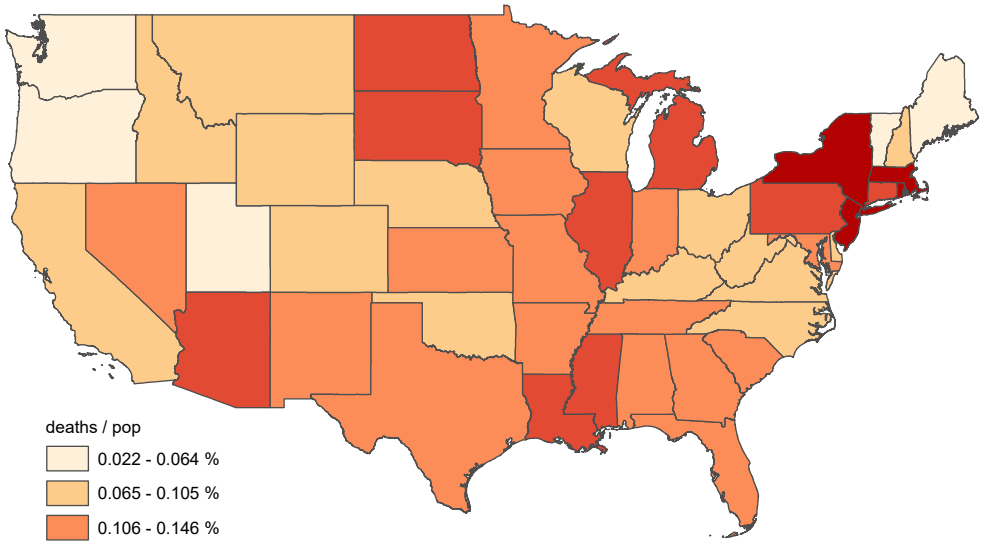
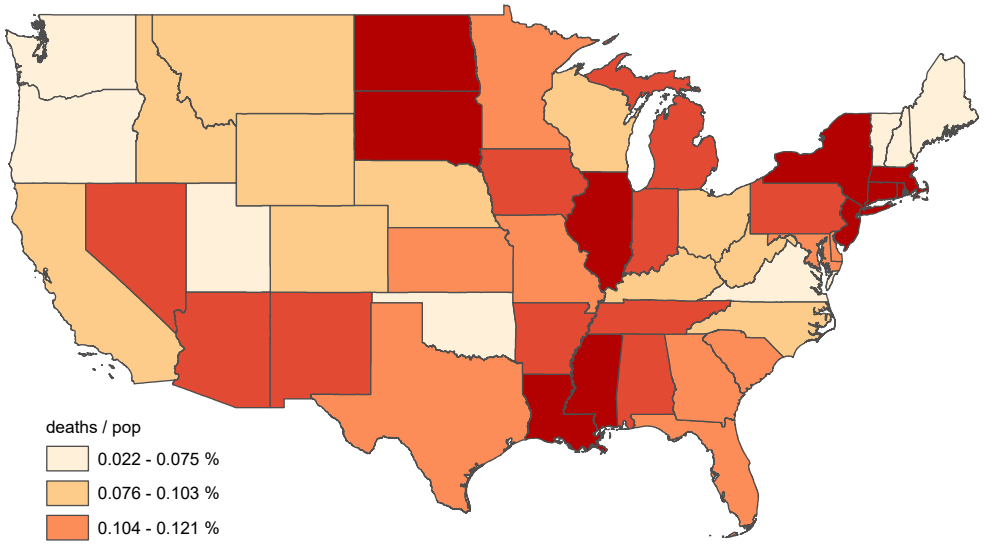
COVID-19 Death Rate in US
Four Data Classifications by State

