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Women and Power in the United States

A geographic analysis of government, work, and economic status

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I. Abstract

This geographic analysis investigates the different ways that women hold power across the United States, primarily through government, work, and economic status. Political power is in this case represented through government representation at the national and state level. Economic power considers employment, income, occupation (specifically traditionally male fields of business and science), hours worked, and Forbes lists of the richest 400 people in the United States as well as the 500 CEOs of influential companies. Education was a third variable in the analysis since it exemplifies the power of knowledge and lends itself to the potential for political and economic power and change. Data obtained through the U.S. census, as well as government websites and Forbes lists of wealth and power was used to create ten maps that show various correlations and inequalities between the sexes. Although much progress has been made in recent decades, the marginalization of women remains a major problem in the United States, with large disparities in income, occupation, and political representation. Just two states have an equal or greater ratio of women to men serving in congress, only five states have a female governor, and women in state legislatures never even break the fifty-fifty sex ratio. Generally, occupations, education, and political representation are stronger in the Western United States and in the Northeast. The Midwest and the South expose major inequalities in these variables. This spatial analysis exposes target areas for improvement in social and structural equalities for women.

II. Introduction / Lit Review

Inequality between the sexes remains a major problem in the United States, especially in political and economic arenas. Women are discriminated against in pay, position, and occupation, and the United States has yet to see a female president.

Mei-Po Kwan finds feminist issues and methods especially relevant to the GIS field, but unfortunately rather underused and undervalued. She reviews the two dominant practices of GIS (positivist quantitative methods and critical qualitative methods) and continues to discuss the potential of feminist perspectives and methods to unite these two practices in way that promotes social justice. Feminist methods are varied but generally have aims to bring about social change, overcome biases, show diversity, and recognize the position of the researcher. Kwan highlights the benefits of the feminist perspective within GIS in order to encourage unity in the field based on a variety of perspectives and appropriate challenges to standard data/methods of obtaining data.

Charlotta Magnusson explores the devaluation theory's claims that women are culturally devalued in society. Previous research shows that the higher the proportion of women in a given occupation, the lower the net wages. Magnusson seeks to explore the relation between the proportion of women in a given occupation and the prestige of that occupation, and she finds that in Sweden, the highest prestige is actually associated with mixed occupations of 41-60% female proportion. However, she also finds that women earn lower wages than men in attained occupational prestige.

Arne Kalleburg et al. argue that nonstandard employment (on-call work, contract work, part-time work, self-employment, and temporary help) greatly increases the risk of bad job characteristics (low pay and no access to health care benefits or pension), family status, occupation, and industry. They investigate the social repercussions of "bad" jobs (which include an analysis of gender, the household, and race). Kalleburg et al. find that women overwhelmingly experience more bad job characteristics than men, which makes women more at risk to earn low wages with fewer hours in some cases and more hours in others. Such risk is especially relevant to single mothers.

Sarah Childs and Phillip Cowley discuss descriptive representation of territories in relation to sex; descriptive representation understands political leaders to be representative of the territory that elected them. Therefore, since most territories have similar numbers of male and female constituents, the number of male and female representatives should mimic this ratio. Through an analysis of the effects of women in political positions, Beth Reingold and Jessica Harrell find that women's seats in office influence women's participation most strongly when the women in office are of the same party as the constituents.

III. Methodology

I chose against using the traditional colors of pink and blue to highlight differences between the sexes because predefined notions must be left behind to bring about change. Preassigned color schemes imply a static state, whereas this study seeks to promote the dynamic shift of identity and position of women in the United States. Traditional and stereotypical norms must be pushed aside in order to consider a holistic understanding of inequality between sexes.

