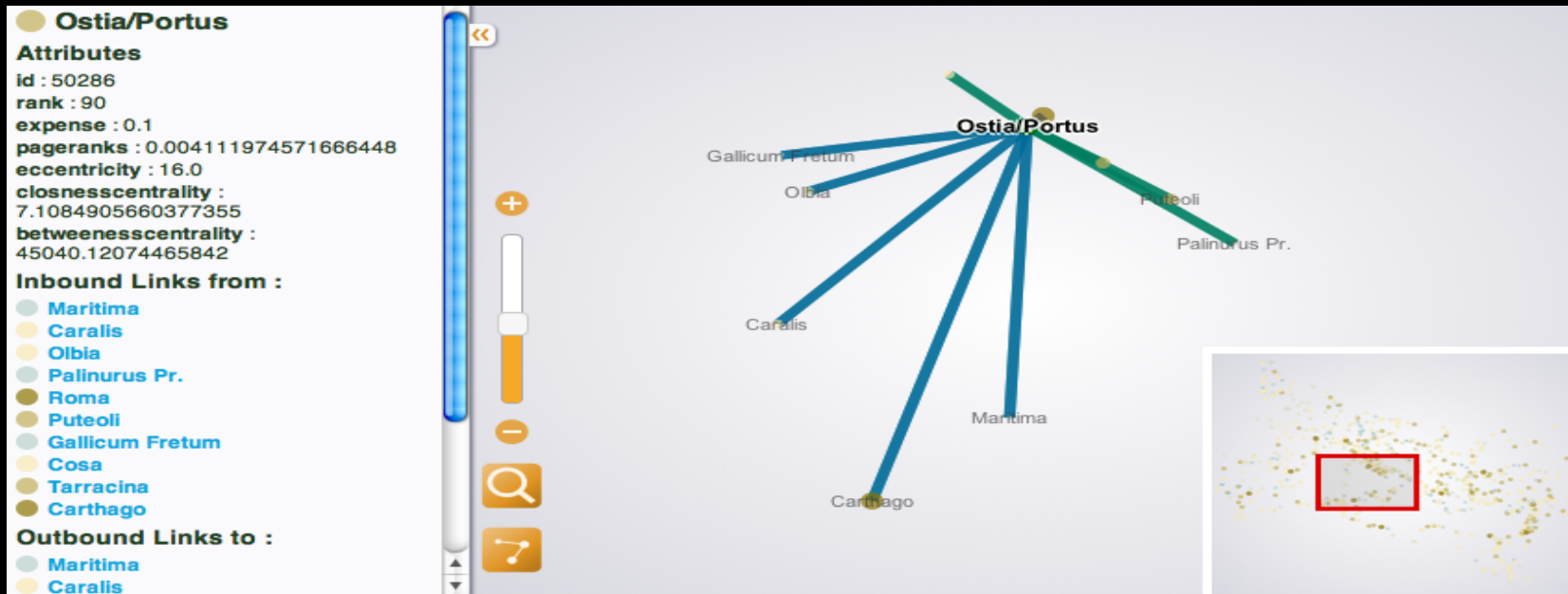
Tutorial video

### Time, price, and distance

A long-range route simulation from Carthago (in present-day Tunisia) to Londinium (London) highlights difference in outcomes depending on priority, mode, and season.

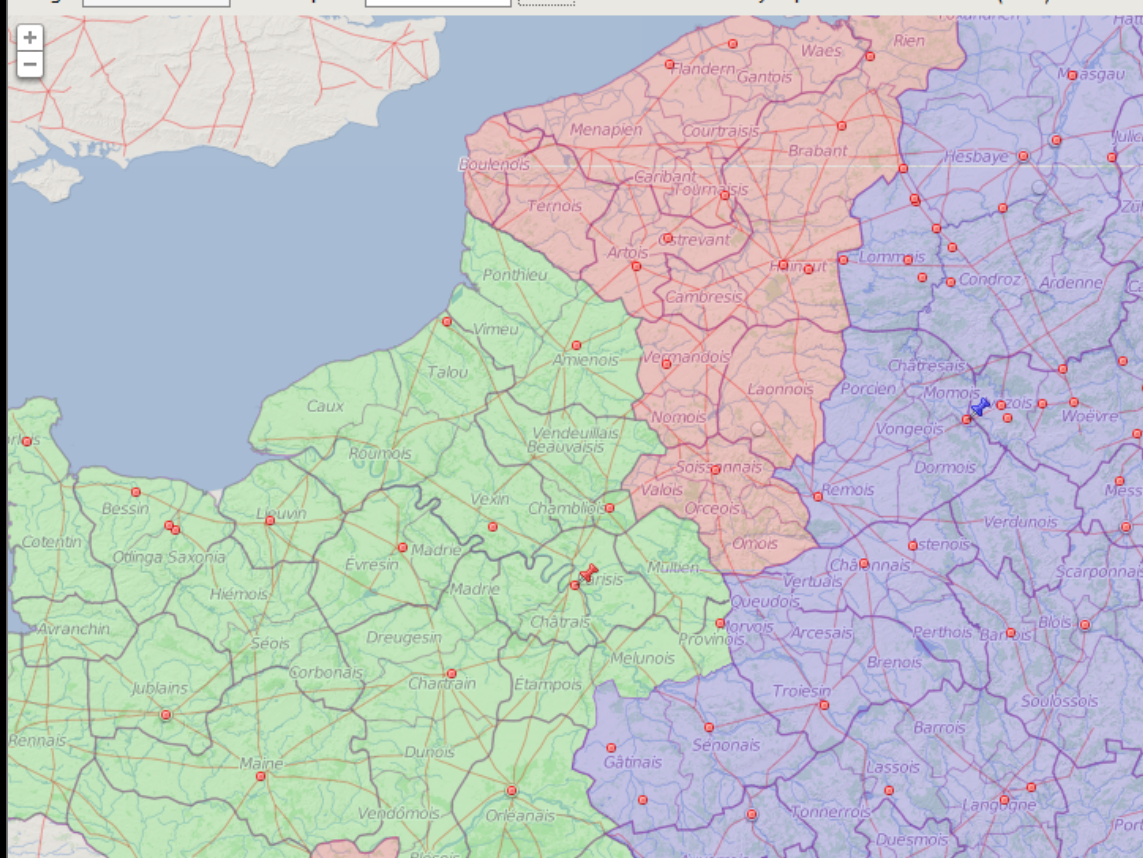


# GIS Examples: ORBIS Roman Network



# Spatial Humanities: Regnum Francorum

Origin  Find place  The Princeton Encyclopedia of Classical Sites (PECS)



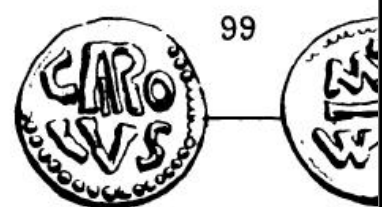
**Regnum Francorum Online**  
Layers | Maps | Places | Territories | Sources  
Mouse click 49.62058,5.04264, zoom-level 7

Place of event or issue, date Mouzon 772-793/794, in the reign of Charlemag

Summary coins issued

Citation CARo/LVS | M-OS/-<sup>001</sup>/OM

Digital edition(s) of Gariel



4 Capit.\_2 251

Source Capitularia

Place of event or issue, date Meerssen 870-08-08

Summary Louis the German and Charles the Bald divide(s) between, in Momois (Mouzonnois)

Citation Mosminse

Digital edition(s) of Capit.\_2 Excerpt, [dMGH](#)