Equal Interval



Quantile



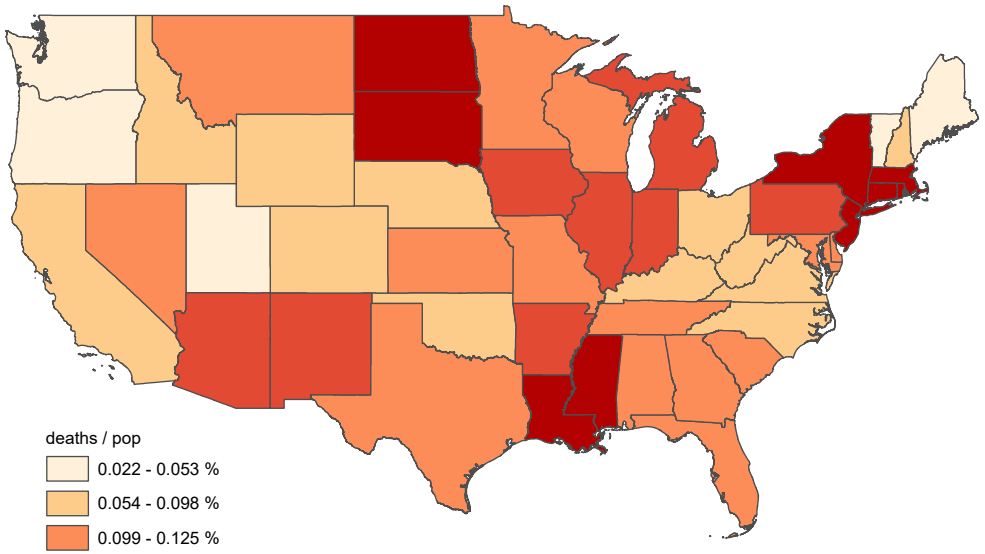
0 475 950 1,900 Miles

Scale: 1:50,000,000

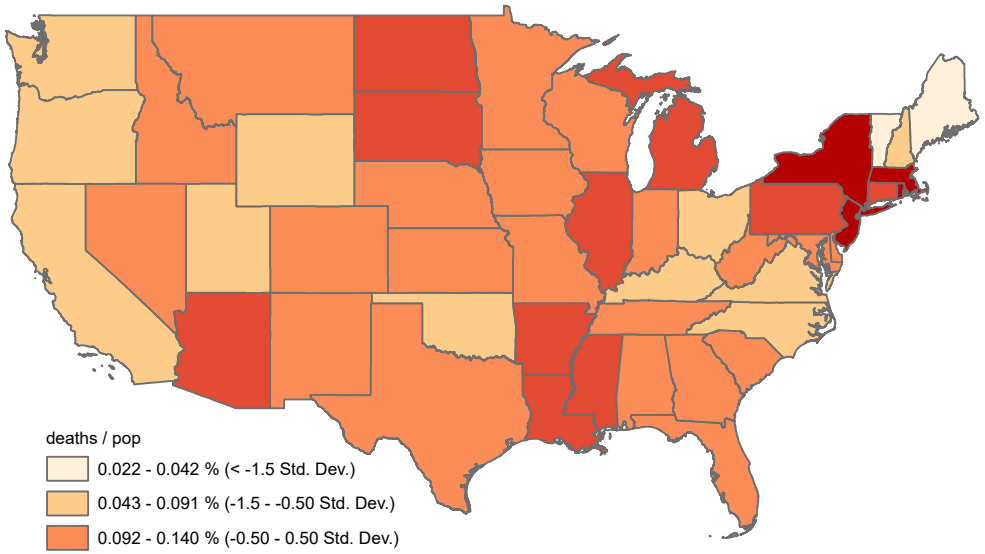
Spatial Reference
PCS: WGS 1984 Web Mercator Auxiliary Sphere
GCS: GCS WGS 1984
Datum: WGS 1984
Projection: Mercator Auxiliary Sphere
Center: 96°41'41"W 40°18'28"N

