

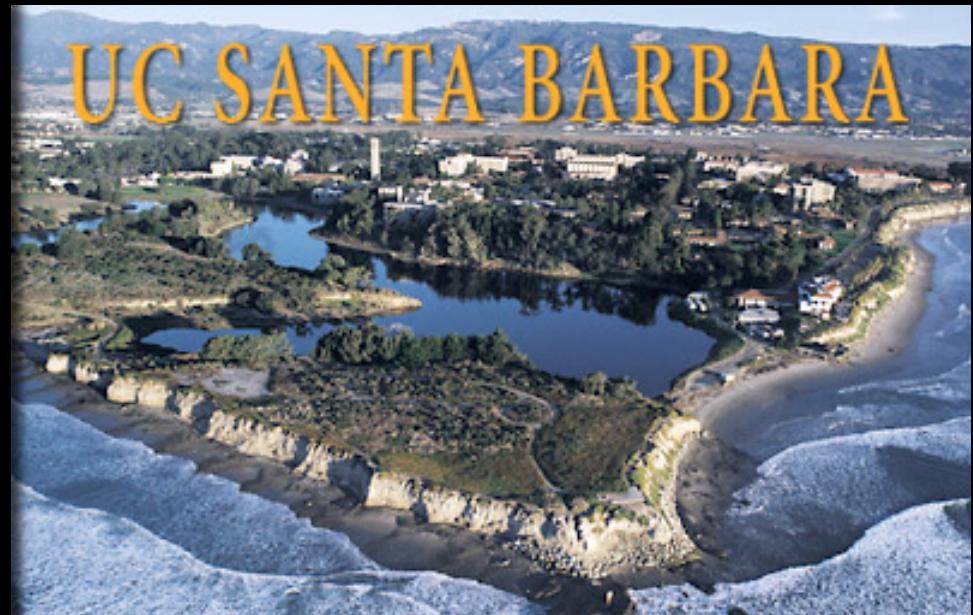
Daoist Grotto-heavens

A GIS Reconstruction



Introduction

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 - Department of Religious Studies
- University of California



In honor of Su Shi (1037-1101)

- 橫看成嶺側成峰，
 - Looking from the side it forms a range, from the end it forms a peak;
 - 到處看山了不同。
 - From everywhere looking at the mountain, it's never the same.
 - 不識廬山真面目，
 - I do not know Mount Lu's true face and eyes,
 - 只緣身在此山中。
 - And this is simply because I am in the very midst of the mountain itself.
-
- Translation by James M. Hargett
何瞻

Topic of discussion

- Another face of a mountain revealed through GIS
- Spatial analysis and scientific visualization of sacred sites on Chinese mountains
- GIS allows empirical patterns and spatial relationships evident in the data to emerge in ways simple textual analysis can not

Background of project

- Pacific Rim Research Grant
- Professor William Powell, UCSB
- “The Cultural Production of Space in China:
A Spatial Analysis of Religious Sites, Routes and Boundaries”

Project objective

- Relationship between Chinese religious geography and the social and political structures of Chinese society
- Understanding of regional and trans-regional constructions of space.

The purpose

- Through spatial analysis and scientific visualization
 - ◆ Identify a spatial correspondence between
 - ★ Chinese religious geography
 - ★ Administrative boundaries
 - ★ Topography & watersheds



The project consists of two integral components:

1. Data collection in several regions of China:

- Mapping location of sacred sites
 - ◆ Temples and other cultural features
- Documenting architectural and natural features with digital photography
- Collection and digitization of local gazetteers and scholarship

2. Collaborative use and analysis of field data

- Develop understandings of sacred geography and its relationship to:
 - ◆ Social and political institutions
 - ◆ Natural landscape
- Generalize about systems of Chinese spatial logic across regional and sectarian boundaries?

Documented sites

- Jiuhua shan Anhui
- Emei shan Sichuan
- Qingcheng shan Sichuan

Some proposed sites

- Wutai shan Shanxi
- Putuo shan Zhejiang
- Hua shan Shaanxi
- Wudang shan Hubei
- Wuyi shan Fujian
- Luofu shan Guangdong
- Tai shan Shandong
- 24 Dioceses Sichuan

GIS reconstruction of four networks of site complexes

- 4 Buddhist Mountains 四大佛教名山
- 5 Marchmounts 五嶽
- 10 Greater Grotto-heavens 十大洞天
- 36 Lesser Grotto-heavens 三十六小洞天

Grotto-heavens

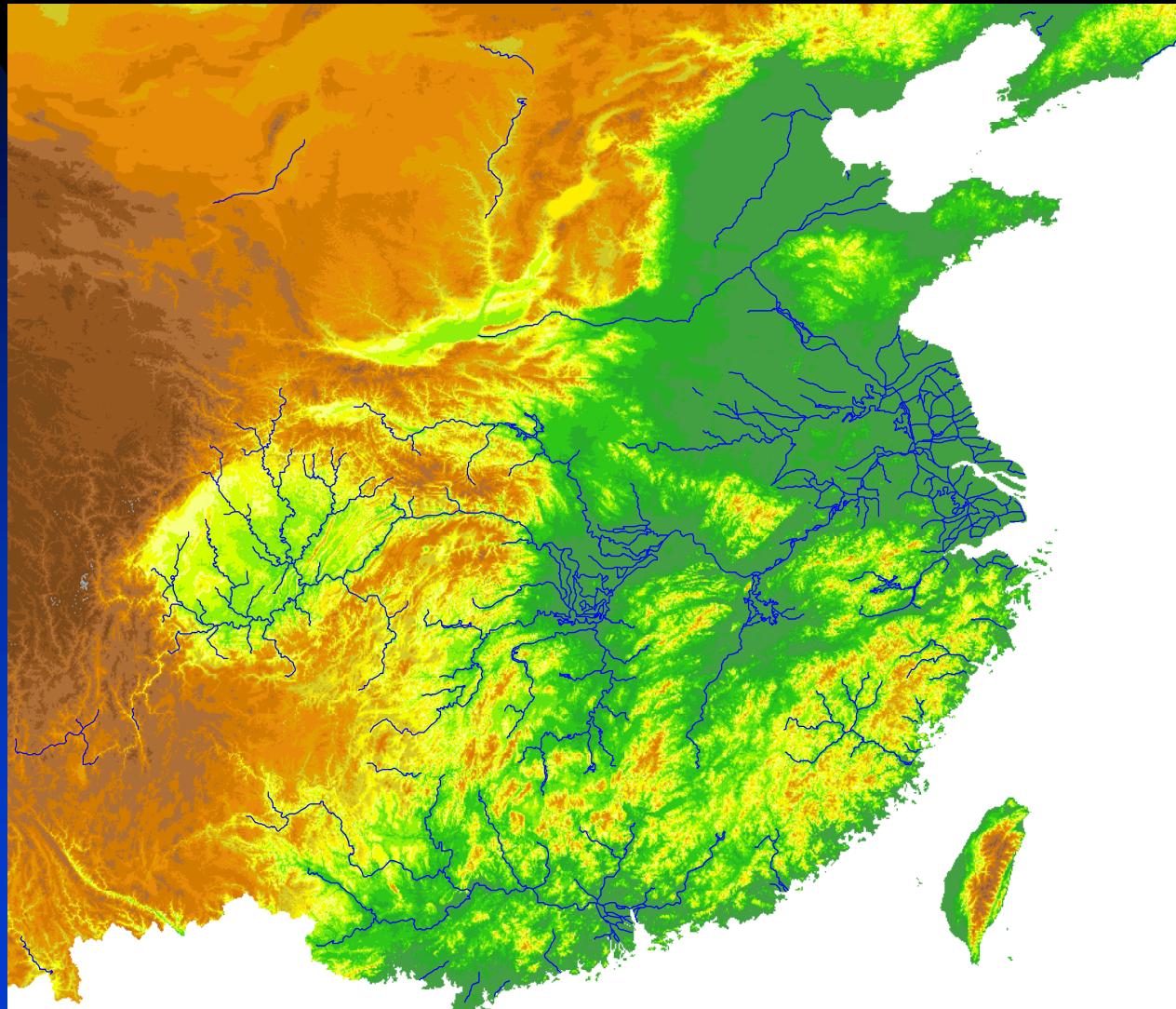
- Produced in consultation with Professor Franciscus Verellen
- Localizations listed in Appendix :
“The Beyond Within: Grotto-heavens (dongtian 洞天) in Taoist Ritual and Cosmology.” *Cahiers d'Extreme-Asie* 8 (1995): 265-90.
- Geocoded using Alexandria Digital Library Gazetteer Server

Small-scale China GIS Data

Vector and DEM data produced
under the direction of:

Lawrence W. Crissman
The Australian Centre of the
Asian Spatial Information and
Analysis Network (ACASIAN)
Griffith University

Sacred sites networks and navigable waterways



The purpose

- Demonstrate spatial relationship of trans-regional religious networks to:
 - ◆ Tang administrative boundaries
 - ◆ navigable waterways
 - ★ Sources of water
 - ★ Routes
 - ★ Barriers
 - ★ Boundaries

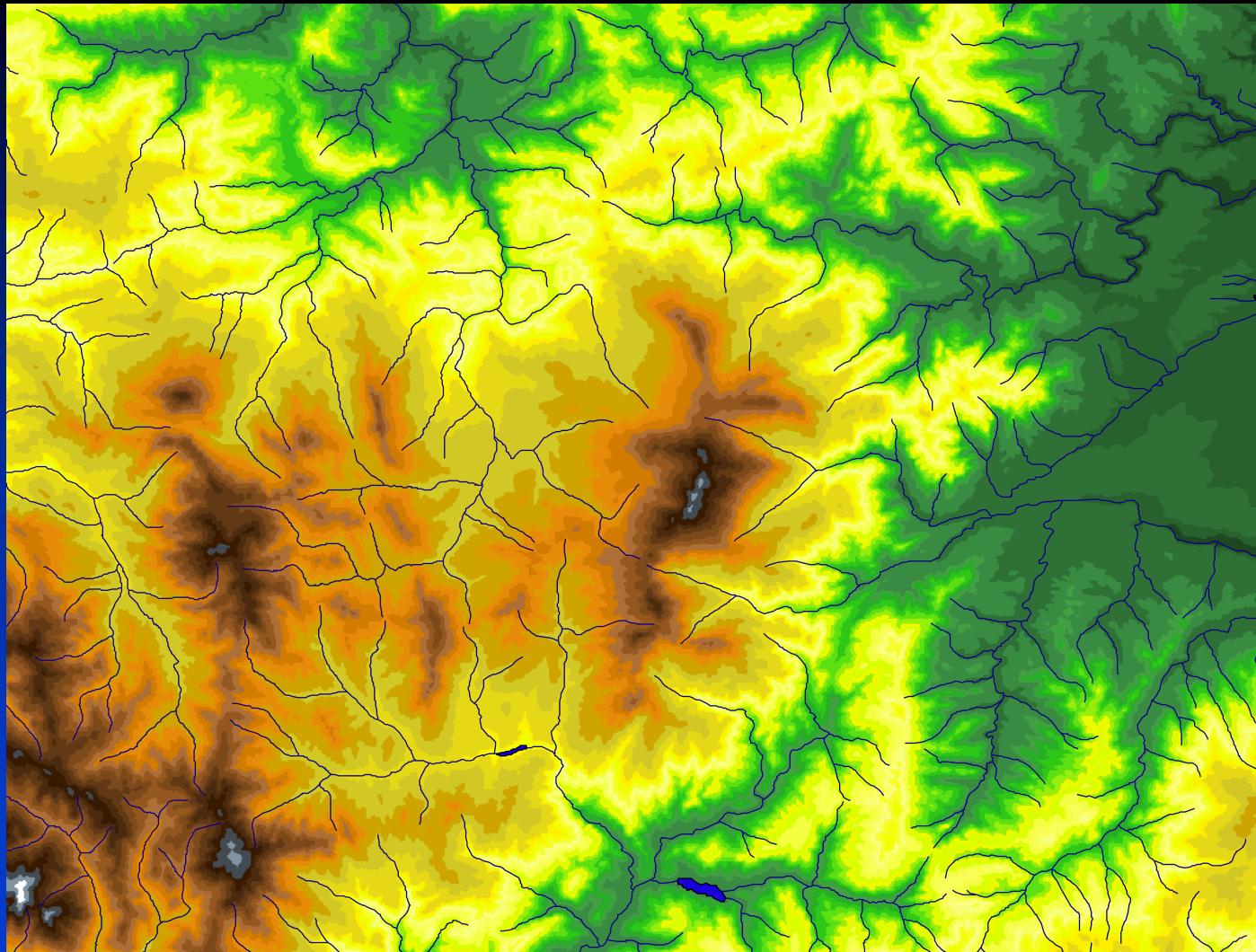
GIS reconstruction of an example site complex

- Emei shan 峨嵋山
(7th Lesser Grotto-heaven) 第七小洞天

Large-scale China GIS data

- Russian Military Maps (1:100,000)
- Digitized by East View Cartographic
- Purchased by the Map & Imagery Library, UCSB