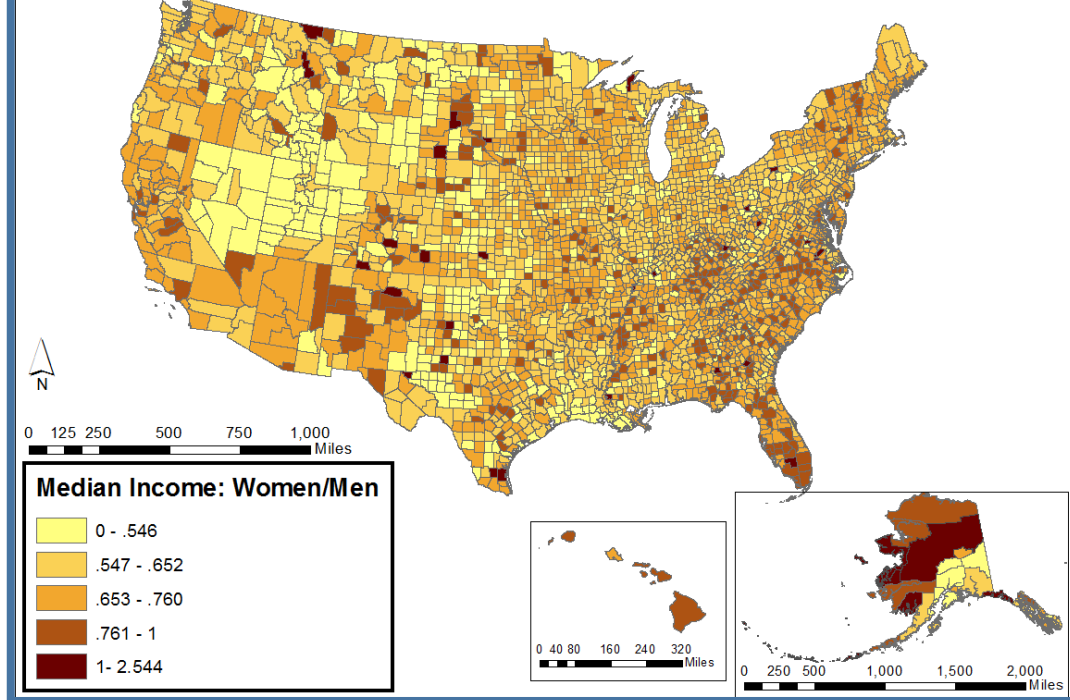
I collected data at a county level for the most part, although some data, primarily the governmental representation, was representative of state. The Forbes data was displayed in conjunction with other relevant variables, but is actually at a city level to display the residences of the people listed. Although two different scales of county and state is not optimal, both factors were important enough to warrant inclusion despite analytical challenges.

I was primarily interested in political and economic status of women, so I chose a variety of factors to help me analyze these: median income by sex; sex of household owner; hours worked by sex; percentage of the female population with the highest level of education as a masters, professional, or doctorate degree; percentage female with a career in the sciences; percentage female with a career in business, management, or finance; percentage female in the national congress; percentage female in state legislatures; sex of state governors; the Forbes list of female CEOs leading top 500 companies; and the women in the Forbes list of the top 400 richest people in the United States. I joined the tabular data to spatial boundaries based on the appropriate county and state geo id, as well as city name.

