

Mapping Religious Cyberscapes:

Google and User Generated Religion

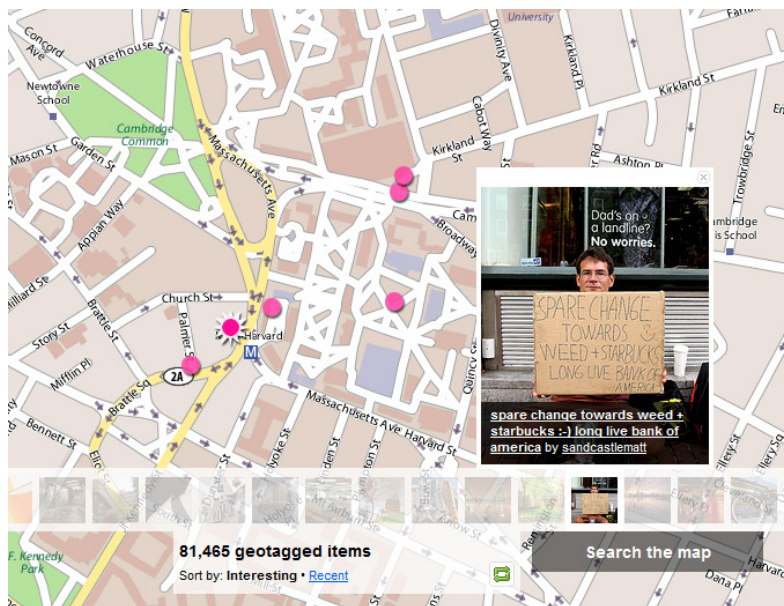
Dr. Matthew Zook

Department of Geography

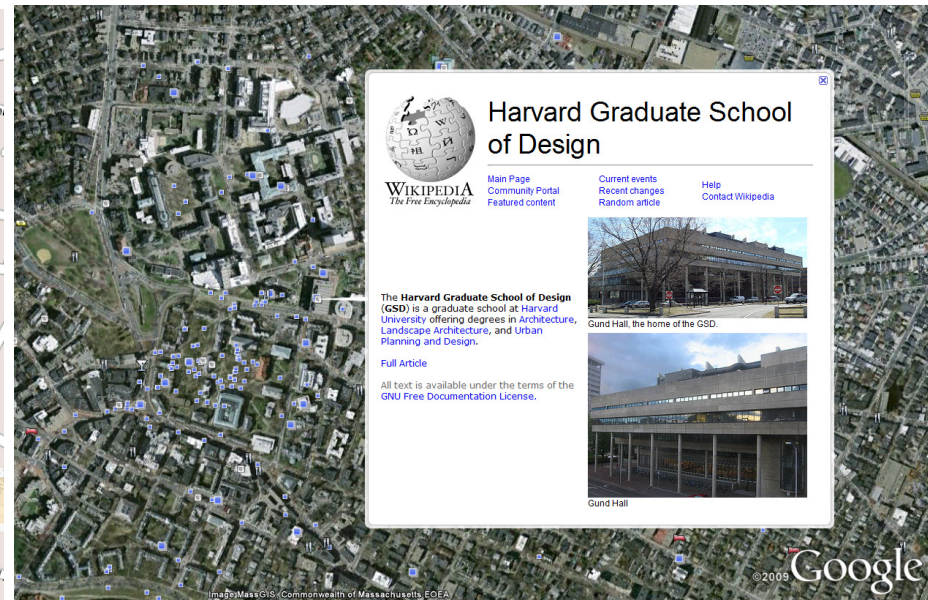
University of Kentucky

New Technologies and
Interdisciplinary Research on Religion,
Harvard University March 12-13, 2010

There is an increasing amount of data in cyberspace that is geo-coded to a particular spot on the earth. Much of this data is user generated rather than “official” directories, (e.g., Flickr photos, Twitter Tweets, Wikipedia entries, Google Map placemarks).