Sacred site complex and watersheds



The purpose

- Demonstrate a spatial relationship between individual sites within the example complex to:
 - ◆ Pilgrimage routes
 - ◆ Watersheds
 - ◆ Topography

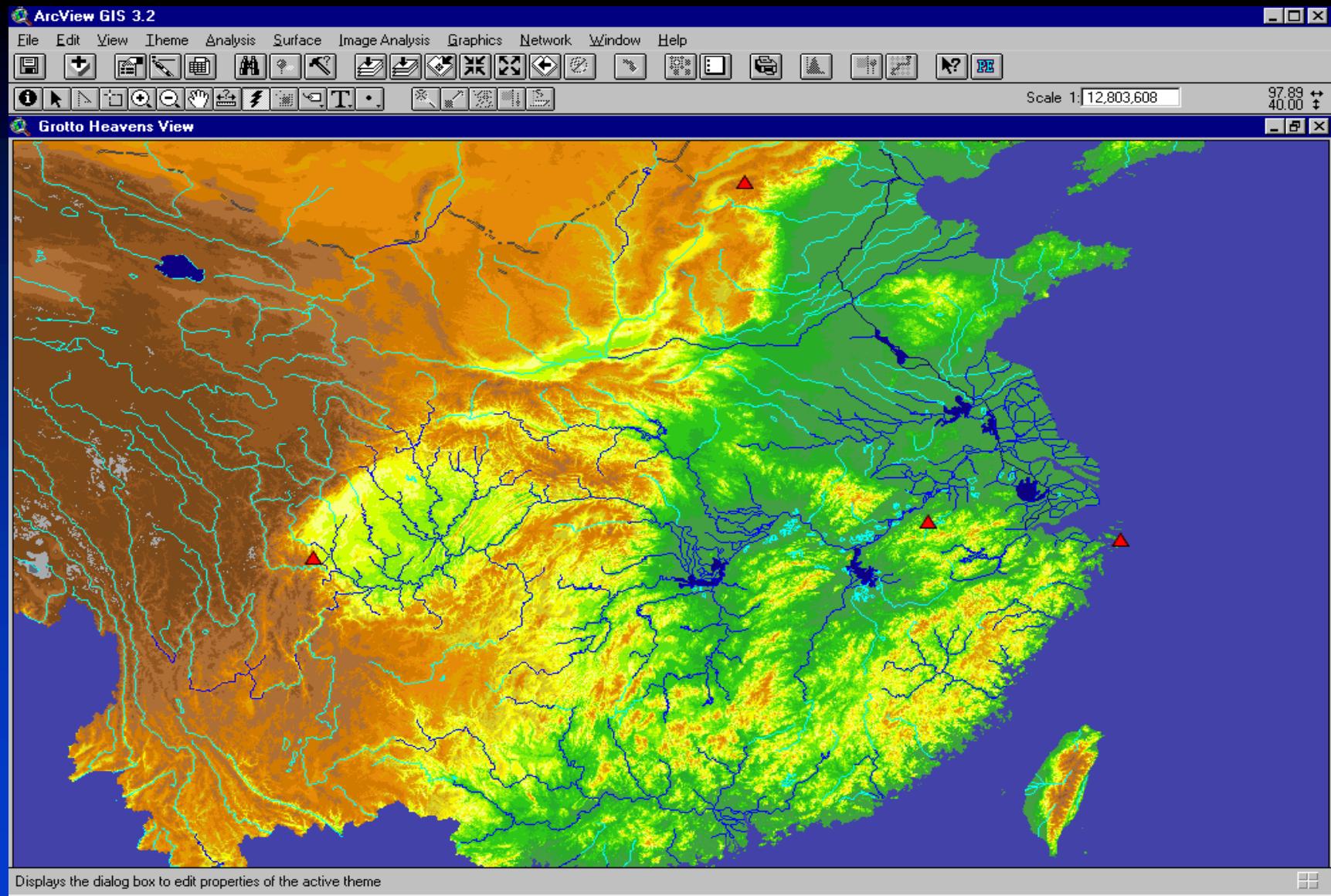
Sacred Sites Reconstructed

Representative Screenshots
from Shanghai Demonstration

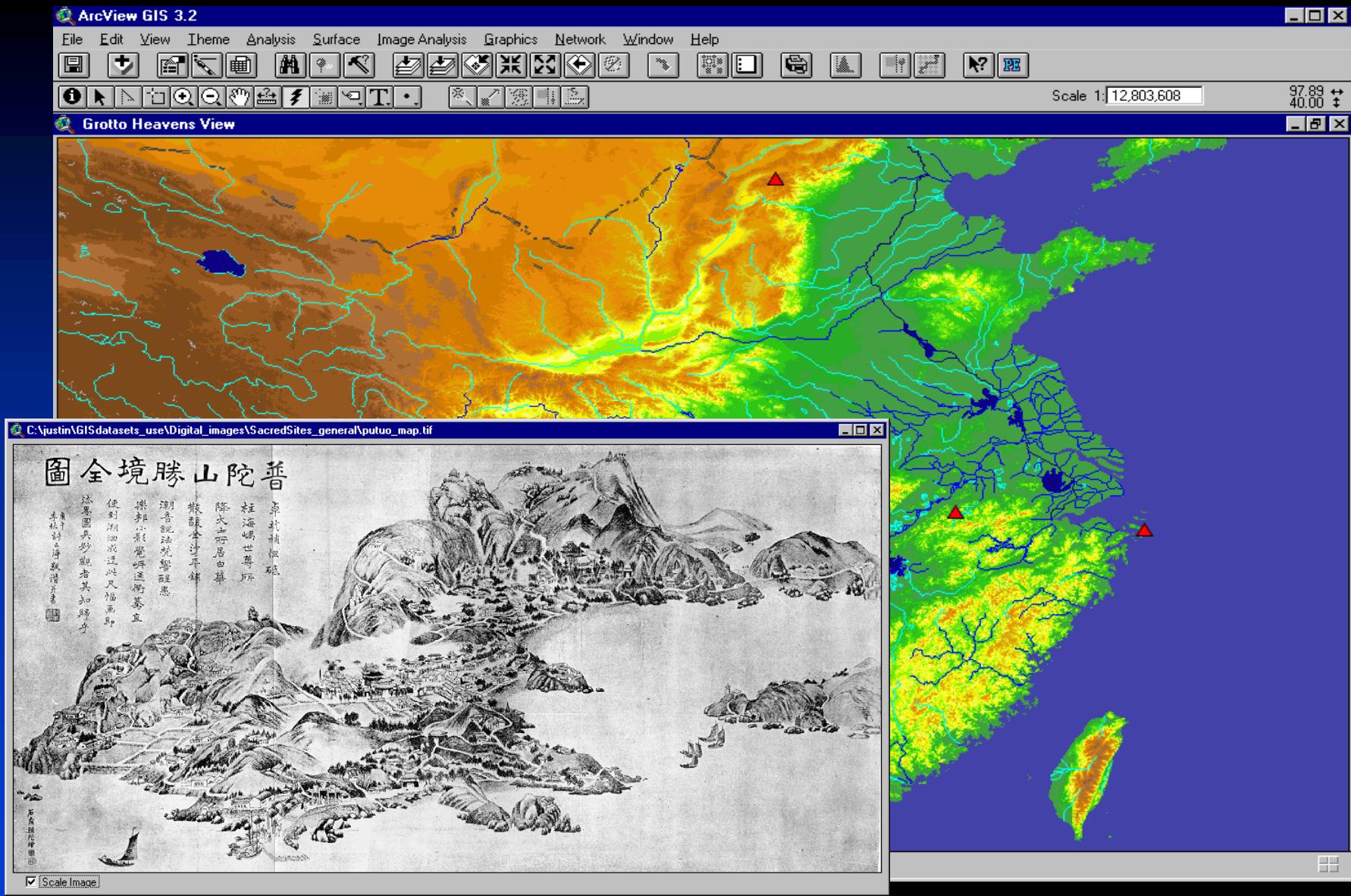
Small-scale maps