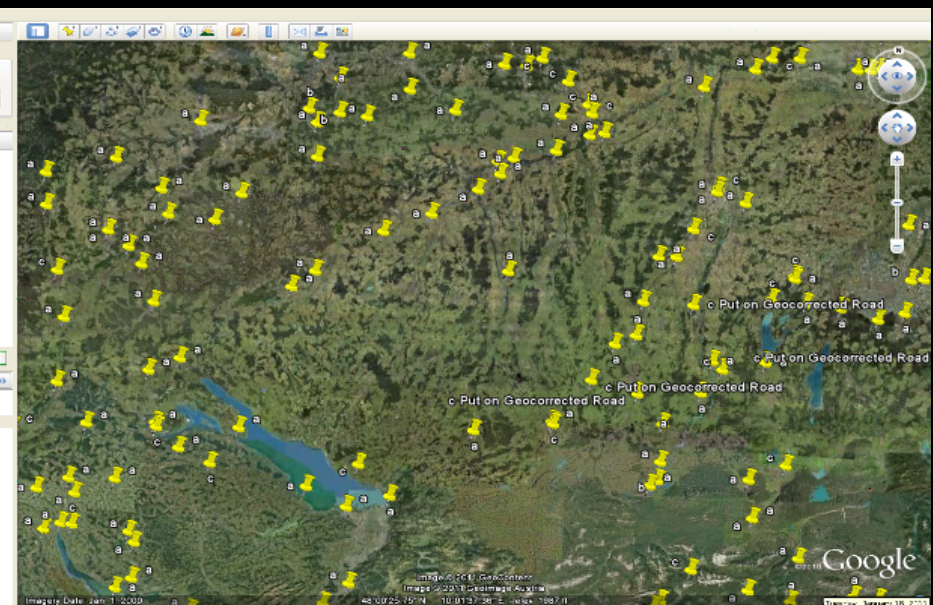
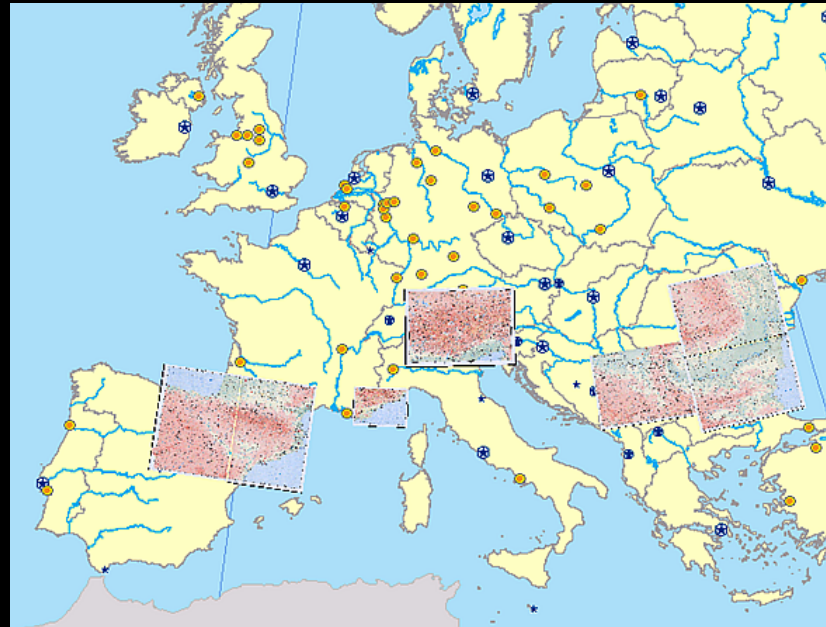
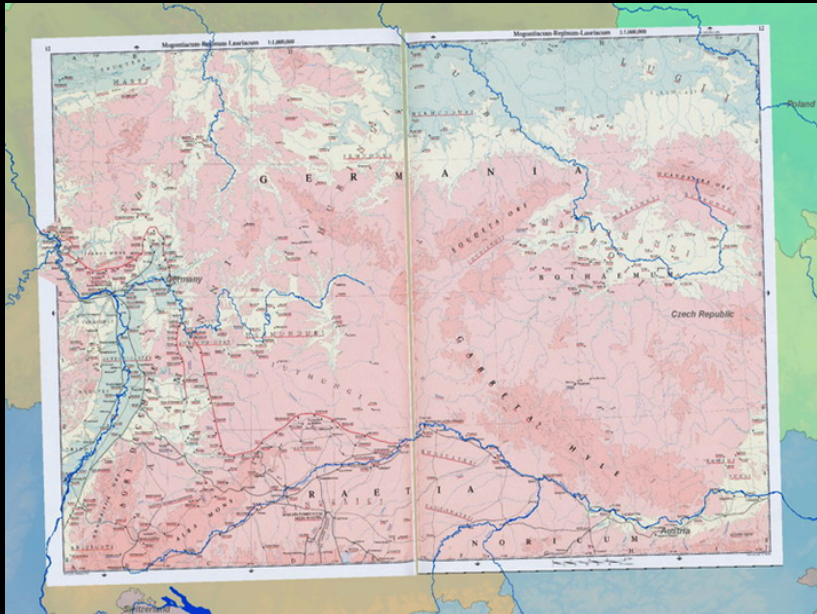


# GIS Examples: DARMC

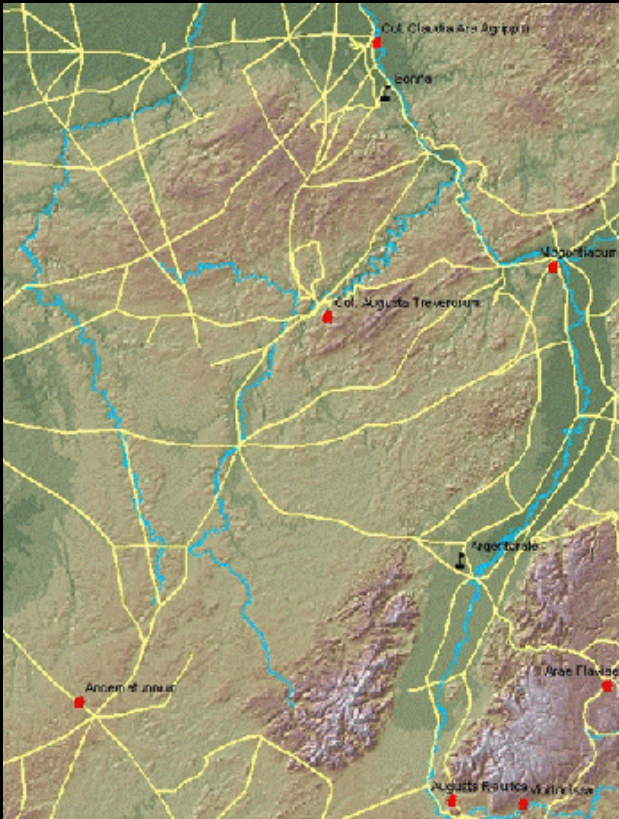
- (a) based on digitized features from printed maps
- (b) incorporates data from specific research topics
- (c) provides a mapping tool for Roman and Medieval places



# GIS Examples: DARMC Data Compilation



# GIS Examples: DARMC Data Compilation



# GIS Examples: DARMC -> Pleiades

GROTTA DI S. NICOLA — HERAKLEION	
Herakleion A1.B. 54 B2	<i>Herakleion A1.B. 54 B2</i>
Herakleion A1.C. 87 C1	<i>Herakleion A1.C. 87 C1</i>
Herakleion A1.D. 54 B3	<i>Herakleion A1.D. 54 B3</i>
Herakleion A1.E. 54 B4	<i>Herakleion A1.E. 54 B4</i>
Herakleion A1.F. 54 B5	<i>Herakleion A1.F. 54 B5</i>
Herakleion A1.G. 54 B6	<i>Herakleion A1.G. 54 B6</i>
Herakleion A1.H. 54 B7	<i>Herakleion A1.H. 54 B7</i>
Herakleion A1.I. 54 B8	<i>Herakleion A1.I. 54 B8</i>
Herakleion A1.J. 54 B9	<i>Herakleion A1.J. 54 B9</i>
Herakleion A1.K. 54 B10	<i>Herakleion A1.K. 54 B10</i>
Herakleion A1.L. 54 B11	<i>Herakleion A1.L. 54 B11</i>
Herakleion A1.M. 54 B12	<i>Herakleion A1.M. 54 B12</i>
Herakleion A1.N. 54 B13	<i>Herakleion A1.N. 54 B13</i>
Herakleion A1.O. 54 B14	<i>Herakleion A1.O. 54 B14</i>
Herakleion A1.P. 54 B15	<i>Herakleion A1.P. 54 B15</i>
Herakleion A1.Q. 54 B16	<i>Herakleion A1.Q. 54 B16</i>
Herakleion A1.R. 54 B17	<i>Herakleion A1.R. 54 B17</i>
Herakleion A1.S. 54 B18	<i>Herakleion A1.S. 54 B18</i>
Herakleion A1.T. 54 B19	<i>Herakleion A1.T. 54 B19</i>
Herakleion A1.U. 54 B20	<i>Herakleion A1.U. 54 B20</i>
Herakleion A1.V. 54 B21	<i>Herakleion A1.V. 54 B21</i>
Herakleion A1.W. 54 B22	<i>Herakleion A1.W. 54 B22</i>
Herakleion A1.X. 54 B23	<i>Herakleion A1.X. 54 B23</i>
Herakleion A1.Y. 54 B24	<i>Herakleion A1.Y. 54 B24</i>
Herakleion A1.Z. 54 B25	<i>Herakleion A1.Z. 54 B25</i>

New_ID	PLEIADESID	PLEIADESURL
10240	109008	<a href="http://pleiades.stoa.org/places/109008">http://pleiades.stoa.org/places/109008</a>
10241	727090	<a href="http://pleiades.stoa.org/places/727090">http://pleiades.stoa.org/places/727090</a>
10242	736900	<a href="http://pleiades.stoa.org/places/736900">http://pleiades.stoa.org/places/736900</a>
10243	727090	<a href="http://pleiades.stoa.org/places/727090">http://pleiades.stoa.org/places/727090</a>
10244	373772	<a href="http://pleiades.stoa.org/places/373772">http://pleiades.stoa.org/places/373772</a>
10249	246688	<a href="http://pleiades.stoa.org/places/246688">http://pleiades.stoa.org/places/246688</a>
10250	246689	<a href="http://pleiades.stoa.org/places/246689">http://pleiades.stoa.org/places/246689</a>
10251	678418	<a href="http://pleiades.stoa.org/places/678418">http://pleiades.stoa.org/places/678418</a>
10252	5030	
10253	47203	
10254	67842	
10255	25647	
10256	67842	
10257	26606	

