



# Digital Gazetteer Development

Ruth Mostern  
Electronic Cultural Atlas Initiative



# What is a digital gazetteer?

- **A gazetteer** is a structured dictionary of geographical places.
- The essential attributes of a digital gazetteer entry are: geographic name, spatial footprint, and feature type.
- It may also include information about hierarchical relationships between places, the dates that a place existed, or other features.

*L. Hill, “Core Elements of Digital Gazetteers: Placenames, Categories, and Footprints,” available at [www.alexandria.ucsb.edu/~lhill/paper\\_drafts/ECDL2000\\_papeerdraft7.pdf](http://www.alexandria.ucsb.edu/~lhill/paper_drafts/ECDL2000_papeerdraft7.pdf)*



## A gazetteer is not a GIS...

- It is more...
- Structured information about places includes
  - Variant names in different languages
  - Place name types
  - Descriptions of relationships among places
  - Links to related sources of information
  - Etymology
- ...and less...
- Spatial information may be rudimentary and overlapping



## ...but gazetteers and gazetteer services can work with GIS and other projects to:

- Reference information about places
- Deposit information about fuzzy places (“the silk road”)
- Point to alternate versions of names within a single gazetteer (from different scholars, at different times, based on different versions of political reality, in different languages)
- Point to distributed texts and other resources about places
- Allow for searching multiple gazetteers through a clearinghouse
- *The ECAI/ASCC gazetteer service project hopes to register both “simple” and “standards compliant” gazetteers for maximum interoperable searching.*



## The ECAI/ASCC gazetteer project extends existing gazetteers by:

- Establishing a multilingual environment
- Establishing standards for global, historical, culture-centered gazetteers and feature type thesauri
- Establishing service protocols for searching multiple gazetteers
- Creating a service for map visualization based on toponym-rich text or other resources



## Some existing gazetteer projects

- Alexandria Digital Library  
[www.alexandria.ucsb.edu/gazetteer](http://www.alexandria.ucsb.edu/gazetteer)
- Getty Thesaurus of Geographical Names  
[www.getty.edu/research/tools/vocabulary/tgn/](http://www.getty.edu/research/tools/vocabulary/tgn/)
- Taiwan Gazetteer  
[tgnis.ascc.net](http://tgnis.ascc.net)
- German Space Operations Center  
[www.heavens-above.com/countries.asp](http://www.heavens-above.com/countries.asp)



# Major sections of the ADL feature type standard

- Geographic feature ID
- Geographic name
- Variant geographic name
- Type of geographic feature
- Other classification terms
- Geographic feature code
- Spatial location
- Street address
- Related feature
- Description
- Geographic Feature data
- Link to related source of information
- Supplemental note
- Metadata information
- *Time is not a field; it is embedded in many other fields*

File Edit View Favorites Tools Help

Address http://fat-albert.alexandria.ucsb.edu:8827/gazetteer/

Google Search Web Search Site PageRank Page Info Up Highlight

## Alexandria Digital Library Gazetteer Server

### Gazetteer Help Information (07/03/2001)

This version of the ADL Gazetteer is based on the ADL Gazetteer Content Standard. Currently it contains: data from the NIMA Gazetteer, a set of countries and U.S. counties, of U.S. topographic map quadrangle footprints, set of volcanoes, and set of earthquake centers. The GNIS data from the U.S. Geological Survey has been partly added to the collection. As of today, there are approximately 4.4 million entries. For the full description, the [ADL Gazetteer Collection metadata](#).

To get the full functionality of the interface, you must use the Internet Explorer web browser or Netscape version 6 to see the roll-over information from the search result listing.

Note: The interface is still in the process of development. It would be a good idea to use the Microsoft Internet Explorer.

### NOTE

- This interface has been developed and tested using Internet Explorer 5. The interface can also be used with Netscape Communicator 4.6.1 or higher. We noticed that one minor feature for search result display is not supported by the current Netscape Communicator 4.6.1 release. For complete functions, please use the Microsoft Internet Explorer.
- If you have any problems using this interface, please send [email](#). To help us to identify the problem, we would like to have the description of the problem, name and version of your WEB browser, machine and operating system.
- Copyright © 1999, 2000. The Regents of the University of California. All Rights Reserved.

Last modification: February 21, 2000

Click on the map to recenter  
90.00°

[Zoom In](#)

[Zoom Out](#)

[Reset Map](#)

Please set at least one search condition.