Cartography by Aaron Goodman
Data source: UCLA GEOG XL 180 course website

Natural Breaks



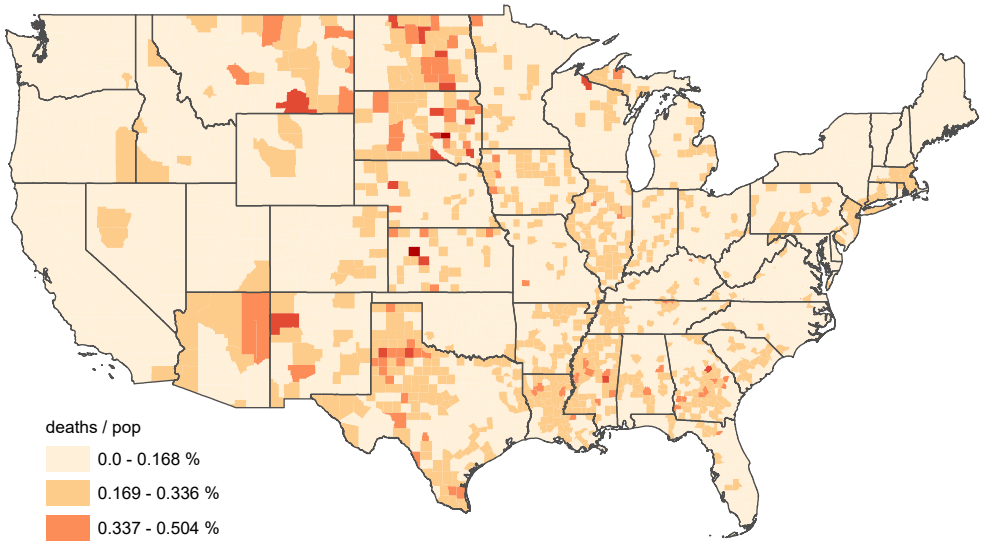
Standard Deviation



median death rate: 0.116 %

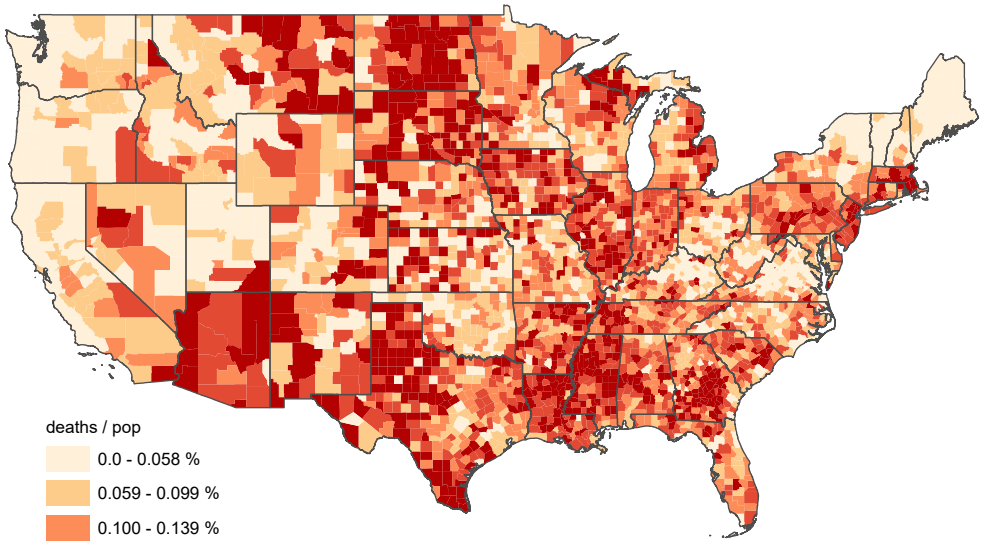
COVID-19 Death Rate in US
Four Data Classifications by County

Equal Interval



deaths / pop
- 0.0 - 0.168 %
- 0.169 - 0.336 %
- 0.337 - 0.504 %
- 0.505 - 0.672 %
- 0.673 - 0.840 %

Quantile



deaths / pop
- 0.0 - 0.058 %
- 0.059 - 0.099 %
- 0.100 - 0.139 %
- 0.140 - 0.195 %
- 0.196 - 0.840 %

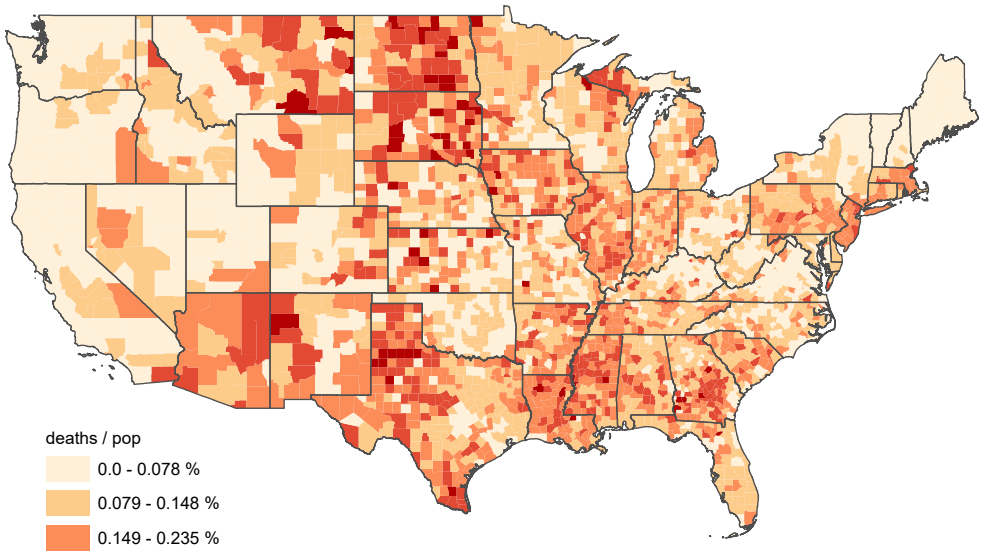
0 475 950 1,900 Miles

Scale: 1:50,000,000

Spatial Reference
PCS: WGS 1984 Web Mercator Auxiliary Sphere
GCS: GCS WGS 1984
Datum: WGS 1984
Projection: Mercator Auxiliary Sphere
Center: 96°41'41"W 40°18'28"N

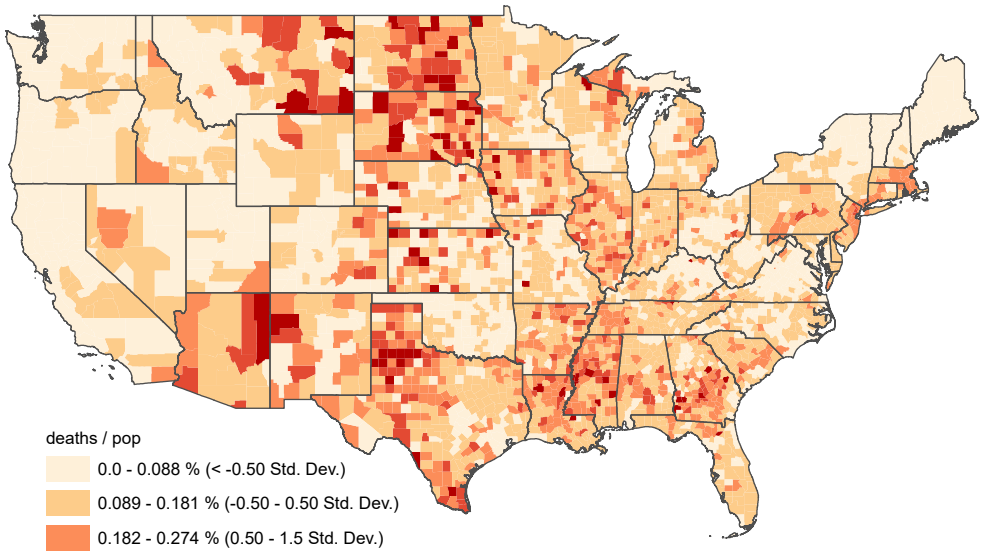
Cartography by Aaron Goodman
Data source: UCLA GEOG XL 180 course website