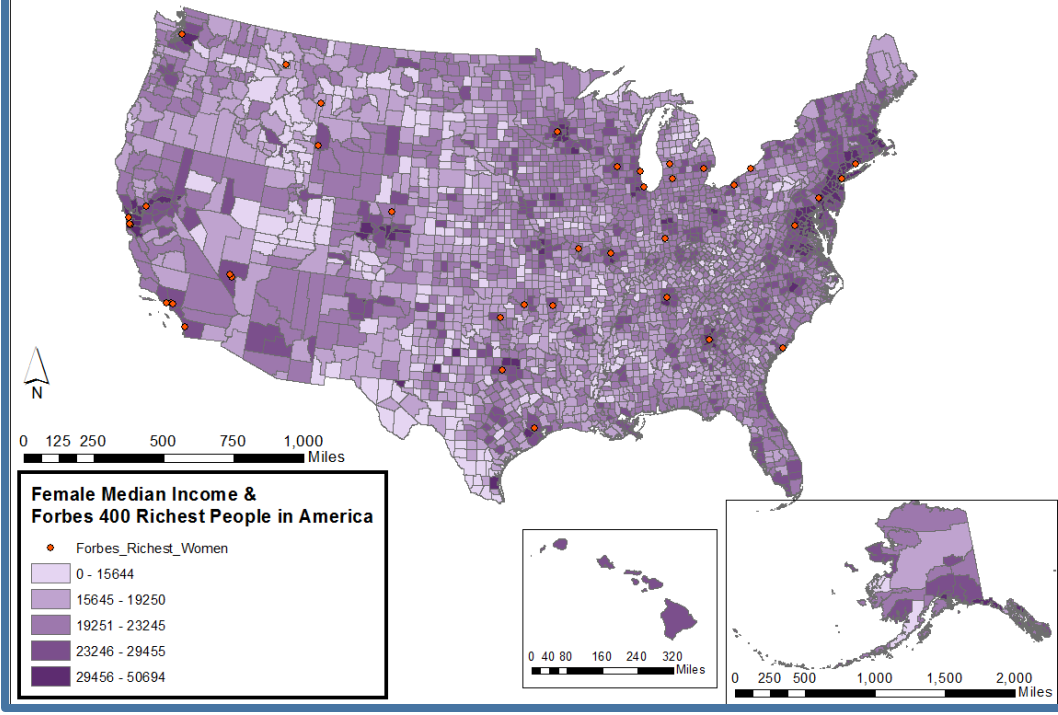
There were four ways I represented data. The first is through a ratio of women over men. For median income, such a ratio was especially useful since it denoted how much women make for every dollar men make. The second is a direct representation of the data, as in the median income of women alone. The third way I used to represent data was through the percentage of women who fell into a certain group out of the total women in such an age category. This was used in my mapping of career fields, education, and political representation. The fourth and final way I displayed data was through points, as seen in the richest women and the CEOs of top 500 companies.

For classification of categories, I used natural breaks in order to best highlight natural divisions in the data. Since none of my maps lent to direct comparison with others by the specific numerical categories themselves, this method worked well.

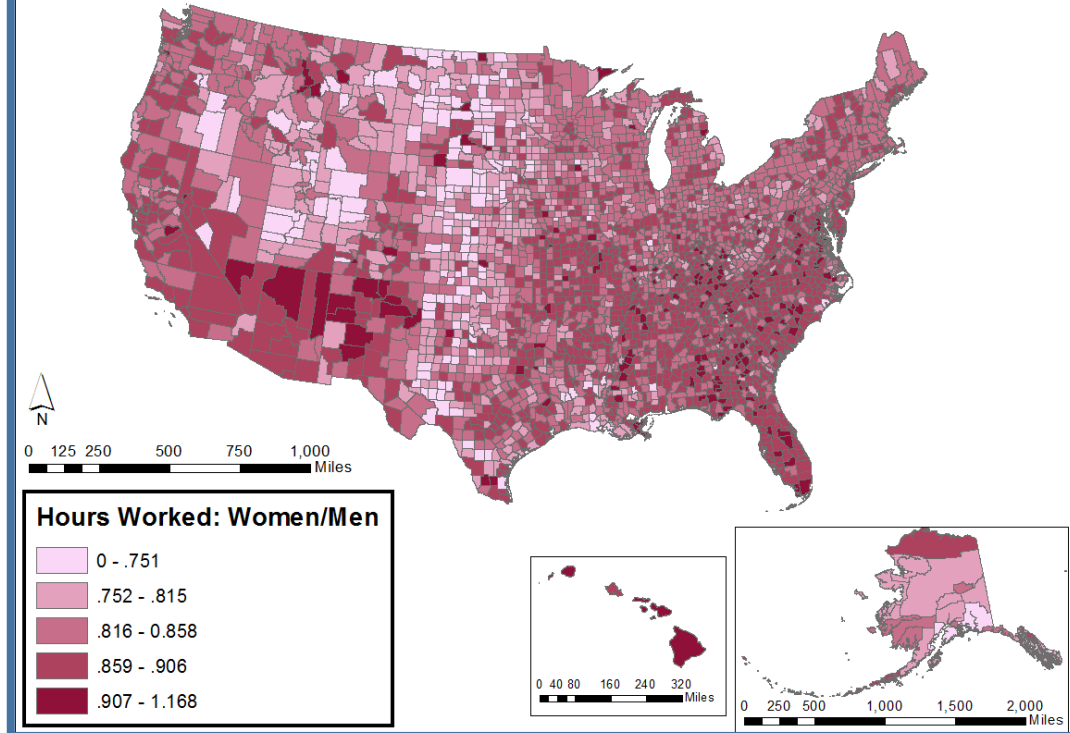
Median Income: Ratio of Women to Men
What Women Make to Men's Dollar