Location:  within map  overlaps map  anywhere

Place Name:

Feature Type: ([Feature Type Thesaurus](#))

-Any Type- (4,437,404)  
 administrative areas (2,131,883)  
 agricultural sites (191,153)  
 airport features (24,818)  
 alluvial fans (66)  
 amusement parks (18)  
 anticlines (4)  
 aqueducts (103)  
 archaeological sites (1,732)  
 arches (natural formation) (446)

Identification Code:

[Help](#)

Send your comment to [ADL Development](#)

Internet

File Edit View Favorites Tools Help

Address http://fat-albert.alexandria.ucsb.edu:8827/gazetteer/

Google Search Web Search Site PageRank Page Info Up Highlight

## Alexandria Digital Library Gazetteer Server

Search Result: (1 - 20) of 48 matches.

3284. [Shanghai Shan](#), islands  
3285. [Shanghai Shi](#), countries, 1st order divisions  
3286. [Shanghai Xian](#), countries, 2nd order divisions  
3293. [Shanghai](#), populated places  
3407. [Xinzhuang](#), populated places  
3617. [Shanghai](#), populated places  
5288. [Sanghae-ri](#), populated places  
0866. [Getah Senawang Bahagian Shanghai Seremban, Ladang](#), land parcels  
5197. [Shanghai Pahang Estate](#), land parcels  
1274. [Shanghai](#), agricultural sites  
1594. [Shanghai](#), agricultural sites

NOTE

- This interface has been developed and tested using Internet Explorer 5. The interface can also be used with Netscape Communicator 4.6.1 or higher. We noticed that one minor feature for search result display is not supported by the current Netscape Communicator 4.6.1 release. For complete functions, please use the Microsoft Internet Explorer.
- If you have any problems using this interface, please send [email](#). To help us to identify the problem, we would like to have the description of the problem, name and version of your WEB browser, machine and operating system.
- Copyright © 1999, 2000. The Regents of the University of California. All Rights Reserved.

Last modification: February 21, 2000

Click on the map to recenter 90.00°

[Zoom In](#)  
[Zoom Out](#)  
[Reset Map](#)

Please set at least one search condition.

**Location:**  within map  overlaps map  anywhere

**Place Name:**

**Feature Type:** ([Feature Type Thesaurus](#))

-Any Type- (4,437,404)  
administrative areas (2,131,883)  
agricultural sites (191,153)  
airport features (24,818)  
alluvial fans (66)  
amusement parks (18)  
anticlines (4)  
aqueducts (103)  
archaeological sites (1,732)  
arches (natural formation) (446)

**Identification Code:**

[Help](#)

Send your comment to [ADL Development](#)

Internet

Edit View Favorites Tools Help  
 Address http://fat-albert.alexandria.ucsb.edu:8827/gazetteer/  
 Google Search Web Search Site PageRank Page Info Up Highlight

## Alexandria Digital Library Gazetteer Server

Search Result: (1 - 20) of 48 matches.

- 3284. [Shanghai Shan](#), islands
- 3285. [Shanghai Shi](#), countries, 1st order divisions
- 3286. [Shanghai Xian](#), countries, 2nd order divisions
- 3293. [Shanghai](#), populated places
- 1407. [Xinzhuang](#), populated places
- 3617. [Shanghai](#), populated places
- 5288. [Sanghae-ri](#), populated places
- 1866. [Getah Senawang Bahagian Shanghai Seremban, Ladang](#), land parcels
- 5197. [Shanghai Pahang Estate](#), land parcels
- 1274. [Shanghai](#), agricultural sites
- 1594. [Shanghai](#), agricultural sites

### Gazetteer Record Report

Alexandria Digital Library

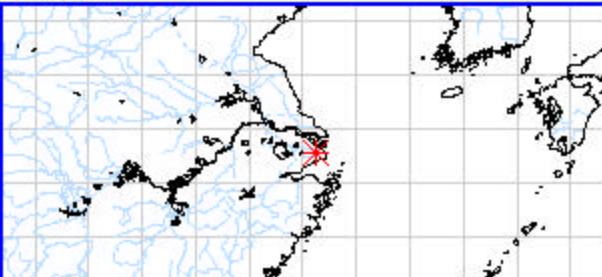
**Feature Name**

Geographic Name: Shanghai (BGN-NIMA-1)  
 Variant Name: Shang-hai-shih (BGN-NIMA-1)

**Feature Type**

ADL Feature Type Thesaurus: populated places  
 NIMA Feature Designation: PPL (populated place)

**Potential Reference**



Click on the map to recenter  
 90.00°

Zoom In

Zoom Out

Reset Map

Please set at least one search condition.