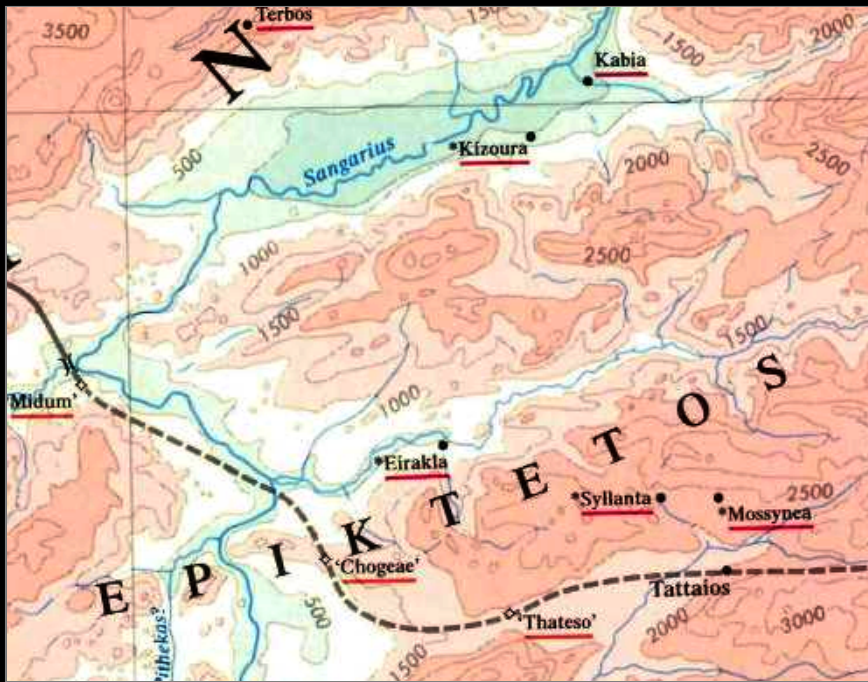
## Kabia

by C. Foss — last modified Dec 20, 2011 06:17 PM

Contributors: R. Talbert, [Tom Elliott](#), [Sean Gillies](#)

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An ancient place, cited: **BAtlas 52 G3 Kabia**



# Historical Gazetteers for Spatial Humanities

**Most frequently mentioned places in Greek and Roman Materials**

Home Collections/Texts Research Grants Open Source

Perseus Project

**PLEIADES**

Home Places Vocabs Docs FAQ

You are here: Home → Ancient Places → Internum Mare

**Internum Mare**

Pleiades

**GapVis** BETA Home · About Us · Blog

**Tacitus**  
By Tacitus (Translated by Arthur Murphy, Esq.)  
Published 1830 · View on Google Books

The Google Books version of 'Tacitus', by Tacitus (Translated by Arthur Murphy, Esq.), was published in 1830. It references 173 identified ancient places. The place most frequently referenced is Zella, followed by Libo, Syria, and 'Asia'.

Go to Reading View

Map Satellite

Place	Count
Zella	31
Libo	26
Syria	23
*Asia	24
Armenia	15
Asia	14
Campania	11
(Jus)/Katabates fl.	10
Actium Fr.	9
Cilicia	8
Pannonia	7
Illyricum	7
Alexandria	6
myrna/Eurydikeia	6
Italia	5
Macedonia	5
Hellas	5
Germania	5
Roma	5
Etruria/Tuscia	4
Parthene/Parthia	4
Kale	4
Aug. Felix) Germa	4
Ravenna	4
Rhodes	4
La(s)	4
Achaia	4
Ilium/Troia	4

Google Ancient Places

**Barrington Atlas**

Barrington Atlas

**Digital Atlas of Roman and Medieval Civilization**

Digital Atlas of Roman and Medieval Civilization

**Digital Atlas of Roman and Medieval Civilizations (beta)**

Results

- Map Contents
- Roman Empire
  - Ethiopia ca. 600
  - Cities & Settlements
  - Other Features
  - Roads
  - Provinces
- Medieval Kingdoms
  - Papal States C8-C12
  - Flanders & Picardy ca.1000
  - Reconquest Spain-Iberia C10-C12
  - England and France C10-C12
  - Eastern Europe C9-C12
  - House of Burgundy C14-C15
  - Angevin Empire & Capetian France C12
  - Kingdoms and Towns
- Civilization Features
  - Historical & Scientific Precipitation C11-16
  - Moselle Valley ca. 1000
  - Diocese of Salzburg C8-C15
  - Julianic Centers C7-C15
  - Rats 1-1500
  - Shipwrecks 1-1500
  - Universities C12-C15
  - Fair & Trade C10-C14
  - Hansa C12-C15
  - France Dioceses ca.1000

Digital Atlas of Roman and Medieval Civilization

# Gazetteers for Spatial Humanities: Pleiades

Canonical URI: <http://pleiades.stoa.org/places/638753/>

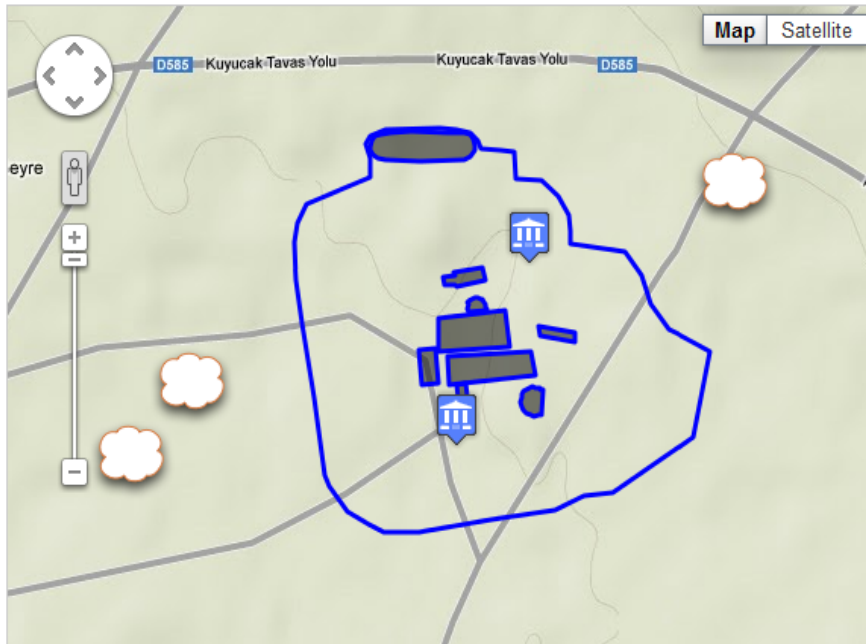
## Aphrodisias

by C. Foss, S. Mitchell — last modified Feb 14, 2012 09:25 PM

Contributors: talbert, [Tom Elliott](#), [Sean Gillies](#), [Gabriel Bodard](#), [Brian Turner](#), [Rob Chavez](#)

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An ancient city in Asia Minor



### In This Context

Locations: [±]

- ★★★<sup>(1)</sup> [Theater](#) ()
- ★★★<sup>(0)</sup> [North Agora](#) ()
- ★★★<sup>(0)</sup> [Stadium](#) ()
- ★★★<sup>(0)</sup> [South Agora](#) ()
- ★★★<sup>(0)</sup> [Tetrapylon](#) ()
- ★★★<sup>(0)</sup> [Hadrianic Baths](#) ()
- ★★★<sup>(0)</sup> [Basilica](#) ()
- ★★★<sup>(0)</sup> [Sebasteion](#) ()
- ★★★<sup>(0)</sup> [Martyrion](#) ()
- ★★★<sup>(0)</sup> [Temple/Church](#) ()
- ★★★<sup>(0)</sup> [Walls](#) ()
- ★★★<sup>(0)</sup> [Odeon](#) ()

Names: [±]