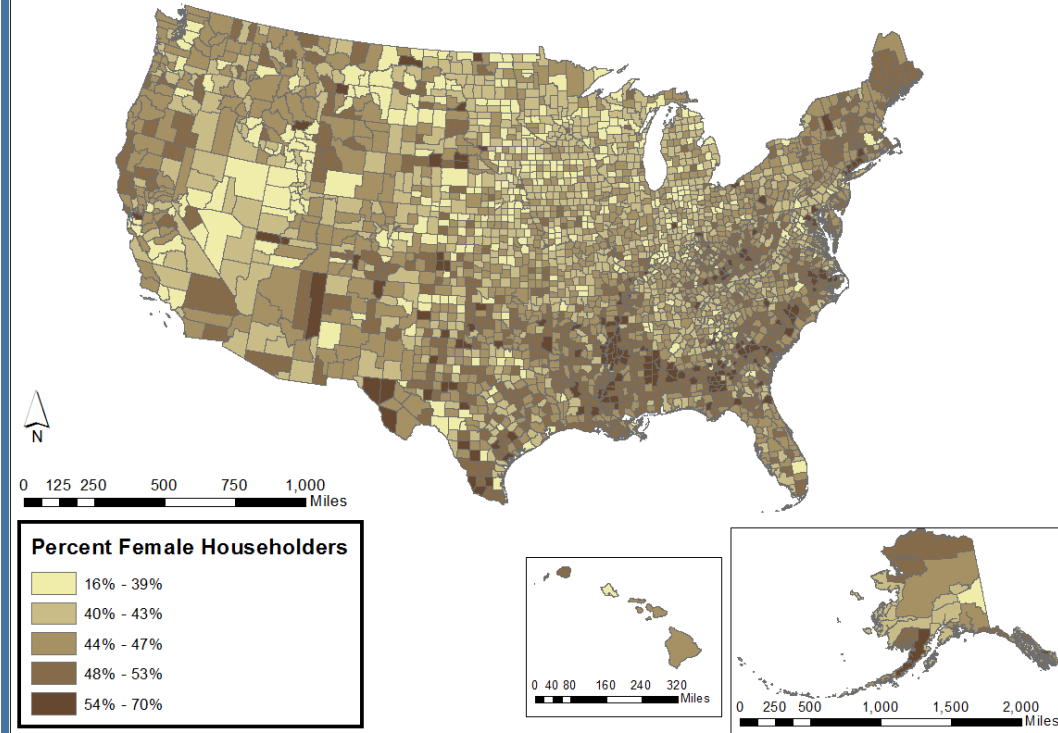
Female Median Income &
Forbes 400 Richest People in America (Women Only)



