

# Spatial Analysis and GIS Modeling of Regional Religious Systems in China

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# Objective

- Review of some previous works
- Determine if the distribution of religious sites forms different functional levels of regional systems
- Defining Regional Religious System (RRS)
- Factors to be considered in the process of delineating RRS
- Initial division of China into 10 RRS
- Analysis of sample RRS if time permits

# Previous Work: Map of Buddhist site clustering



# “Future works” from the Past

From the presentation two years ago “Initial Readings of the Data About Contemporary Chinese Buddhist Monasteries,” AAS 2010

- Narrow the scales to country level
- Seeking continuities with data in Tang and Qing
- Incorporating William Skinner’s Macro-region theory more effectively
- Conducting residual analysis to identify the defects in the original data collection

# Working Hypothesis about Buddhist monasteries

- 1. Buddhist monasteries are fundamentally local institutions independent of a larger bureaucratic framework.
- 2. They are one of the types of local institution which has been allowed to grow in China.
- 3. Temple building activities are largely spontaneous endeavors undertaken by local communities.
- 4. Buddhist temples develop a high spatial dependency on socio-economical and geographical factors in local and regional levels. Thus, temple-building activities can be treated as an index to social and cultural development.
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- 5. Bias in our data are affected by unknown factors which are randomly distributed. Therefore, the result of statistic computation may approximate the actual situation.
- 6. Contemporary Buddhist monasteries are rebuilt on the original sites and preserve the continuity with the past.

# Research Methods

- **Regional Systems Analysis (RSA)**
- **Hierarchical Regional Space (HRC)**
- **Density Map**

# Data Sources

- 1. Tang and Five Dynasty Data of Buddhist monasteries from BGIS version 1.0
- 2. Qing Dynasty data of Buddhist monasteries from CHGIS
- 3. Contemporary data of Buddhist Monastery from BGIS version 1.0

# Working Definition of Regional Religious System (RRS)

- Regional Religious System is a type of spatial formation in which a group of related or unrelated religious institutions are conditioned by regional geographical or socio-economic systems such as Skinner's Macroregions and are highly dependent on regionally and locally distributed variables such as economy, education, culture, and ethnicity, etc.
- A Regional Religious System can be constructed by considering a variety of factors. Core and periphery areas of each subregion will be defined based on the identified hot spots and sites density with modification based on relevant historical textual descriptions.



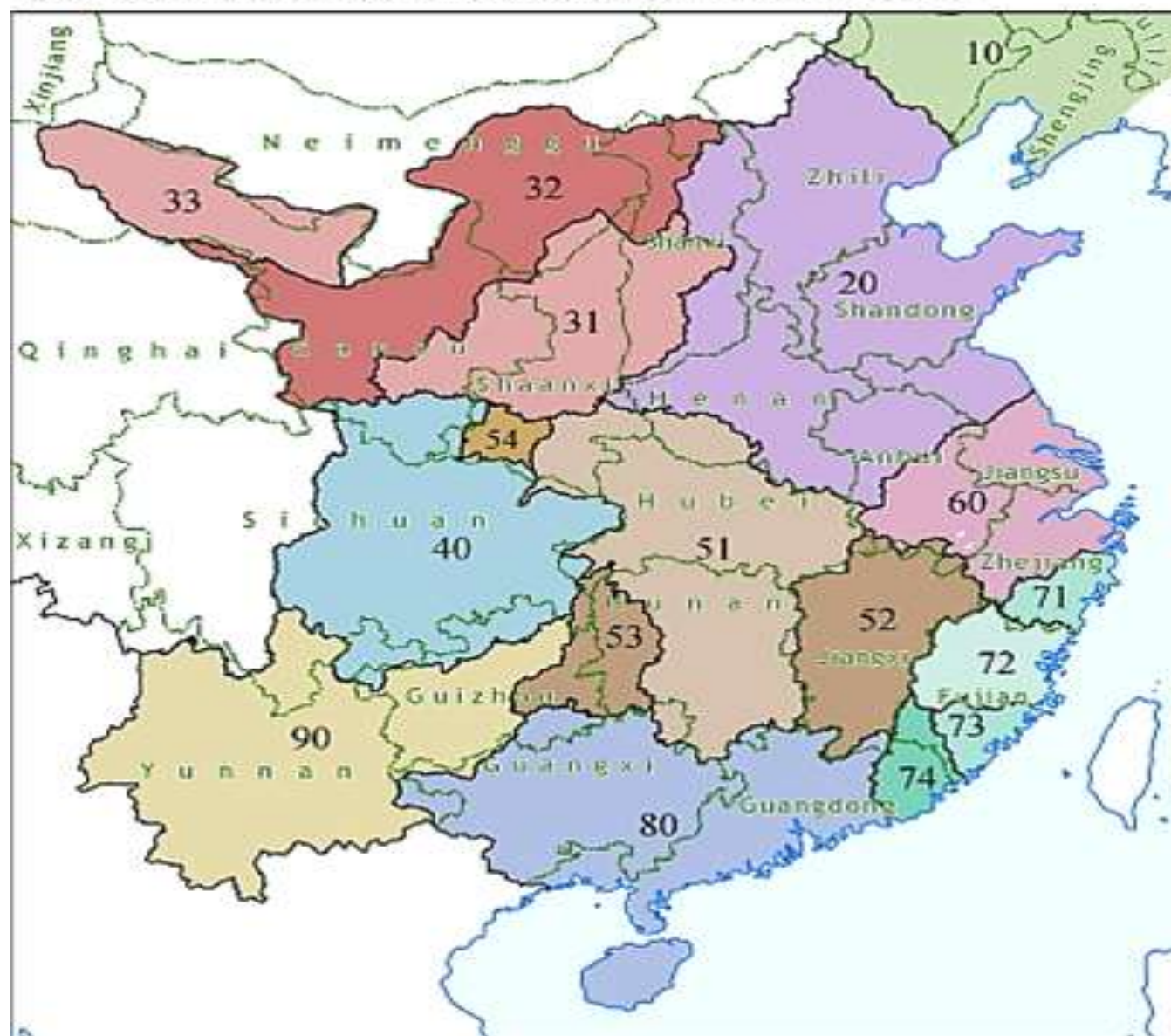
# Factors to be Considered

- 1. Social-economical regions such as Macroregion, natural boundaries such as river basin and mountain ranges.
- 2. Hierarchical Space and core-periphery relationship
- 3. Distribution density of religious institutions
- 4. Intensity of religious activities such as size of the institutions, number of clergy and lay supporters, creation of Buddhist canons, etc.
- 5. Boundary of regional regimes in history
- 6. Spread of certain sects or lineages in local areas
- 7. Ethnicity

# Factor 1: Macroregions

- Skinner hypothesized that in China there are nine physiographic Macroregions
- These Macroregions formed around major river drainage systems that are structured economically, politically, and socially by multiple levels of hierarchies of cities, townships, rural market places, and surrounding villages.
- A regional system is composed of subregions and localities which are economically based, socially self-sufficient, and largely linguistically/culturally homogenous units.
- (Skinner 1977, Skinner and Henderson 1999).