Natural Breaks



deaths / pop
- 0.0 - 0.078 %
- 0.079 - 0.148 %
- 0.149 - 0.235 %
- 0.236 - 0.388 %
- 0.389 - 0.840 %

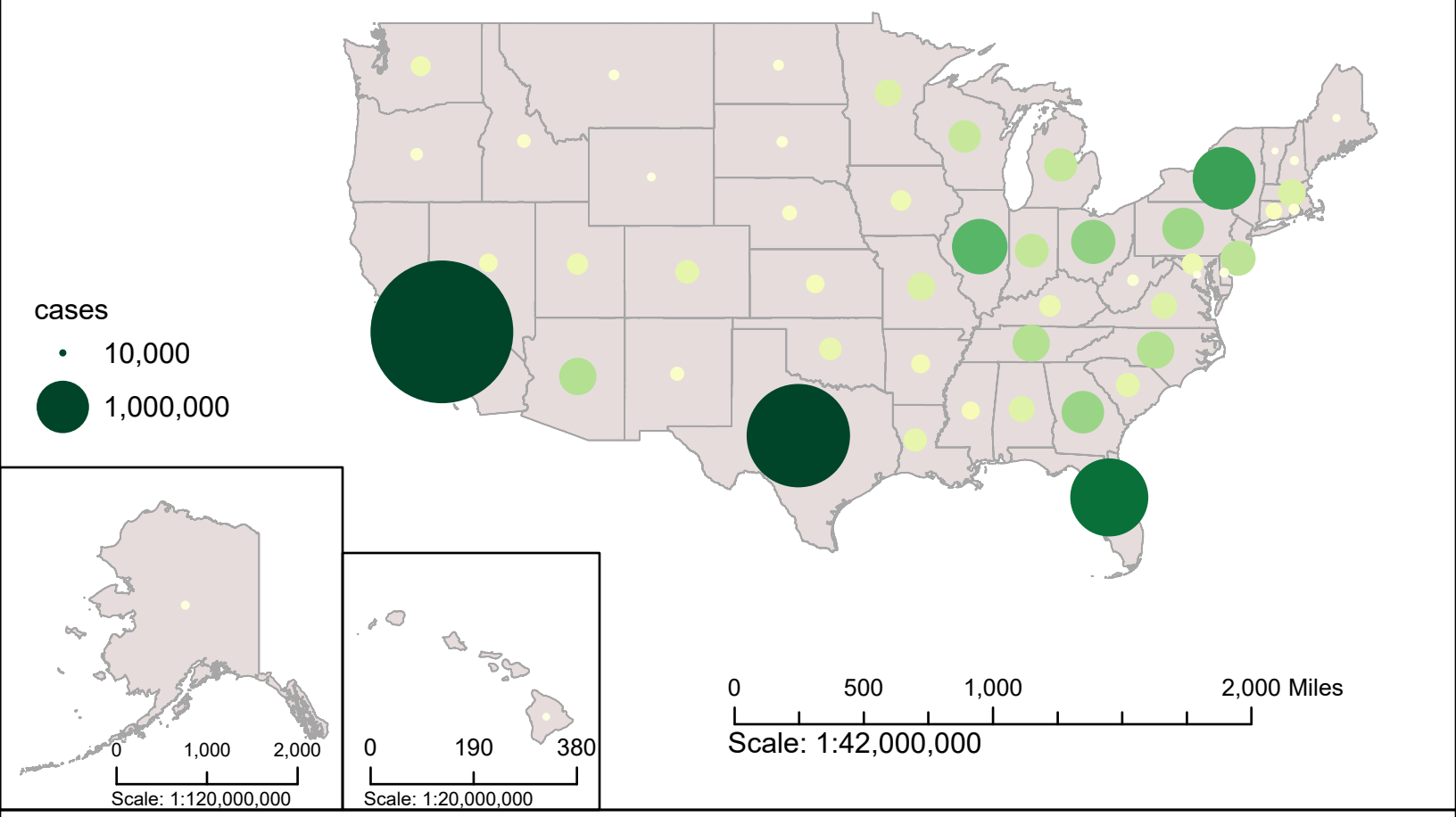
Standard Deviation



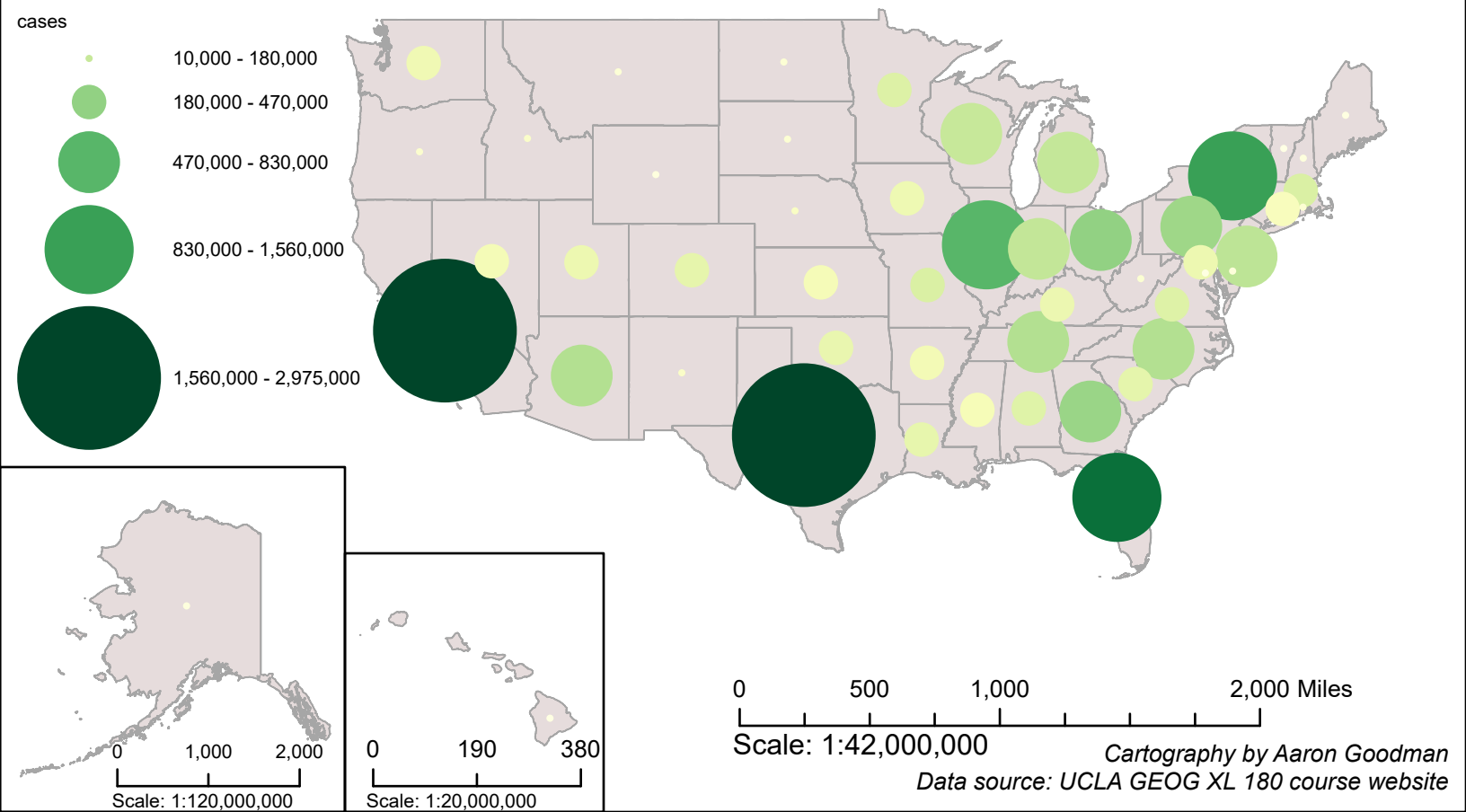
deaths / pop
- 0.0 - 0.088 % (< -0.50 Std. Dev.)
- 0.089 - 0.181 % (-0.50 - 0.50 Std. Dev.)
- 0.182 - 0.274 % (0.50 - 1.5 Std. Dev.)
- 0.275 - 0.367 % (1.5 - 2.5 Std. Dev.)
- 0.368 - 0.840 % (> 2.5 Std. Dev.)