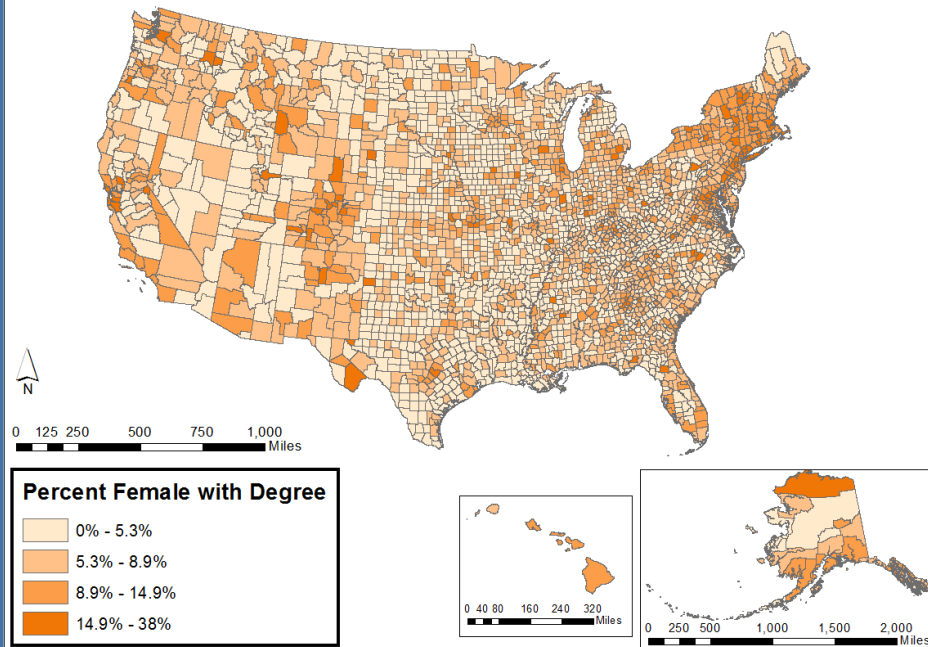
Hours Worked: Ratio of Women to Men



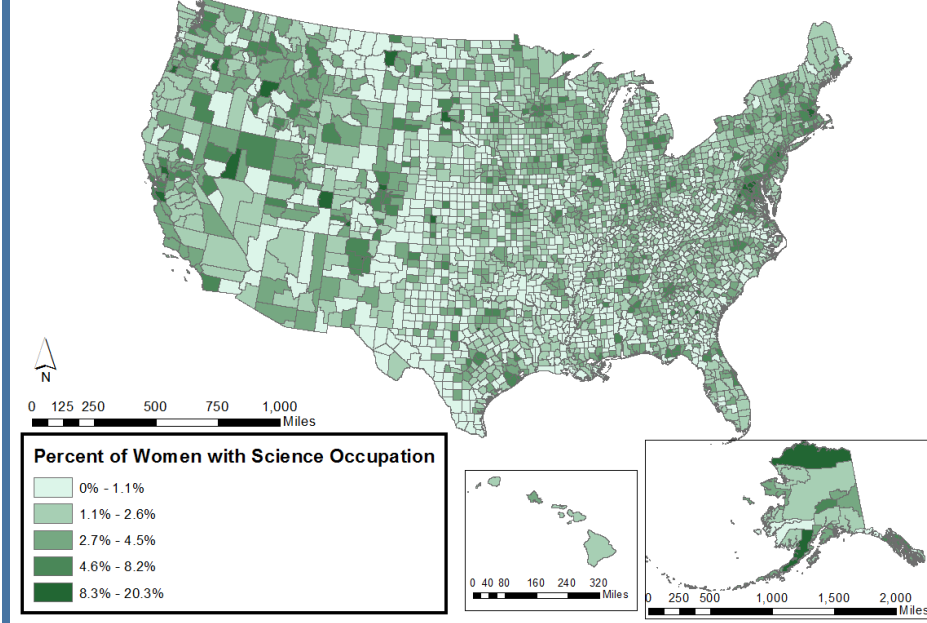
Female Householders



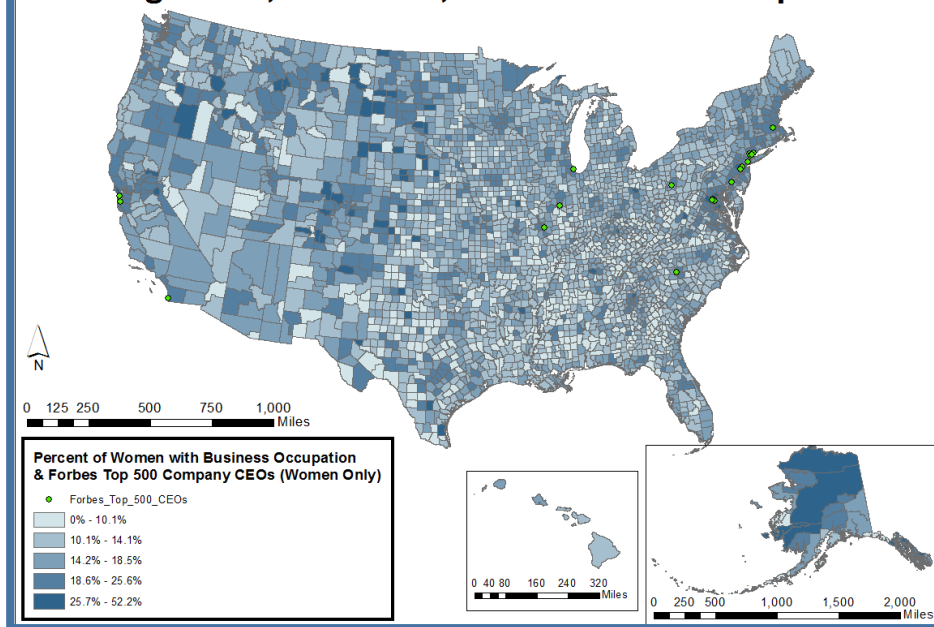