- Four sacred site networks

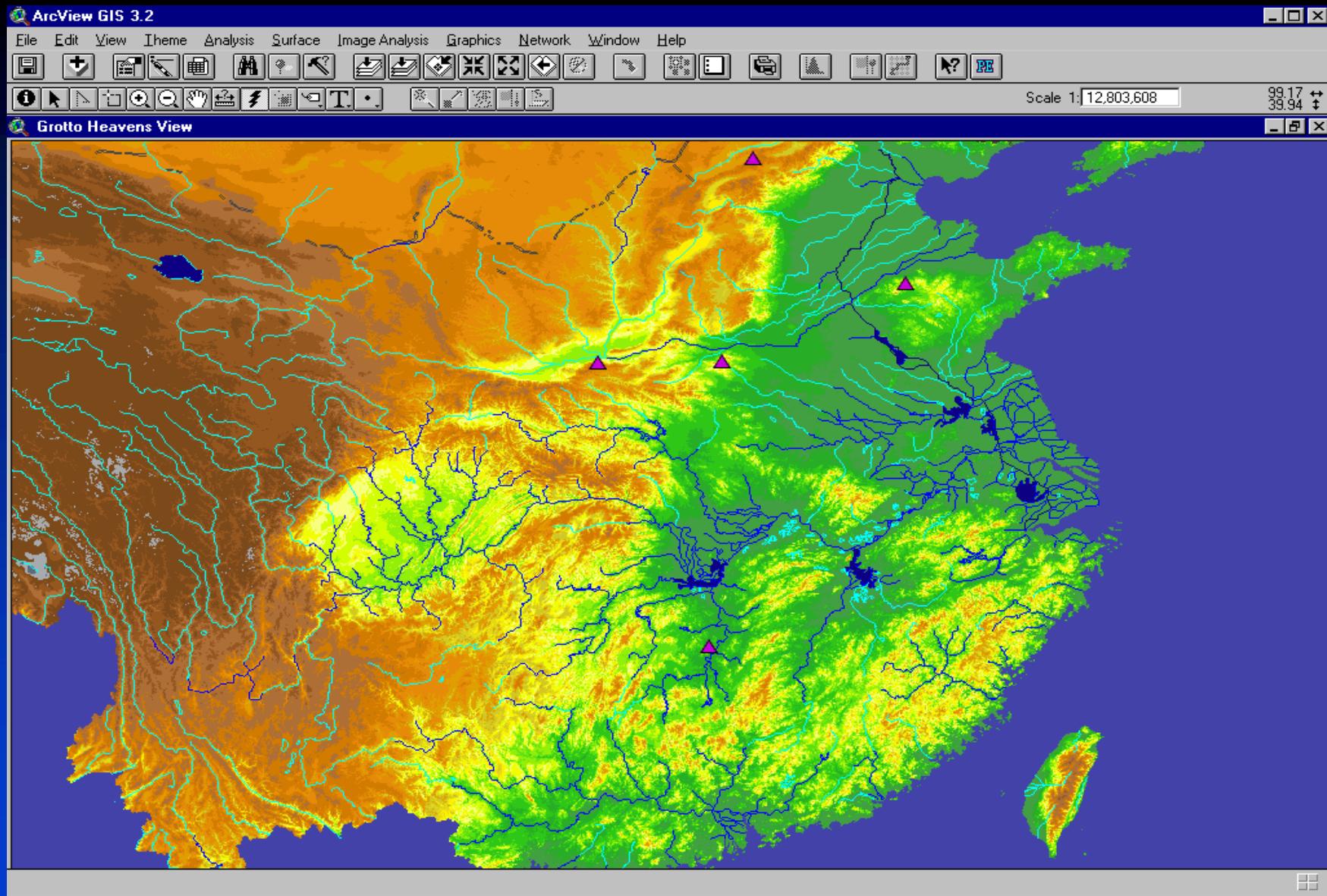
4 Buddhist Mountains



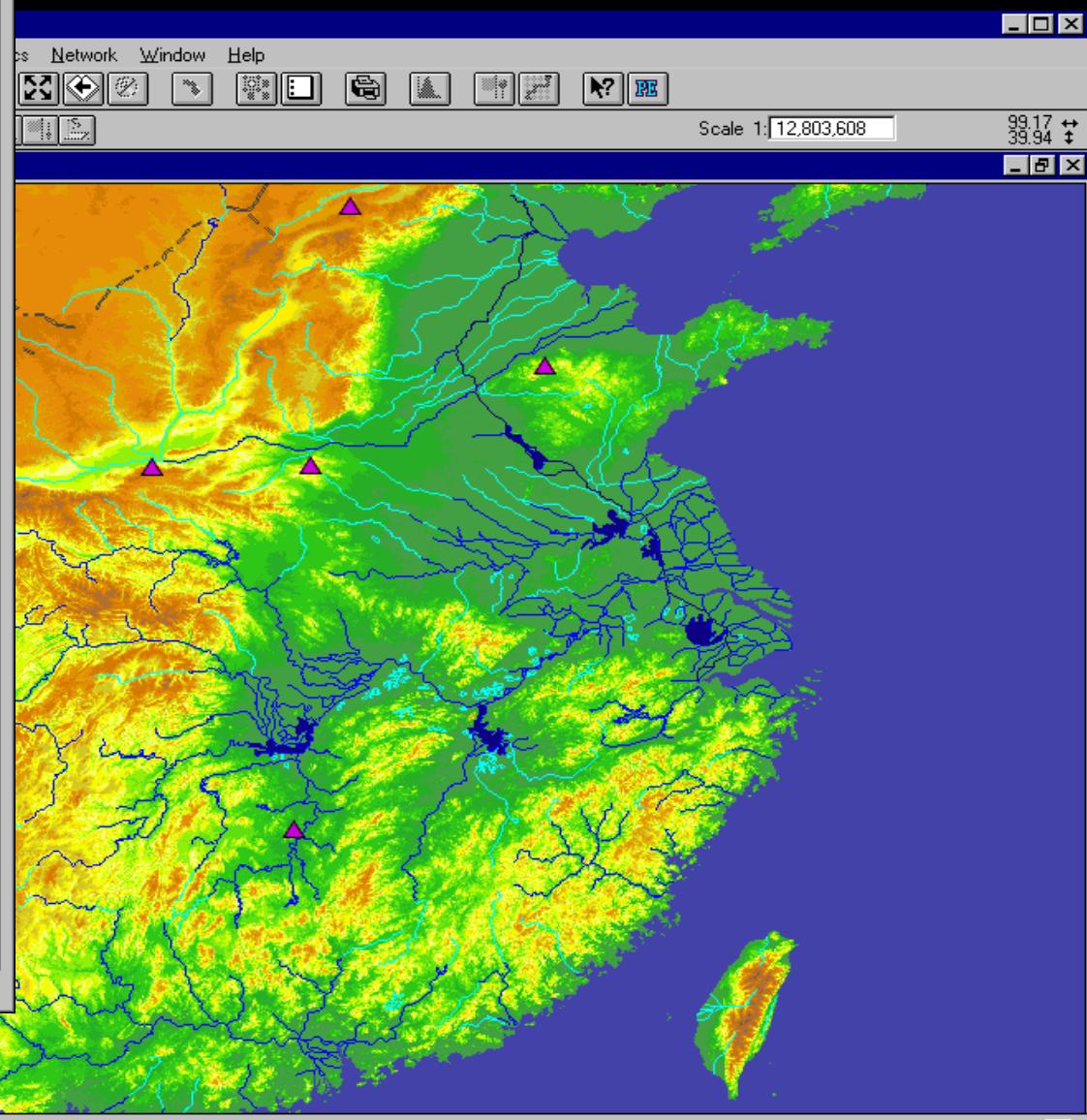
Hotlink to pilgrimage maps



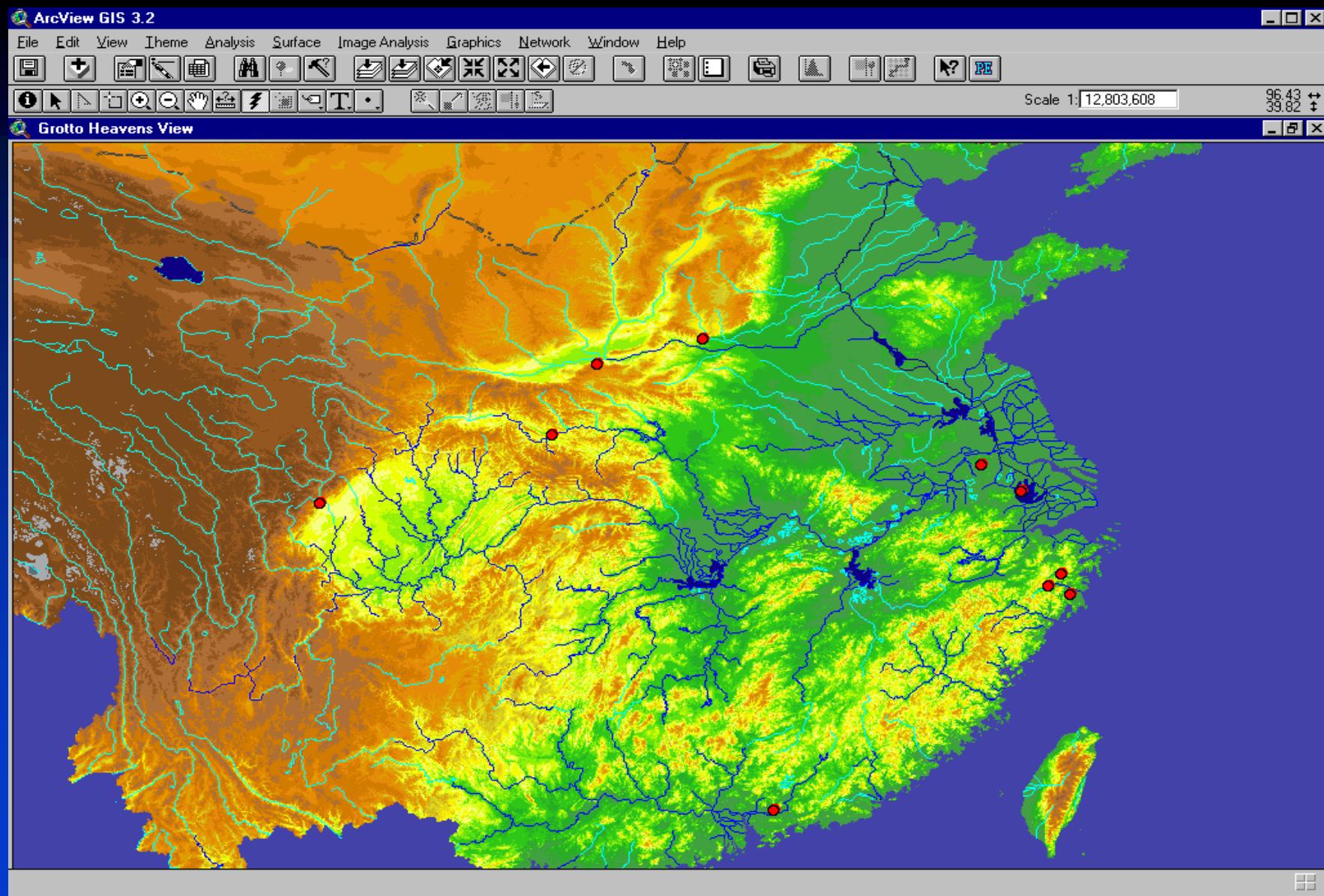
5 Imperial Marchmounts



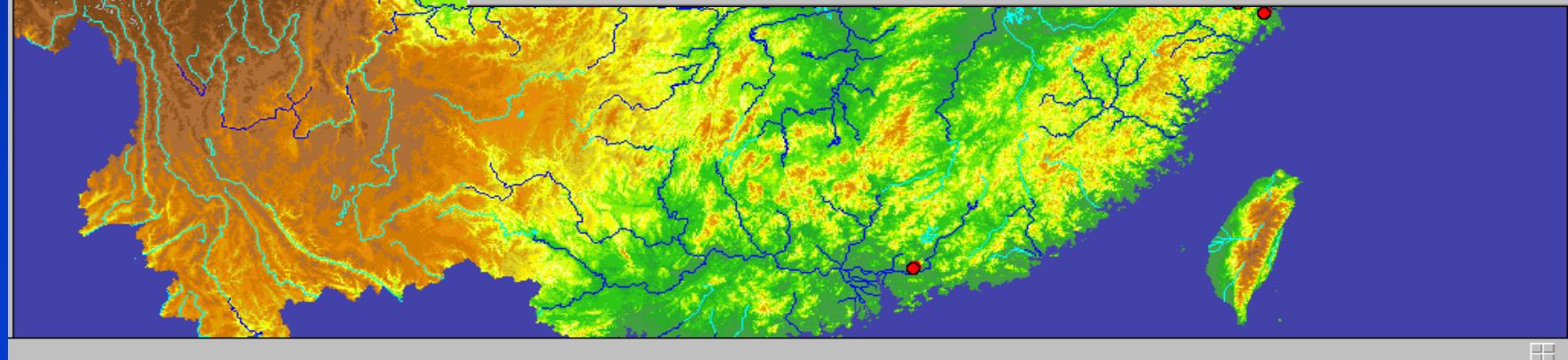
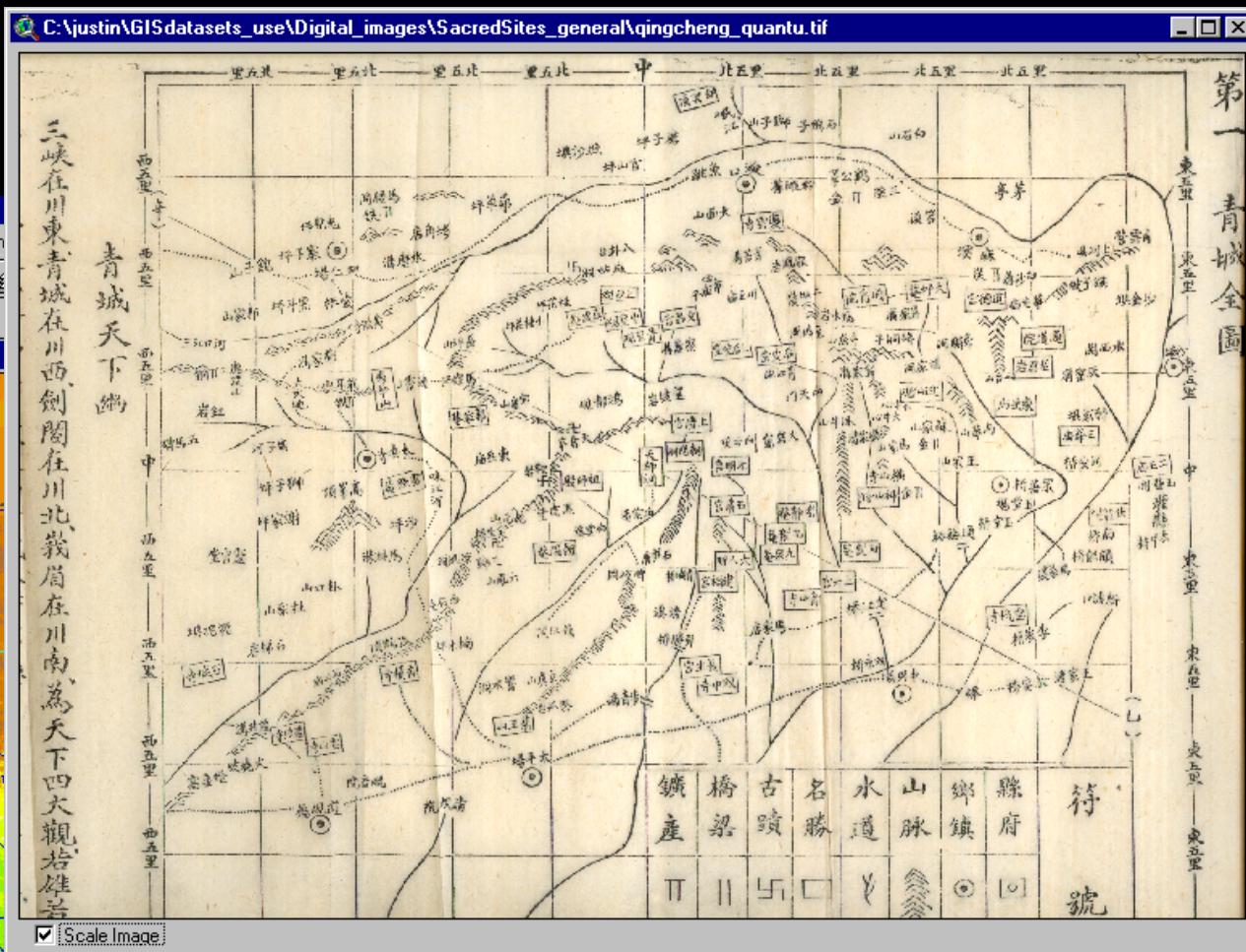
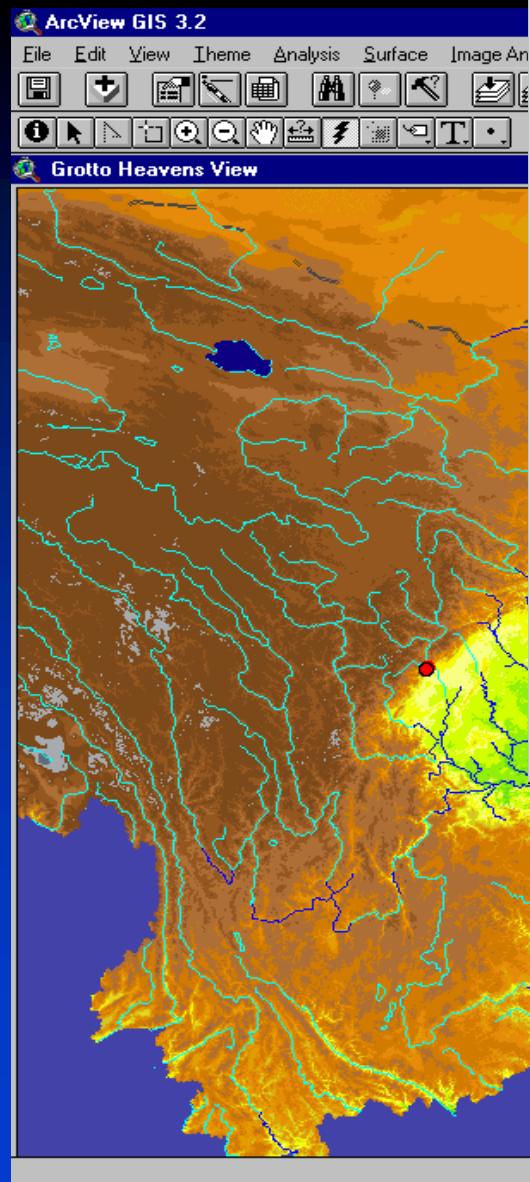
Hotlink to idealized maps