- ★★★<sup>(1)</sup> [Aphrodisias](#) (Roman, Late-antique)
- ★★★<sup>(0)</sup> [Aphrodeisias](#) (Hellenistic-republican, Roman)

```
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xmlns:spatial="http://geovocab.org/spatial#" xmlns:dc
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    <dcterms:coverage>Geyre, Turkey (nearby)</dcterms:
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  <pleiades:hasFeatureType>
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# Gazetteers for Spatial Humanities: Pleiades

RDF: <http://pleiades.stoa.org/places/638753/rdf>

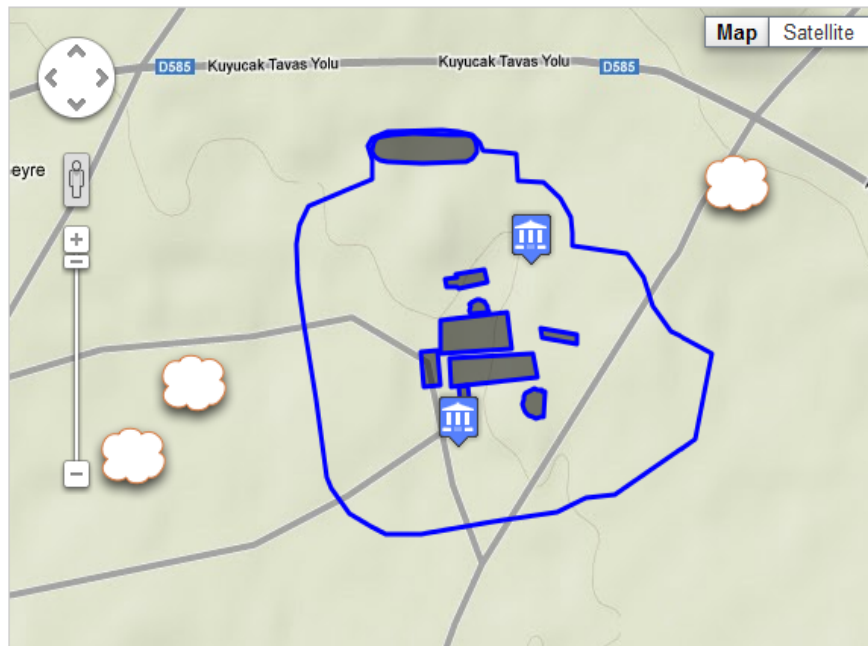
## Aphrodisias

by C. Foss, S. Mitchell — last modified Feb 14, 2012 09:25 PM

Contributors: talbert, [Tom Elliott](#), [Sean Gillies](#), [Gabriel Bodard](#), [Brian Turner](#), [Rob Chavez](#)

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An ancient city in Asia Minor



### In This Context

Locations: [±]

- ★★★<sup>(1)</sup> [Theater](#) ()
- ★★★<sup>(0)</sup> [North Agora](#) ()
- ★★★<sup>(0)</sup> [Stadium](#) ()
- ★★★<sup>(0)</sup> [South Agora](#) ()
- ★★★<sup>(0)</sup> [Tetrapylon](#) ()
- ★★★<sup>(0)</sup> [Hadrianic Baths](#) ()
- ★★★<sup>(0)</sup> [Basilica](#) ()
- ★★★<sup>(0)</sup> [Sebasteion](#) ()
- ★★★<sup>(0)</sup> [Martyrion](#) ()
- ★★★<sup>(0)</sup> [Temple/Church](#) ()
- ★★★<sup>(0)</sup> [Walls](#) ()
- ★★★<sup>(0)</sup> [Odeon](#) ()

Names: [±]

- ★★★<sup>(1)</sup> [Aphrodisias](#) (Roman, Late-antique)
- ★★★<sup>(0)</sup> [Aphrodeisias](#) (Hellenistic-republican, Roman)

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    <rdfs:comment>An ancient city in Asia Minor</rdfs:
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    <geo:lat rdf:datatype="http://www.w3.org/2001/XML
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    <rdfs:seeAlso rdf:resource="http://www.atlantides.
    <rdfs:seeAlso rdf:resource="http://wikipedia.org/w