Women with Degrees: Masters, Professional, Doctorate



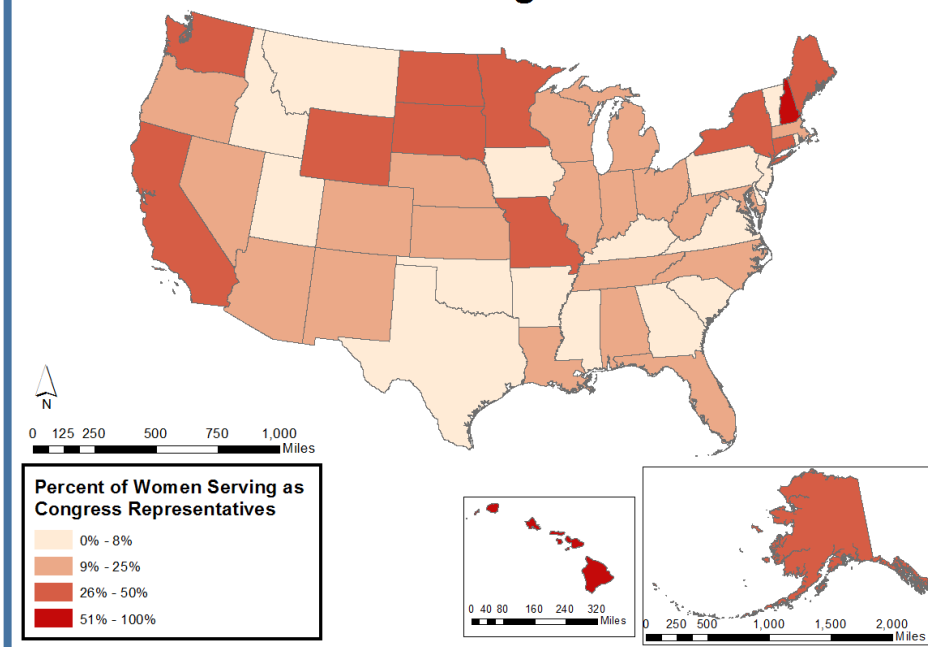
Women with Careers in the Sciences:
Computer, Engineer, and Science Occupations