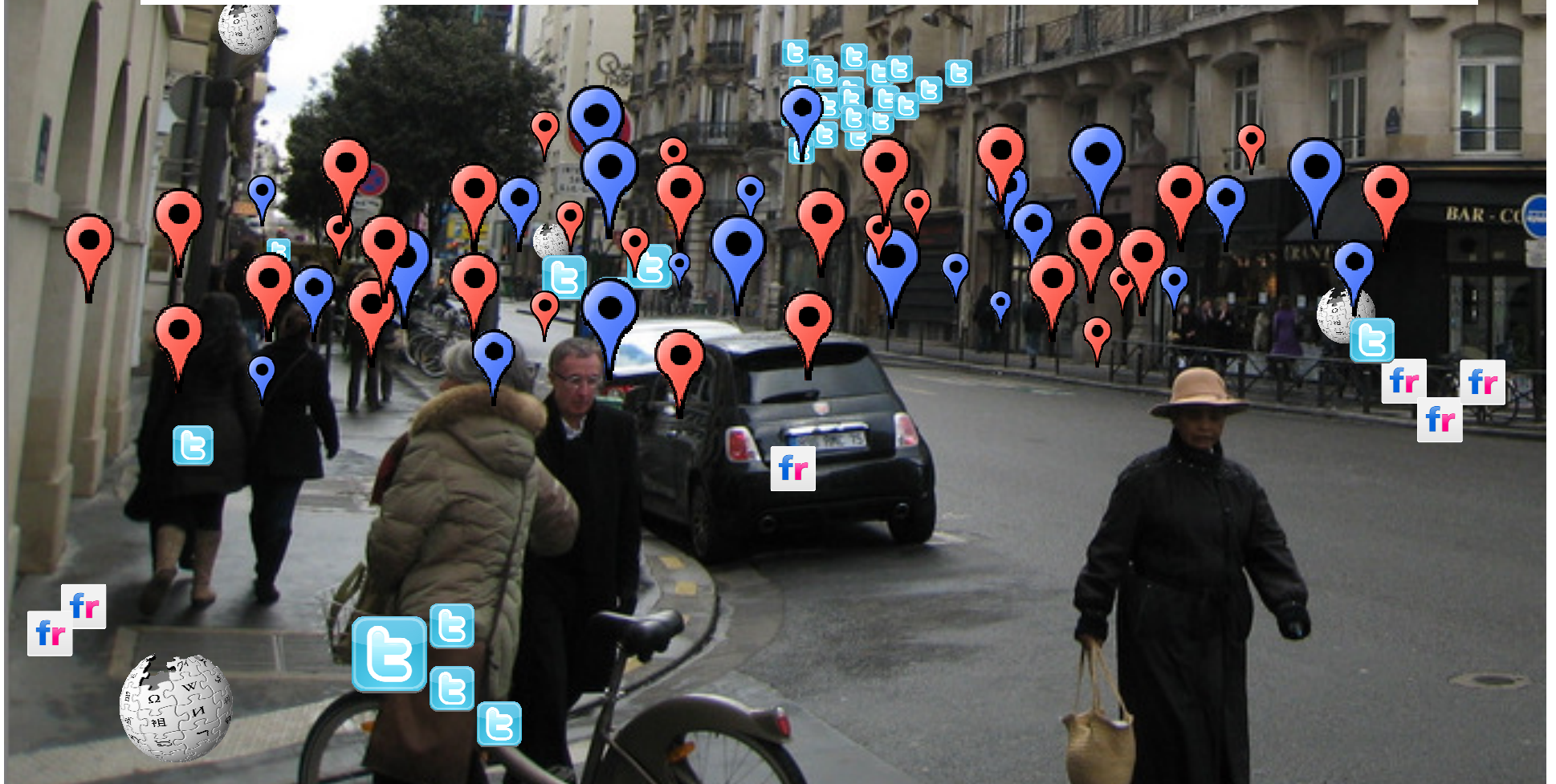
FLICKR PHOTO



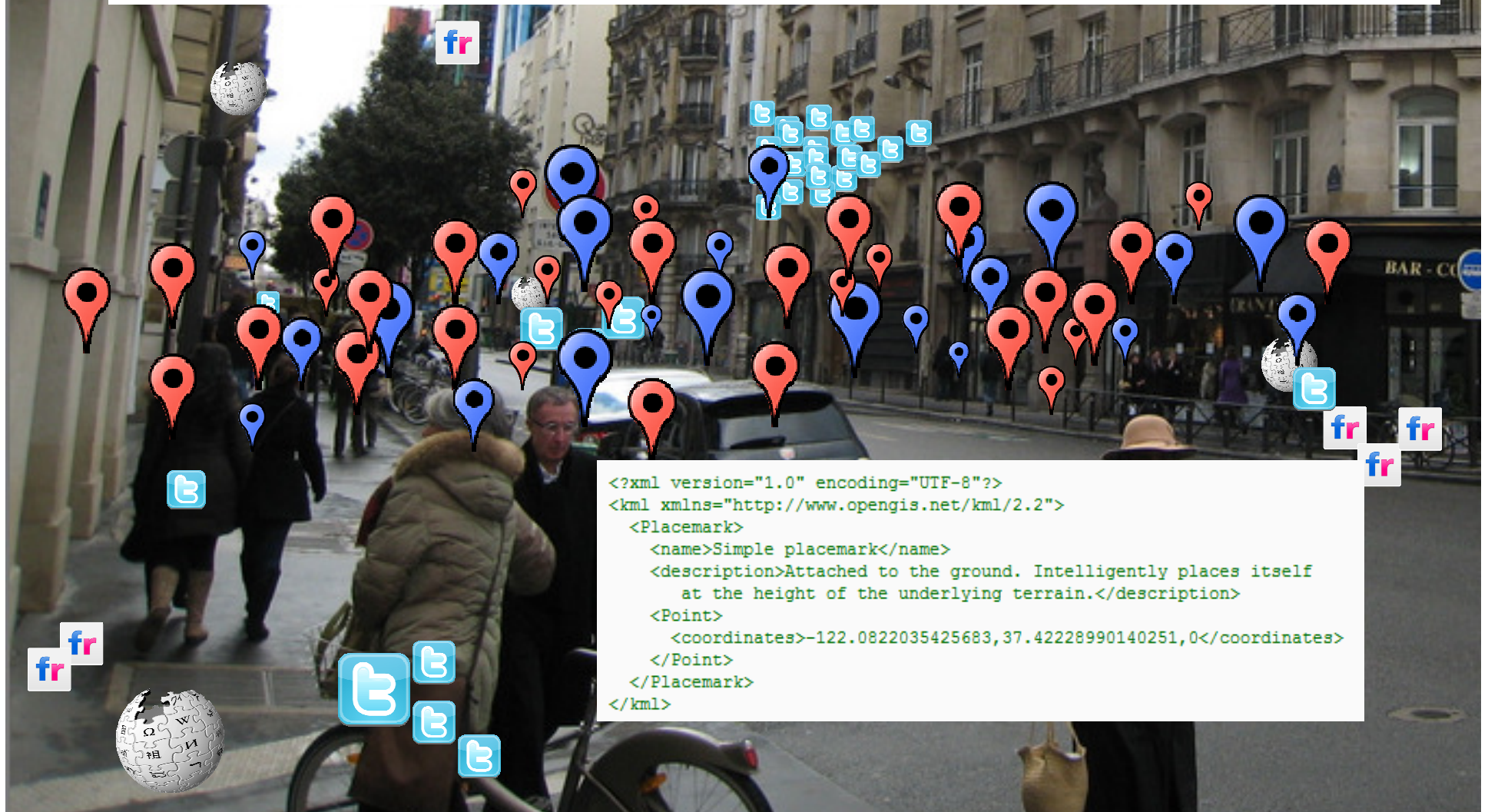
WIKIPEDIA ENTRY

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These collections of place referenced data, *i.e.* (**cyberscapes**), are the online extension of the socially constructed human landscape. Hybrid spaces which blur the lines between material place and digital representations of place.



In order to function, this digital layer of human experience must be coded in specific ways, *e.g.*, kml code. The rules of this coding allows researchers to gather and analyze human cyberscapes.



```
<?xml version="1.0" encoding="UTF-8"?>
<kml xmlns="http://www.opengis.net/kml/2.2">
  <Placemark>
    <name>Simple placemark</name>
    <description>Attached to the ground. Intelligently places itself
      at the height of the underlying terrain.</description>
    <Point>
      <coordinates>-122.0822035425683,37.42228990140251,0</coordinates>
    </Point>
  </Placemark>
</kml>
```


Goals

The goal of this project is to map and analyze user generated information about places.

Specific questions include:

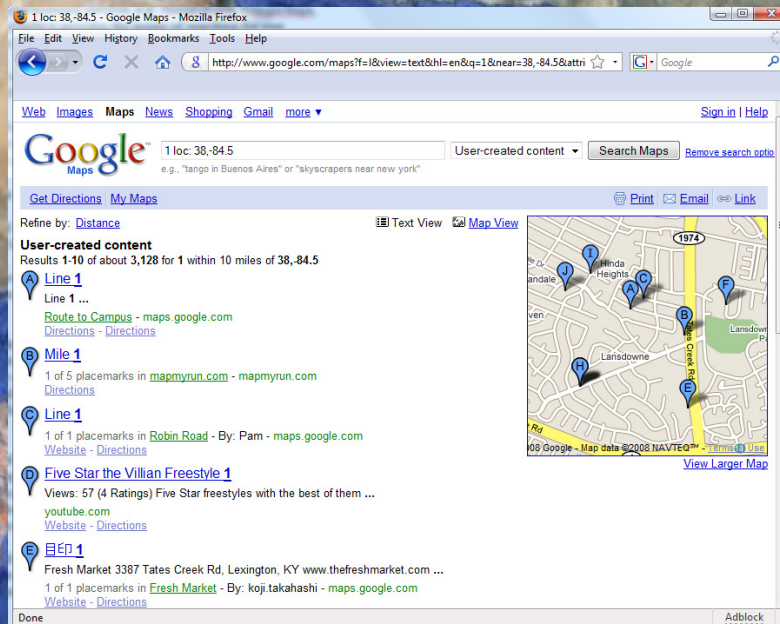
How do cyberscapes differ between and within places?

What types of human activity is represented in cyberscapes?

How do these cyberscapes relate (or differ) from the places they reference?

Can this approach allow us to ask and answer new types of questions about the spatial organization of society?

Method



Based on a specially written software program (designed for this project).

Worldwide searches for user generated Google Maps placemarks containing specific keywords.

Recorded the number of results generated for each search.

Finding Religion

- In addition to an array of keywords (ranging from “malaria” to “marijuana” to “Manchester United”) a range of religious terms were also searched.
 - **Proof of concept:** Allah, Buddha, Hindu and Jesus
 - **Major world religions**
 - **Christian/Islamic sub-groups**
- Analyzed a range of scales from the global to the regional to the metro level.

