Final Project for Data Visualization
(US Religious Tradition)

Abstract

As human behaviors direct and shape our culture, one of the attributes to the changes is religion. To some degree, religion can represent the entirety of the tradition, value and politics of a nation. With that in mind, the objective of this project is to evaluate the religious tradition trending in the United States from 1980 – 2010. Specifically, in the area of its major components and membership (congregation) changes.

Summary

In this study design outlines three core tasks:
- To obtain an overarching view of where each major religion stands in its church membership in relation to others as of 2010. (i.e., the first bar chart)
- To compare and contrast two dominant religions across 6 states (chosen based on the US populations: top2, mid2 and bottom2) (i.e., the second bar chart)
- To further the second task by moving through the periods from 1980 – 2010 where the slider comes into play. (i.e., the second to the six bar charts)

In carrying out these tasks fulfills the three goals:
- To establish and / or update the knowledge and understanding of the religious tradition status in the US in terms of its major components and membership size.

- To develop further understanding of the dynamics of the membership size between the two dominant religions across the six states as to glean from whether populations play a role
- To dig deeper across the four periods (1980, 1990, 2000, 2010) to decompose whether any significant changes to disrupt the pattern and trending, if any, within the state and across the state and the periods.
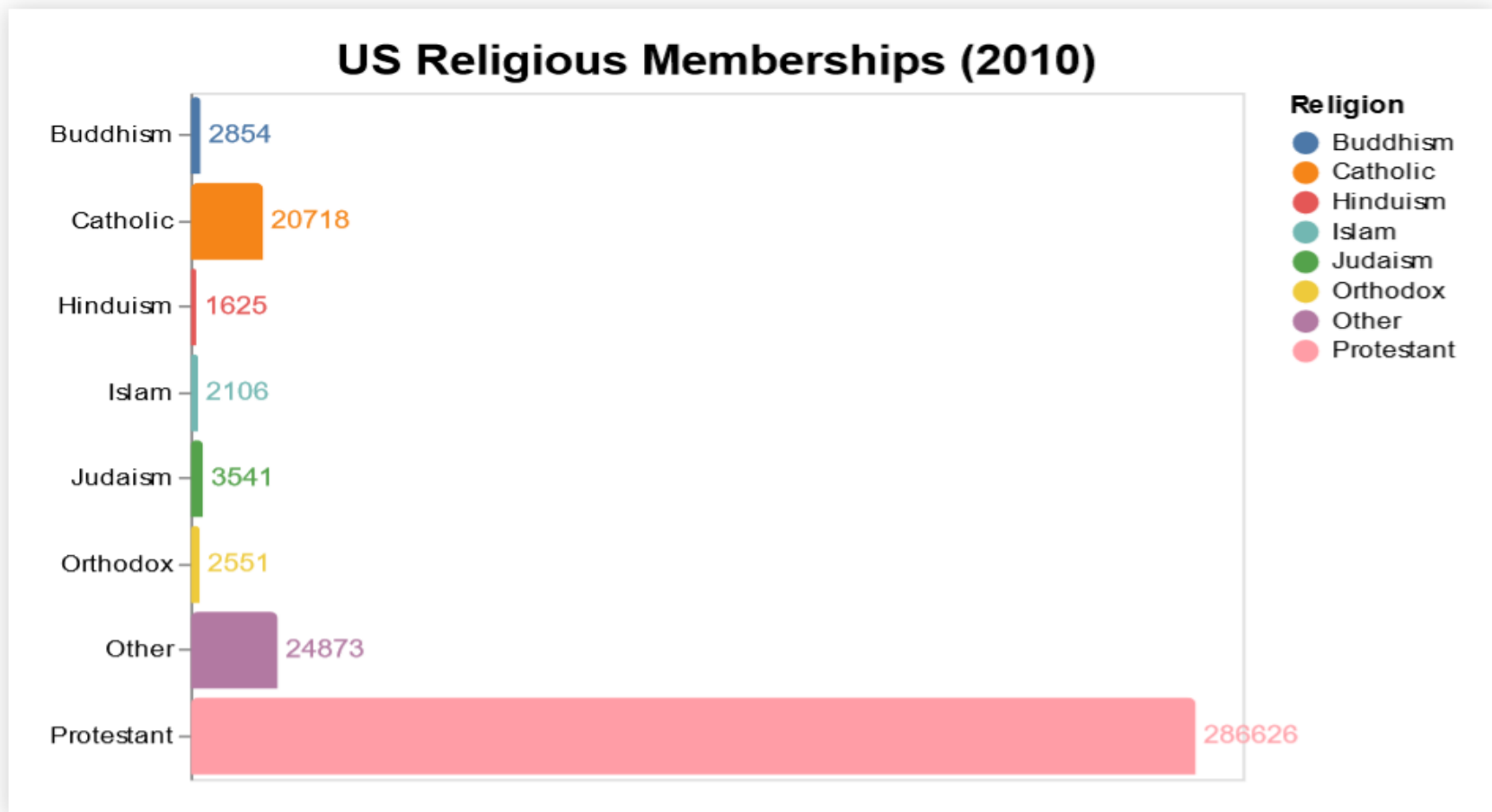
Visualization