# Physiographic Macroregions relative to the Provinces of China, 1820



Physiographic Macroregions and Subsystems  
Provincial Boundaries

G. William Skinner and Mark Henderson  
University of California, Davis, January 2007  
Basemap from the China Historical GIS Project

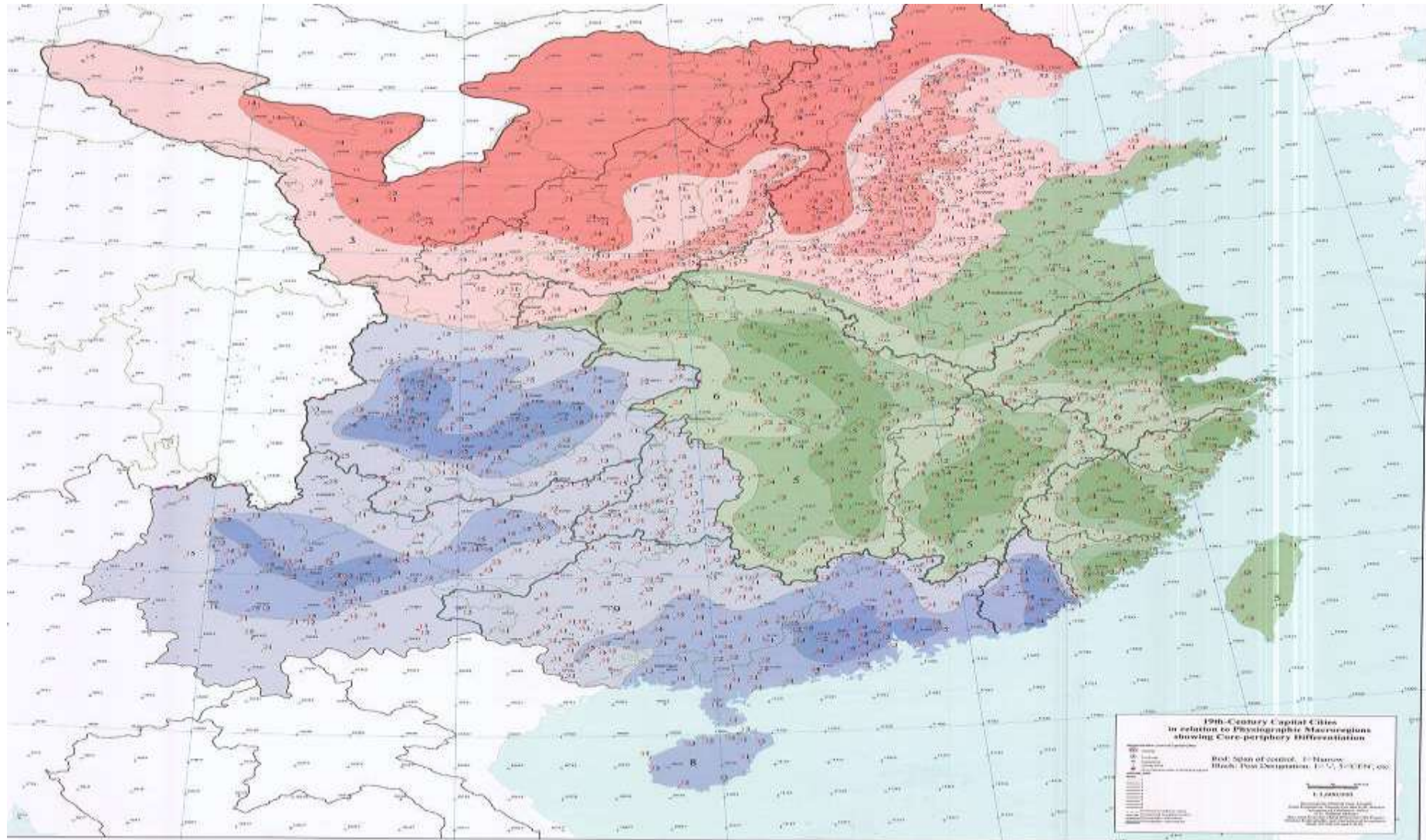
10	Northeast China (Manchuria)	东北区
20	North China	华北区
3	Northwest China	西北区
	31 Wei-Fen Basins	渭汾流域分区
	32 Upper Huang Basin	黄河上游分区
	33 Gansu Corridor	河西(甘肃)走廊分区
40	Upper Yangzi	长江上游区
5	Middle Yangzi	长江中游区
	51 Middle Yangzi proper	长江中游分区
	52 Gan Basin	赣江流域分区
	53 Yuan Basin	沅江流域分区
	54 Upper Han Basin	汉江上游分区
60	Lower Yangzi	长江下游区
7	Southeast Coast	东南沿海区
	71 Ou-Ling Basins	瓯灵流域分区
	72 Min Basin	闽江流域分区
	73 Zhang-Quan	漳泉分区
	74 Han Basin	韩江流域分区
	75 Taiwan	台湾分区
80	Lingnan	岭南区
90	Yungui	云贵区

## Factor 2: Hierarchical Regional Space and Core-Periphery relationships

- Within these Macroregions, the core-periphery relationship can be seen clearly.
- Within each regional system, Hierarchical Regional Space and Core-Periphery relationships affect the distribution of religious sites.
- Religious sites historically clustered in one area which formed the core, while in peripheral areas religious sites were scarce.



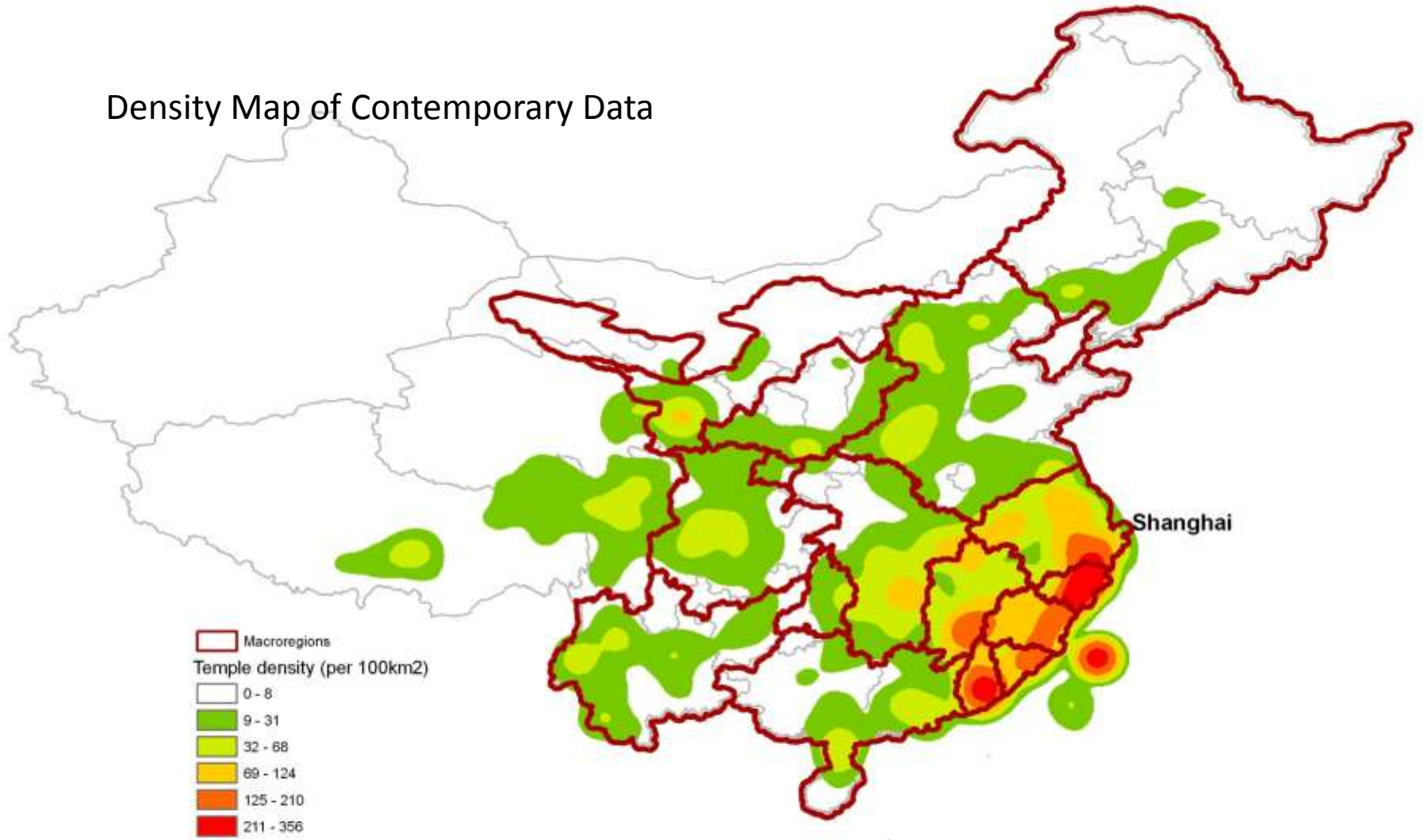
# Skinner Map: 19<sup>th</sup> century city capitals showing Core-periphery Hierarchy