    <rdfs:seeAlso rdf:resource="http://openlibrary.org
    <rdfs:label>Aphrodisias</rdfs:label>
    <skos:prefLabel xml:lang="grc">Ἀφροδισιάς</skos:pr
  <pleiades:hasFeatureType>
    <skos:Concept rdf:about="http://pleiades.stoa.or
      <skos:scopeNote xml:lang="en">settlement</skos:
      <skos:prefLabel xml:lang="en">settlement</skos:
    </skos:Concept>
  </pleiades:hasFeatureType>
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    <skos:altLabel xml:lang="grc">Σταυρόπολις</skos:alt
    <skos:altLabel xml:lang="grc">Λελέγων πόλις</skos:
    <skos:altLabel xml:lang="grc">Νινόη</skos:altLabel>
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</rdf:RDF>
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# Gazetteers for Spatial Humanities: Pelagios

Semantic web referencing and annotation for historical places

## Aphrodisias

An ancient city in Asia Minor



<http://pleiades.stoa.org/places/638753>

**Alternative Names:** Λελέγων πόλις, Νινώη, Σταυρόπολις, Ἀφροδεισιάς

**Coverage:** Geyre, Turkey (nearby)

[JSON](#) [RDF/XML](#) [Turtle](#)

### 1709 References to Aphrodisias

Dataset	No. of References
<a href="#">Pleiades Annotations in the Perseus Digital Library (in 1 subsets)</a>	4 (of 61738 total in set)
<a href="#">CLAROS (in 1 subsets)</a>	293 (of 204474 total in set)
<a href="#">SPQR (in 1 subsets)</a>	1411 (of 40608 total in set)
<a href="#">Pelagios Annotations from Nomisma.org (in 1 subsets)</a>	1 (of 9158 total in set)

## Pelagios Annotations from Nomisma.org

### References to Aphrodisias

1 annotations referencing Aphrodisias (from 9158 total in set)

[Previous](#)

Displaying annotations 0 to 20

[Next](#)

1 Reference to [Aphrodisias](#)

The mint at the ancient site of Aphrodisias in Caria.

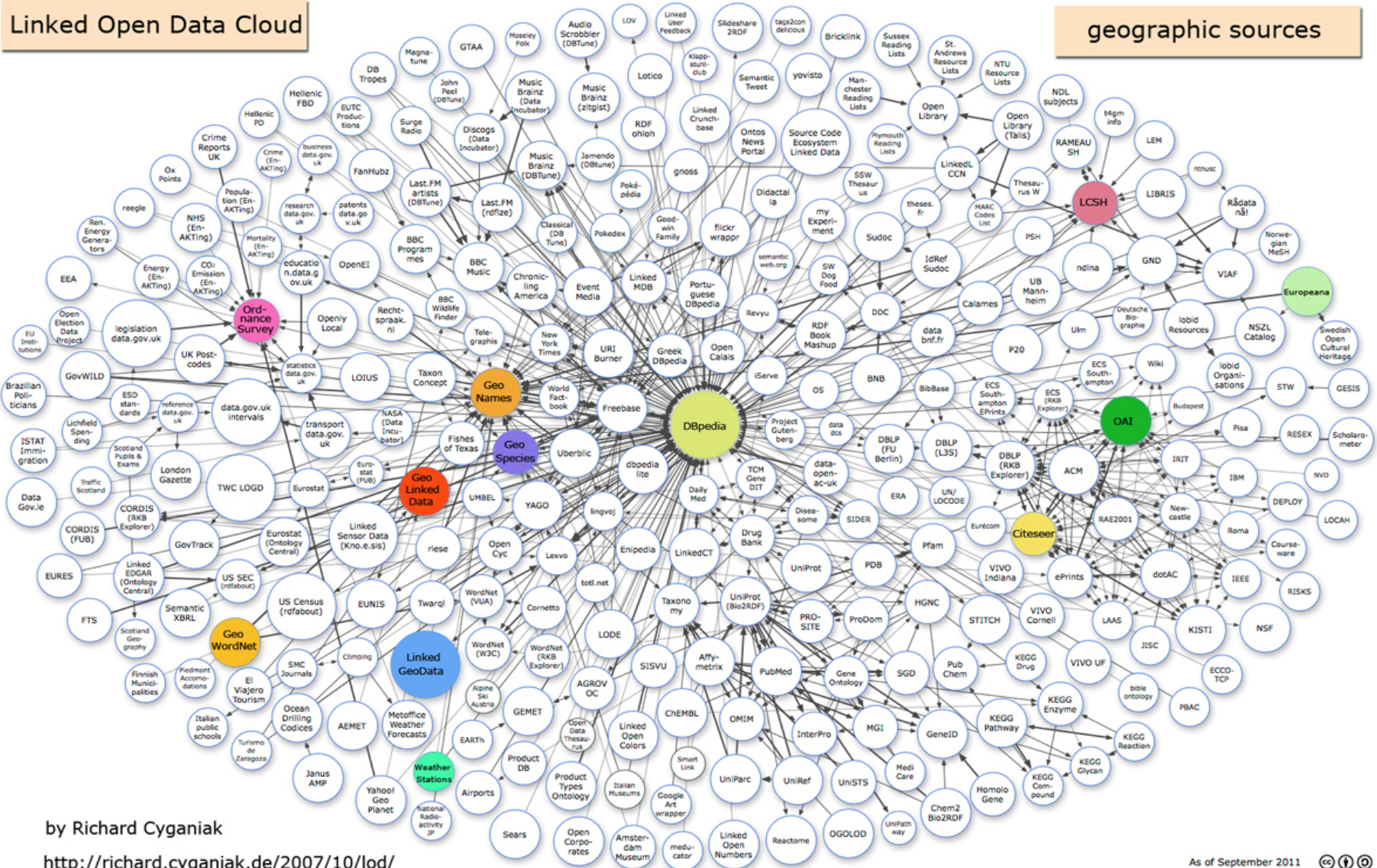
[http://nomisma.org/id/aphrodisias\\_caria](http://nomisma.org/id/aphrodisias_caria)



# Gazetteers for Spatial Humanities as LOD

Linked Open Data Cloud