median death rate: 0.134 %

COVID-19 Case Count by State
Proportional Symbols

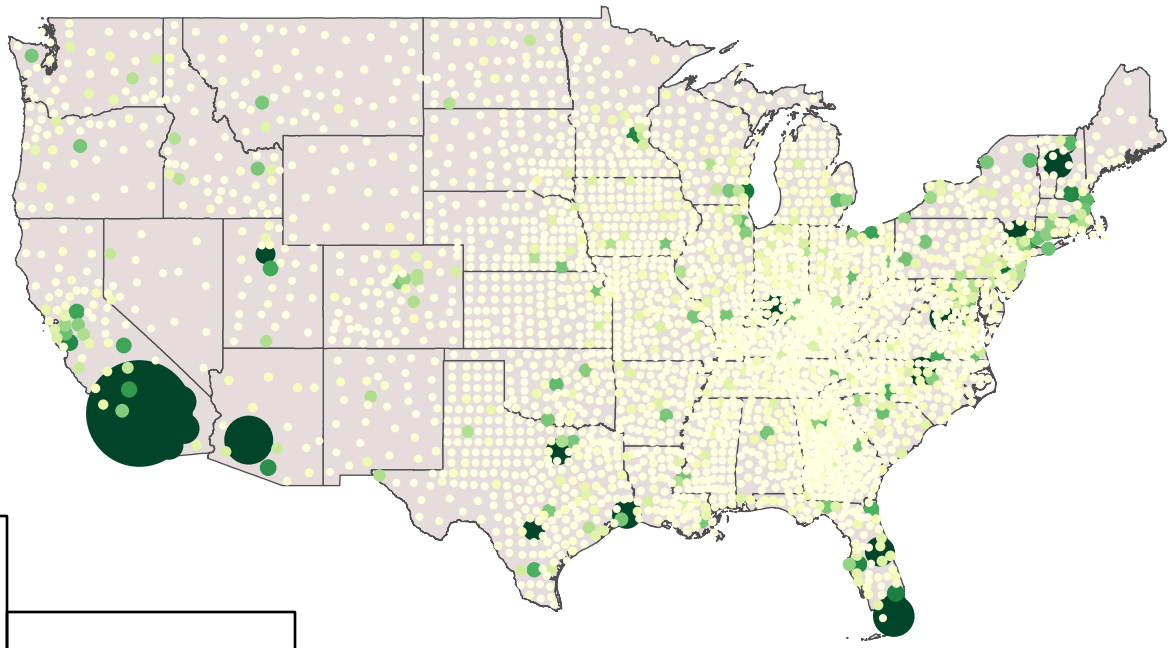


COVID-19 Case Count by State
Graduated Symbols (Natural Breaks)



Cartography by Aaron Goodman
Data source: UCLA GEOG XL 180 course website

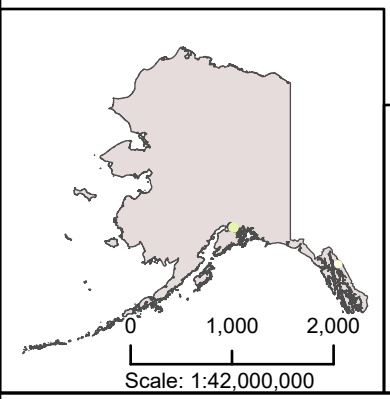
COVID-19 Case Count by County
Proportional Symbols

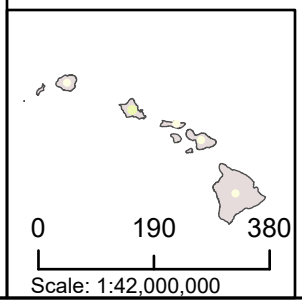


cases

1

1,000,000

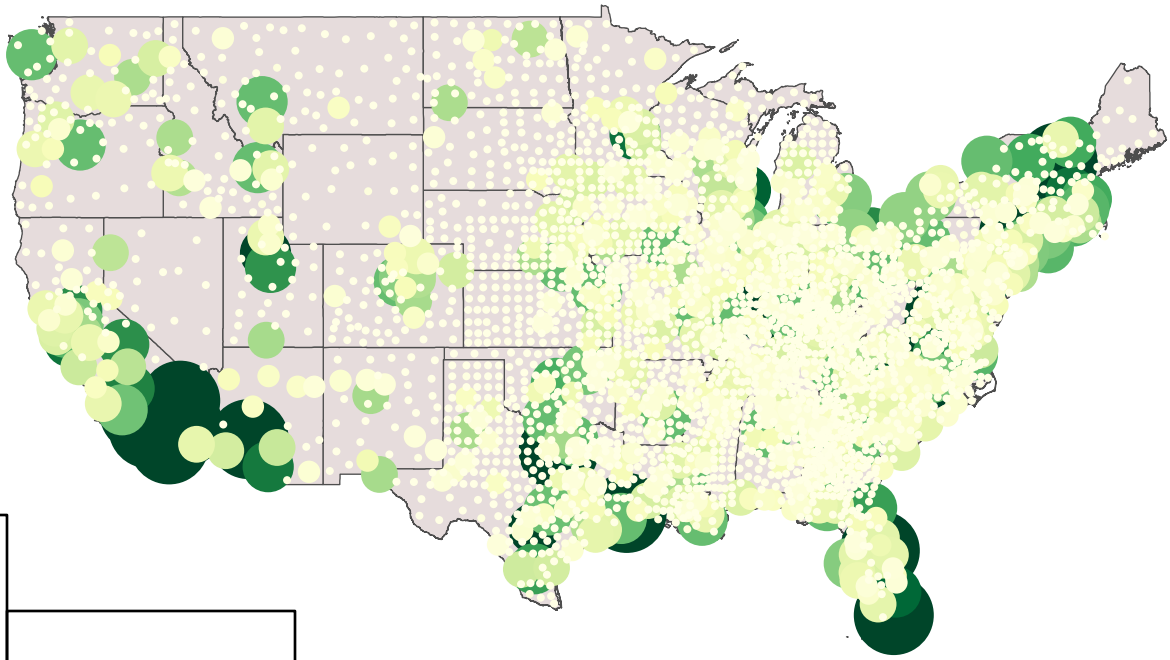




0 500 1,000 2,000 Miles

Scale: 1:42,000,000

COVID-19 Case Count by County
Graduated Symbols (Natural Breaks)