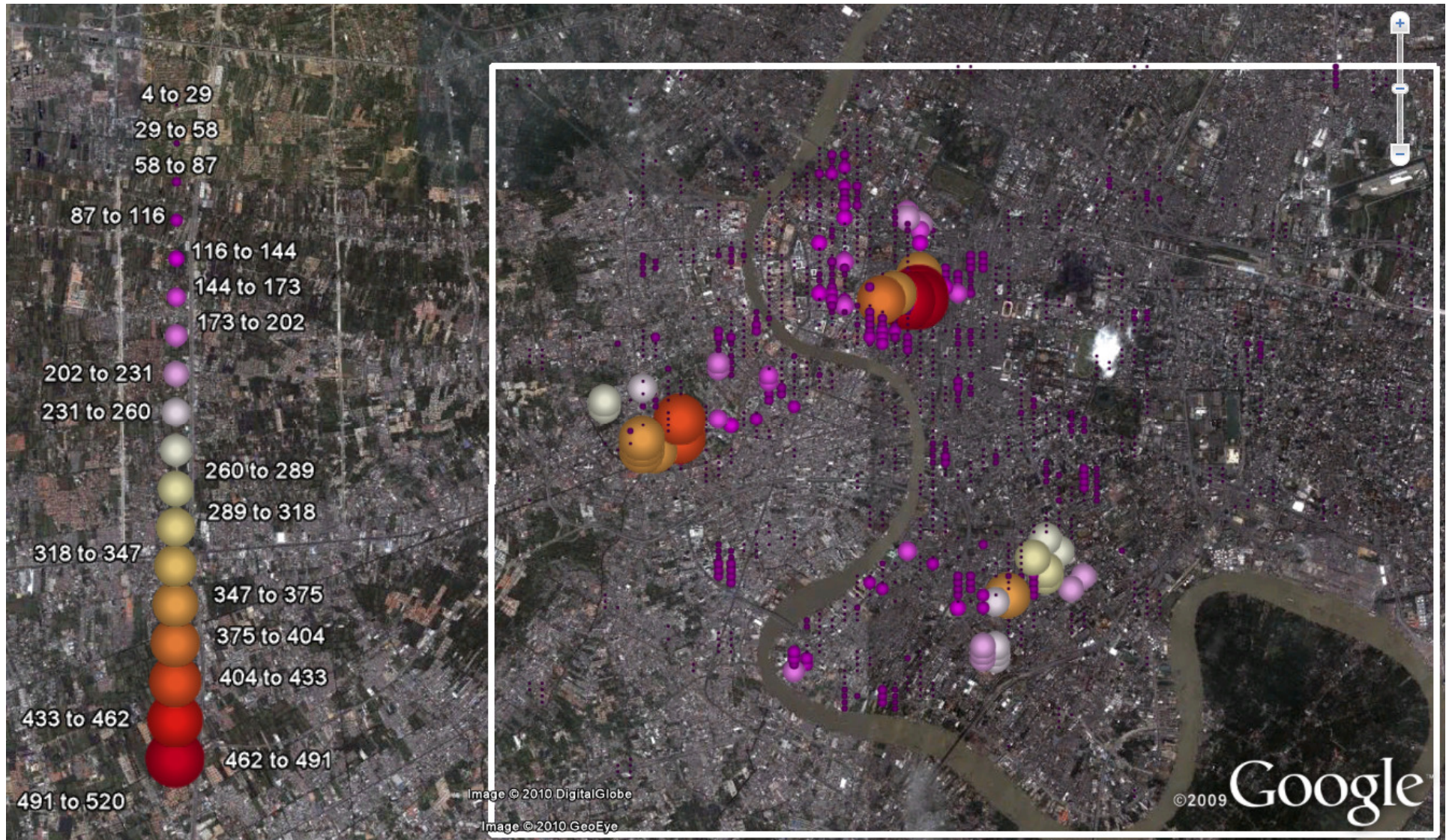
Known Methodological Issues

- Results depend on which keywords are used.
- Most of our keywords are in English.

Bangkok: User generated placemarks referencing “Temple”



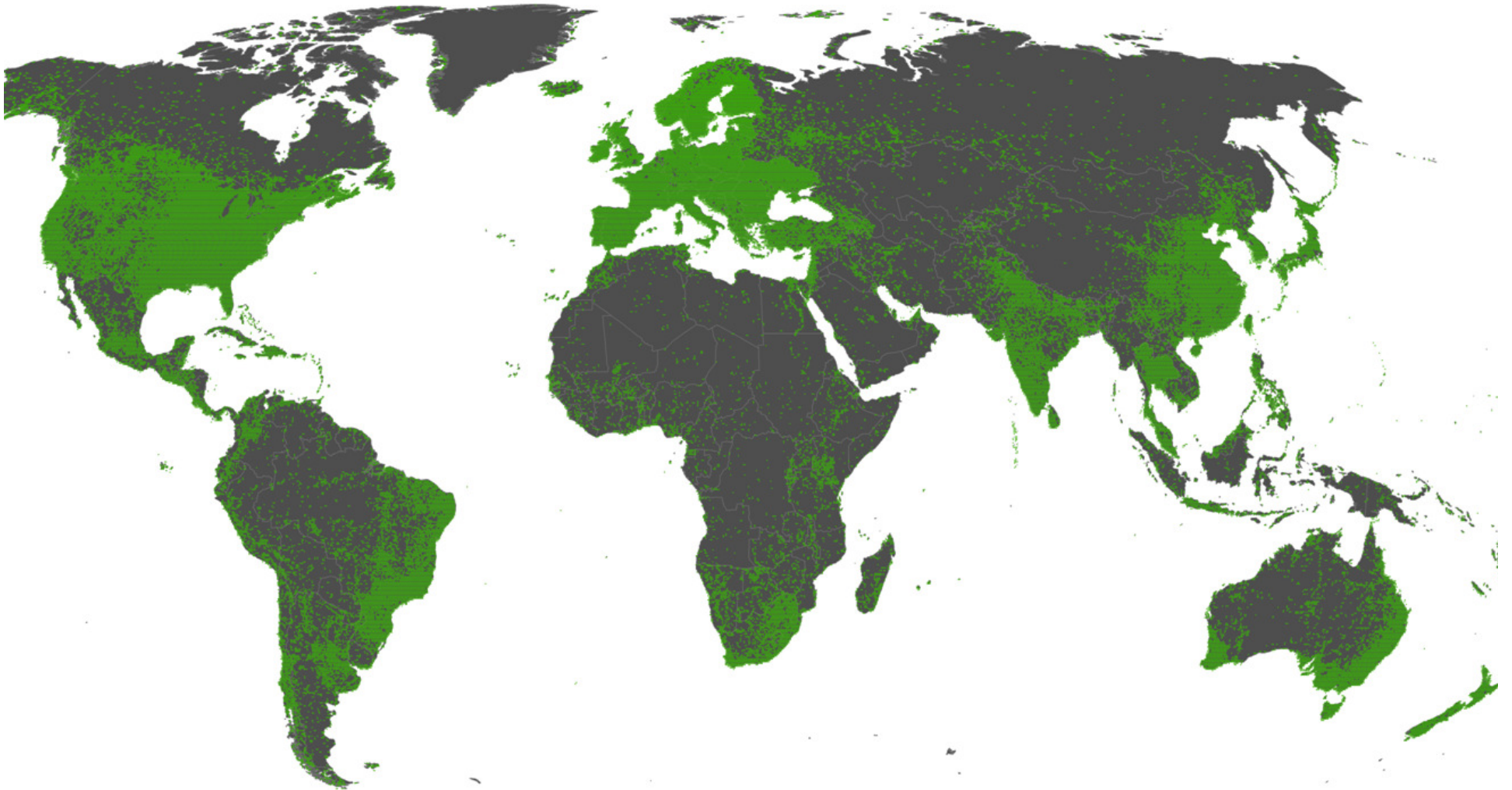
Bangkok: User generated placemarks referencing “วัด”



Known Methodological Issues

- Results depend on which keywords are used.
- Most of our keywords are in English.
- Economic and technological development greatly influences the robustness of cyberscapes.
 - Blank spots on the map do NOT mean no religion but often indicates the lack of user generated placemarks.