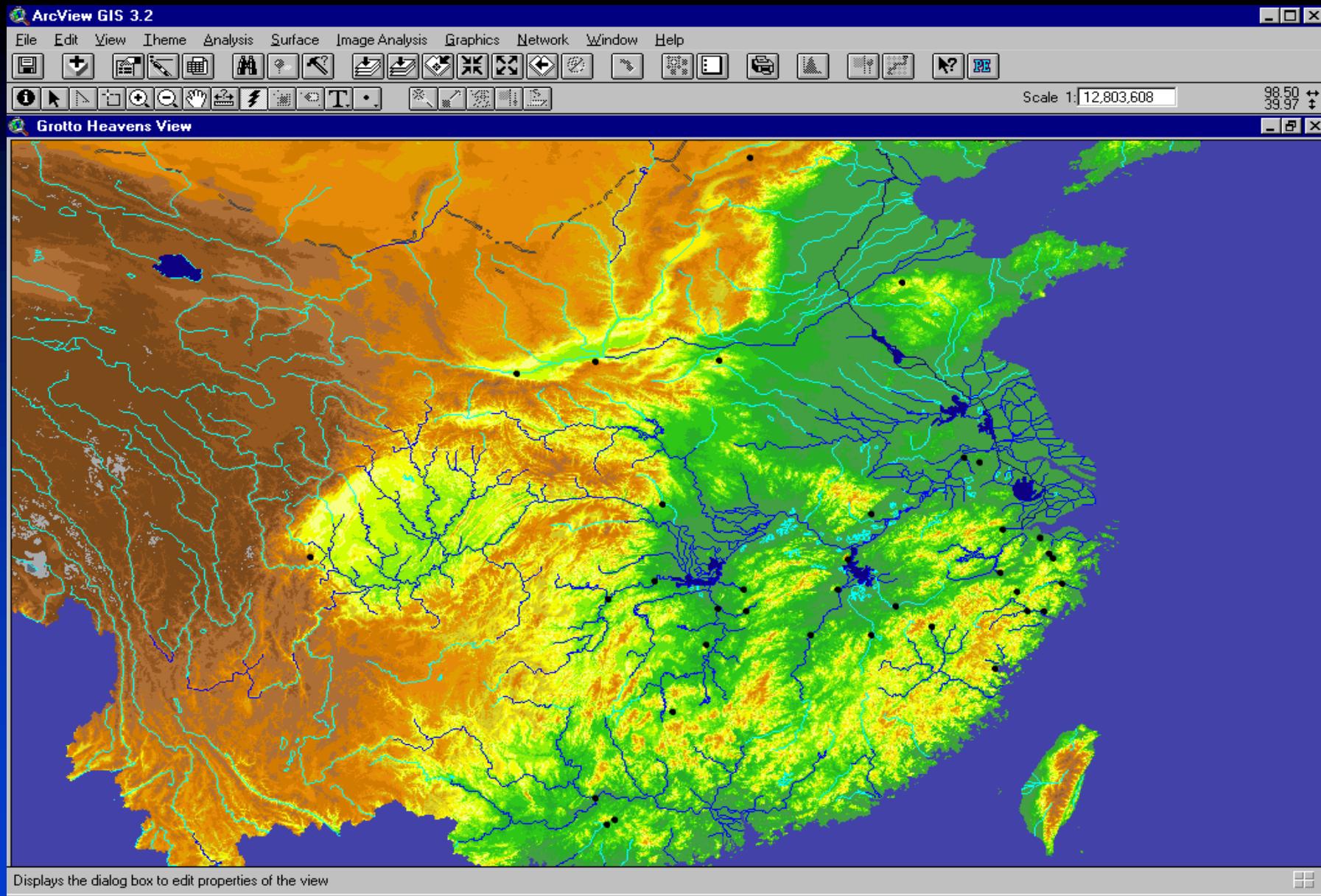
10 Greater Grotto-heavens



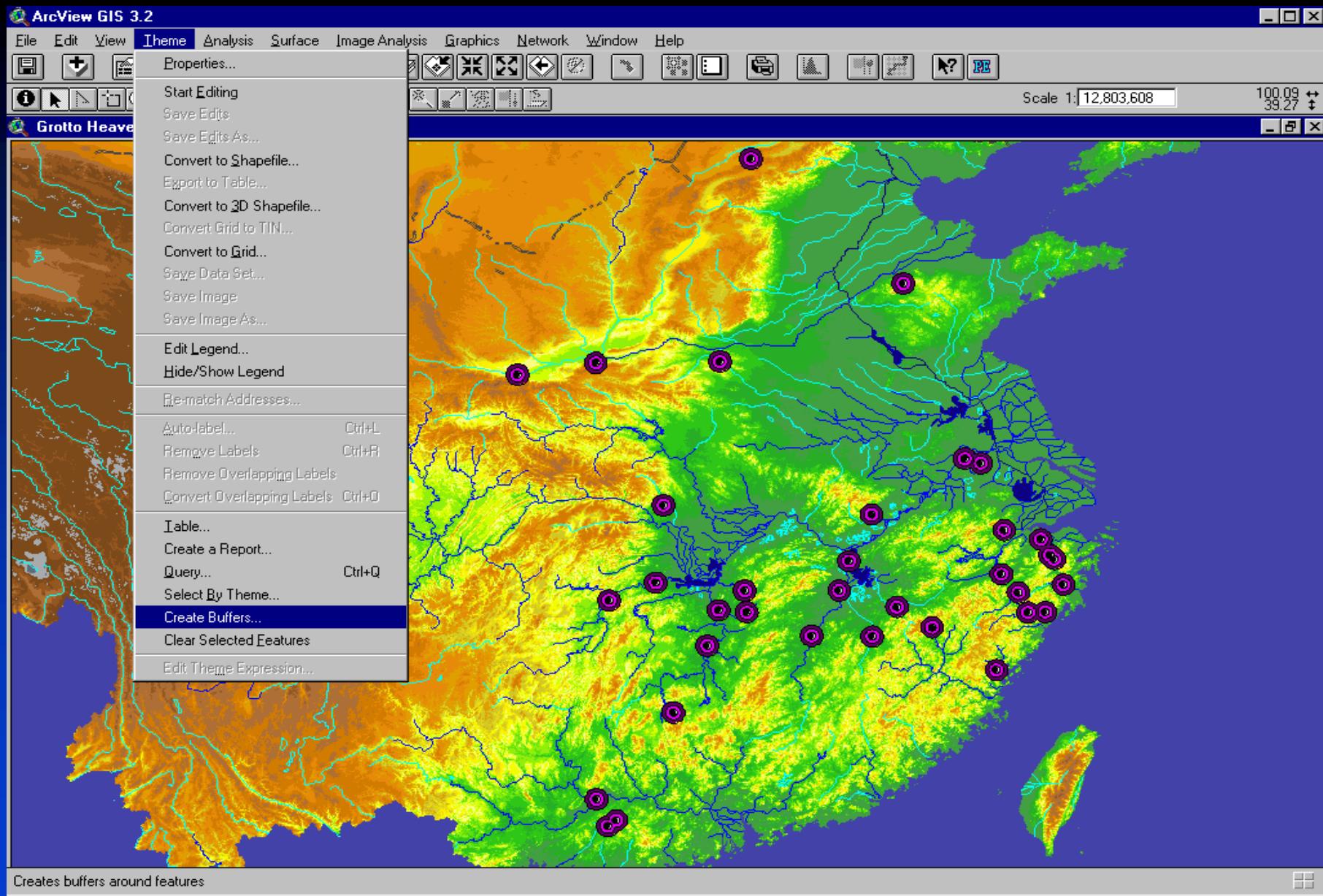
Hotlink to historical maps



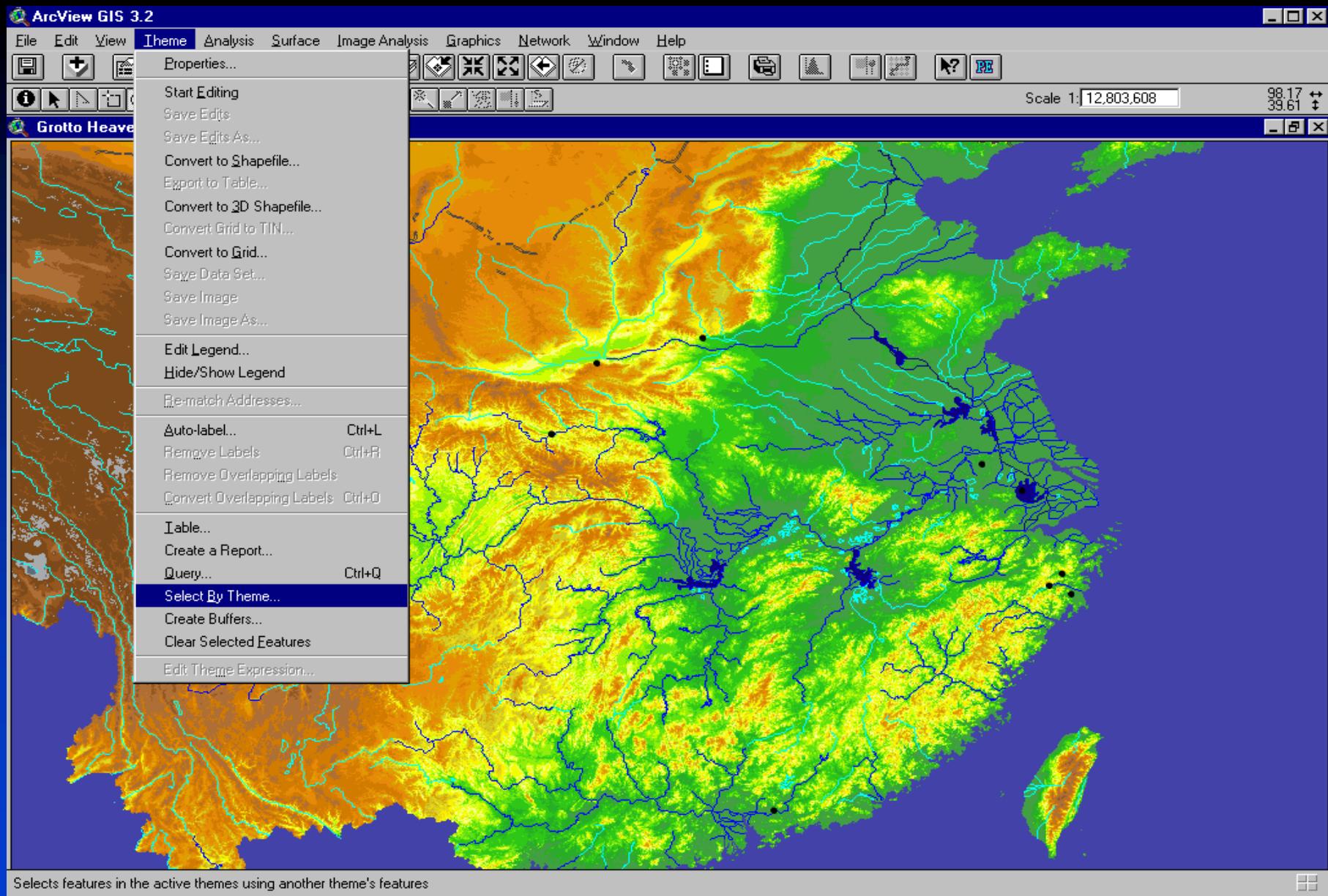
36 Lesser Grotto-heavens



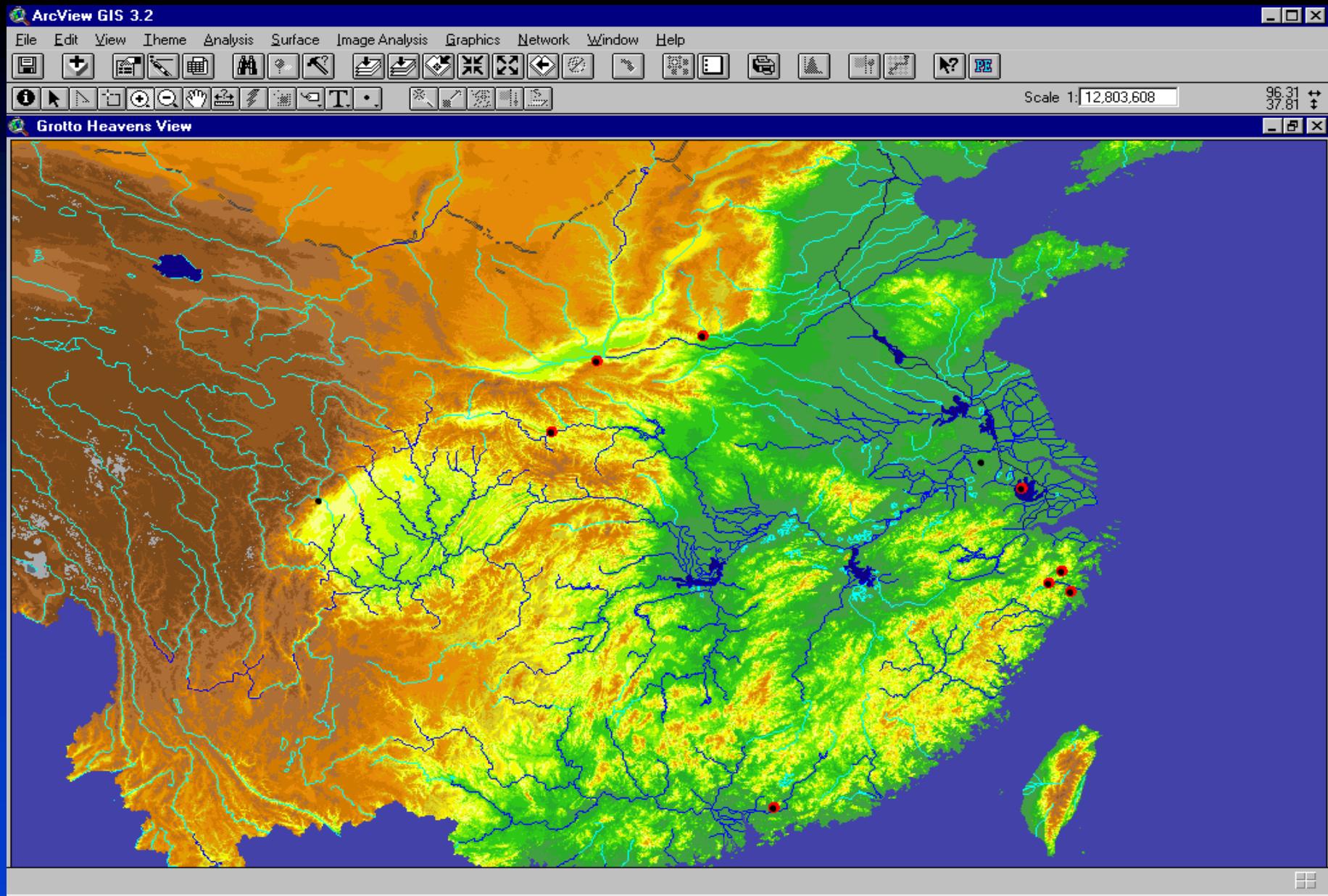