# Factor 3: Distribution Density

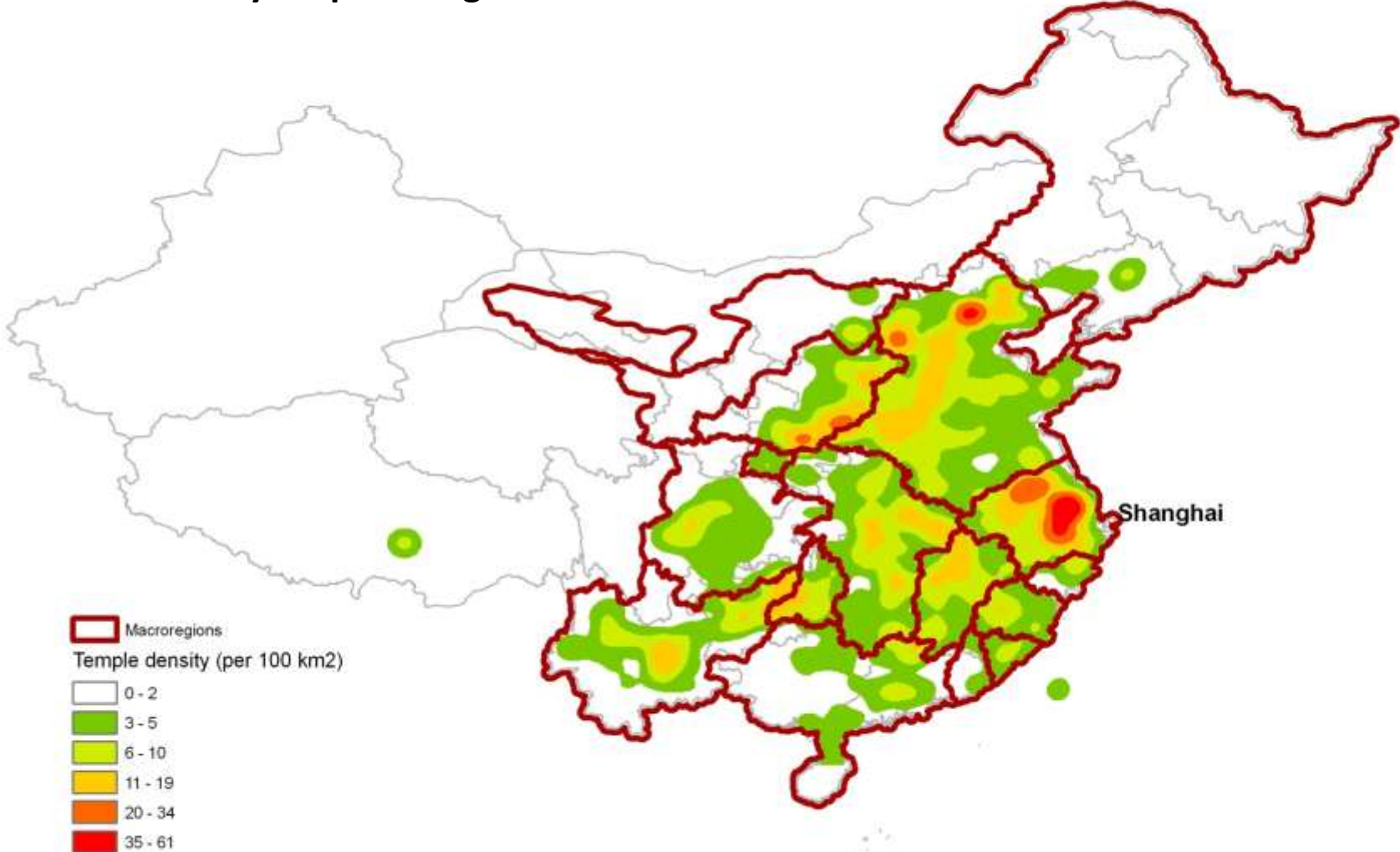
- Projected density map can be used for identifying clustering and core places.
- Density map locates the concentration of religious sites and shows a natural boundary which can be used as basis for comparison and further development.
- The order of the following three density maps: contemporary, Qing, and Tang.