**Location:**  within map  overlaps map  anywhere

**Place Name:** has all words

**Feature Type:** ([Feature Type Thesaurus](#))

-Any Type- (4,437,404)  
 administrative areas (2,131,883)  
 agricultural sites (191,153)  
 airport features (24,818)  
 alluvial fans (66)  
 amusement parks (18)  
 anticlines (4)  
 aqueducts (103)  
 archaeological sites (1,732)  
 arches (natural formation) (446)

**Identification Code:** is equal to

[Help](#)

Send your comment to [ADL Development](#)

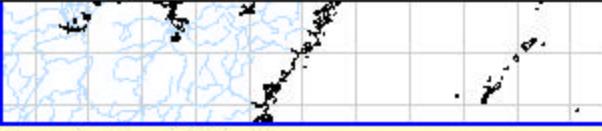
Internet

Edit View Favorites Tools Help  
 Address http://fat-albert.alexandria.ucsb.edu:8827/gazetteer/  
 Google Search Web Search Site PageRank Page Info Up Highlight

## Alexandria Digital Library Gazetteer Server

Search Result: (1 - 20) of 48 matches.

3284. [Shanghai Shan](#), islands  
 3285. [Shanghai Shi](#), countries, 1st order divisions  
 3286. [Shanghai Xian](#), countries, 2nd order divisions  
 3293. [Shanghai](#), populated places  
 3407. [Xinzhuang](#), populated places  
 3617. [Shanghai](#), populated places  
 5288. [Sanghae-ri](#), populated places  
 0866. [Getah Senawang Bahagian Shanghai Seremban, Ladang](#), land parcels  
 5197. [Shanghai Pahang Estate](#), land parcels  
 1274. [Shanghai](#), agricultural sites  
 1594. [Shanghai](#), agricultural sites



Geometry Type: Point (BGN-NIMA-1)

- Longitude: 121.458054 (121°27'28"E)
- Latitude: 31.222221 (31°13'19"N)

**Identification Code**

ADL Feature ID: 1628293

**Related Information**

Related Entity (BGN-NIMA-1)  
*Is Part Of:* UTM grid UQ55

Related Entity (BGN-NIMA-1)  
*Is Part Of:* JOG Sheet Number NH51-0

Related Entity (BGN-NIMA-1)  
*Is Part Of:* [China](#)

Click on the map to recenter 90.00°

[Zoom In](#)

[Zoom Out](#)

[Reset Map](#)

Please set at least one search condition.

**Location:**  within map  overlaps map  anywhere

**Place Name:** has all words

**Feature Type:** ([Feature Type Thesaurus](#))

-Any Type- (4,437,404)  
 administrative areas (2,131,883)  
 agricultural sites (191,153)  
 airport features (24,818)  
 alluvial fans (66)  
 amusement parks (18)  
 anticlines (4)  
 aqueducts (103)  
 archaeological sites (1,732)  
 arches (natural formation) (446)

**Identification Code:** is equal to

[Help](#)

[Send your comment to ADL Development](#)

Internet

Edit View Favorites Tools Help  
 Address http://fat-albert.alexandria.ucsb.edu:8827/gazetteer/  
 Google Search Web Search Site PageRank Page Info Up Highlight

## Alexandria Digital Library Gazetteer Server

Search Result: (1 - 20) of 48 matches.

3284. [Shanghai Shan](#), islands  
 3285. [Shanghai Shi](#), countries, 1st order divisions  
 3286. [Shanghai Xian](#), countries, 2nd order divisions  
 3293. [Shanghai](#), populated places  
 3407. [Xinzhuang](#), populated places  
 3617. [Shanghai](#), populated places  
 5288. [Sanghae-ri](#), populated places  
 1866. [Getah Senawang Bahagian Shanghai Seremban, Ladang](#), land parcels  
 5197. [Shanghai Pahang Estate](#), land parcels  
 1274. [Shanghai](#), agricultural sites  
 1594. [Shanghai](#), administrative sites  
 IsPartOf: [Shanghai](#)