Buffer Analysis: 30 km buffers with 10 km rings



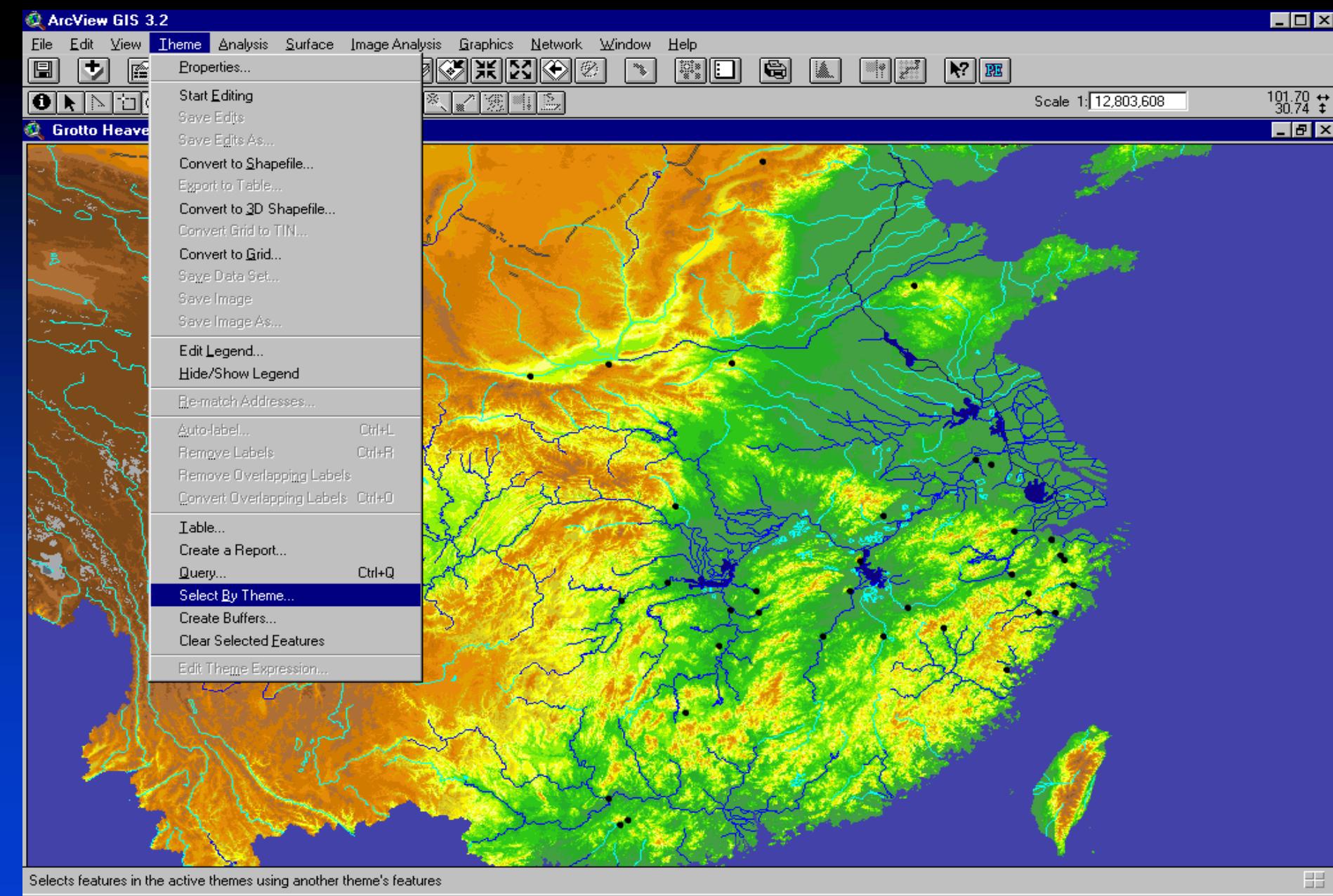
10 Greater Grotto-heavens: Select By Theme Analysis



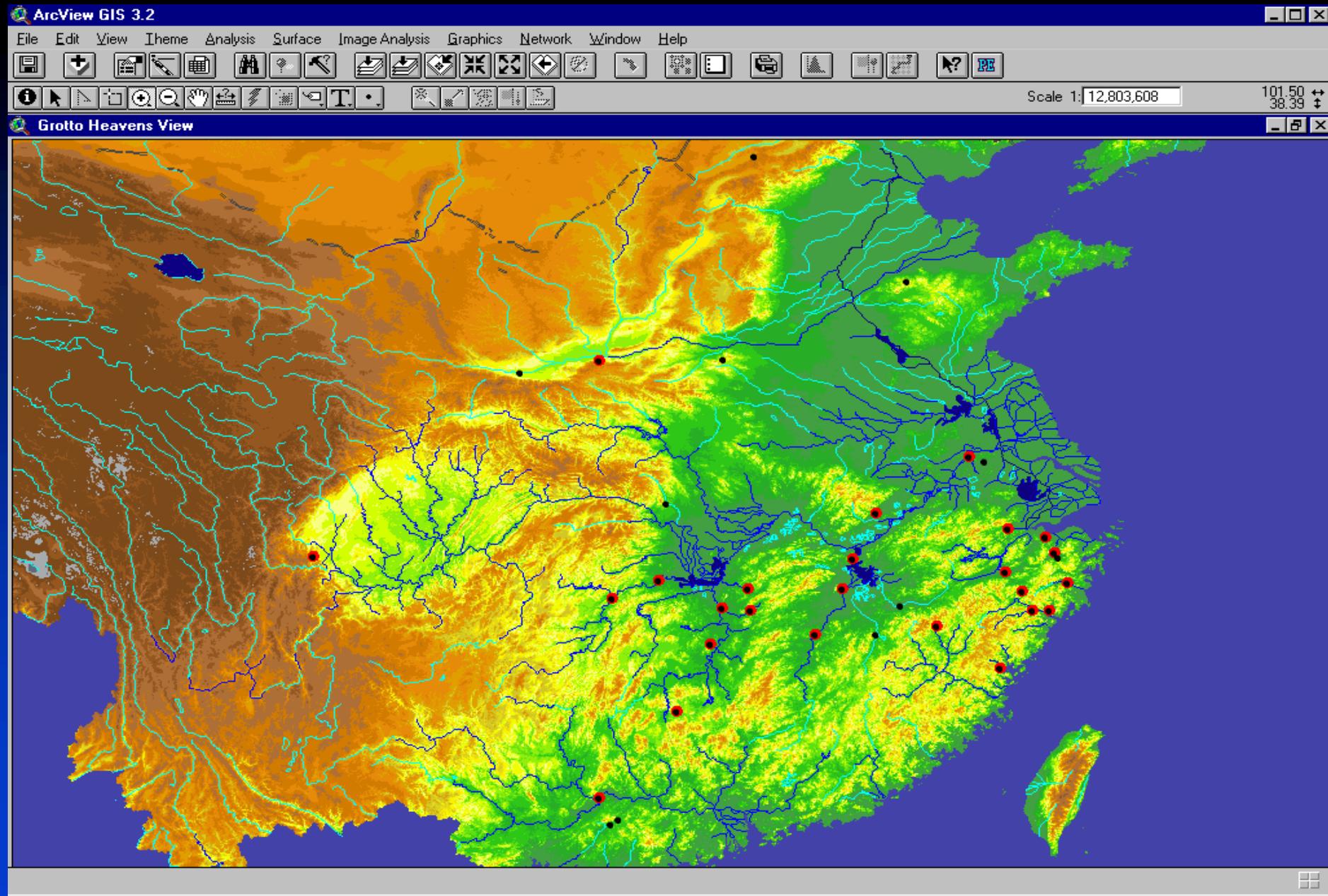
30 km within distance of navigable river