cases

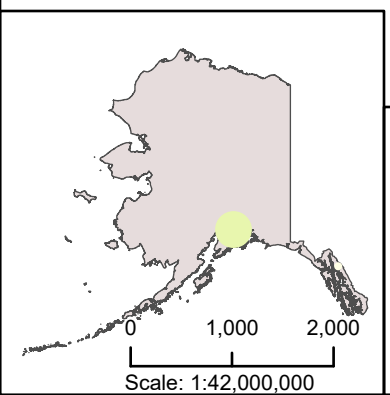
< 7,500

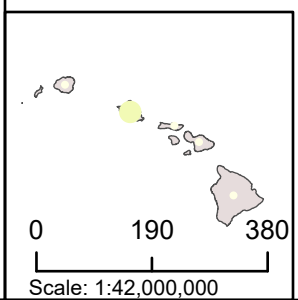
7,500 - 22,000

22,000 - 48,000

48,000 - 158,000

> 158,000





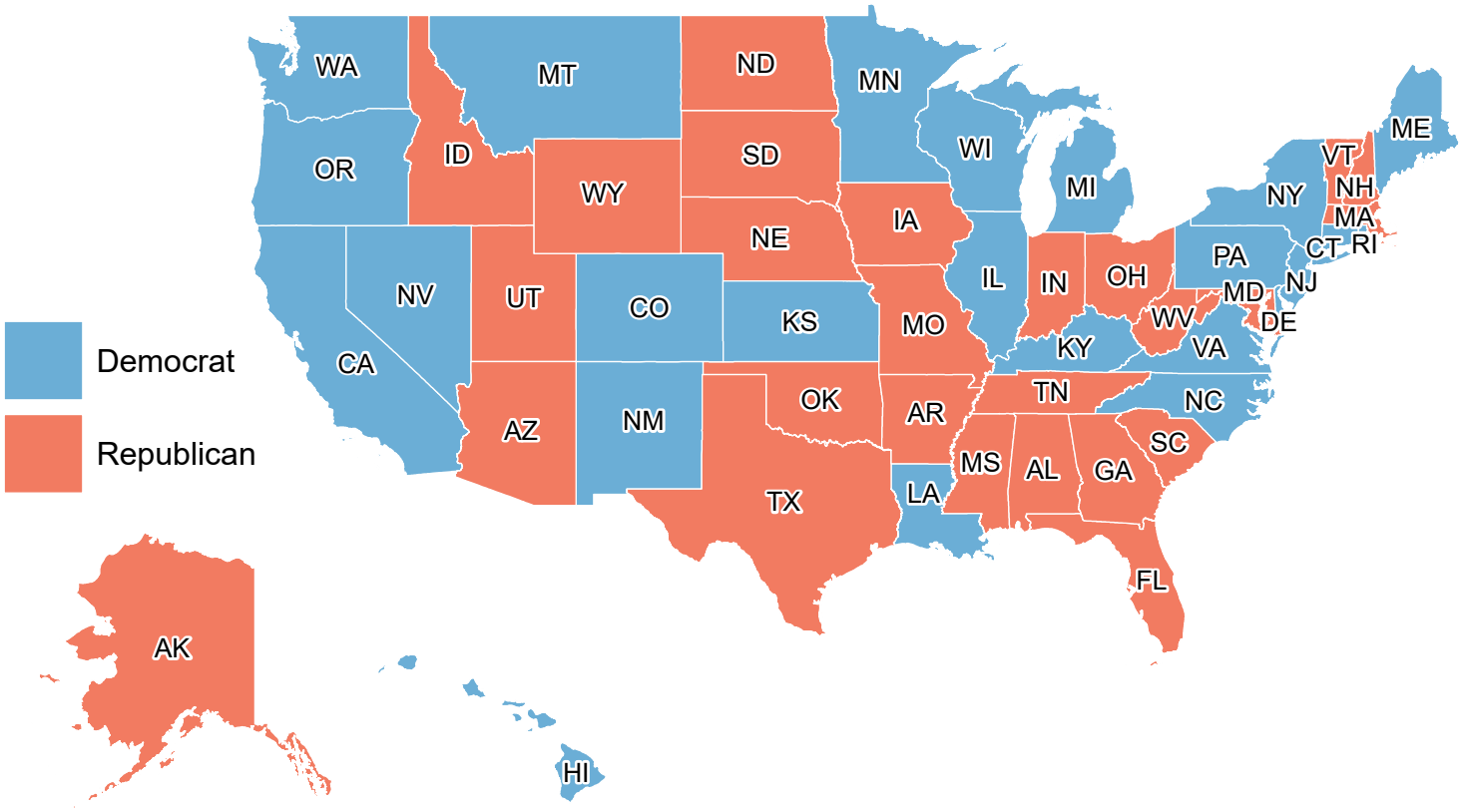
0 500 1,000 2,000 Miles

Scale: 1:42,000,000

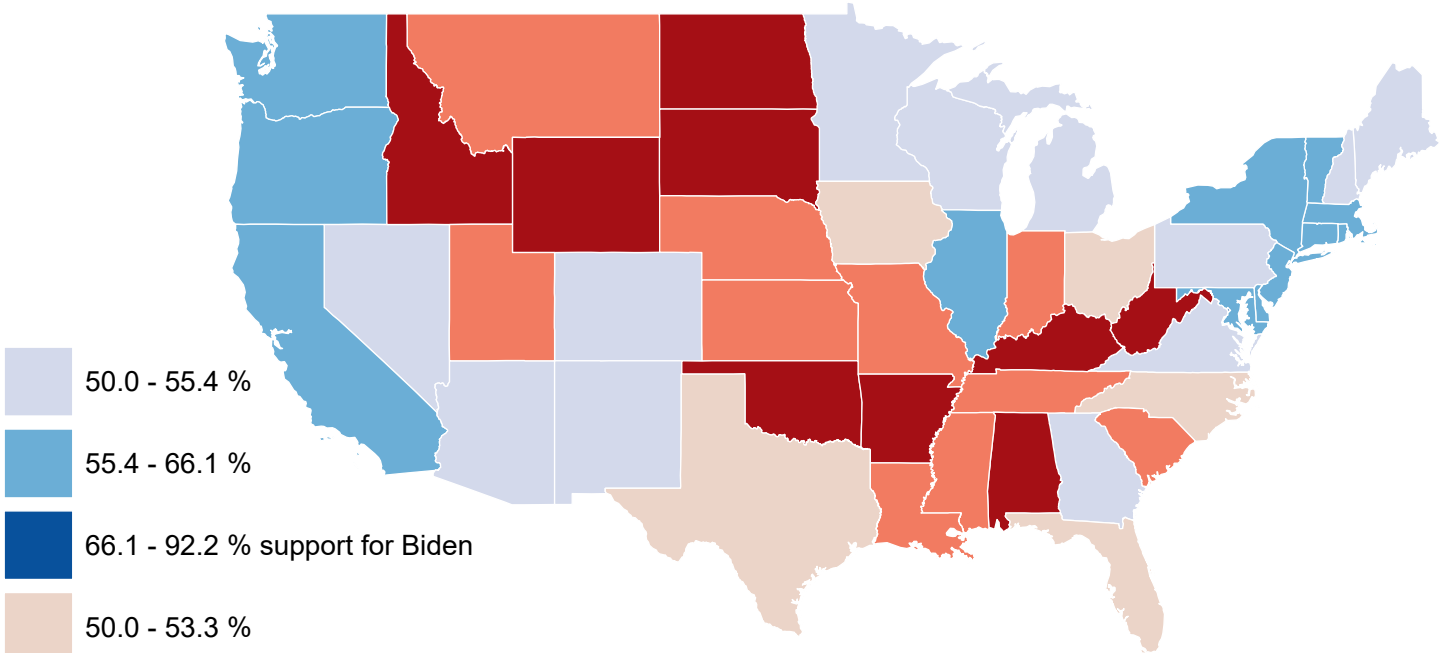
Cartography by Aaron Goodman

Data source: UCLA GEOG XL 180 course website

U.S. State Governors by Party



2020 U.S. Presidential Election
Percent of Vote for Winning Candidate
(contiguous states only)



Cartography by Aaron Goodman
Data source: UCLA GEOG XL 180 course website

Aaron Goodman
Ruth Engel
UCLA GEOG XL 7
24 July 2022

Unit 2 - COVID-19 Mapping

Part 1

As classification methods increasingly consider data's distribution across the number line, these methods respectively increase their accuracy in maintaining the like-values within categories and unlike-values separated across categories. Equal interval and quantile classification methods do not consider the data distribution, for example, and can prevent a map viewer from intuitively categorizing like-values. However, the class limits of equal interval classifications tend to make sense to viewers unfamiliar with statistics, and quantile groupings can prove useful and make sense when working with emphatically ordinal data. Otherwise, the natural breaks and standard deviation classifications offer the most "accurate" representation or interpretation of value classes, especially under the Fisher-Jenks scheme for the former. These schemes use the graphed data heavily to determine a classification which minimizes various types of error and maintains accurate categories.

For the state and county COVID-19 death rate maps, I believe the Natural Breaks classification represents the data best. It provides suitable categories to capture and precisely represent geographic outliers and their adjacent territories.

Part 2

For both of my graduated symbol maps depicting COVID-19 case counts, I chose the Natural Breaks classification method because I thought it best represented the distribution of the data, when compared to the standard deviation method. While trying to avoid restating the method's purpose, I nonetheless emphasize its success in keeping values together that are nearly equal, and creating boundaries between two values who may be more spaced apart than other pairs. Assuming the visual difference between the proportional and graduated case count maps accounts for distortion or error (i.e., difference in area between proportional and graduated symbols), it is apparent that this method is not totally ideal and could possibly be refined with a manual interval.