Figure 1.

US Religious Memberships (2010)
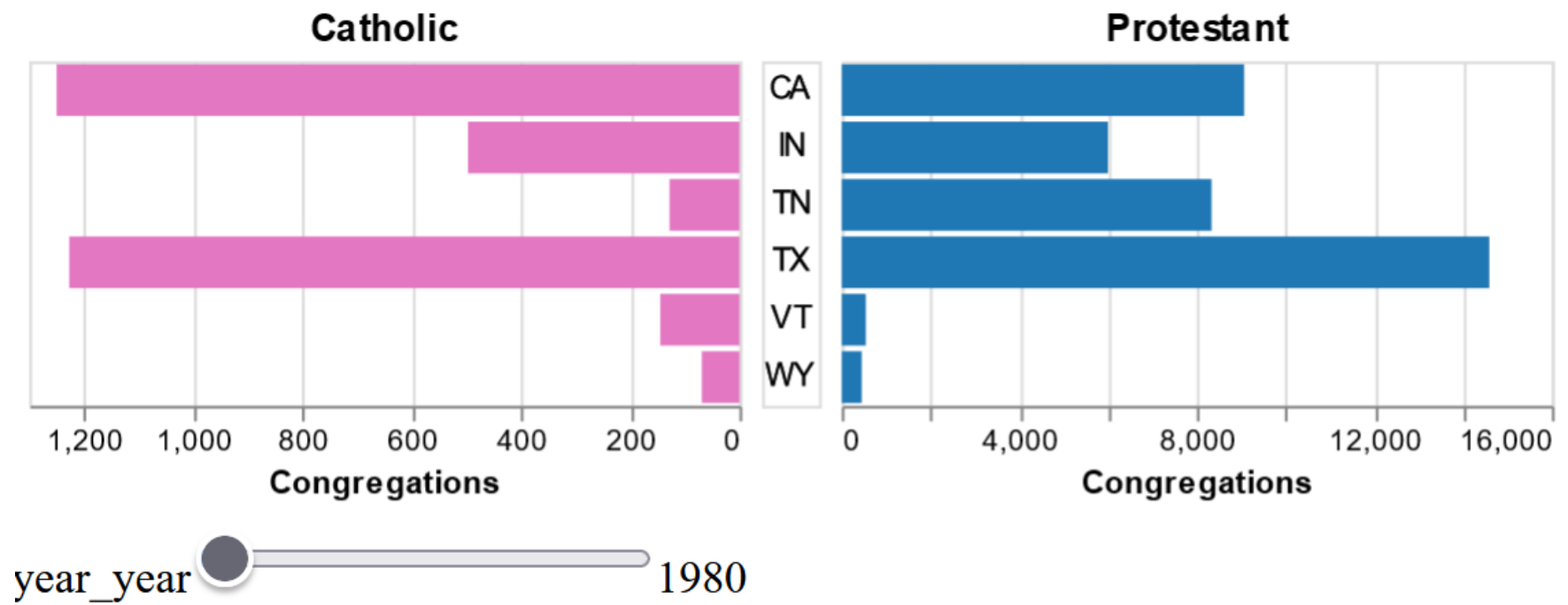
Religion	
Buddhism	2854
Catholic	20718
Hinduism	1625
Islam	2106
Judaism	3541
Orthodox	2551
Other	24873
Protestant	286626