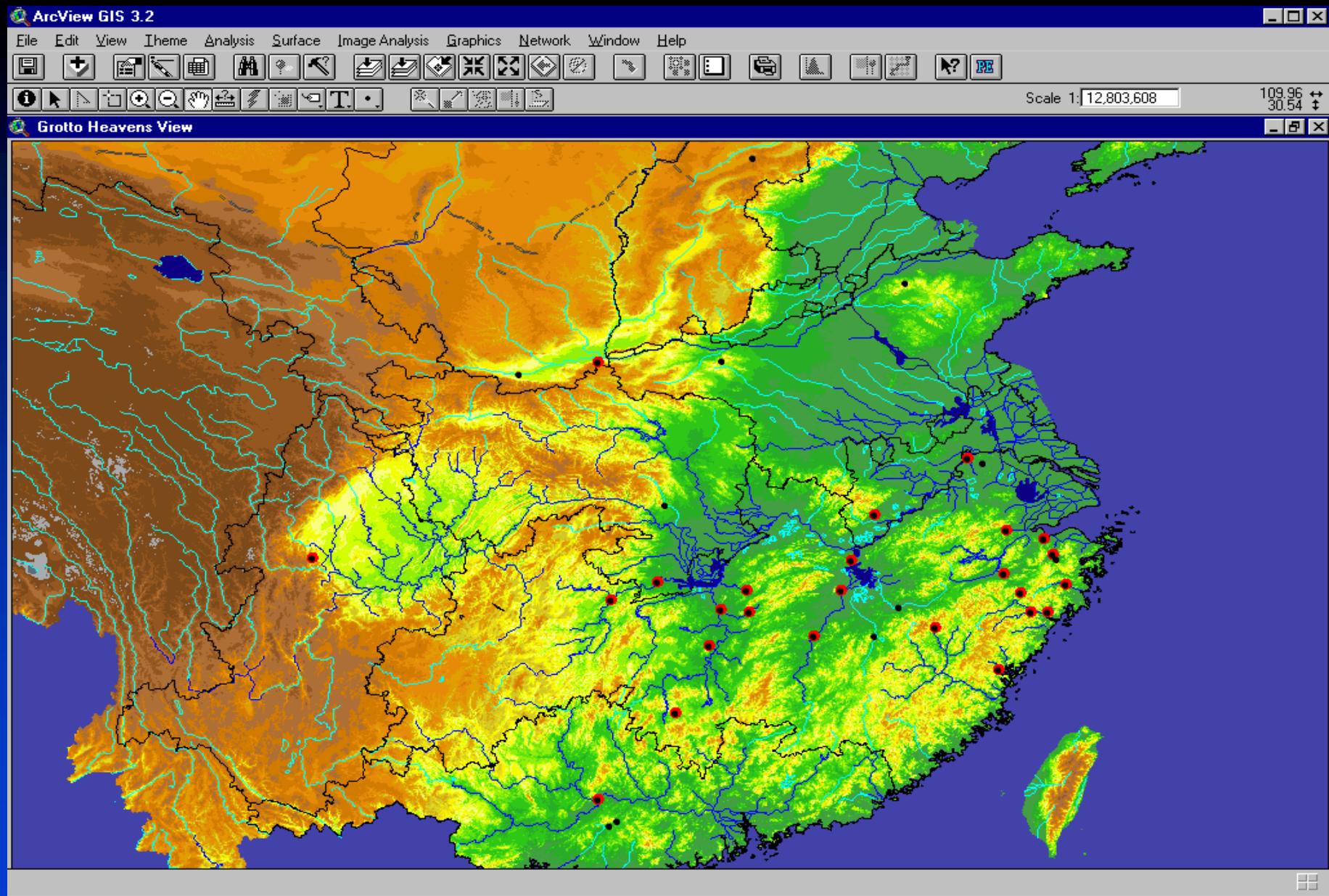
36 Greater Grotto-heavens: Select By Theme



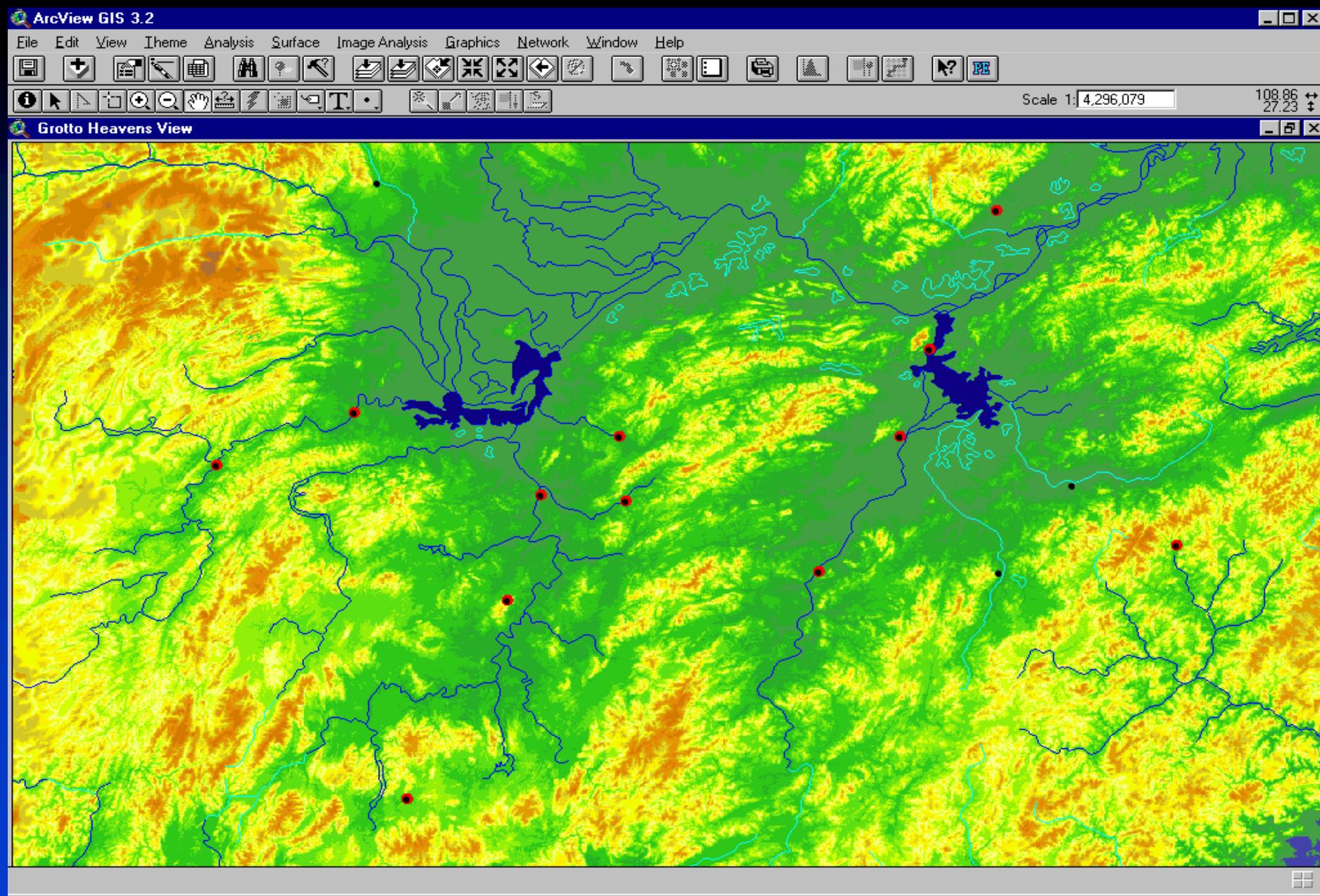
30 km within distance of navigable river