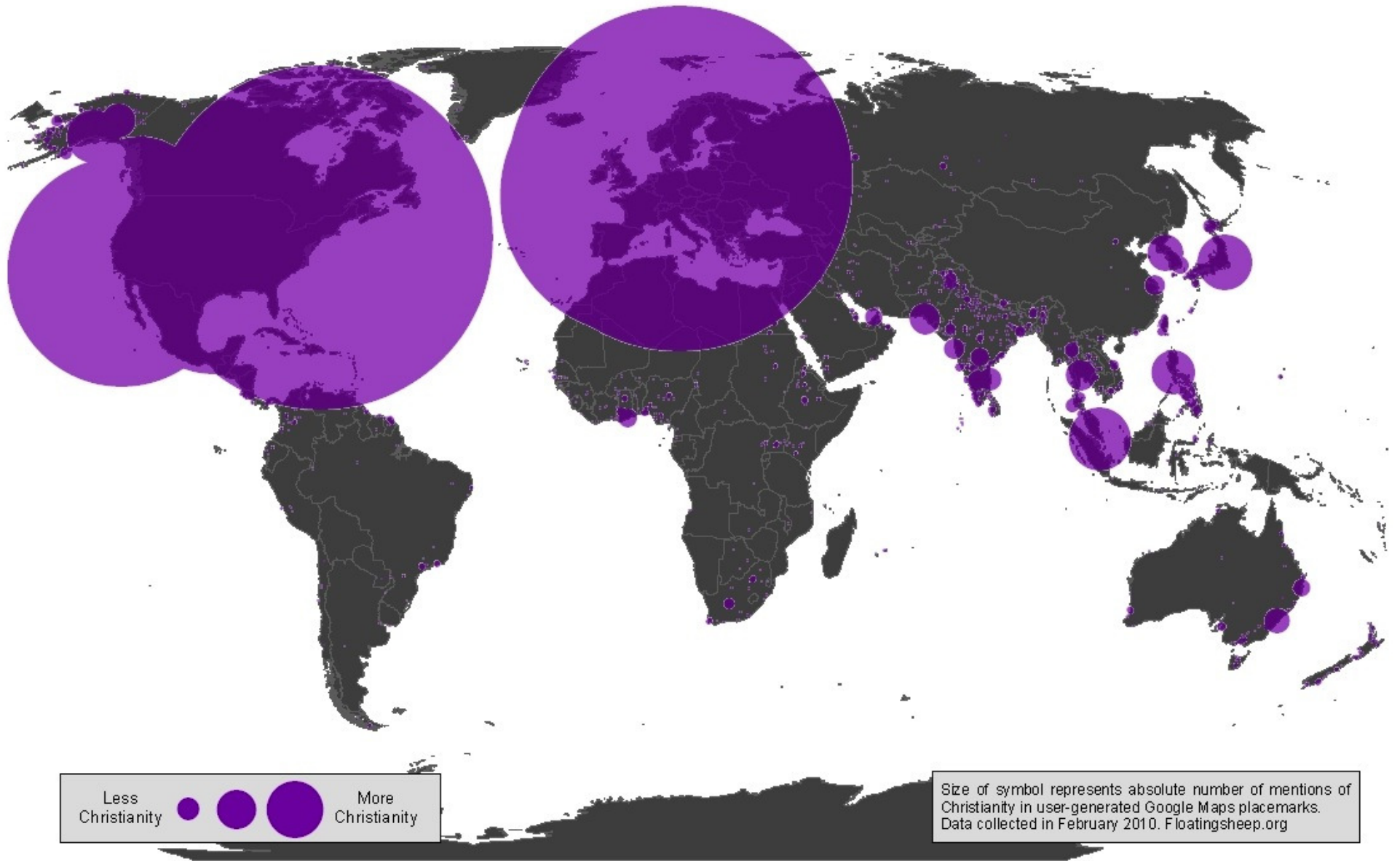
Density of User Generated Placemarks, February 2010



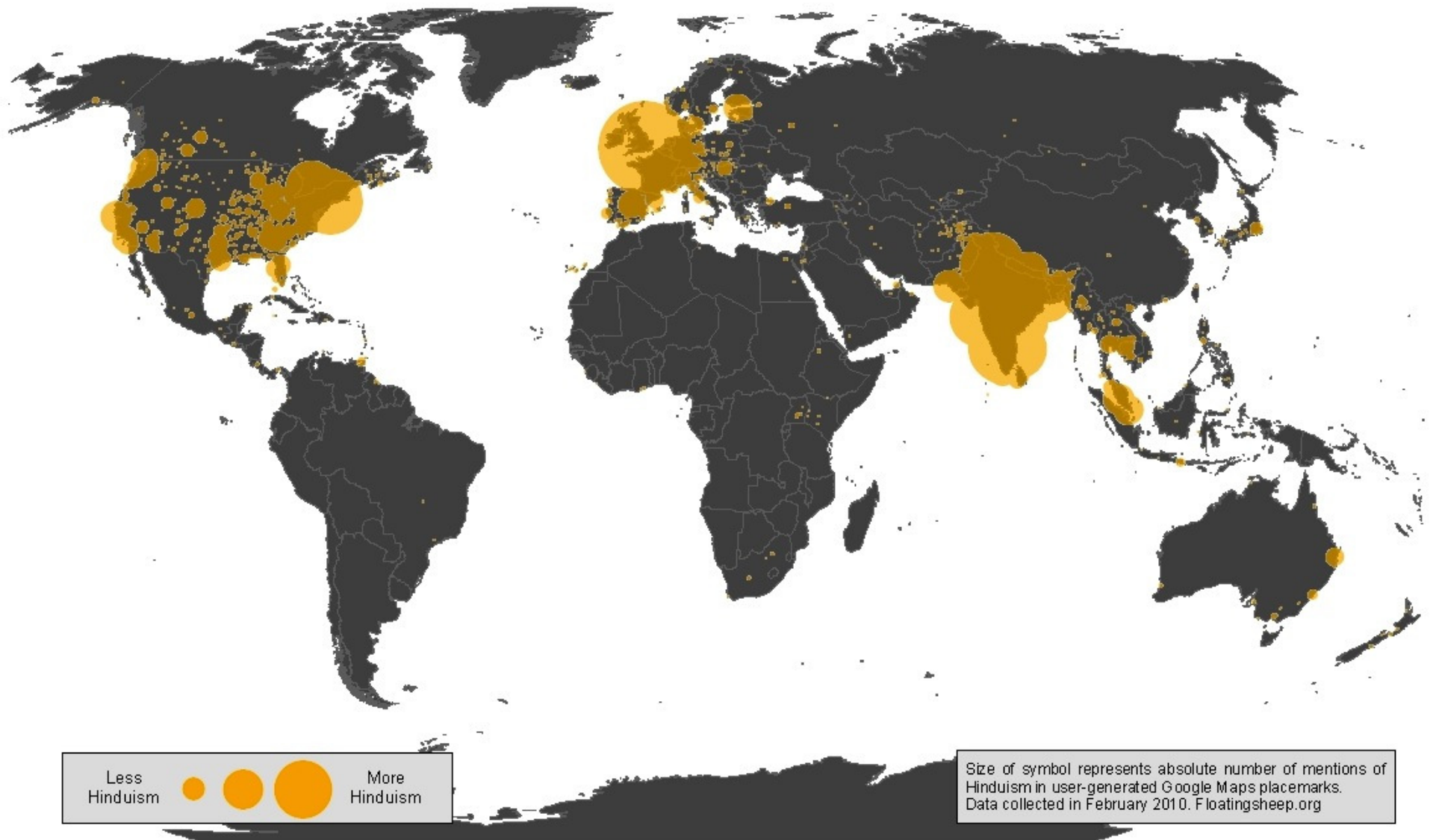
Known Methodological Issues

- Results depend on which keywords are used.
- Most of our keywords are in English.
- Economic and technological development greatly influences the robustness of cyberscapes.
 - Blank spots on the map do NOT mean no religion but often indicates the lack of user generated placemarks.
- Measurement simply indicates the presence (not the context) of the keyword. Positive, negative and spurious connections are possible.
- Nevertheless, a range of expected patterns (and unexpected insights) emerge.