Religion
- Buddhism
- Catholic
- Hinduism
- Islam
- Judaism
- Orthodox
- Other
- Protestant

Figure 2.
Snapshot (Year = 1980)

Catholic

Protestant

Congregations

Congregations

year_year 1980

Figure 3.
Snapshot (Year = 1990)
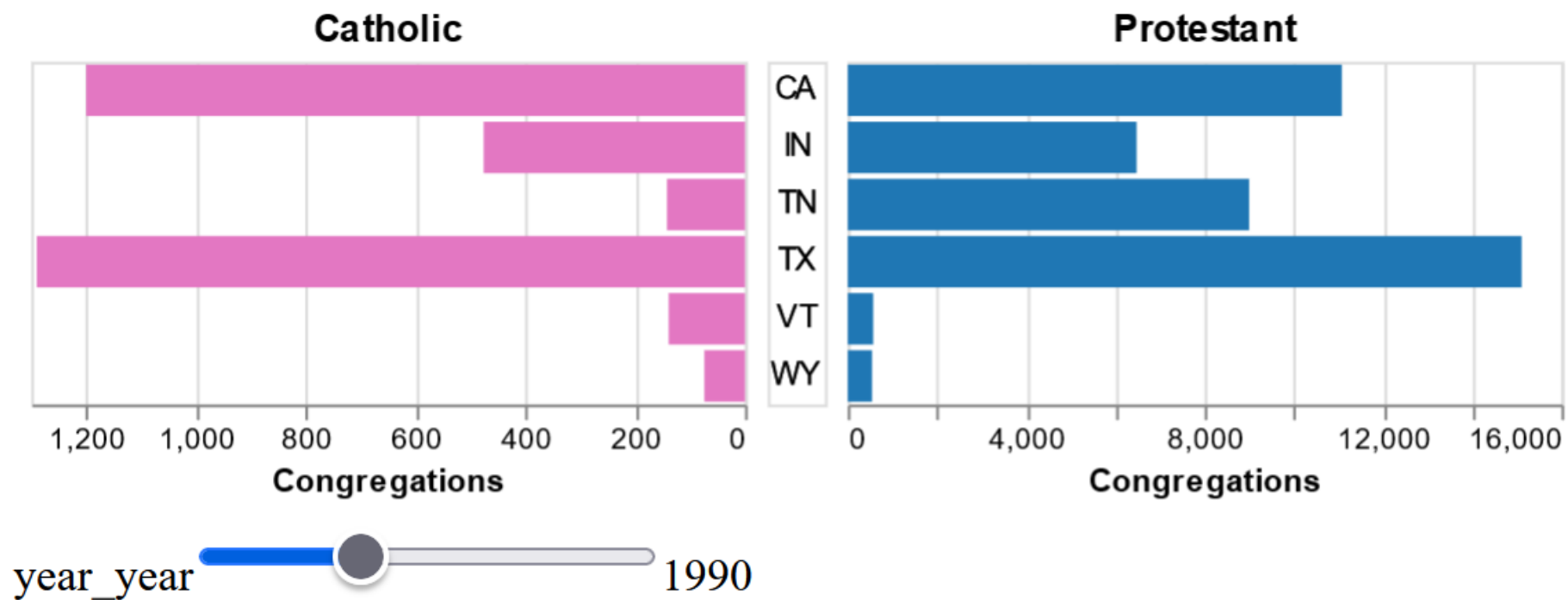
Figure 4.
Snapshot (Year = 2000)

Figure 5.
Snapshot (Year = 2010)

Catholic — Congregations (1,200 / 800 / 400 / 0)

Protestant — Congregations (0 / 5,000 / 10,000 / 15,000 / 20,000 / 25,000)