Administrative boundaries: Tang (741) dao



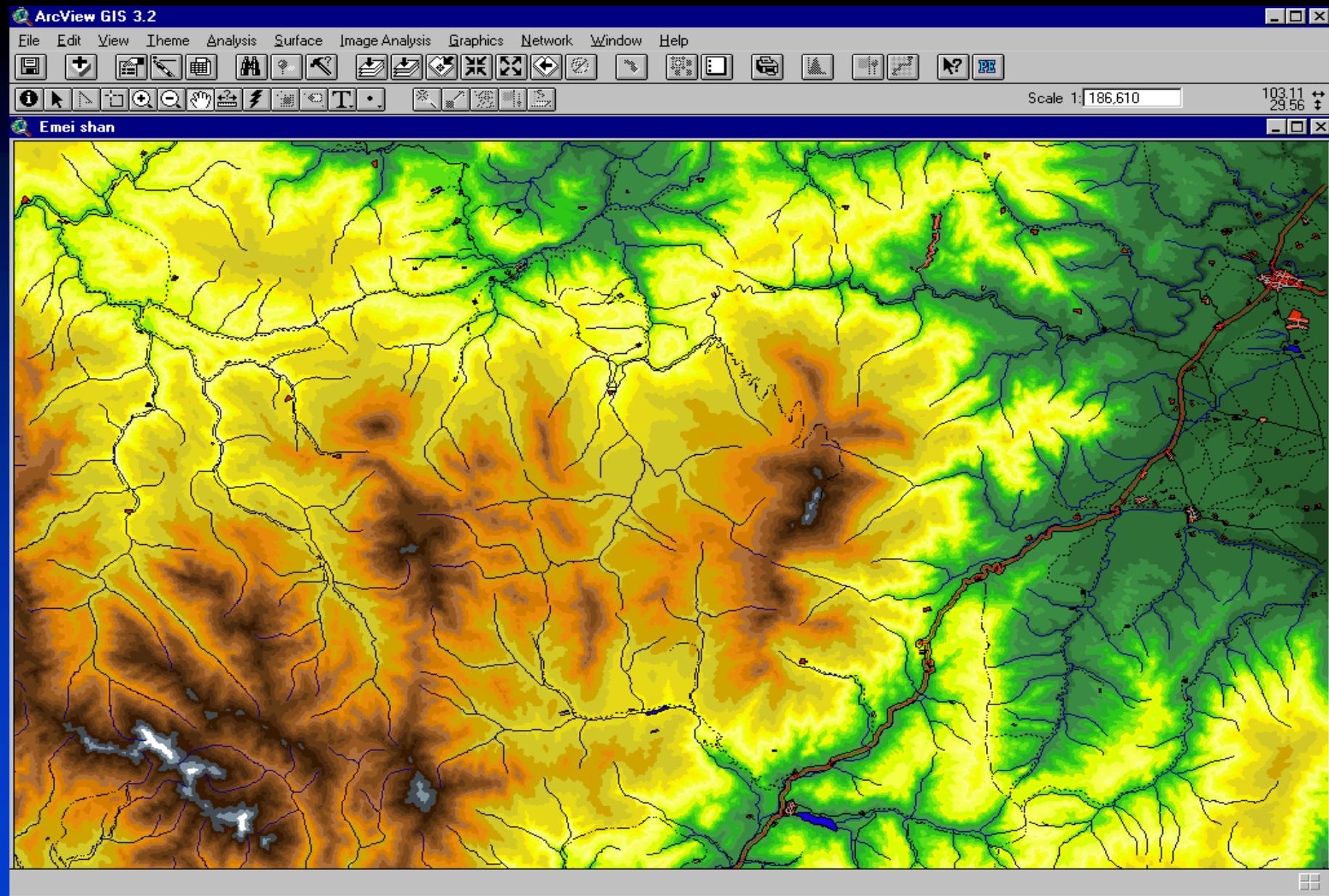
Close-up



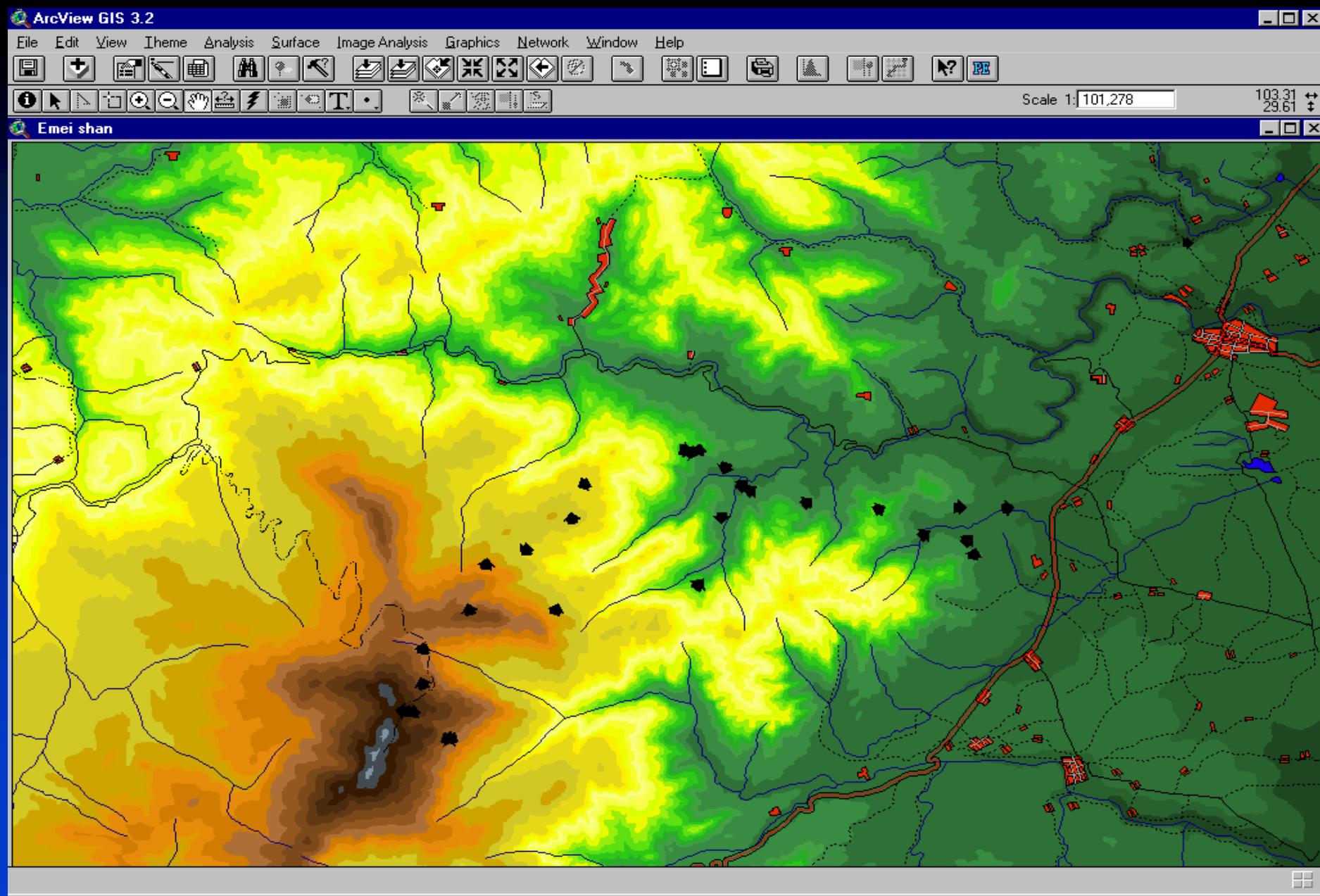
Large-scale maps

- Mt. Emei (Emei shan 峨 嵘 山):
Seventh Lesser Grotto-heaven

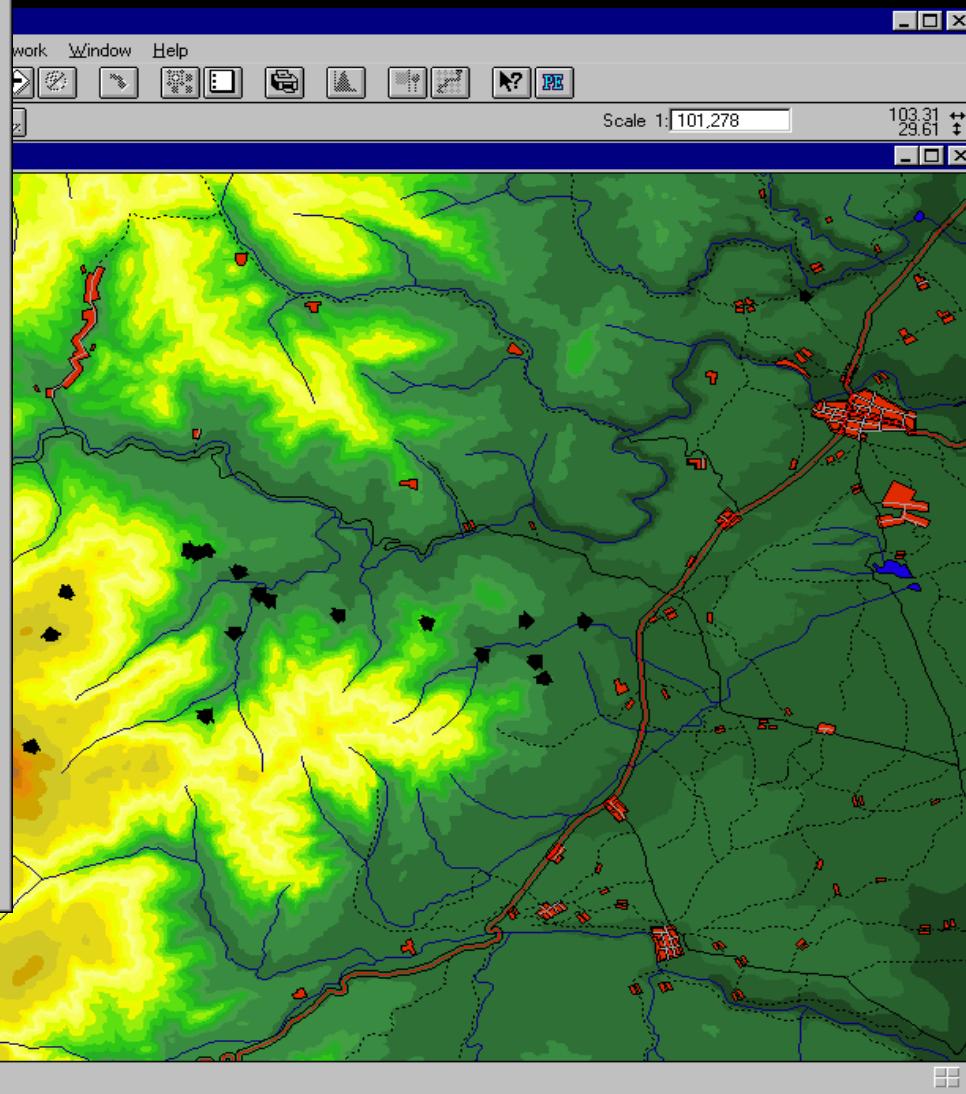
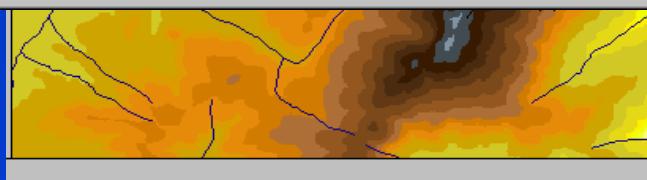
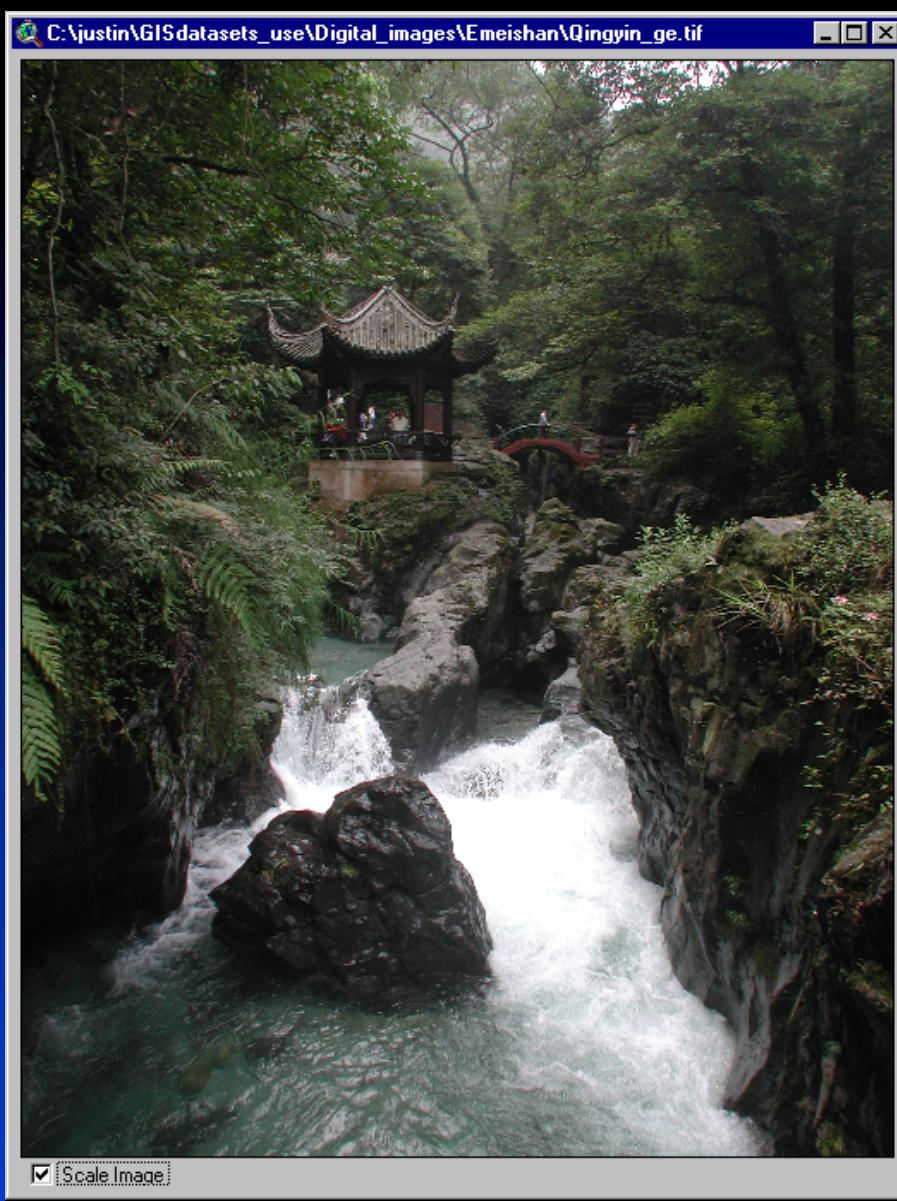
1:100,000 DEM of Mt. Emei



Close-up with temples



Hotlink to digital photos



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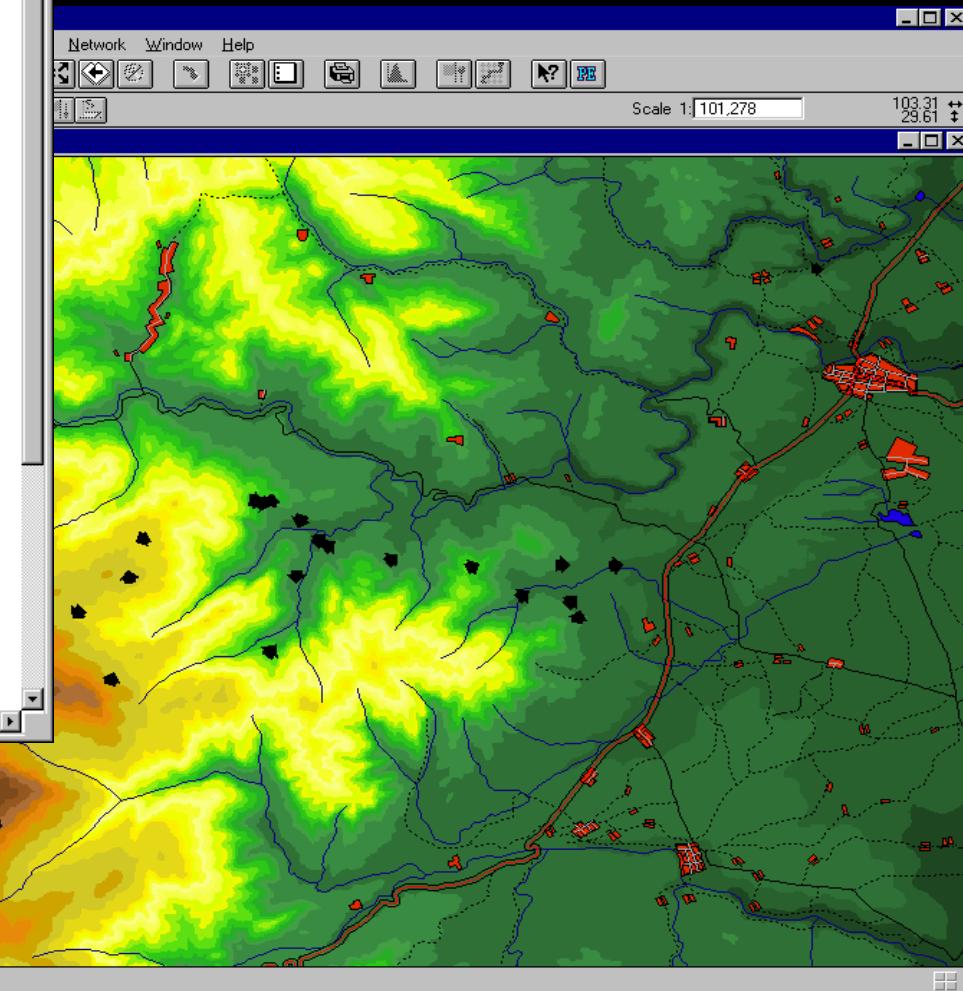
Strassberg, Richard E. *Inscribed Landscapes: Travel Writing from Imperial China*. Berkeley and Los Angeles: University of California Press, 1994. 217-218.

A while passed, then I braved the cold and went up over the Bridge of the Celestial Transcendent to Brilliance Cliff, where I lit some incense. The chapel there is covered with a roofing of bark. The Vice-Grand Councilor Wang Zhanshu once had the roof tiled, but snow and frost seeped in and within a year the tiles had all cracked. Later it was reroofed with bark that at least lasts for two to three years. Someone said to me, "Buddha's Halo always appears at the hours of wu [11:00 A.M.-1:00 P.M.]. Now it is past shen [3:00-5:00 P.M.]. We had better return to our lodgings and come again tomorrow." While we were hesitating, suddenly clouds arose below the cliff from a valley to the side, just where Thunder Cave Mountain is located. The clouds paraded by vigorously like an honor guard. When they encountered the cliff, they paused for a short while. From the top of the clouds, a grand halo appeared containing several rings of various colors. I stood exactly opposite it and saw an inky shadow in its center, like a Transcendent or a sage astride an elephant. In the time it would take to drink a cup of tea the halo vanished, while beside it appeared another halo just like the one before. It, too, vanished after a while. From the clouds there then appeared two rays of golden light, which extended along the waist of the cliff. People call it the "Lesser Manifestation." By sunset, the clouds had all dispersed, and the surrounding mountains became quite tranquil. By the second night watch [9:00-11:00 P.m.], lights appeared all over below the cliff. When viewed from a distance, they seemed to number in the many hundreds, perhaps even a thousand. At night, the cold was intense; I could not stand outside for long. The next day, ping shen [July 25], I again ascended Brilliance Cliff for the view. Behind the cliff were the many layers of the Mount Min range. Slightly to the north was Tiled House Mountain, located in Ya Prefecture. A bit to the south was Greater Tiled House Mountain, close to the area of Nan zhao. Its shape looked just like a one-room house with a tiled roof. There was also a halo at Lesser Tiled Roof Mountain, known as the "Manifestation of Self-Enlightenment." Behind these mountains are the Snowy Mountains of the Western Region. Lofty, rugged, carved, sliced; scores, perhaps a hundred peaks in all. When the rising sun first illuminates them, the snow glistens like shiny silver, shimmering in the light of the dawn. From antiquity to the present, this snow has never melted. These mountains extend all way to the land of India and to tributary kingdoms along the border for a distance of I don't know how many thousands of li. It looks like it is spread out on a table before one. This spectacular, unique, unsurpassable view was truly the crowning one of my entire life.