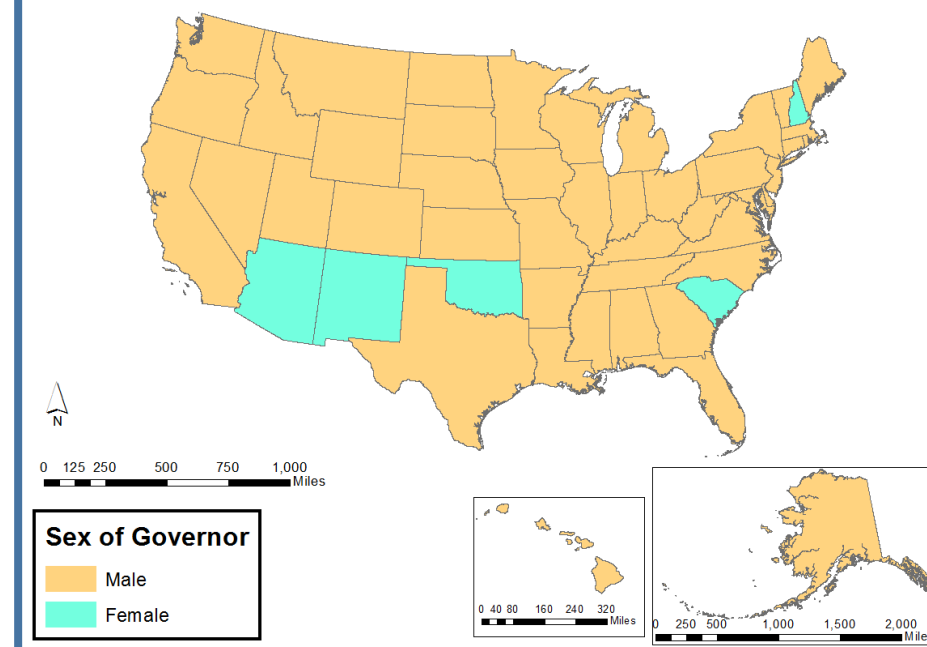
Women with Careers in Business:
Management, Business, and Financial Occupations