# Density Map of Contemporary Data

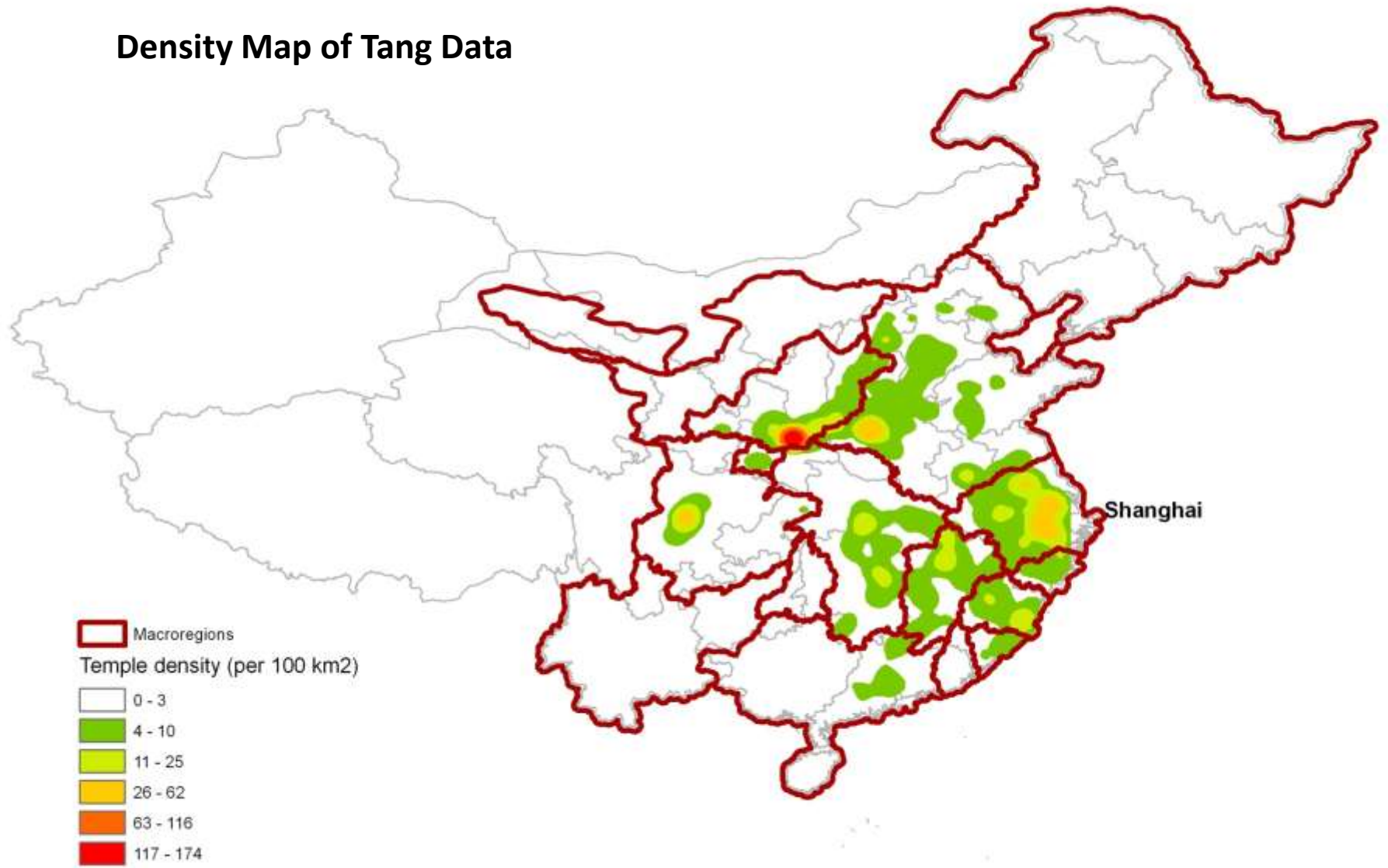




# Density Map of Qing Data



# Density Map of Tang Data



# Factor 4: Intensity of religious activities

- Intensity of religious activities in a given region can be measured by direct indicators such as the size of the institutions, land property, amount of donation, number of clergy and lay supporters, or indirect indicators such as the creation of Buddhist canons, popular support of religious ceremonies and events.
- Measured intensity indicators can be weighted and considered into computation.

# Factor 5: Regional Regimes in History

- Boundaries of regional regimes in Chinese history were not randomly drawn and only marked by geographic natural barriers and strategic garrisons.
- Religious policies carried out by one regional regimes often had long-term effects in a given region.





图例 Legend

- 东京 都城 Capital city
- 宣统府 府、州、厅驻地 Seat of Fu-mi Zou-level administration area
- 大城 其他居民点 Other inhabited locality
- 边界 政区界线 Boundary of a regime or a state
- 国界 今国界 Contemporary international boundary
- 北京 今首都 Contemporary national capital
- 上海 今直辖市、省、自治区 Seat of contemporary province-level administration area
- 州府 今市人民政府驻地 Seat of a contemporary city
- 州府 今其他居民点 Other contemporary inhabited locality





### 宋金时期全图

此为宋金时期全图，宋政权退居长江淮河一线，与金划江而治。而在北方的金国则处于全盛时期。

蒙古和青藏高原上此时还没有形成强大的政权，退居西域的辽残余势力建立了西辽政权。而西夏和大理的版图没有太大的变化。

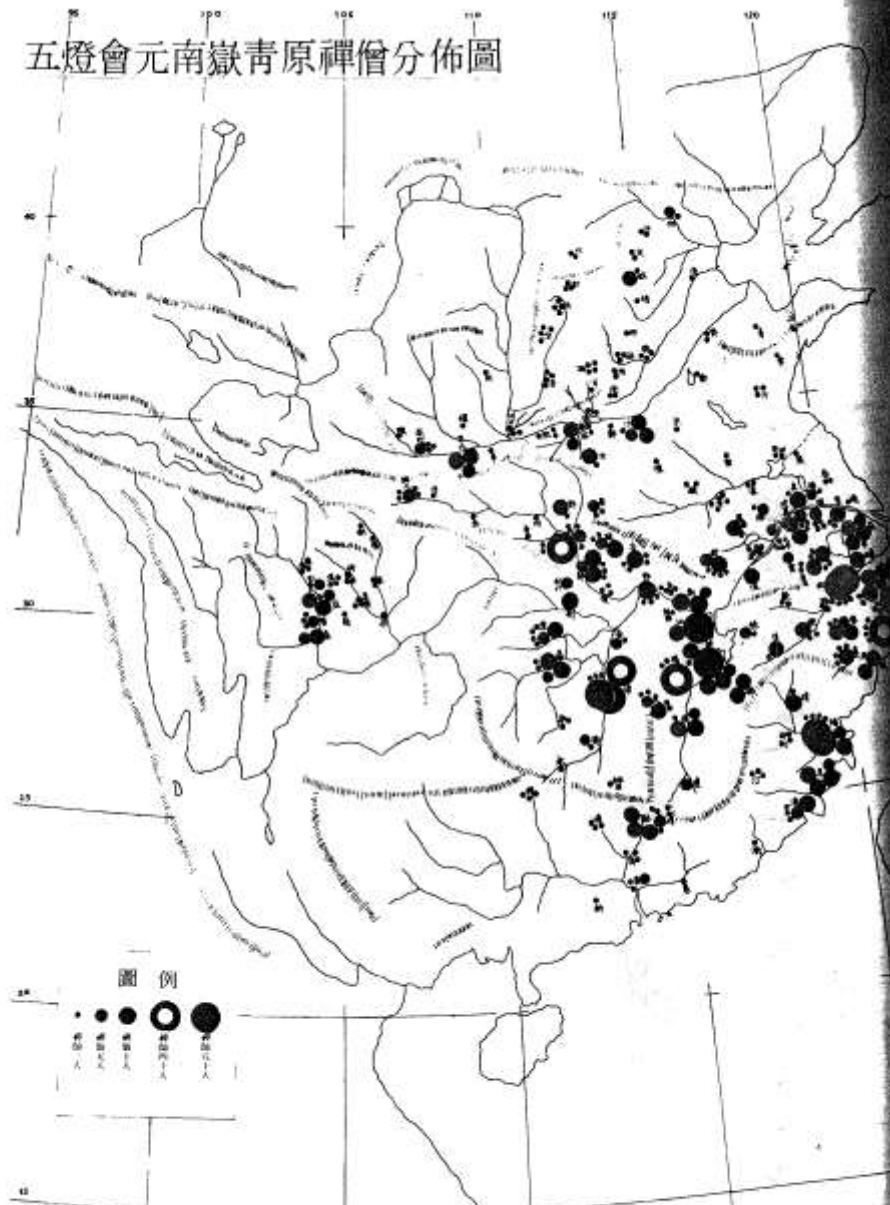


<http://www.tqz.com>

# Factor 6: Sectarian activities

- Sectarian activities have regional features.
- Examples: Chan Buddhism, Lou Teaching 罗教, White Lotus movement 白莲教, White Cloud Sect 白云宗, modern sectarian and secret societies (huidaomen 会道门), Tulku (huofo 活佛) lineages in Tibetan Buddhism, and Sufi orders (menhua 门宦) in Islam
- The geographical regions of their activities can suggest the boundary of a regional or subregional religious system.