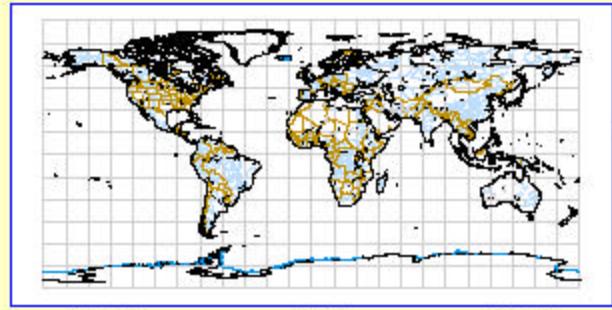
Link to Related Information  
[Yahoo\("Shanghai"\)](#)

Source: BGN-NIMA-1  
 Organization: U.S. Board on Geographic Names (BGN), U.S. National Imagery and Mapping Agency (NIMA)  
 URL: [GEOnet Names Server](#)  
 Contact Person: NIMA Geographer, D-56  
 Address: 4600 Sangamore Road, Bethesda, Maryland 20816-5003, USA  
 Information Source:  

- Title: Digital Interim Geographic Names Data (CDROM)
- Author: U.S. National Imagery and Mapping Agency (NIMA)
- Series: GAZGN, DIGNAMES
- Edition: 002
- Publisher: U.S. National Imagery and Mapping Agency (NIMA)
- Publication Date: August 1997
- Source ID: NSN: 7644014174141

Click on the map to recenter 90.00°

[Zoom In](#)  
[Zoom Out](#)  
[Reset Map](#)



Please set at least one search condition.

Location:  within map  overlaps map  anywhere  
 Place Name: has all words   
 Feature Type: ([Feature Type Thesaurus](#))

–Any Type– (4,437,404)  
 administrative areas (2,131,883)  
 agricultural sites (191,153)  
 airport features (24,818)  
 alluvial fans (66)  
 amusement parks (18)  
 anticlines (4)  
 aqueducts (103)  
 archaeological sites (1,732)  
 arches (natural formation) (446)

Search   
 Reset

Identification Code: is equal to

[Help](#)  
[Send your comment to ADL Development](#)

http://search.yahoo.com/bin/search?p="Shanghai"

File Edit View Favorites Tools Help

Address http://www.getty.edu/research/tools/vocabulary/tgn/

Google Search Web Search Site PageRank Page Info Up Highlight

 Research EXPLORE ART Visitor Guide About Us Search Site Map

Research Tools / Vocabulary Databases

# Getty Thesaurus of Geographic Names

Find:

Browse the World

Enter one keyword, e.g., **carlsbad** ; or full name, e.g., **los angeles**

**Version 2.0-Web. Data accessed by the "browser" is updated monthly.**  
You may also search the [AAT](#) and the [ULAN](#)

---

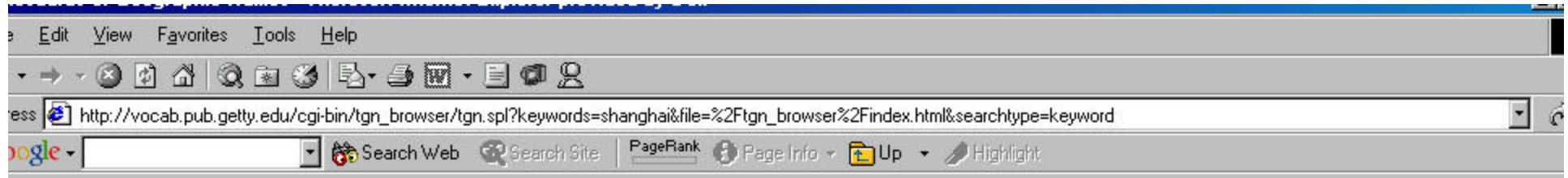
**Use of the TGN**  
Copyright © 2000 The J. Paul Getty Trust. All rights reserved. The TGN and the other Getty vocabularies are made available via the Web browsers to support limited research and cataloging efforts. Companies and institutions interested in regular or extensive use of the vocabularies should explore licensing options by reading about [Licenses and Sample Data](#) or by contacting the [Vocabulary Program](#).

**Help**  
Learn how to use the TGN browser

**About the TGN**  
Learn about the purpose, scope and structure of the TGN. The TGN is an evolving vocabulary, growing and changing thanks to contributions from Getty projects and other institutions. Find out more about the TGN's contributors.