States: CA, IN, TN, TX, VT, WY

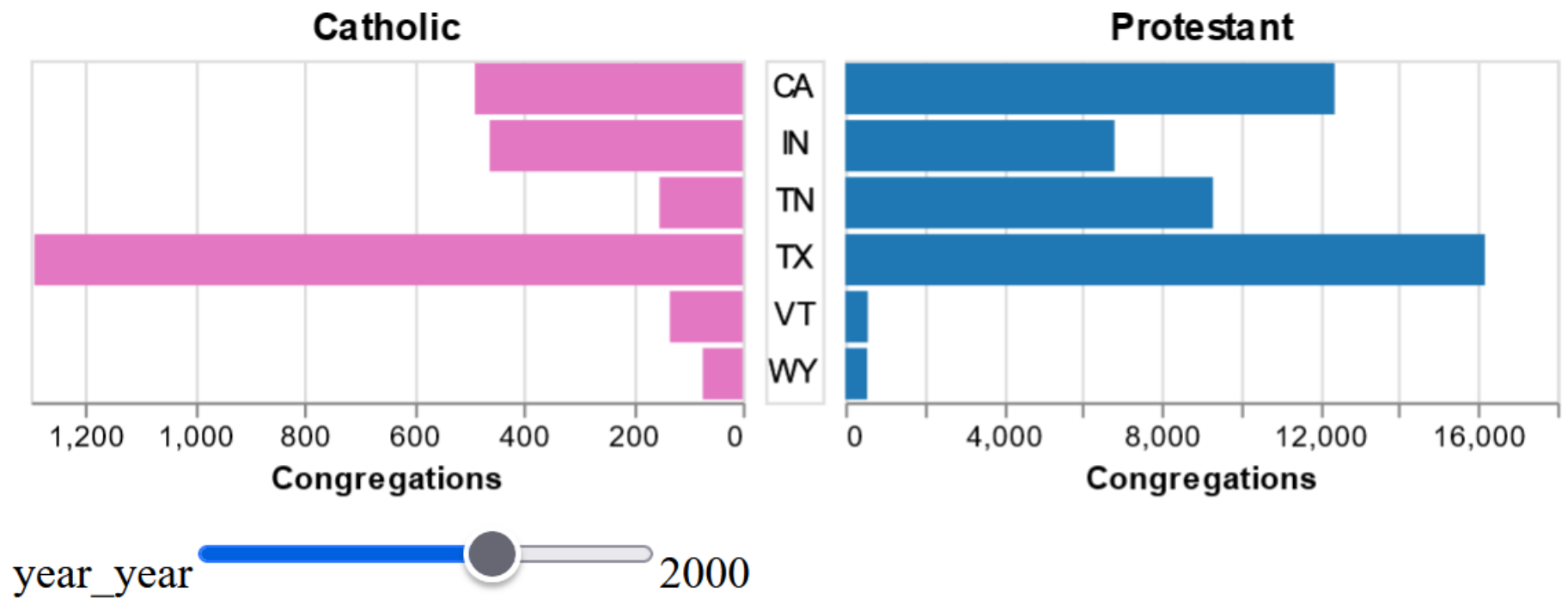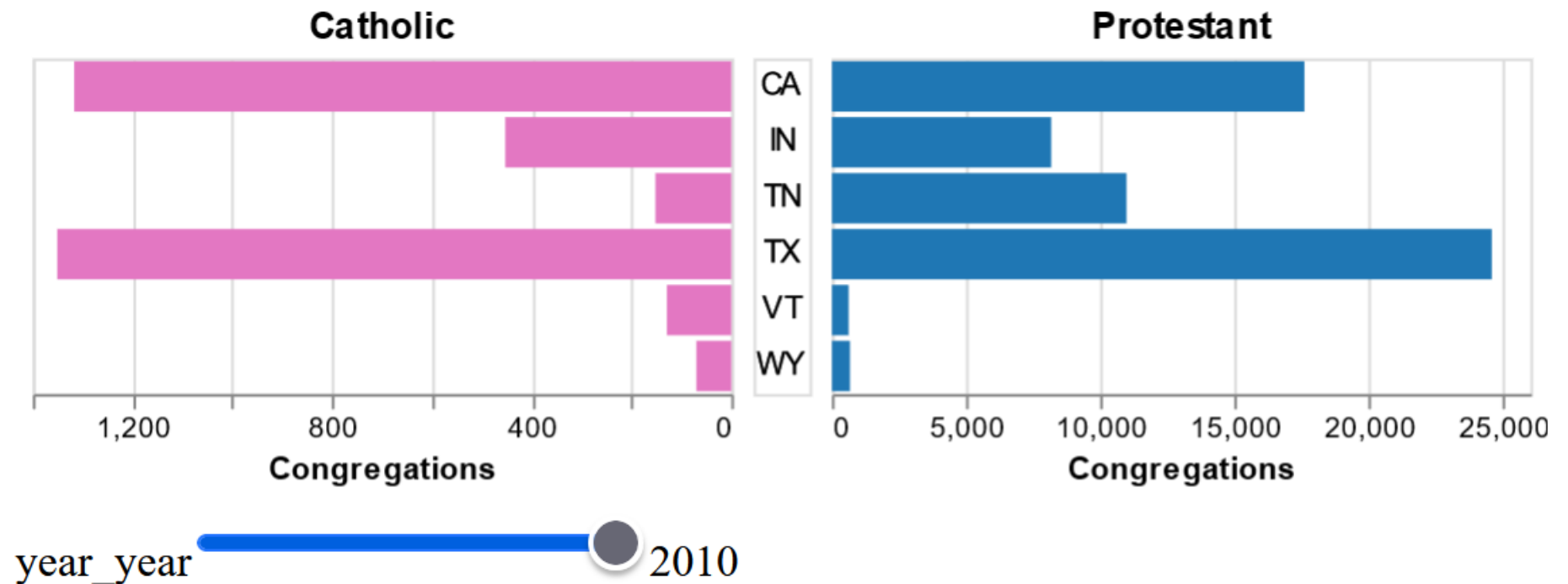year_year — 2010