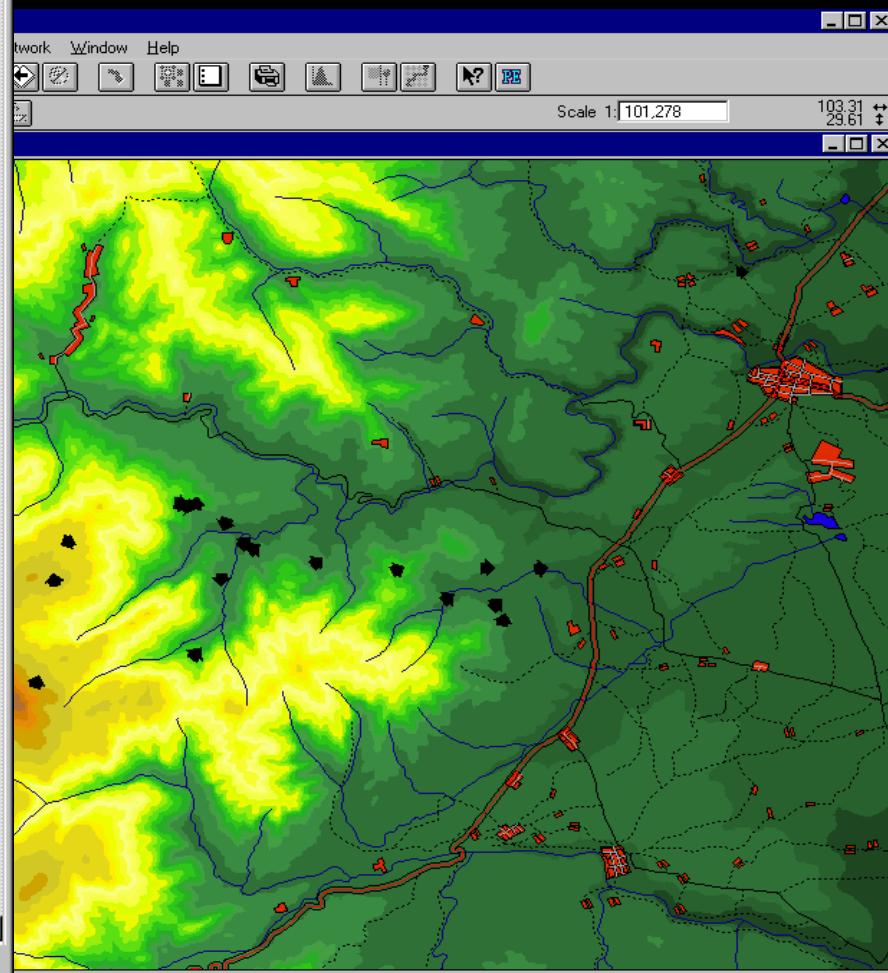
I returned to the chapel on the cliff to offer up a prayer. Soon, a dense mist arose on all sides, blending everything into a single whiteness. A monk said to me, "This is the 'Silvery World.'" After a while, a heavy rain fell and the mist dispersed. The monk said, "This is the 'Rain That Cleanses the Cliff.' 'Buddha's Halo' is about to appear." Flossy clouds once again spread out below the cliff, billowing upward until they reached only several tens of feet below the top. The clouds smoothed themselves out like a floor of jade. There was a sudden rain, and droplets flew about. I looked down at the middle of the cliff; there was a large halo lying on top of the smooth clouds. Encircling it were three rings, each containing blue, yellow, red, and green colors. The center of the halo was empty, bright, dense, and clear. Each observer could see his form appear in the empty, bright area without the slightest degree of obscurity, just like a mirror. When one raised one's hands and moved one's legs, the reflection indicated this without showing anyone else's form. The monk said, "This is the 'Halo That Captures the Body.'" When this halo vanished, winds arose from the mountains in front and the clouds quickly drifted away.

From the midst of the wind and clouds appeared yet another large halo. It stretched across several mountains and contained many unusual hues, all gathered together in a multicolored light. Peaks, plants, and trees were so fresh, gorgeous, brilliant, and glittering that I couldn't look at them directly. When the clouds and mist dispersed, this halo remained to shine alone. People call it the "Pure

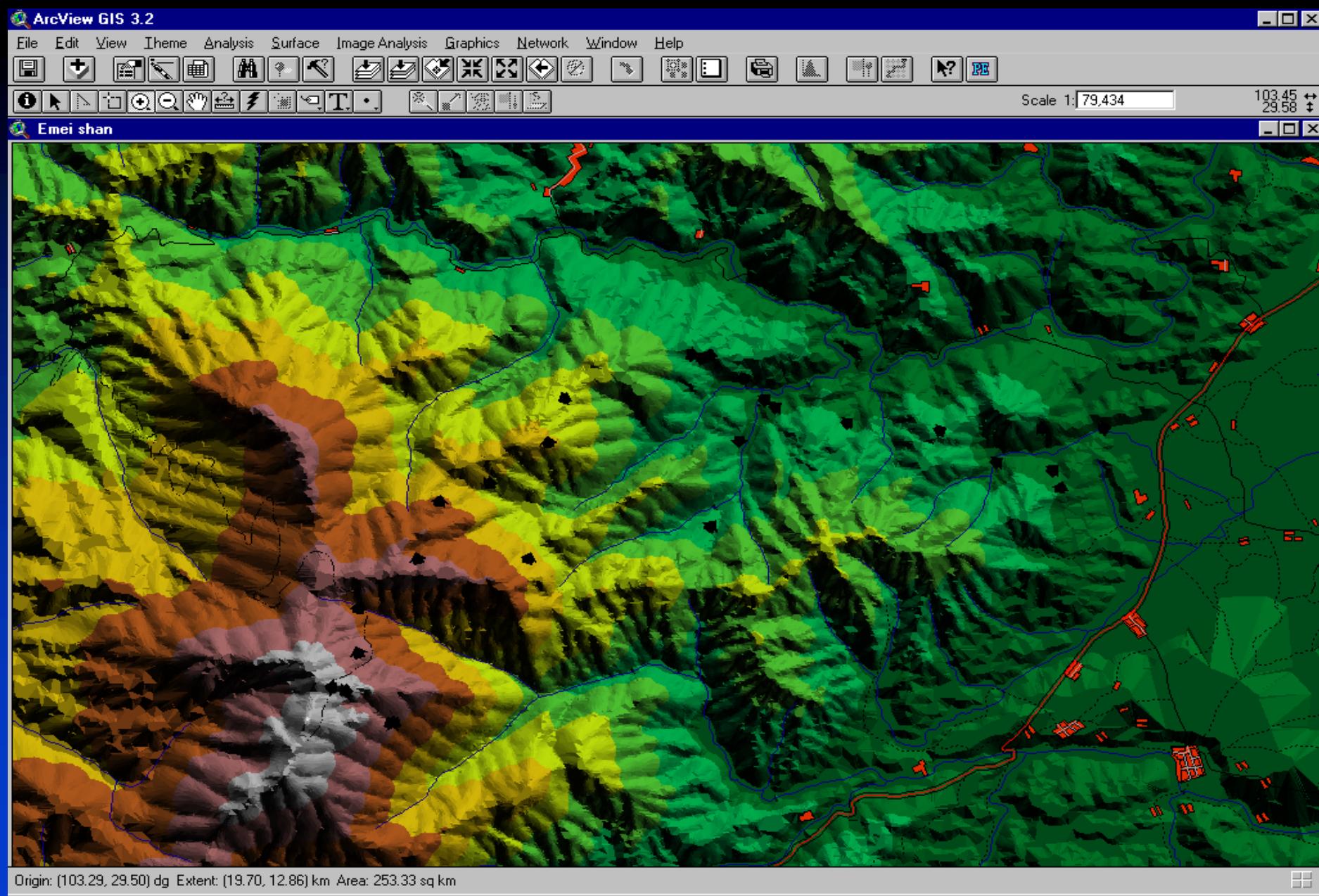
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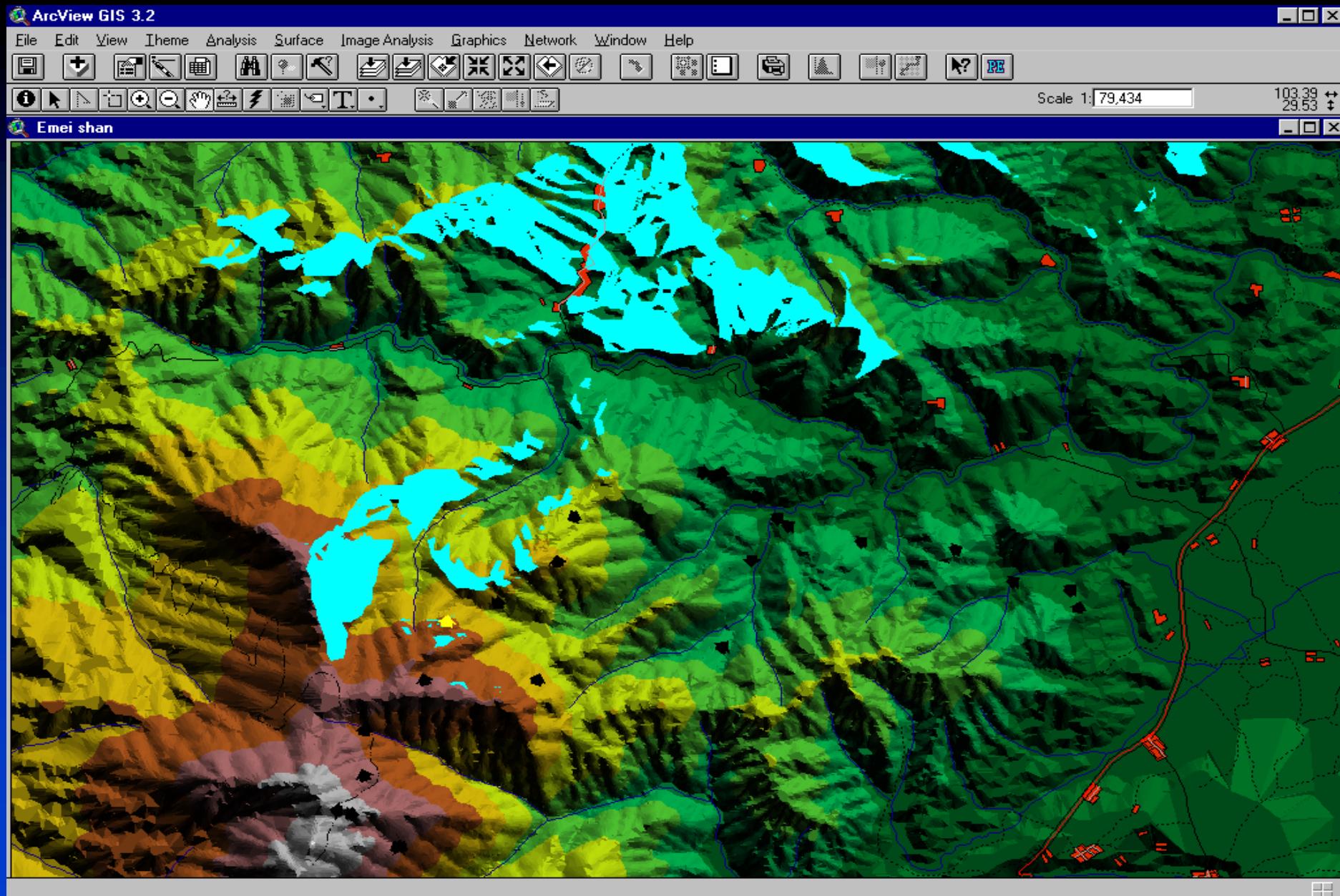
Hotlink to primary Chinese sources: (digitized in Unicode)



TIN of Mt. Emei



Viewshed analysis of a temple on Mt. Emei



Institutional credits

- University of California
Pacific Rim Research Grant
- ACASIAN and Griffith University
- East View Cartographic, Inc.
Minneapolis, Minnesota
- Alexandria Digital Library Project
and the Map & Imagery Library at
UCSB



Alexandria Digital Library Project



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