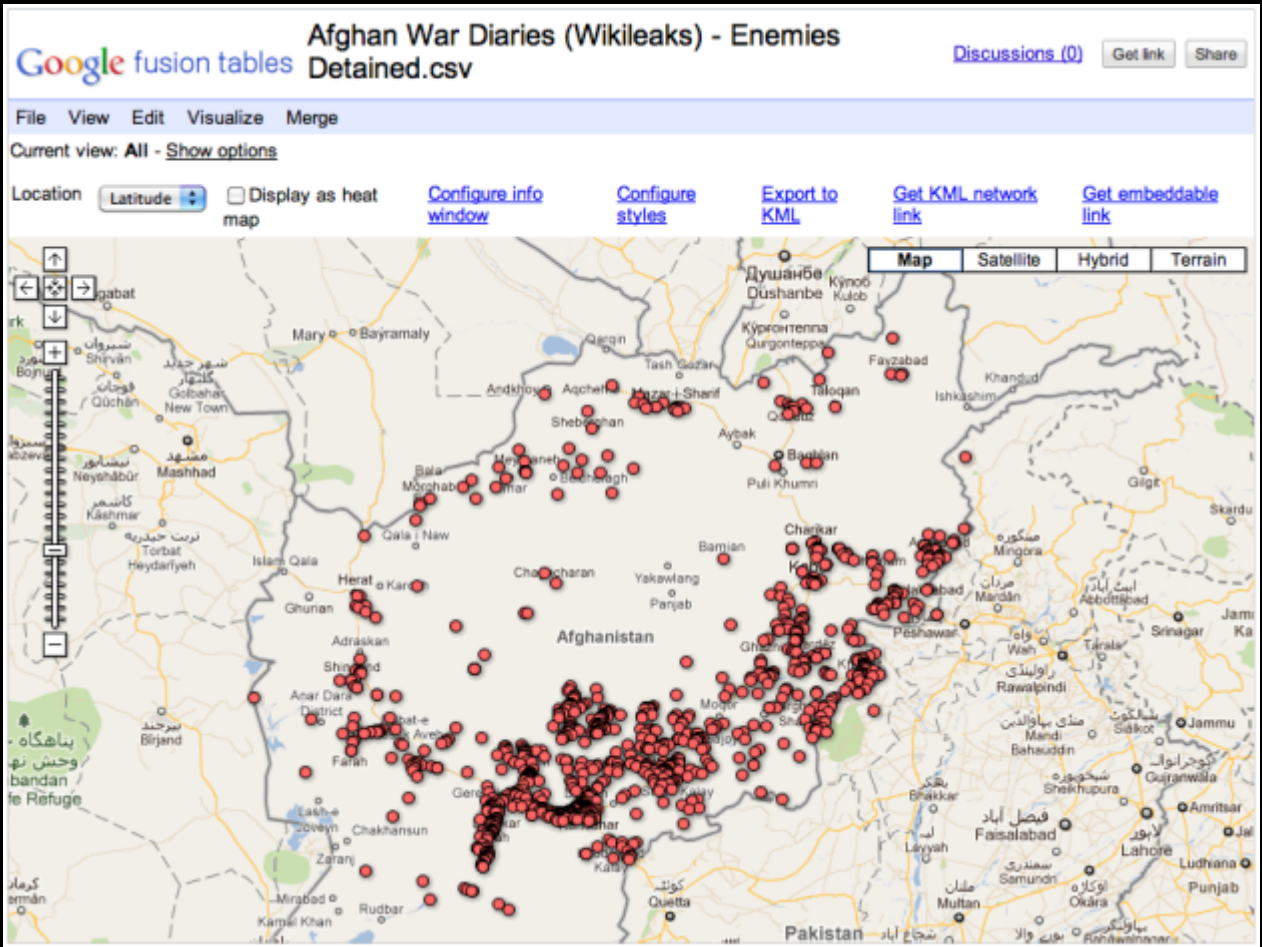
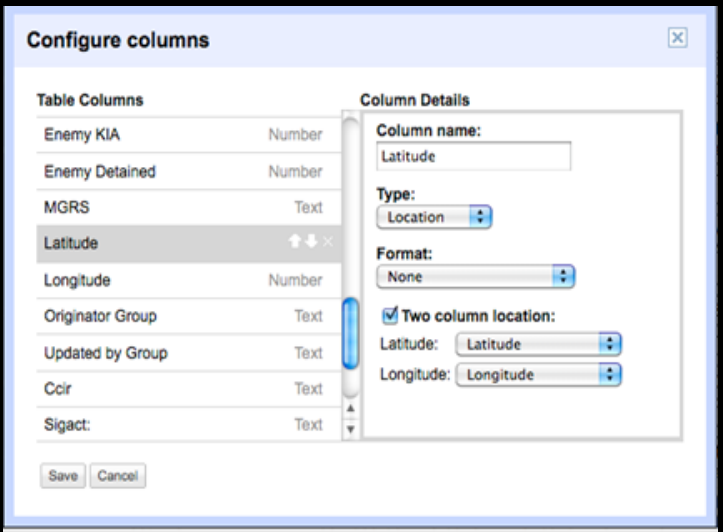
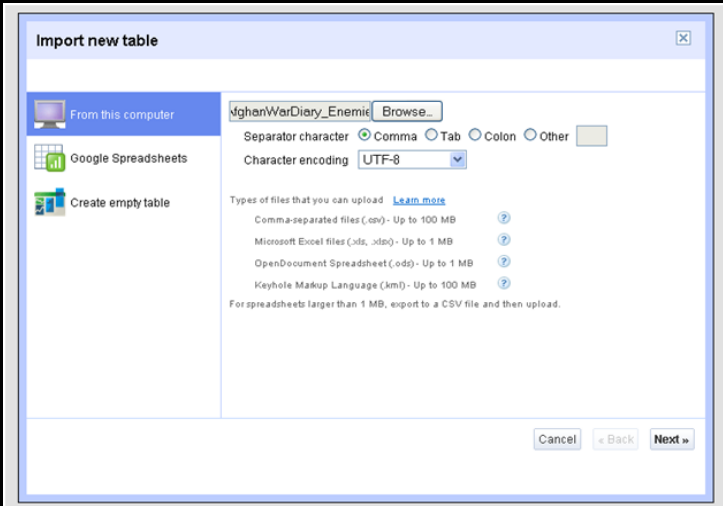
geographic sources



by Richard Cyganiak

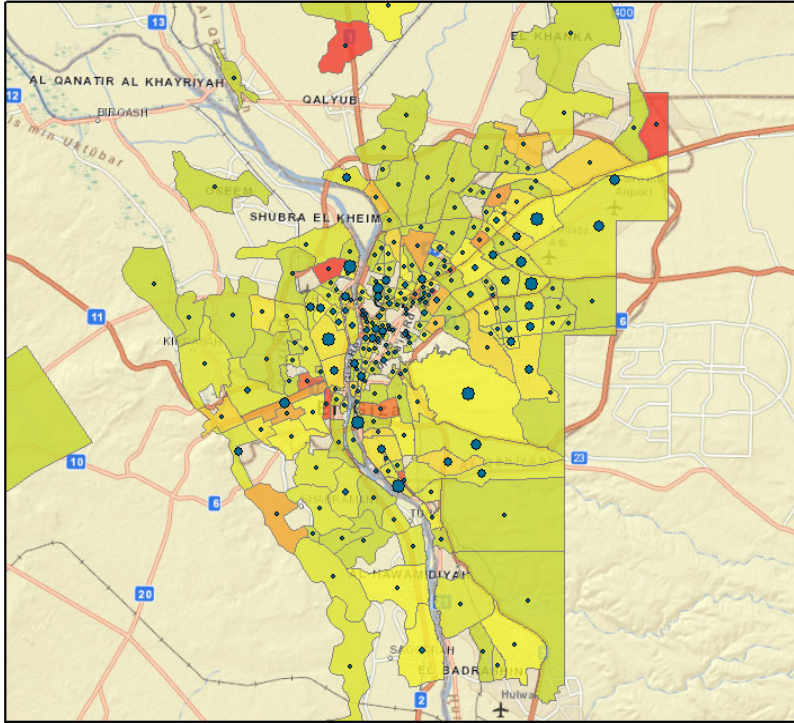
<http://richard.cyganiak.de/2007/10/lo/>

# Spatial Humanities: Google Fusion Tables

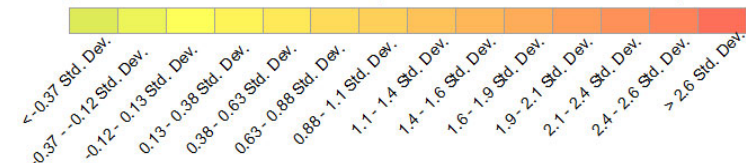


<http://spatial.scholarslab.org/step-by-step/>

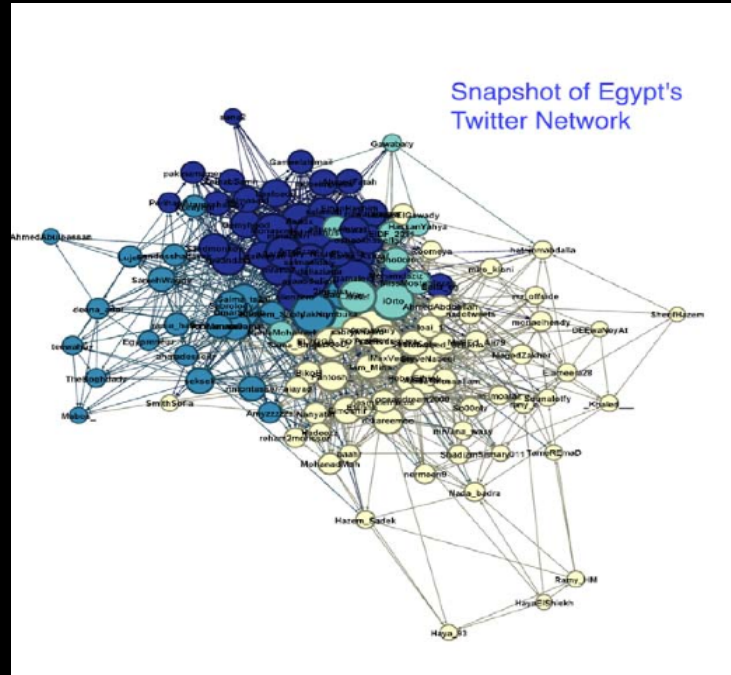
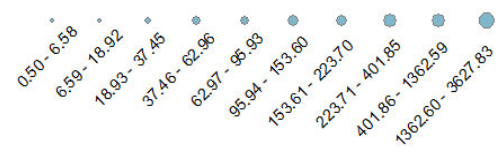
# Spatial Humanities: Social Media Mapping



Average Number of Islamists Followed (Standard Deviations from Mean)



Number of Unique Twitterers (Weighted by Distribution of Tweets)

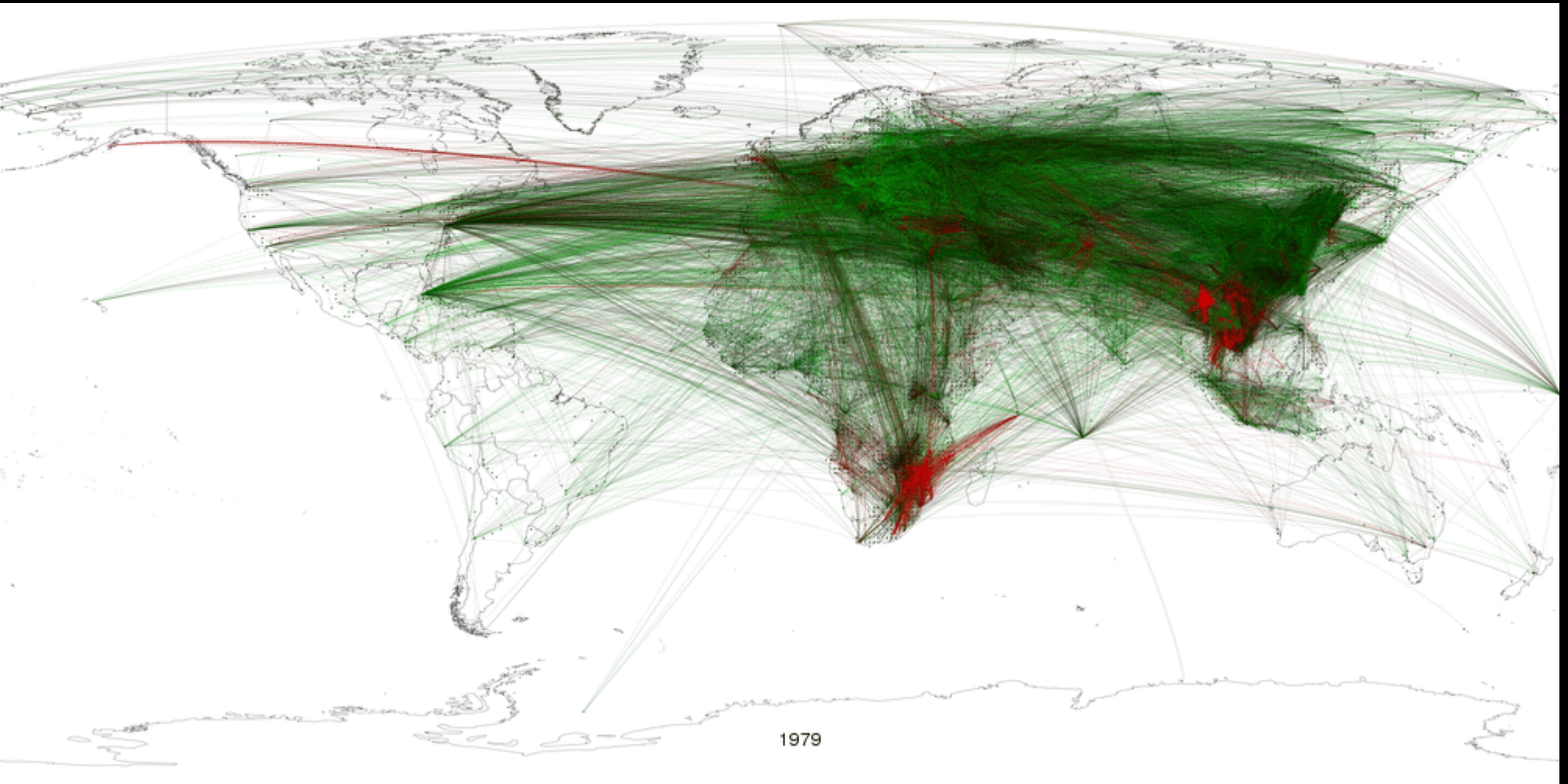


Mostak: *Social Media as Passive Polling*

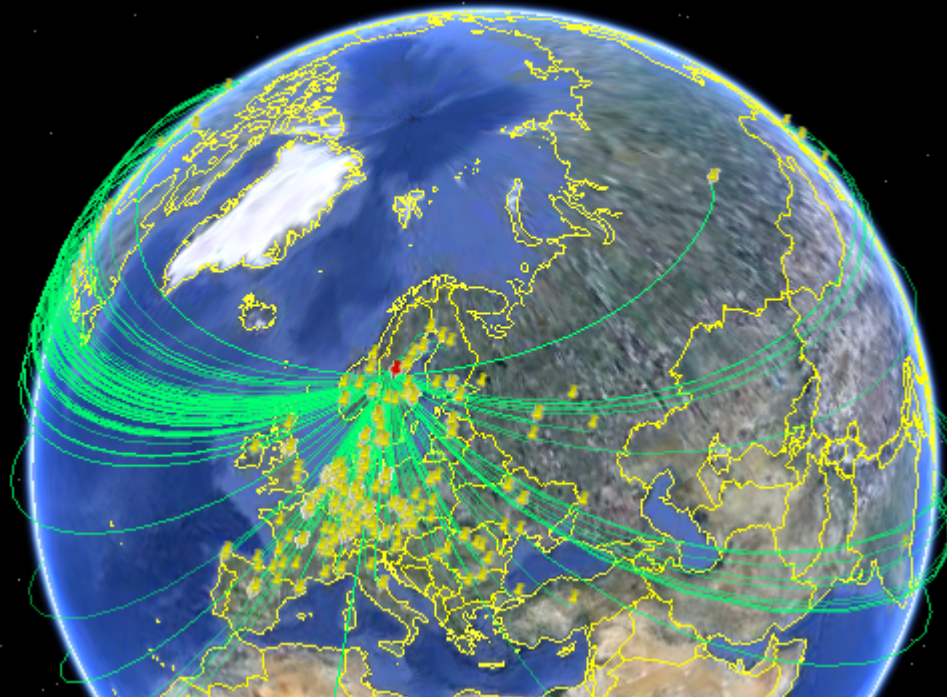
Term-Frequency / Inverse Document Frequency Analysis

For each Twitter user is compared with corpus of terms on pro-Islamist blog posts

# Spatial Humanities: Sentiment Mapping



# Making it Simple with GeoRSS Feeds



# GeoRSS Example: Asian Newspapers

**HOLLIS**

Results 1 - 25 of 469 for [Complex query], sorted by: relevance

Your query: material-id:matMagazine formgenre:"newspapers" publisherplace:"china"

-  [Ren min ri bao = Renmin ribao.](#)  
Journal / Serial  
人民日報 = Renmin ribao.  
Handan Shi : Ren min ri bao she, 1946-  
邯鄲市 : 人民日報社, 1946-
-  [Der Vayter Mizreh.](#)  
Journal / Serial  
דער ווייטער מזרח [microform].  
Kharbin : "Der weiter Misroch", 1921-  
כארבין : "Der weiter Misroch", 1921-
-  [Fa zhi ri bao \[microform\] = Legal daily.](#)  
Journal / Serial  
法制日報 [microform] = Legal daily.  
Beijing Shi : Fa zhi ri bao she,  
北京市 : 法制日報社,
-  [Shen bao.](#)  
Journal / Serial  
申報.  
Shanghai Shi : Shen Pao She,  
上海市 : 申報社,
-  [Guangdong jiao bao \[microform\].](#)  
Journal / Serial  
廣東僑報 [microform].  
Guangzhou Shi : [Guangdong jiao bao she], 1956-  
廣州市 : [廣東僑報社], 1956-

# GeoRSS Example: Asian Newspapers