Modification

The initial proposal was to apply trend line across all the active religion in the current society and then to zoom in by breaking it down into few major aspects (i.e., Catholic vs Protestant) Yet, due to the lack of clarity after few revisions, the next attempt was to attempt using the US map graph. However, its complexity seemed to speak louder than main idea intended to convey. Thus, searching for another design.

After few more modifications on different types of the line graphs, the final product came to its fruition --- bar charts!

Findings

As of 2010 (i.e., 2020 data is not available yet as of this date), we can clearly learn from:
- Figure 1. that there are 7 major religion tradition in the US. where the dominant religious tradition is Protestant (about 288 thousand members), followed by Catholic (about 20 thousand members). In the meanwhile, Islam is almost at the same level as Orthodox and Buddhism. Note that, others are making its way to be in line with Catholic in its size of membership, which can indicate more diversity deviating from the majority.
- Figure 2 – Figure 6, they offer two distinct stories:
  o **The relationship between Catholic and Protestant holds almost consistent across the six states:**
    ▪ Consistency in rankings (Top – Bottom):
      • Catholic: Texas, California, Indiana, Tennessee, Vermont and Wyoming.
      • Protestant: Texas, California, Tennessee, Indiana, Vermont and Wyoming.
  o **The relationship between Catholic and Protestant holds almost consistent throughout the four periods** except one minor and one major changes in California, which may result from its population size and composition of the given year or period:
    ▪ One minor: California had slightly more Catholic than Texas in 1980
    ▪ One major: Catholic decreased significantly from 1990 to 2000

Conclusion

From this study design, we learn that although there are seven major religion tradition in the US., the membership of the minority is rather significant as well as their lump sum is just about the size of the second major religion tradition. In addition, it is helpful to walk through the relationship between the two major religions and their dynamics to each other across the six states and the four periods. In learning their stability and consistency with increments and exceptions, they provide the incentives of doing further studies in the changes of the state and the period involved. Perhaps, even with the current issues, such as homosexuality, transgender, abortion…etc., we can use this as a pivotal point to delve into as more recent data is to be available!

Data Source:

ARDA Web Page: https://thearda.com/us-religion/census/congregational-membership?y=1980&t=1&c=15

US Population Rank: https://en.wikipedia.org/wiki/List_of_U.S._states_and_territories_by_population