五燈會元南嶽青原禪僧分佈圖



Distribution of Qingyuan's Chan Lineage



燈曾元南嶽禪僧分佈圖



Distribution of Nanyue's Chan Lineage

五燈會元青禪僧分佈圖

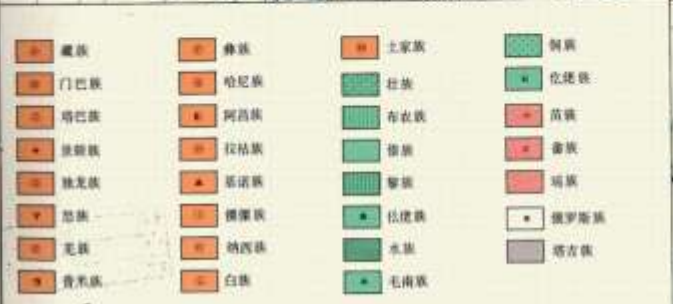


Distribution of Chan Lineage (Wudeng huiyuan)

# 7. Ethnicity

- Multi-ethnic nature of Chinese civilization
- Ethnic regions form unique religious systems even under a centralized government.
- Two major religious systems based on ethnicity: Tibetan/Mongolian, and Islam.
- Pockets and enclaves of ethnic religions exist in each region.

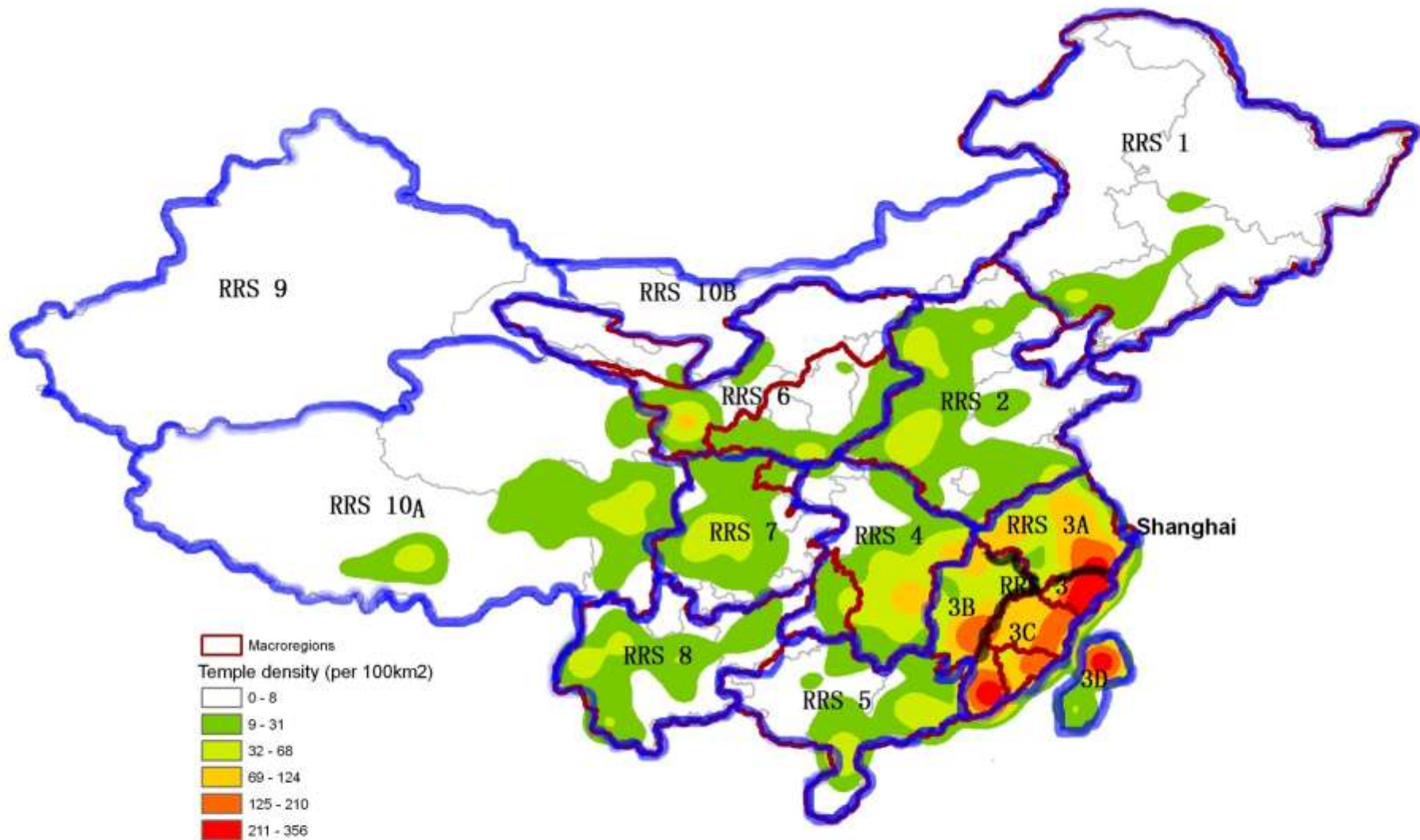
# 中国少数民族分布图



# Ten Regional Religious Systems

- RRS 1. Northeast: Macroregion 1
- RRS 2. North China: Macroregion 2
- RRS 3. South China (Jiangnan):
  - Subregion 3A: Lower Yangzi, Macroregion 6,
  - Subregion 3B: Gan Basin, Macroregion 5.2
  - Subregion 3C: Southeast coast, Macroregion 7.1, 7.2, 7.3 , 7.4
  - Subregion 3D: Taiwan, Macroregion 7.5
- RRS 4. Middle Yangzi: Macroregion 5.1, 5.3, 5.4.
- RRS 5. Lingnan: Macroregion 8
- RRS 6. Northwest: Macroregion 3
- RRS 7. Upper Yangzi: Macroregion 4
- RRS 8. Yunnan and Guizhou: Macroregion 9
- RRS 9. Islamic area: Xinjiang
- RRS 10. Tibet Buddhist region: A. Tibet, Qinghai, West Sichuan, B. Inner Mongolia.