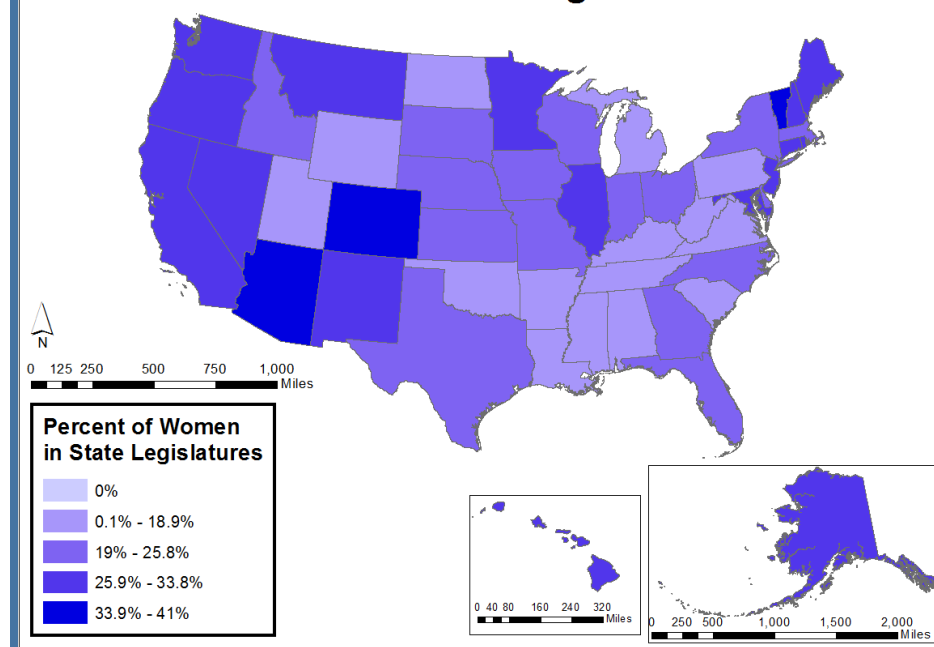
Women in Congress 2013



Female Governors 2013



Women in State Legislatures



IV. Results and Discussion

Politically, the highest correlation with female representation is in Vermont, which consistently has the highest percentage of female representatives. Female representation is still especially low throughout the three maps, with only two states having an equal or greater ratio of women to men serving in congress and only five states having a female governor. Women in state legislatures never even break the fifty-fifty sex ratio. Where the ratio of median income is closer to 1, there tends to be more female political representation.

Most variables show a high values on the West Coast, particularly in California, Oregon, Washington, New Mexico, and Arizona. These states are high tech centers, so maybe these industries are more progressive when it comes to women in the workplace.

The Forbes list of the 400 richest people in the US yielded fifty women, while the Forbes list of CEOs of top 500 companies only consisted of twenty-one women. The residences of the richest women are mapped in relation to income, and there are high positive correlations with the highest median income level and the location of these residences. However, when this is compared to the income level ratio of women to men, there is not a strong correlation. There is a strong cluster from the Forbes list in the Northeast where we see trends of higher level education for women and occupations in science and business. The residences of Forbes top 500 CEOs that are women are less spread out than the other group, again with a significant cluster in the Northeast. These residences appear to be in close proximity to major cities, as well as following patterns of counties with a high proportion of women with occupations in business.

An interesting pattern arises when we examine the map of female householders, especially in the Southeast. No other maps represent strong patterns here except perhaps the hours worked, which leads us to believe that female householders are often not succeeding, despite household ownership, or at least that these regions continue to lack power and voice for women. The correlation in this region between female householders and hours worked suggests that the female householders may be primarily single-parent households. Further, in examining the map of female median income, this pattern in the Southeast corridor is marked by lower income counties. In other places, however, hours worked appears to line up slightly with women in occupations in the sciences and business, especially in the Western half of the country. Another observation of the female/male hours worked shows a heavy string along the Midwest corridor of 0-751 hours worked by women/ hours worked by men. Although similar strings are seen in income, occupations, and education, the one presented by hours worked is the most distinct.

Not many women appear to have higher level degrees in the Midwest and Southeast part of the map. In the Midwest area, this correlates with lower income ratios, less female householders, and less women in science and business occupations, although not necessarily less political representation. Perhaps this is because there are fewer major cities in the Midwest region. The occupation maps have strong similarities with the education map, probably because the occupations represented often require higher degrees.

V. Conclusion

Much work is left to be done in the United States on equalizing opportunities and status for women, especially in the central U.S. and the Southeast region. In order to understand the correlations found in this study, further analysis of these geographic patterns, as well as the strength of most variables on the West Coast, must be undertaken. Social attitudes towards women recorded though the General Social Survey could reveal social obstacles for women's power. Exploring industry and occupation could also be valuable to understanding the economic status of the region. Occupation could be broken down into further categories as well in order to examine perhaps the most common occupational category for women in each county.

Mapping several elements with more descriptive categories could also provides insights, especially with the correlation of hours worked and female householders in the South. By mapping single household families, number of jobs, number of children, poverty levels, and potentially other elements from Kalleburg et al.'s study, female householders and hours worked could be better understood in the context of their effect on the financial status of women.

Based on the findings of Reingold and Harrell, consideration of women's political party may prove an important factor. Also, research may want to investigate changes over time in relation to each of these concepts to connect with historical movements in an effort to understand the motivation behind change.

VI. Acknowledgements

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VII. References/ Data Sources

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List of Governors: <http://www.nga.org/cms/governors/bios>

Forbes List of Women CEOs of Fortune 1000 companies: <http://www.catalyst.org/knowledge/women-ceos-fortune-1000>

State Legislatures Data: <http://www.ncsl.org/legislators-staff/legislators/womens-legislative-network/women-in-state-legislatures-for-2013.aspx>