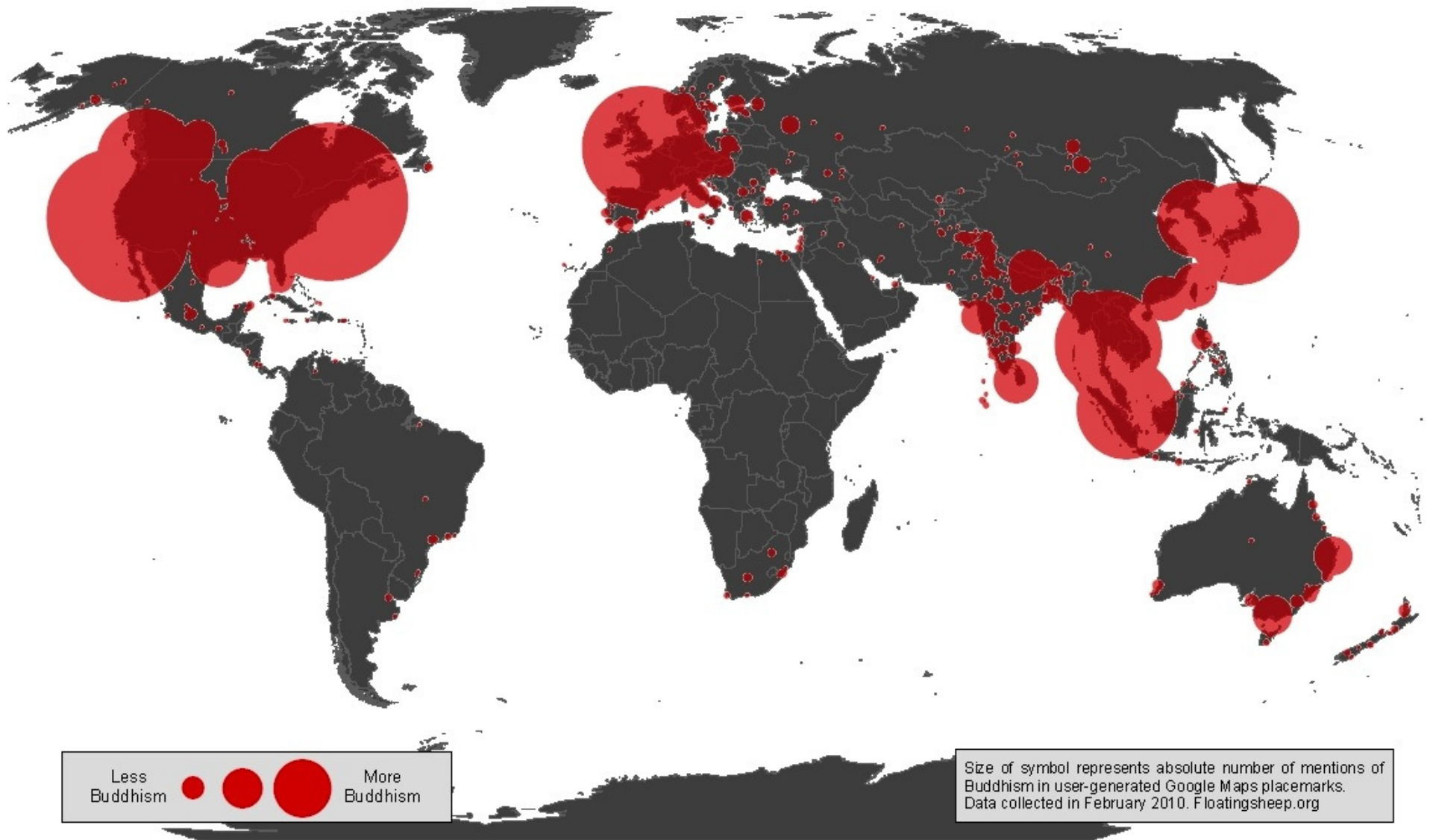
Christianity



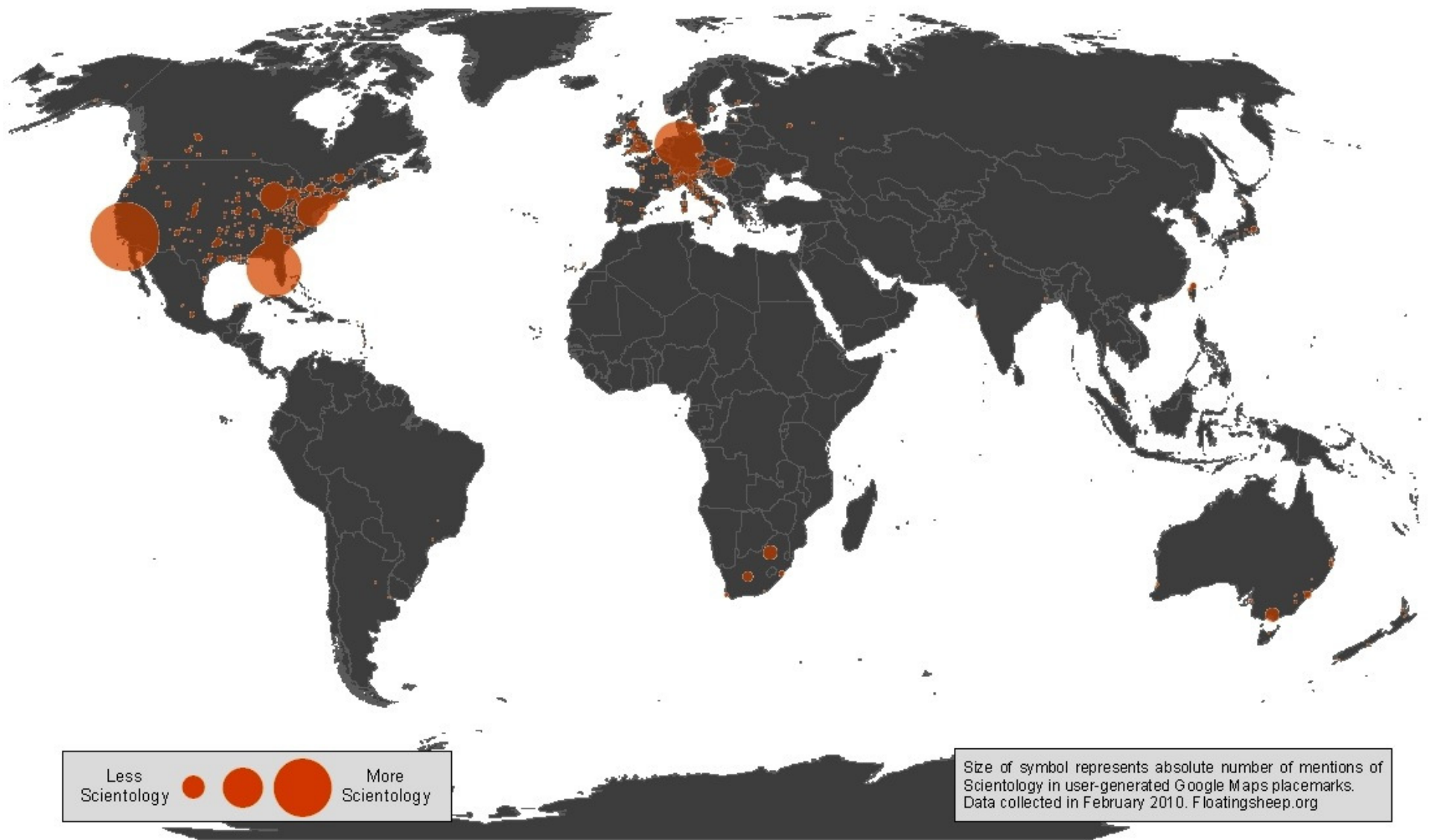
Hinduism



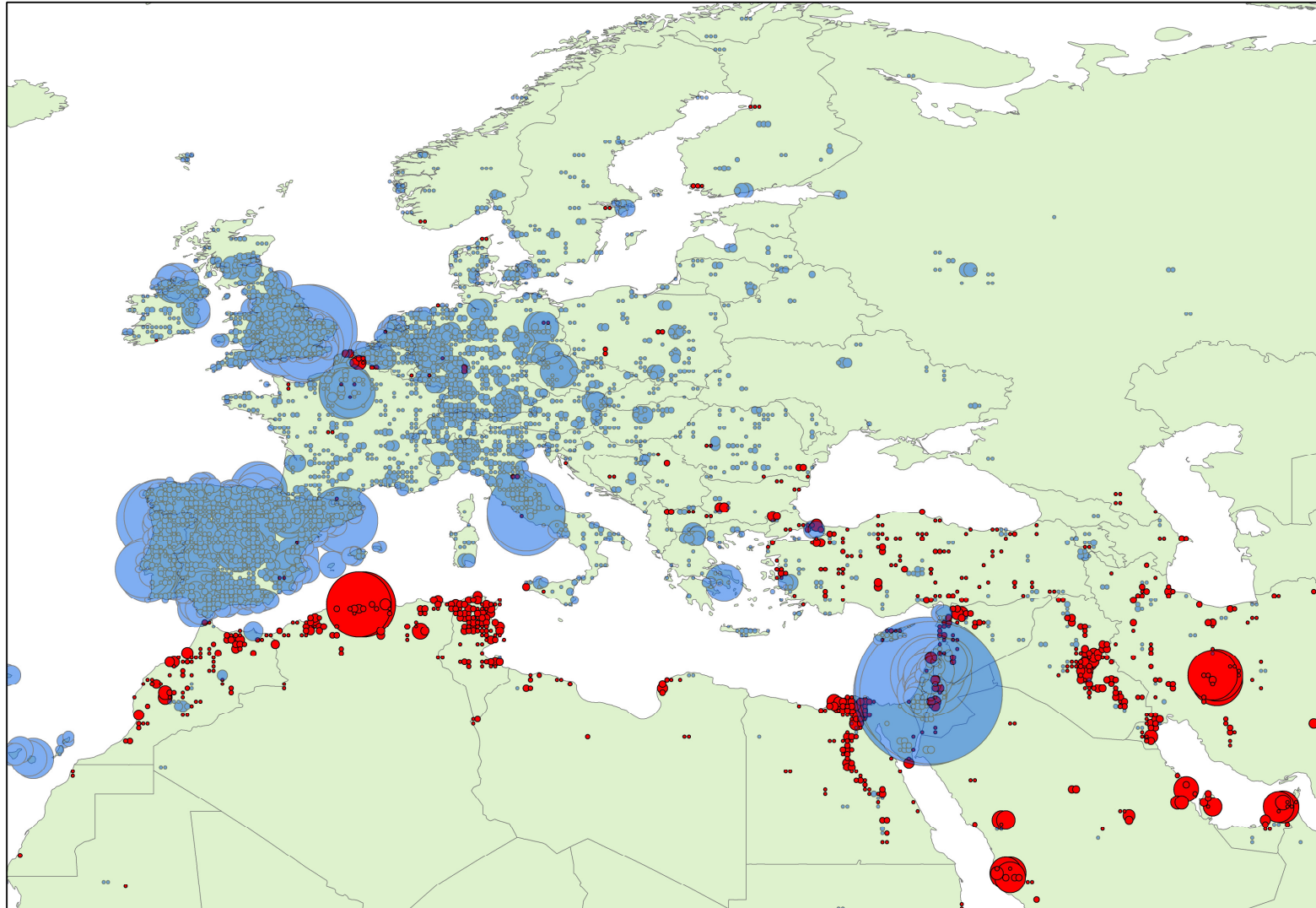