```
<?xml version="1.0" encoding="UTF-8"?>
<rss version="2.0" xmlns:geo="http://www.w3.org/2003/01/geo"
<channel>
<title>TEST write from MySQL to XML</title>
<description></description>
<link>http://www.fas.harvard.edu/~chgis</link>
<dc:publisher>China Historical GIS</dc:publisher>
<pubDate>2007</pubDate>
</channel>
<item>
<title>Air Force Academy press</title>
<pubDate>2008-02-01</pubDate>
<description><![CDATA[공사학보<br> language=Korean <br> plac
<link>http://hollisclassic.harvard.edu/F/?func=find-b&amp;:
<geo:lat>36.75</geo:lat>
<geo:long>127.75</geo:long>
</item>
<item>
<title>Akahata</title>
<pubDate>2008-02-01</pubDate>
<description><![CDATA[赤旗<br> language=Japanese <br> place
<link>http://hollisclassic.harvard.edu/F/?func=find-b&amp;:
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<pubDate>2008-02-01</pubDate>
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<link>http://hollisclassic.harvard.edu/F/?func=find-b&amp;:
<geo:lat>35.68</geo:lat>
<geo:long>139.75</geo:long>
</item>
```

## Air Force Academy press Jan 31, '08, 7:00 PM

공사학보  
language=Korean  
place of publication=Ch'ungbuk Cheongweon-gun  
newspaper id=102 [Read more...](#)

---

## Akahata Jan 31, '08, 7:00 PM

赤旗  
language=Japanese  
place of publication=Tokyo  
newspaper id=689 [Read more...](#)

---

## Akahata Jan 31, '08, 7:00 PM

赤旗縮刷版  
language=Japanese  
place of publication=Tokyo  
newspaper id=111 [Read more...](#)

---

## Akahata Jan 31, '08, 7:00 PM

赤旗縮刷版  
language=Japanese  
place of publication=Tokyo  
newspaper id=110 [Read more...](#)

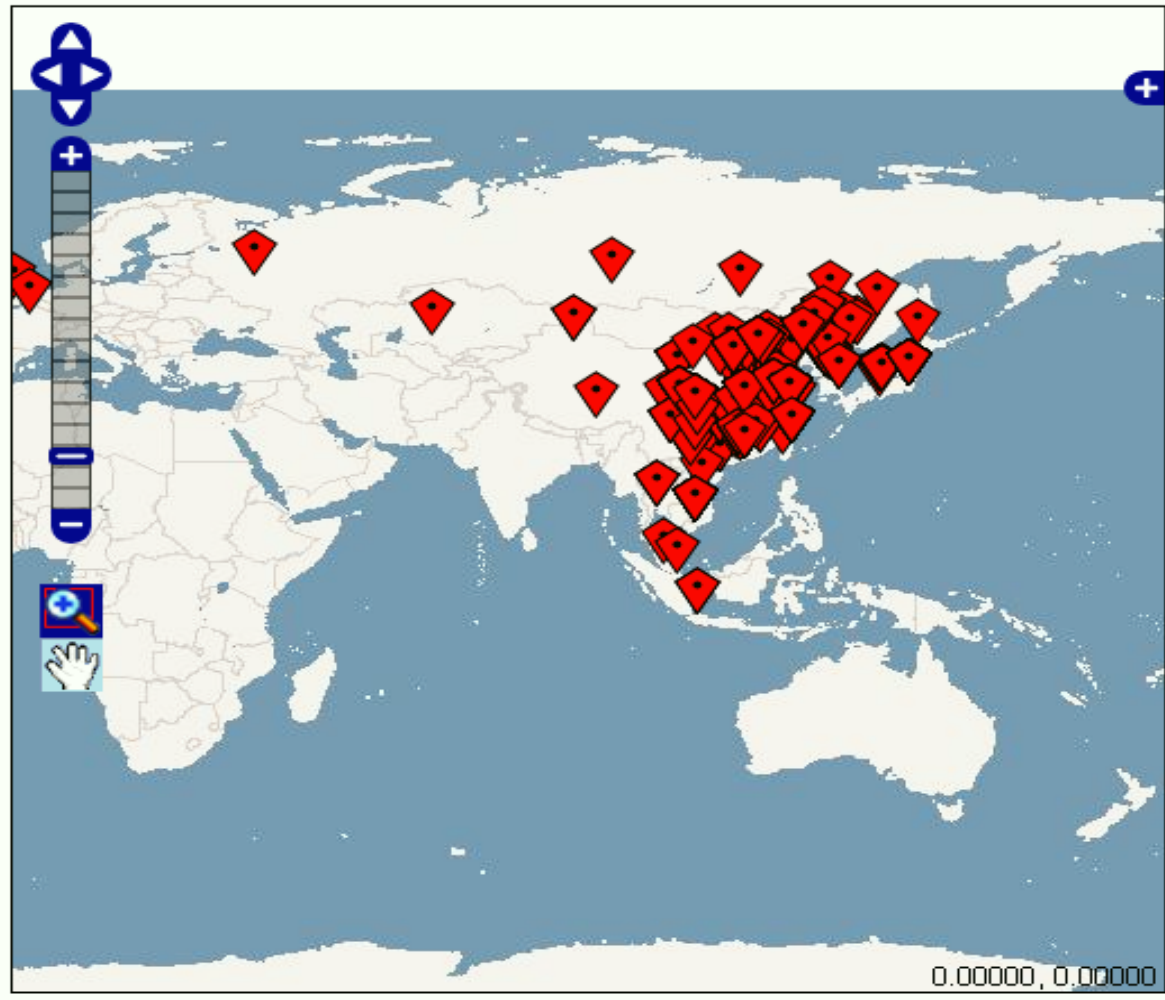
# GeoRSS in OpenLayers Map Interface



activate zoom box to zoom in (lower left side of map)

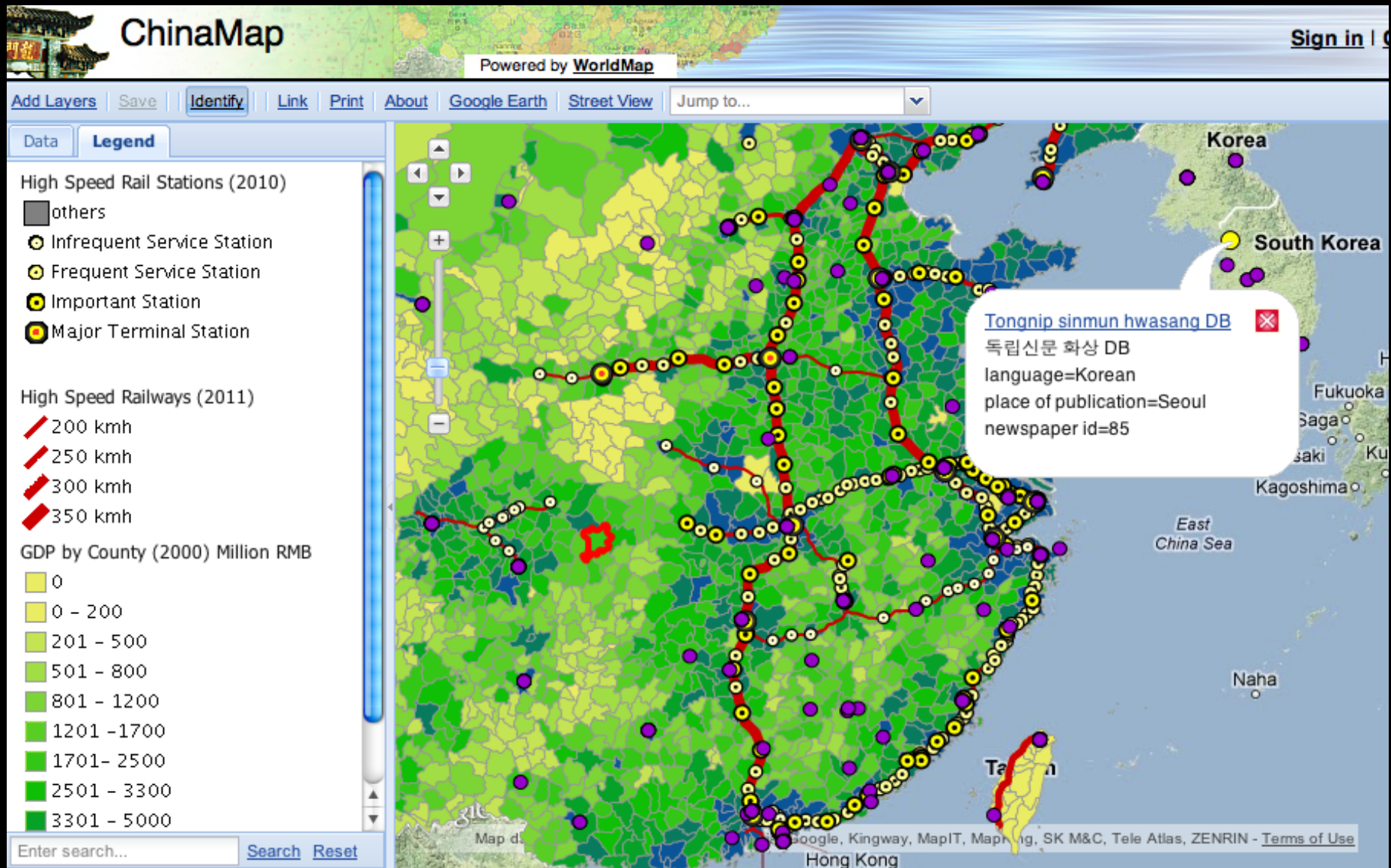


activate pan hand to drag or to click for info (lower left side of map)





# GeoRSS via other User Interfaces



# The Future of Spatial Humanities

*movement away from*

- Creation of large GIS databases
- Creation of “one-off” datasets for single projects
- Creation of custom site-specific or dataset-specific platforms

# The Future of Spatial Humanities

*movement away from*

- Creation of large GIS databases
- Creation of “one-off” datasets for single projects
- Creation of custom site-specific or dataset-specific platforms

*Moving toward*

- Open platforms with multiple access methods (UIs, APIs, RDF)
- Feeds and web-services that are easy to integrate or mash-up
- Queries based on spatial and temporal extents + space time visualizations
- Curation of selected data for analysis, annotations & markup by experts

# Future Trends: Europeana



## Explore Europe's cultural collections

egyptian sculpture

Search

[Refine your search](#)

[Help](#)

Matches for: egyptian sculpture

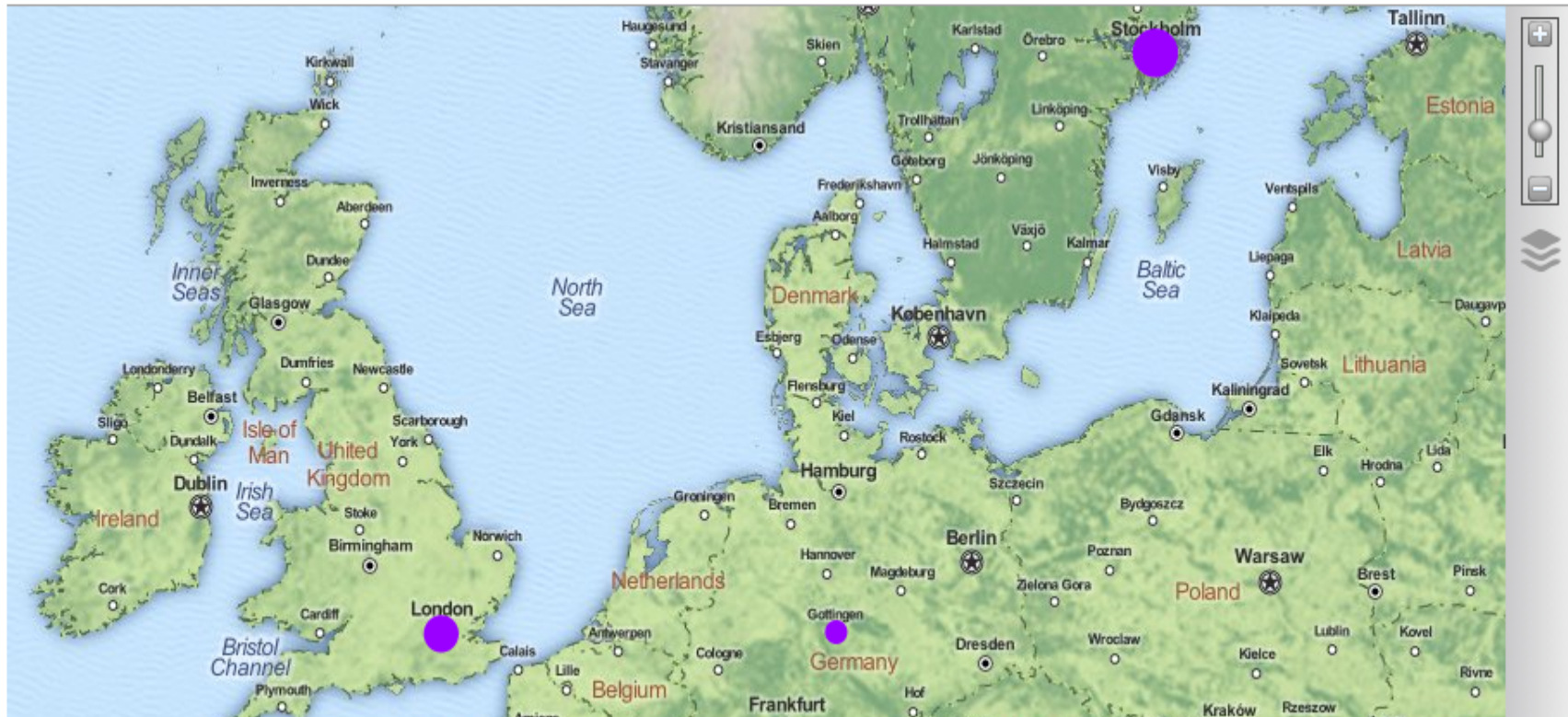
Results: 21

[Like](#)

[+1](#)

[Twitter](#)

[+](#)



# Future Trends: Hypercities

The screenshot displays the Hypercities website interface. At the top, a timeline slider shows the years from 1200 to 2050, with a current selection of 2012. The main map area shows a historical street plan of Berlin, with buildings and streets highlighted in red and yellow. The map is overlaid with a grid of numbers (1-18) and labels for various landmarks like 'Neuer Markt' and 'Schloß's Platz'. On the right side, there is a navigation menu with 'WORLD', 'SEARCH', 'LOGIN', and 'HELP' buttons. Below this is a world map with red dots indicating various hypercities. A search bar and a 'POWERED BY Google' logo are also visible. At the bottom right, a list of historical maps is shown, including '1811 Grundriss von Berlin von', '1827 Grundriss von Berlin mit', '1835 Neuster Grundriss von', '1835 Palace Precinct Plans', and '1835 Palace Precinct Plans'. The bottom left corner features the Google logo and the text 'BERLIN 1237 - 2012'.

1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050

1237 2012

Satellite

WORLD SEARCH LOGIN HELP

POWERED BY Google

Terms of Use

automatically refresh maps and collections