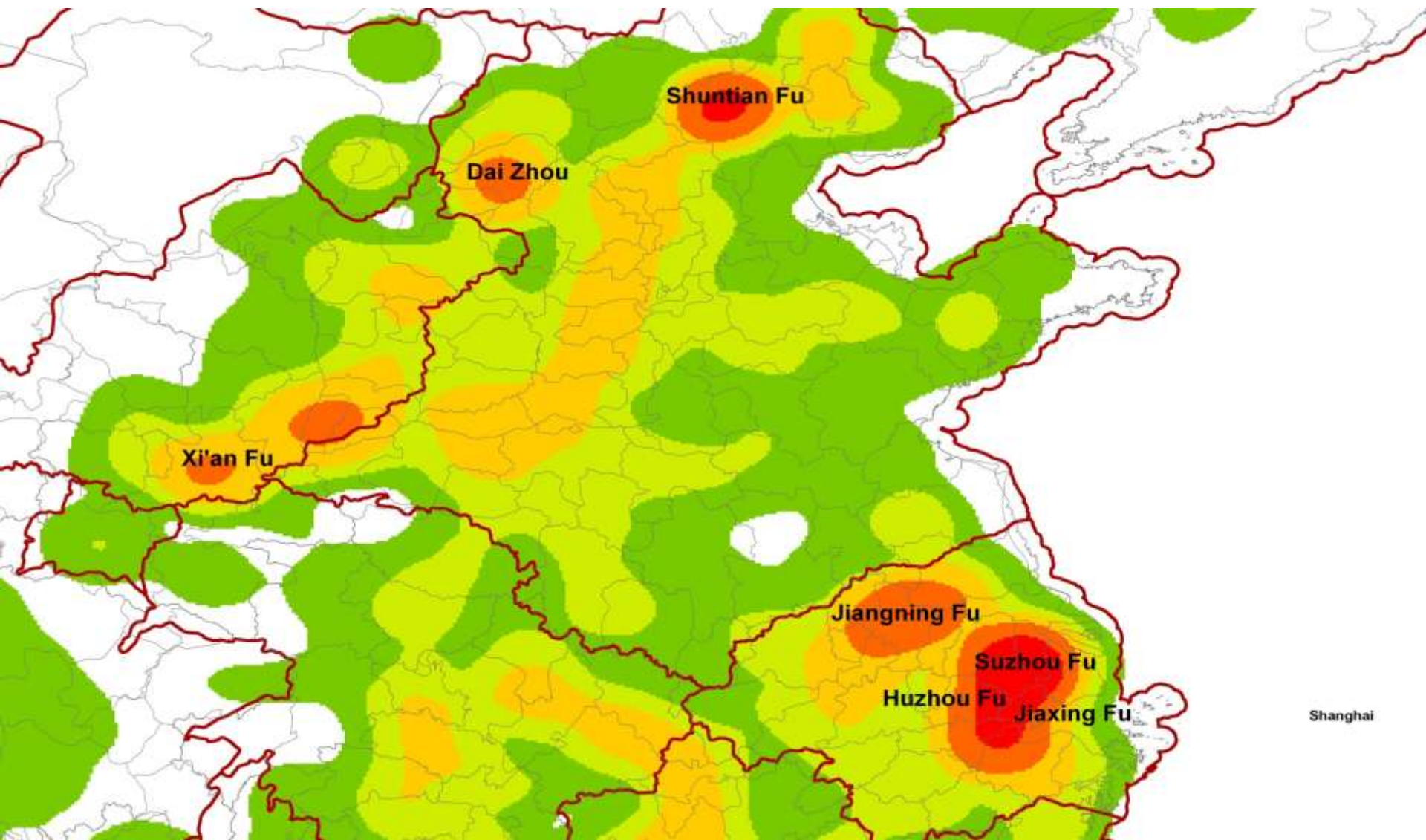


**Regional Religious Systems in China based on Macroregions**

# Example 1: RSS 2 North China

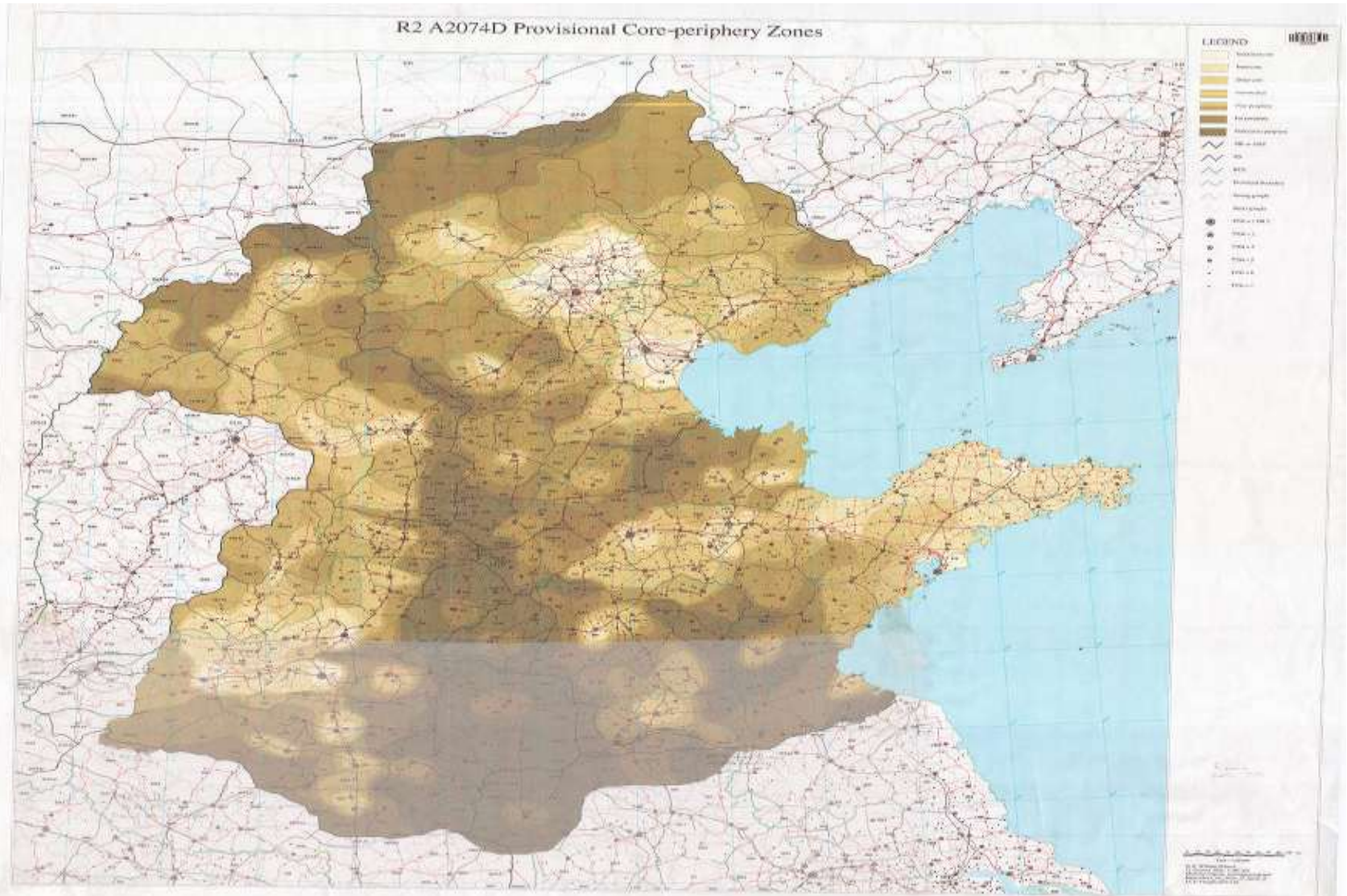
- 1. Macroregion 2
- 2. Core-periphery: Beijing, Wutaishan, Luoyang, Grand Canal
- 3. Density: medium and low of Buddhist monasteries, high of popular religions and secret societies
- 4. Intensity: medium to low of Buddhism, high for popular religion and secret society, Buddhist canons: Zhaocheng Canon (Southern Shanxi), Khitan Canon, Hongfa Canon, Yuan Canon, Ming Northern Canon, Qing Dragon Canon (Beijing).
- 5. Regional Regimes: Bei Wei, Liao, Jin, Later Han and Jin
- 6. Sectarian activities: secret societies, Ritual opera and troupe
- 7. Ethnicity: Han Chinese