Buddhism



Scientology



Jesus and Allah

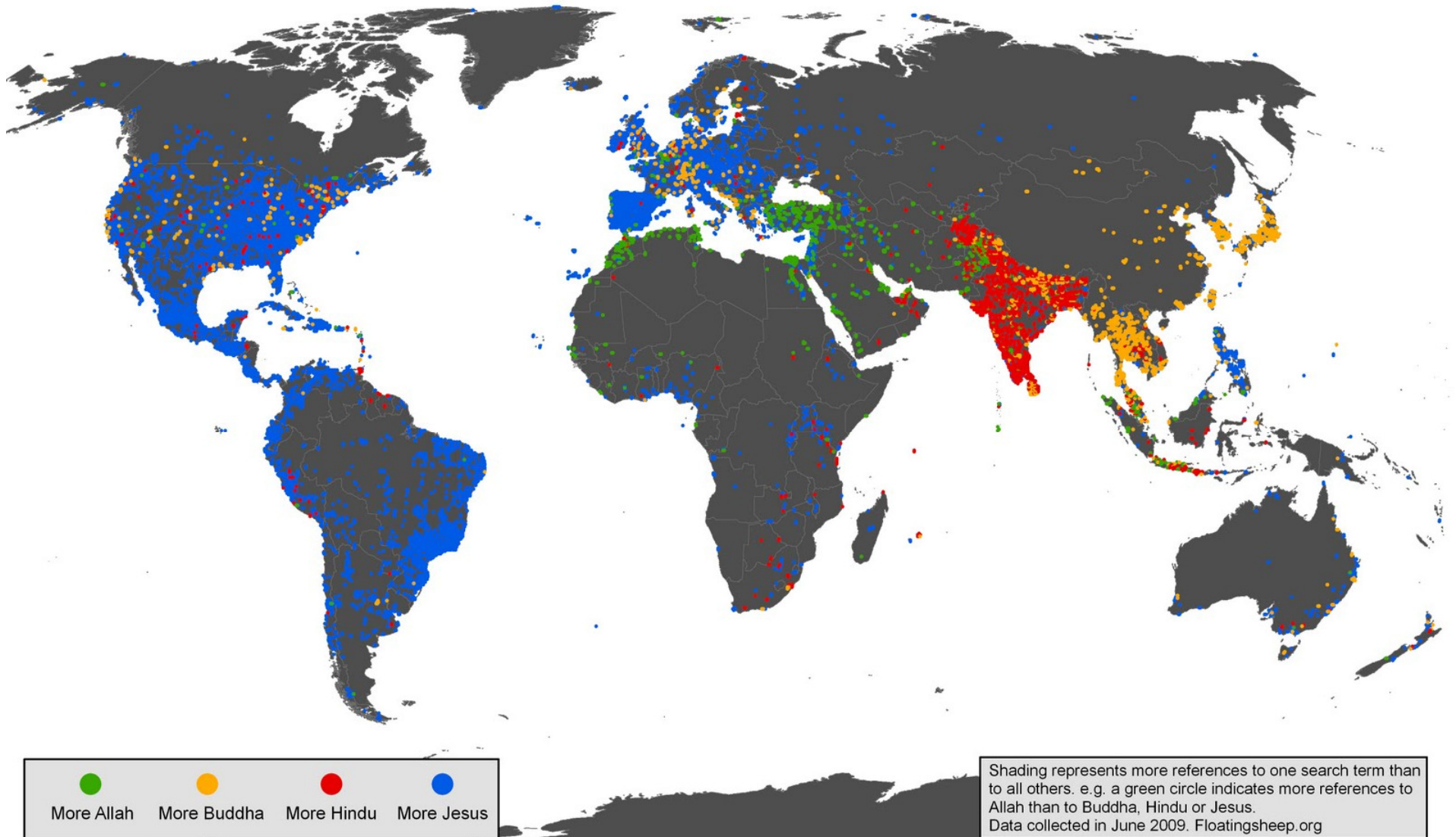


BLUE = (more Jesus than Allah); RED = (more Allah than Jesus).