MAP (71) COLLECTION

1811 Grundriss von Berlin von

1827 Grundriss von Berlin mit

1835 Neuster Grundriss von

1835 Palace Precinct Plans  
Palace Precinct Plans Without Background

1835 Palace Precinct Plans  
Palace Precinct Plans With Background

1835 Palace Precinct Plans

BERLIN 1237 - 2012

hypercities

Imagery ©2012 AeroWest, Cnes/Spot Image, DigitalGlobe, GeoBasis-DE/BKG, GeoContent, GeoEye - Terms of Use

# Future Trends: Spaital History Project

STANFORD UNIVERSITY



## The Spatial History Project

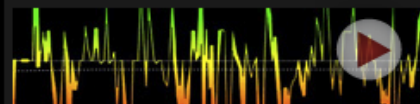
AUGUST 12, 2012

- Publications
- About Us
- Gallery
- Resources

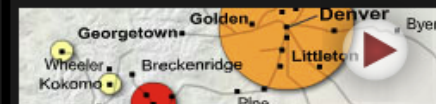
SEARCH



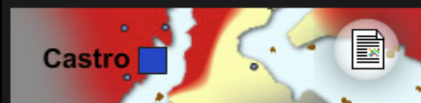
A Data Model for Spatial History



Machado de Assis: Memórias Póstumas



Colorado Railroad Accidents, July 1884 - June 1885



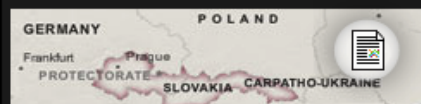
Neoliberalism, Civic Participation and the Salmon Industry in Southern Chile



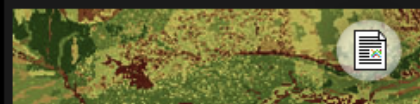
When the Loss of a Finger is Considered a "Minor" Injury



Land Speculation in Fresno County: 1860-1891



Building the New Order: 1938-1945



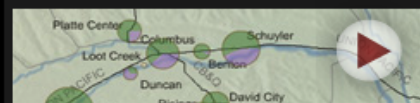
Chasing an End to Perpetual Deforestation



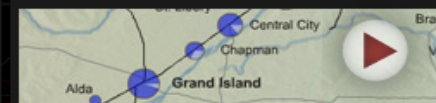
From Salt Ponds to Refuge in San Francisco Bay



Prostitution in Philadelphia: Arrests 1912-1918



Union Pacific Shipping from Nebraska: Forwarded/Received



Union Pacific Shipping from Nebraska: East/West

# Future Trends: Addressing History

Search Map | API | Help | FAQ

About | Terms & Conditions | Contact | Login



# AddressingHistory

I'm searching for... **people**

Select a specific Scottish Post Office Directory: **All Years**

Surname: **jameson** **Search**

Show historical map overlays:  Alexander Kincaid, 1784  Bartholomew Post Office Plan, 1865  Johnston Post Office Plan, 1905



# Future Trends: Old Weather

oldWeather

HOME

VESSELS

TUTORIAL

TRANSCRIBE

ABOUT

DISCUSS

GET STARTED



## USRC Thetis



Cutter

Tonnage: 1250

Fate: Decommissioned and sold to Messrs. W. and S. Job and Company, Inc. New York City for \$24,800

Learn more at [Naval-History.net](http://Naval-History.net)

67% COMPLETE

Transcribe logs

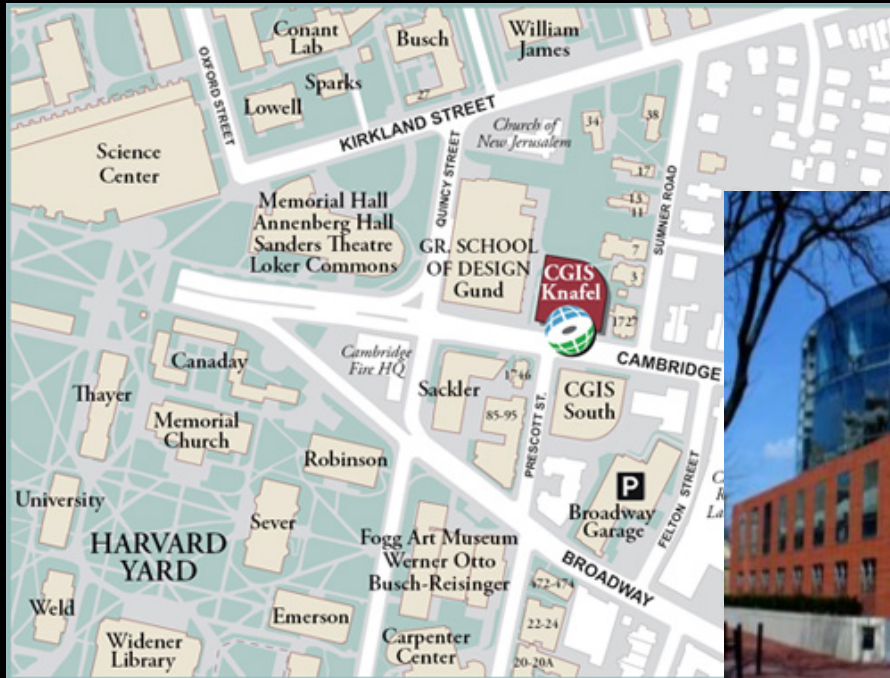


# Future Trends: Old Maps Online

The screenshot displays the 'Old Maps Online' website interface. At the top left is the logo 'OLD MAPS ONLINE' with a compass rose. A search bar is located at the top center, with a 'Search' button to its right. Below the search bar is a timeline slider with markers for 1000, 1250, 1500, 1750, 1840, 1920, and 2010. The main map area shows a map of Italy with a red rectangular box highlighting the island of Corsica. On the left side of the map, there are navigation controls: a plus sign for zoom in, a minus sign for zoom out, and a magnifying glass for search. At the bottom left, there are social media icons for Facebook, Twitter, and Google+. At the bottom center, there are logos for JISC, University of Portsmouth, and KLOKAN TECHNOLOGIES. On the right side, there is a section titled 'Instant Search Results:' with a 'Fulltext' link. Below this, there are three search results, each with a small map thumbnail and a text description. The first result is for 'Dept. De Corsica.' with a scale of 1:625 000 and the year 1856, attributed to 'Levasseur, Victor.'. The second result is for 'Map of the County of Rensselaer /by David H. Burr; engd. by Rawdon, Clark & Co., Albany, & Rawdon, Wright & Co., New York; An atlas of the state of New York containing a map of the state and of the several counties /by David H. Burr.' with a scale of 1:1 and the year 1841. The third result is for 'Map of the county of Cayuga /by David H. Burr; engd. by Rawdon, Clark & Co., Albany, & Rawdon, Wright & Co., N.Y.; An atlas of the state of New York'.

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

# Center for Geographic Analysis, Harvard



<http://gis.harvard.edu>