# North China based on Qing Data





# Compare Skinner Map: Core-Periphery in North China



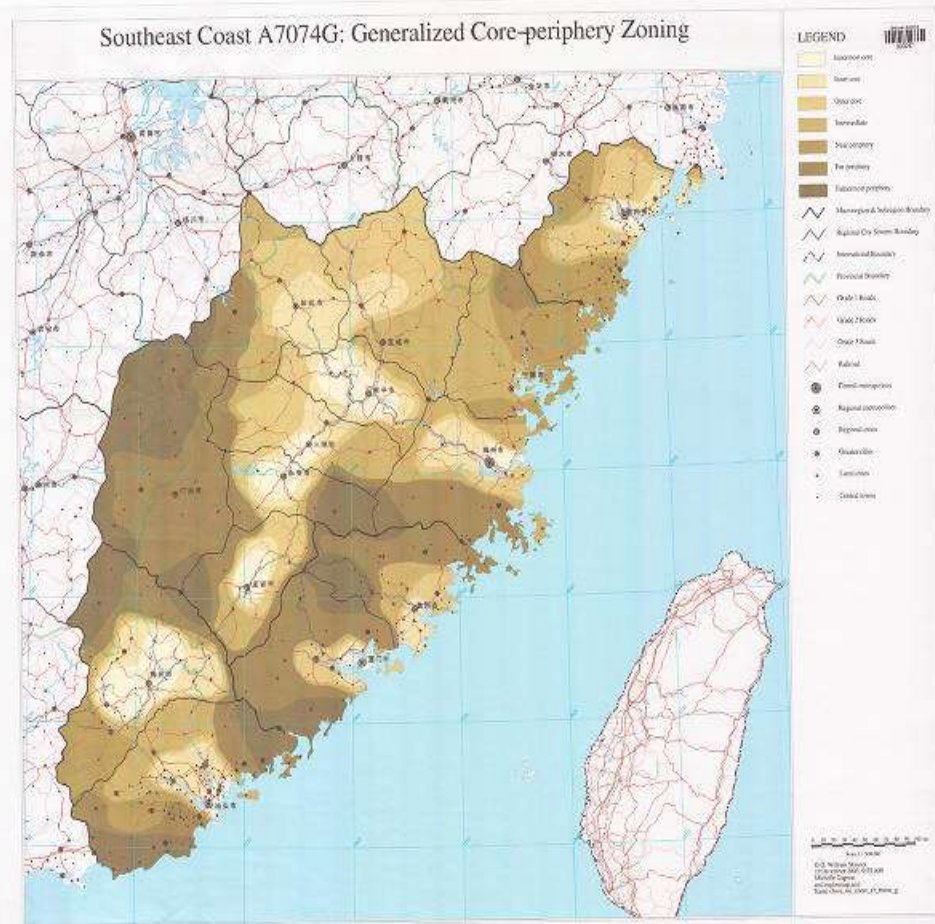
# Example 2: South China

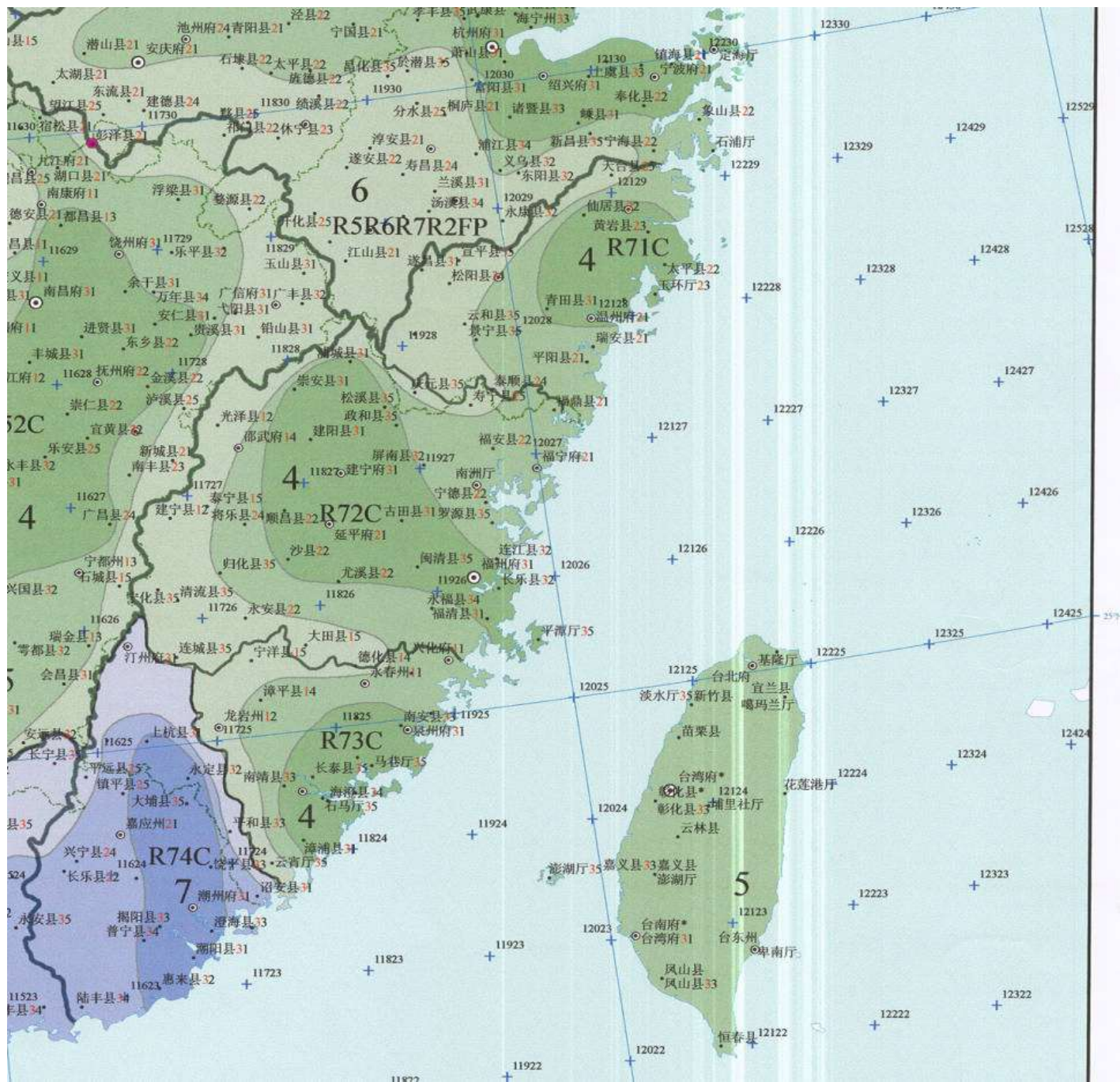
1. Subregion 3A: Lower Yangzi, Macroregion 6,
  - Subregion 3B: Gan Basin, Macroregion 5.2
  - Subregion 3C: Southeast coast, Macroregion 7.1, 7.2, 7.3 , 7.4
  - Subregion 3D: Taiwan, Macroregion 7.5
- 2. Core-periphery: Suzhou-Hangzhou clustering, Fuzhou-Quanzhou-Xiamen clustering, Taiwan clustering
- 3. Density: Buddhism: very High
- 4. Intensity: Buddhism: very high, Chan Buddhism, Buddhist canons: Chongning Canon, Pilu Canon, Sixi Canon, Puning Canon, Ming Hongwu Canon, Ming Southern Canon, Jiaxing Canon, CBETA,
- 5. Regional Regime: Wu Kingdom, Wuyue, Min, Southern Tang, Southern Song, ROC
- 6. Sectarian activities: Chan lineages and others
- 7. Ethnicity: Han Chinese (Nanren 南人 or Manzi 蛮子)