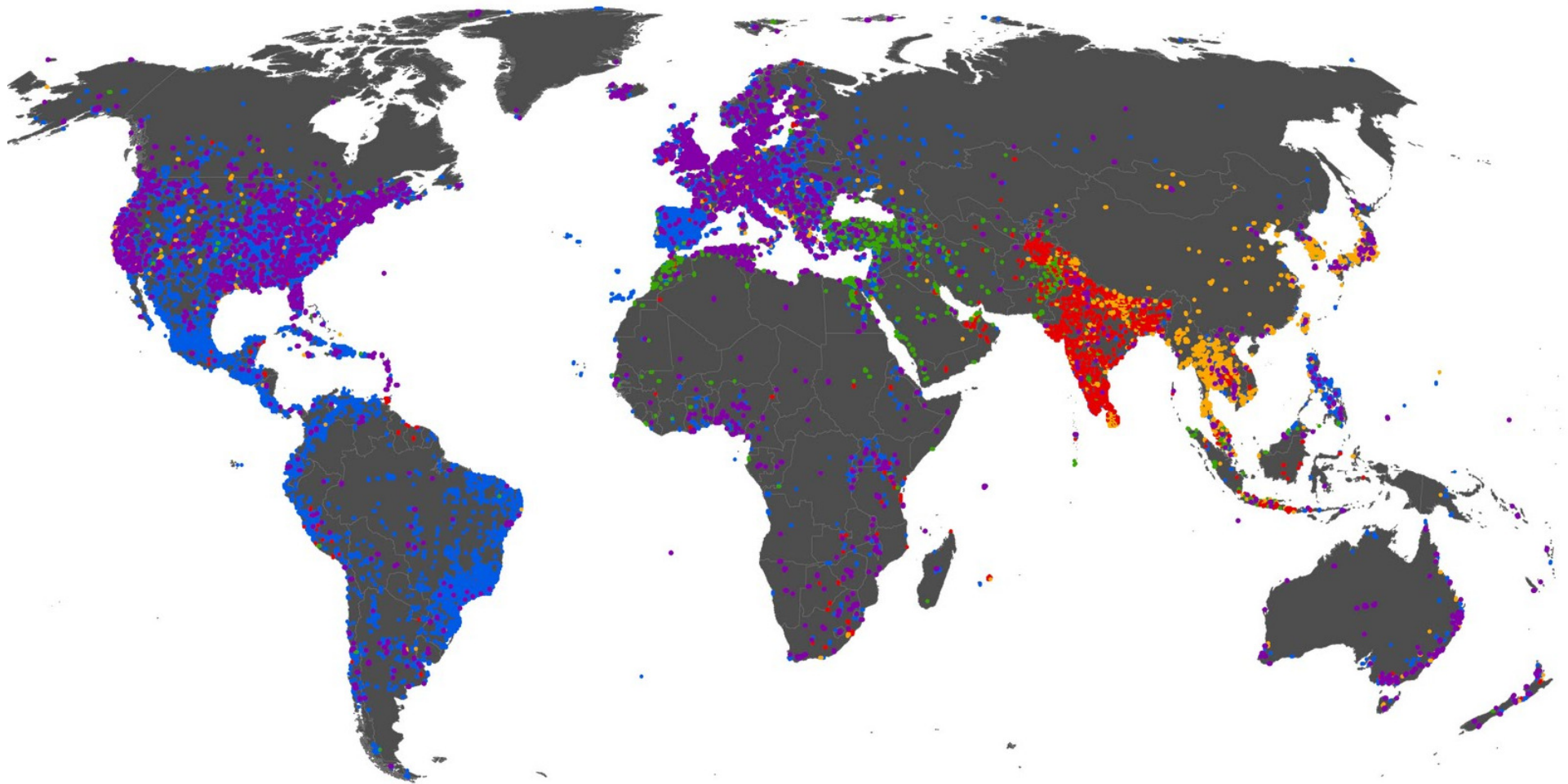
Size of the bubble show the magnitude of the difference

October 2008

Allah, Buddha, Hindu and Jesus

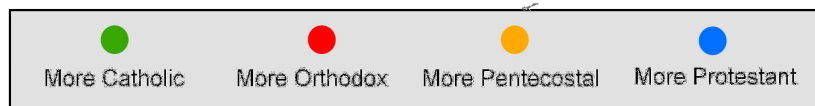
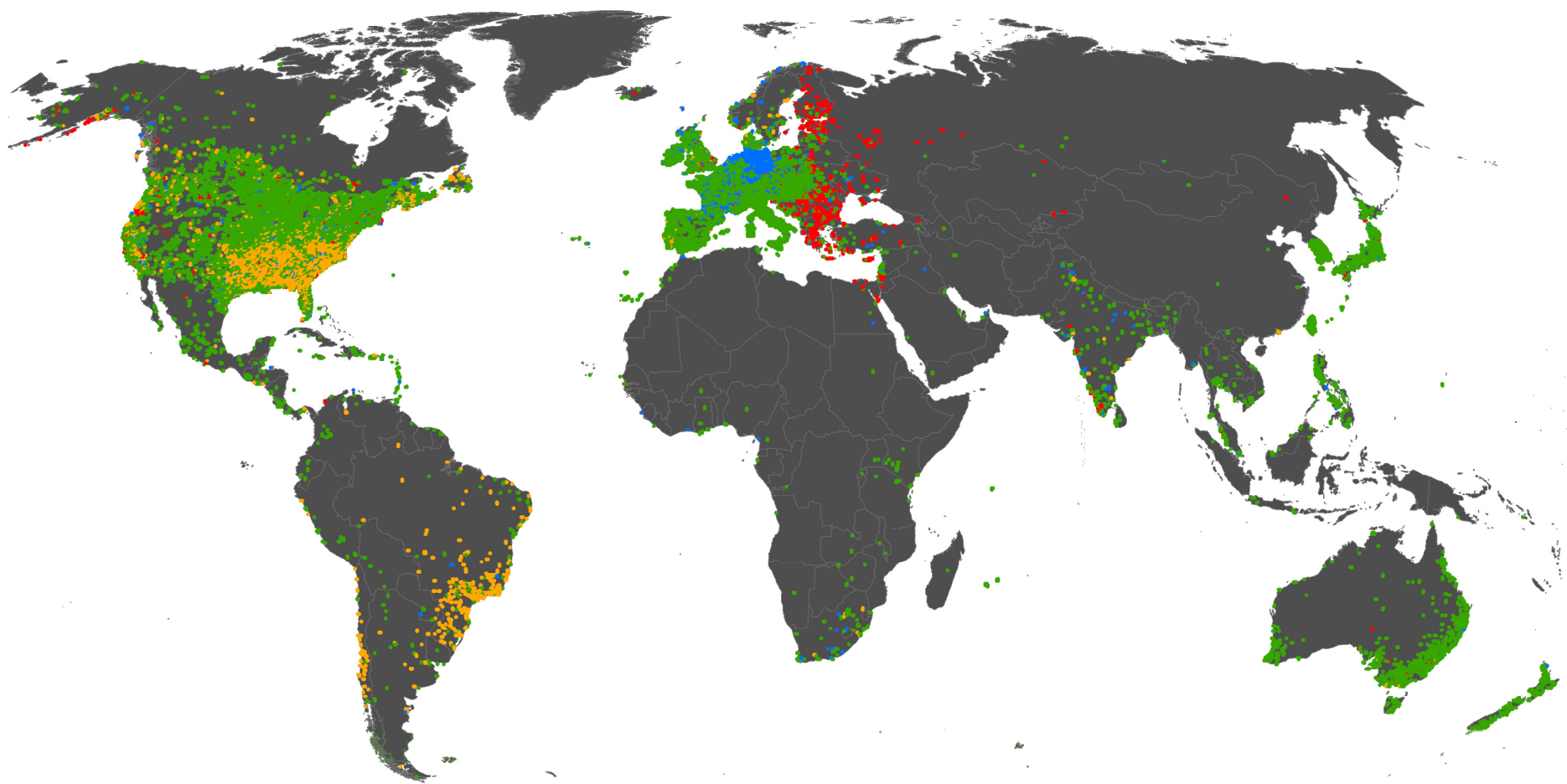