**F.A.Q about the TGN**  
Here you will find a list of the most frequently asked questions about the

Internet



New  
search

## GETTY VOCABULARY PROGRAM

searched for: **shanghai**

[View Place Records](#)

[Clear All](#)

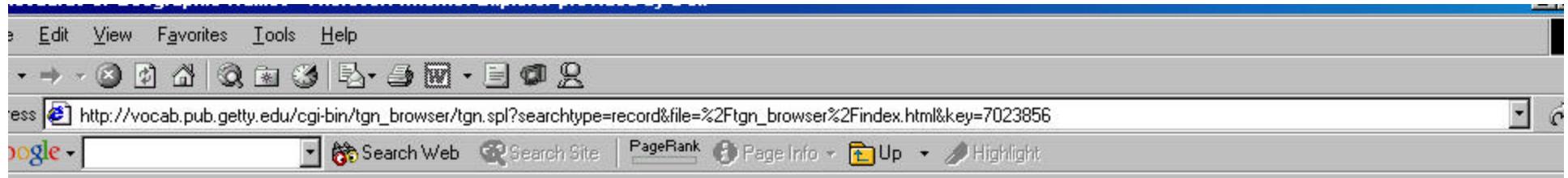
(Click icons (  ) below to view hierarchy for place; use checkboxes to view multiple place records.)

nd 32 places that match your search.

-  [Coon Creek](#).....(creek)  
(N & C Am., USA, Missouri, Johnson)[2254387]  
**Shanghai Creek**
-  [Cornelia](#).....(inhabited place)  
(N & C Am., USA, Missouri, Johnson)[2058426]  
**Shanghai**
-  [Miles Point](#).....(inhabited place)  
(N & C Am., USA, Missouri, Carroll)[2511676]  
**Shanghai**
-  [Shanghai](#).....(inhabited place)  
(Asia, Zhonghua, Shanghai Shi)[7023856]
-  [Shanghai](#).....(inhabited place)  
(N & C Am., USA, Alabama, Limestone)[2005267]
-  [Shanghai](#).....(inhabited place)  
(N & C Am., USA, Indiana, Howard)[2655047]
-  [Shanghai](#).....(inhabited place)  
(N & C Am., USA, Missouri, Vernon)[2655048]
-  [Shanghai](#).....(inhabited place)  
(N & C Am., USA, North Carolina, Cleveland)[2655049]
-  [Changhai](#)

one

Internet



New  
search

## GETTY VOCABULARY PROGRAM

### Place Records

[3856]

#### [Shanghai \(inhabited place\)](#)

:31 06 N Long: 121 22 E (*represented in degrees minutes direction*)

:31.100 Long: 121.367 (*represented in decimal degrees and fractions of degrees*)

e - Largest city in China; prospered after 1840; one of first five treaty ports; attacked by Japanese 1932; scene of severe fighting during Japanese-Chinese War 1937; controlled Japanese 1941; restored to China 1945; taken by Communists 1949.

Archival Position:

- [Asia](#).....(continent)
- [Zhonghua](#).....(nation)
- [Shanghai Shi](#).....(municipality)

thes:

[Shanghai \(C,V\)](#)  
[Shang-hai \(C,V\)](#)

[Glossary](#)

home

Internet

File Edit View Favorites Tools Help

Address http://vocab.pub.getty.edu/cgi-bin/tgn\_browser/tgn.spl?searchtype=record&file=%2Ftgn\_browser%2Findex.html&key=7023856

Google Search Web Search Site PageRank Page Info Up Highlight

[Shanghai Shi](#).....(municipality)

Names:

**Shanghai** (C,V)  
**Shang-hai** (C,V)  
**Schanghai** (C,V)  
**Chang-hai** (C,V)

Type:

inhabited place (C)  
city (C)  
regional capital (C)  
commercial center (C)  
industrial center (C)  
port (C)..... opened 1842  
educational center (C)  
treaty port (C)

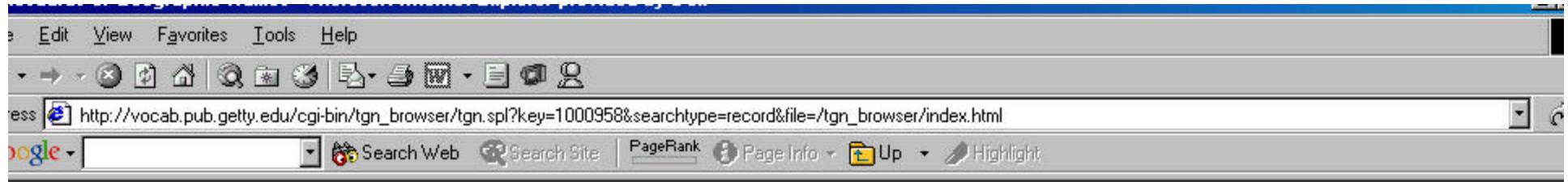
References:

**Chang-hai**..... [Rand McNally Atlas \(Reprinted 1994\)](#), I-33 [VP]

**Schanghai**..... [Rand McNally Atlas \(Reprinted 1994\)](#), I-157 [VP]

**Shang-hai**..... [Webster's Geographical Dictionary \(1984\)](#), 1104  
[VP]

**Shanghai**..... [Petit Robert II, Noms \(1989\)](#) [BHA]  
[NIMA, GEOnet Names Server \(1996\)](#) [VP]  
[Times Atlas of the World \(1985\)](#) [BHA]  
[Cambridge World Gazetteer \(1988\)](#) [BHA]  
[Times Atlas of the World \(1994\)](#), 181 [VP]  
[Columbia Lippincott Gazetteer \(1961\)](#) [BHA]



10958]

### **Shanghai Shi** (municipality)

: 31 14 N Long: 121 28 E (*represented in degrees minutes direction*)

: 31.233 Long: 121.467 (*represented in decimal degrees and fractions of degrees*)

: *Archical Position:*

- [Asia](#) ..... (continent)
- [Zhonghua](#) ..... (nation)

: *Names:*

[Shanghai Shi \(C,V\)](#)

[Shang-hai Shih \(C,V\)](#)

[Shanghai \(C,V\)](#)

: *Type:*

[municipality \(C\)](#)

[first level subdivision \(C\)](#)

: *References:*

[Shang-hai Shih..... NIMA, GEOnet Names Server \(1996\) \[VP\]](#)

[Shanghai..... Britannica Book of the Year \(1990\), 589 \[VP\]](#)

[Shanghai Shi..... NIMA, GEOnet Names Server \(1996\) \[VP\]](#)

: *See also:*

Internet



# Taiwan Gazetteer



Home



Site Map



Link



Mail

## 地名查詢系統建置計畫

計畫簡介

地名資料庫

地名普查手冊

地名查詢系統

計畫會議

相關文件

### 計畫背景資訊

- 委託單位：內政部
- 執行單位：中研院歷史語言研究所 及 中研院計算中心
- 計畫主持人：中研院史語所 范毅軍 副研究員 及 中研院計算中心 林誠謙 主任
- 計畫執行時程：2000.07.27-2001.3.27
- 計畫聯絡人：中研院計算中心 資訊人員 廖泓銘
- 聯絡電話：TEL (02)2789-8012 / FAX (02)2783-6444
- 網頁製作：中研院計算中心GIS小組

### 主要進行中工作

- 本計畫之期末審查會。

### 最新消息

- [臺灣地區地名查詢建置計畫期末報告書。](#)
- [地名普查工作手冊。](#)
- [臺北縣汐止地區地名座談會](#)
- [地名學術語詞匯\(簡體字\)](#)
- [A Manual for Field Collection of Geographical Name \(12.5Mb\)](#)
- [完成 陳國章 教授《臺灣地名辭典》建檔。](#)
- [基本地形圖資料庫地形資料編碼表\(89/10/31\)](#)
- [地名普查手冊座談會\(89/10/18\)](#)
- [文史工作者 黃文博 先生訪談記錄\(89/10/7\)](#)
- [中研院調查工作室訪談記錄。\(89/10/2\)](#)
- [加全台地名普查手冊翻譯文稿完成。](#)

File Edit View Favorites Tools Help

Address http://gis224.sinica.edu.tw/geoname/

Search Web Search Site PageRank Page Info Up Highlight

**SCC** 中央研究院計算中心 臺灣地區地名查詢系統 本網頁最佳瀏覽解析度為  
IE 1024\*768

關於... | 中央研究院 | 內政部地政

擇行政區】

市

Error :  
Map server not available

查詢地名】

---

治時代地名查詢】  [台灣堡圖](#)

:   
大稻埕,舊庄,南港...等輸入關鍵字即可)

:   
臺北廳,芝蘭一堡,大加蚋...等輸入關鍵字即可)

Internet



## Next steps

- Content standard development and validation
- Multilingual testbed construction
- Gazetteer registration in ECAI metadata clearinghouse
- Feature type thesaurus extensions
- Tools for linking gazetteers to text and image databases