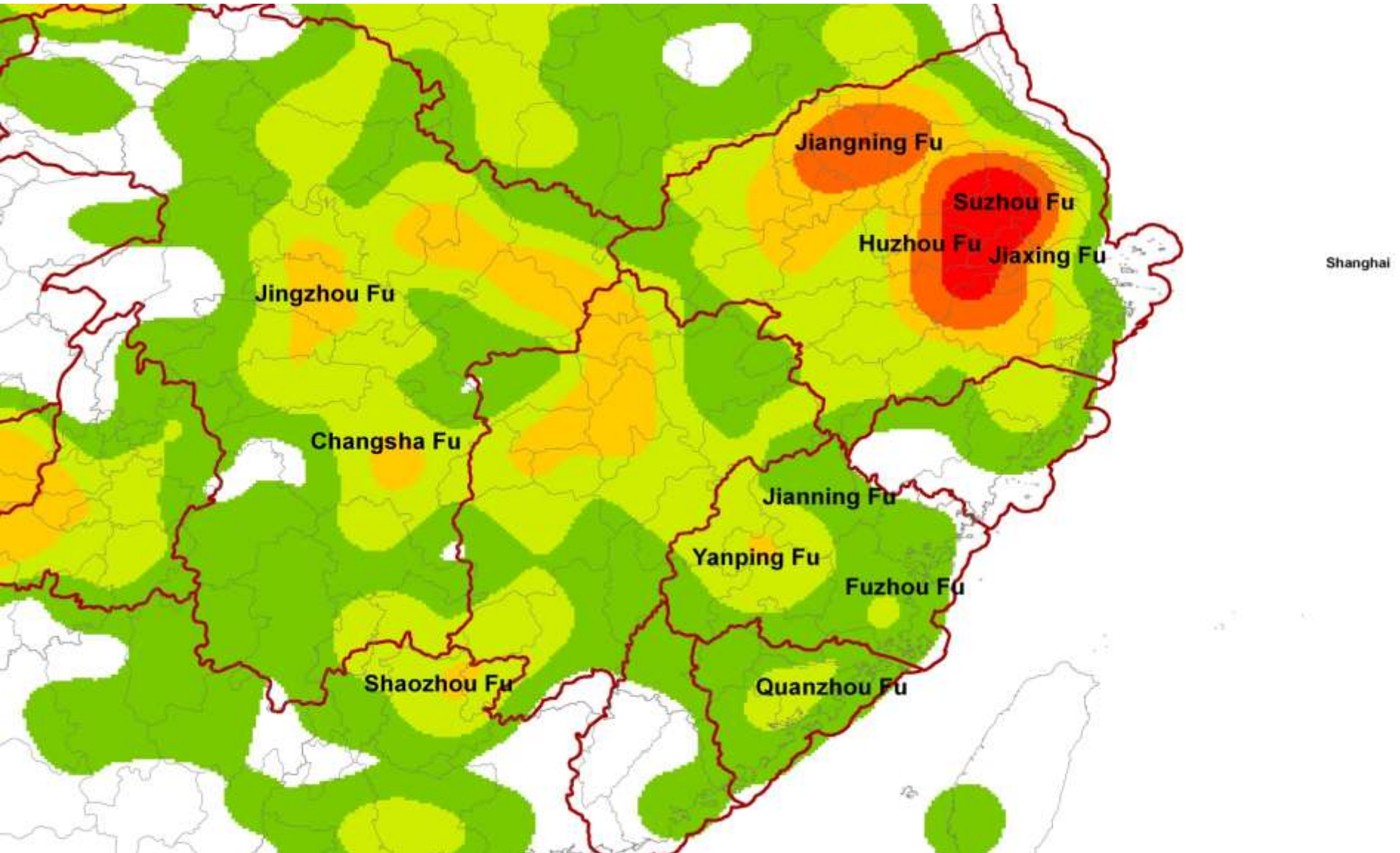
# Compare Skinner Map: Core-periphery in SE coast







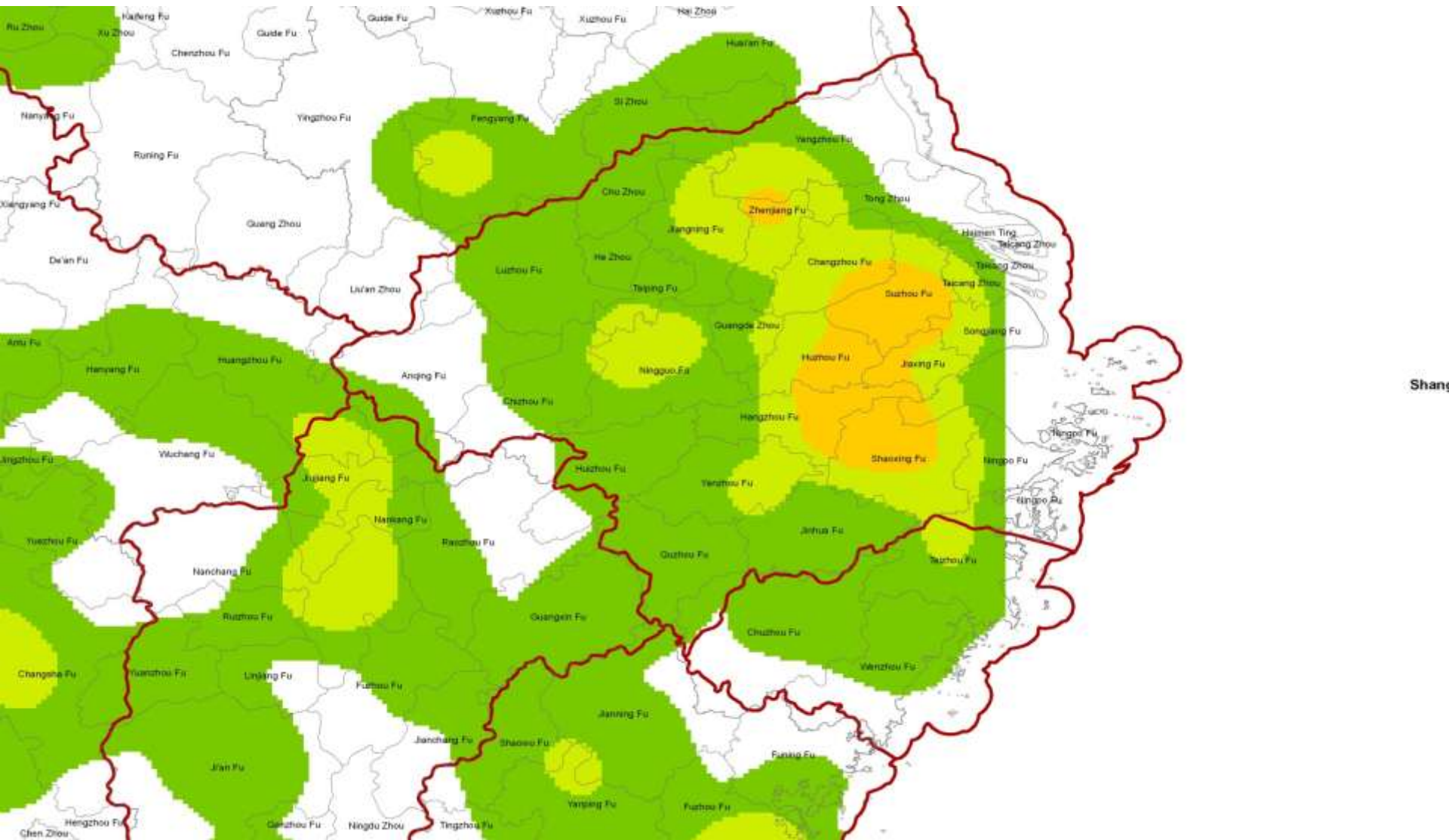
# Jiangnan region from Qing Data







# Yangtze Delta Region from Tang Data





# Future Works

- Break down our data according to RRS and study each RRS individually
- Identify the boundary with more accuracy with consideration of various factors mentioned in this presentation
- Explore other spatial analysis methods such as point analysis
- Review Skinner's theory and data and compare with our results
- Establish a Spatial Religion Research Lab at the University of Arizona (with the help of China Data Center)