Allah, Buddha, Hindu, Jesus and Sex



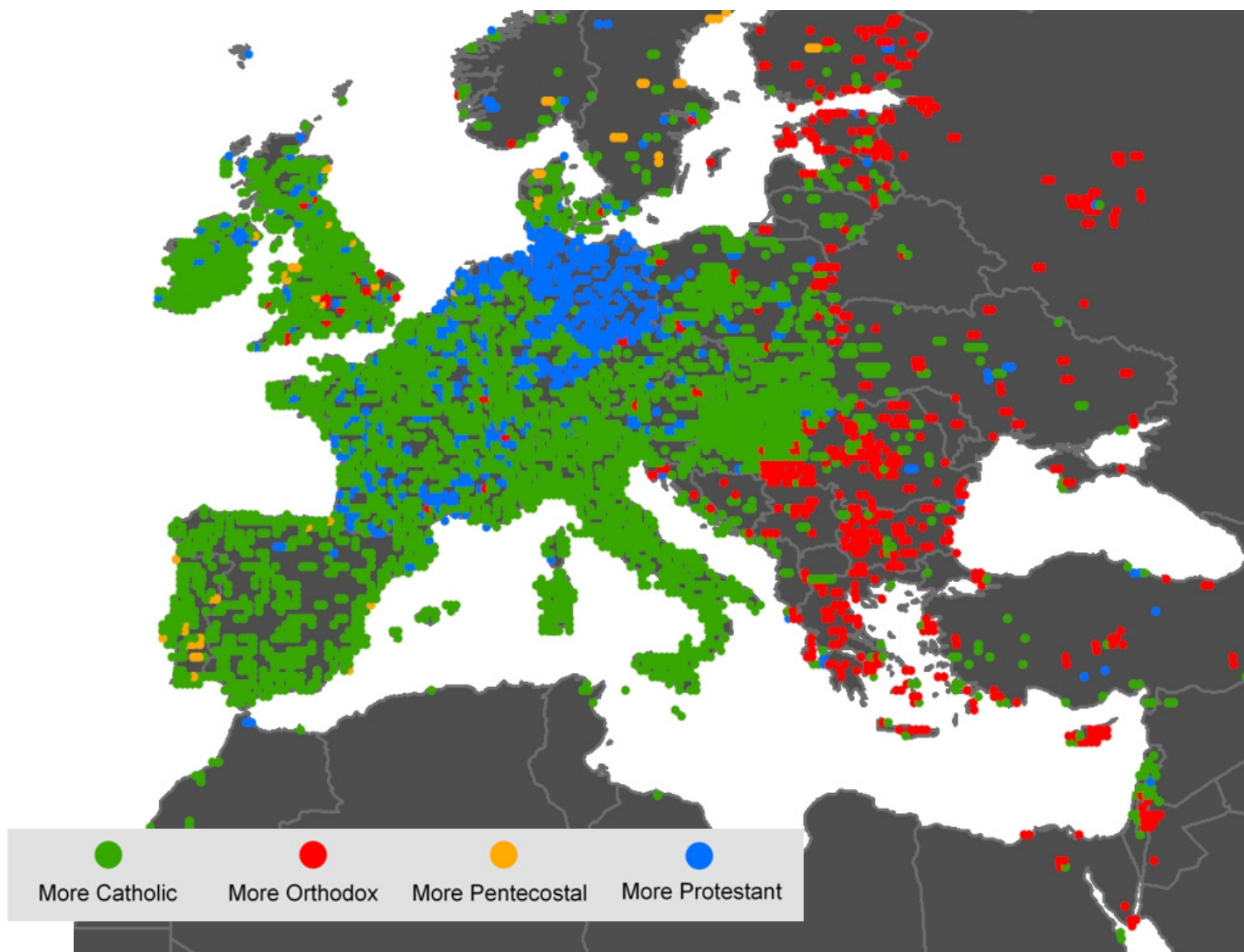
Shading represents more references to one search term than to all others. e.g. a green circle indicates more references to Allah than to Buddha, Hindu, Jesus or sex.
Data collected in June 2009. Floatingsheep.org

Catholic, Orthodox, Pentecostal & Protestant

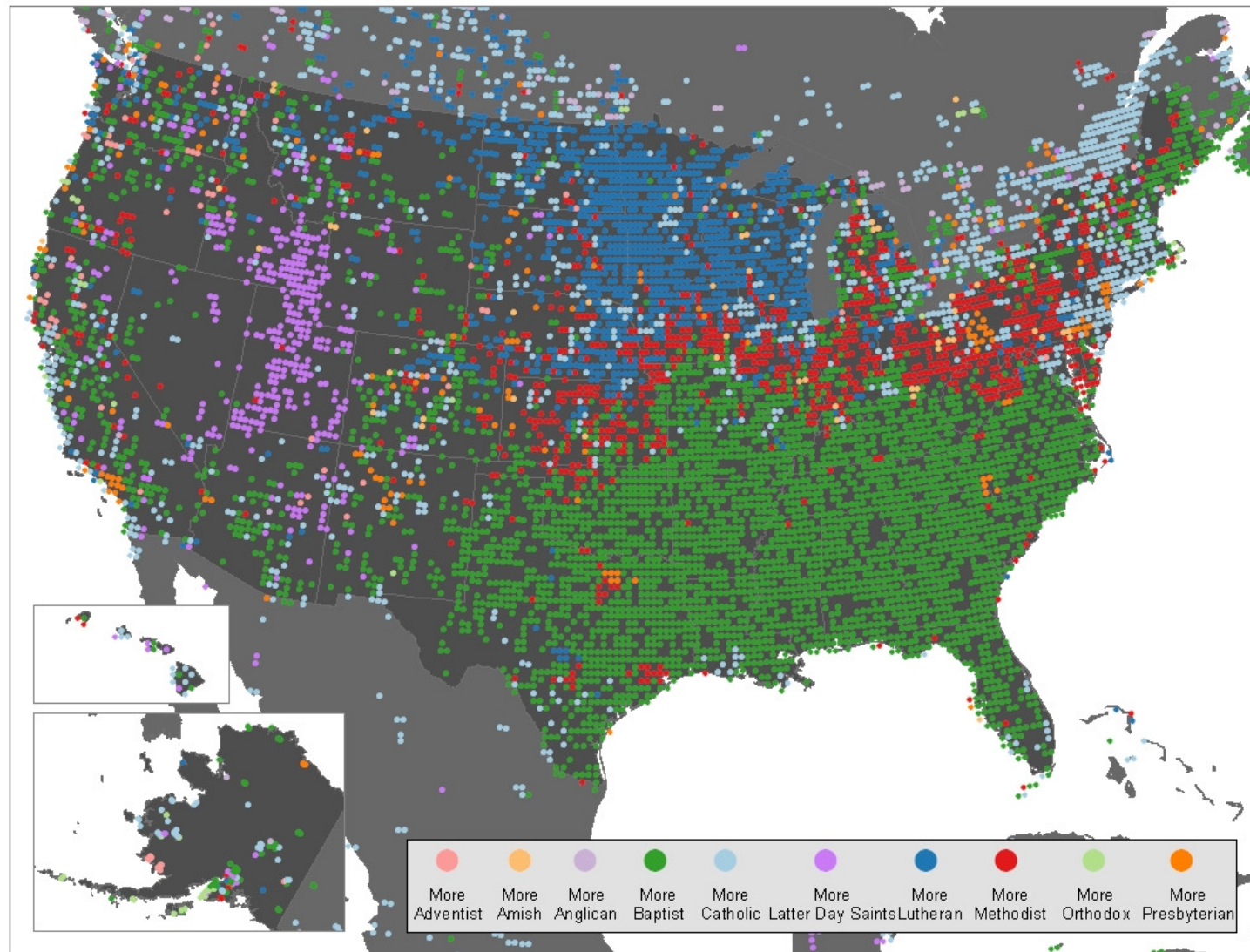


Shading represents more references to one search term than to all others. e.g. a orange circle indicates more references to Pentecostal than to Catholic, Orthodox or Protestant.
Data collected in February 2010. floatingsheep.org

Catholic, Orthodox, Pentecostal & Protestant



Christian Denominations in the U.S.



A Model of U.S. Christianity

DV: User Generated Placemarks Referencing "Christianity"

Num. of Obs.	3026
F	2586.49
Adj. R ²	0.872

Variable	Coef. (β)	t	
Population	0.0040	63.08	***
Median Household Income	0.0091	6.83	***
% Pop. < 30 years	(562.7)	(1.96)	**
% Pop. Male	(2,375.9)	(3.89)	***
% Pop. African-American	743.4	8.41	***
Rural-urban continuum (1-9)	(28.4)	(4.95)	***
Constant	1,254.6	4.11	***

* 90 % significance

** 95 % significance

*** 99 % significance

Conclusions

- Rather than divorced from materiality, cyberscapes represent the intertwining of the online and offline worlds.
 - Uneven and lumpy cyberscapes which mirror the offline divisions separating people and places.
- This technique allows us to draw directly from practice; we are mapping what people are doing not what they are saying they are doing.
- Allows analysis across a much wider range of human experience, *e.g.*, there is no NAICS code for “grits” or “boring” or “strip club”.

Thanks to my research collaborators Dr. Mark Graham (Oxford Internet Institute) and Taylor Shelton (University of Kentucky).

If you are interested in this project we blog regularly at floatingsheep.org.

