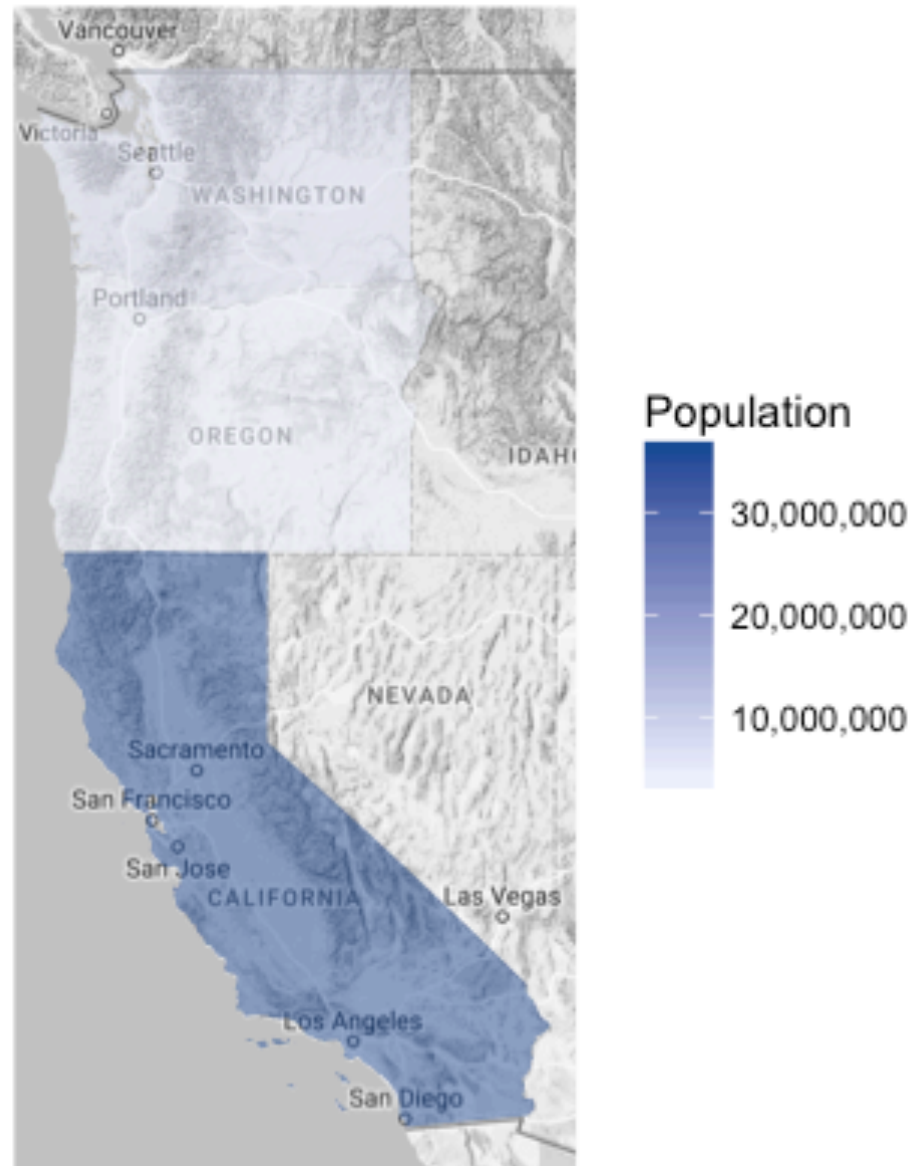


2012 State Population Estimates



Choroplethr Basics

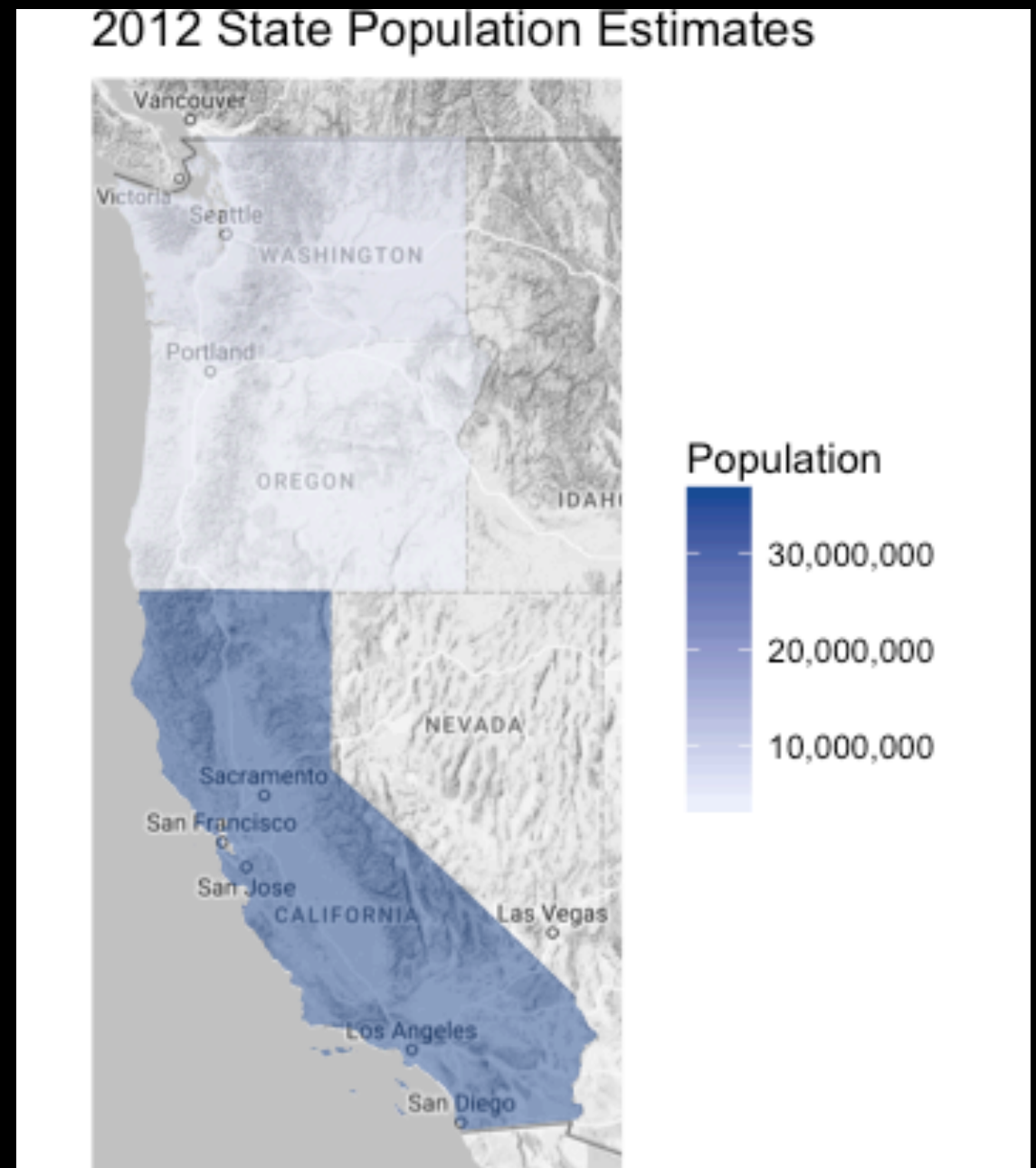
Ari Lamstein

Course Outline

1. Introduction
2. Choroplethr Basics
3. Variables and Vintages
4. Data Details
5. Learning More

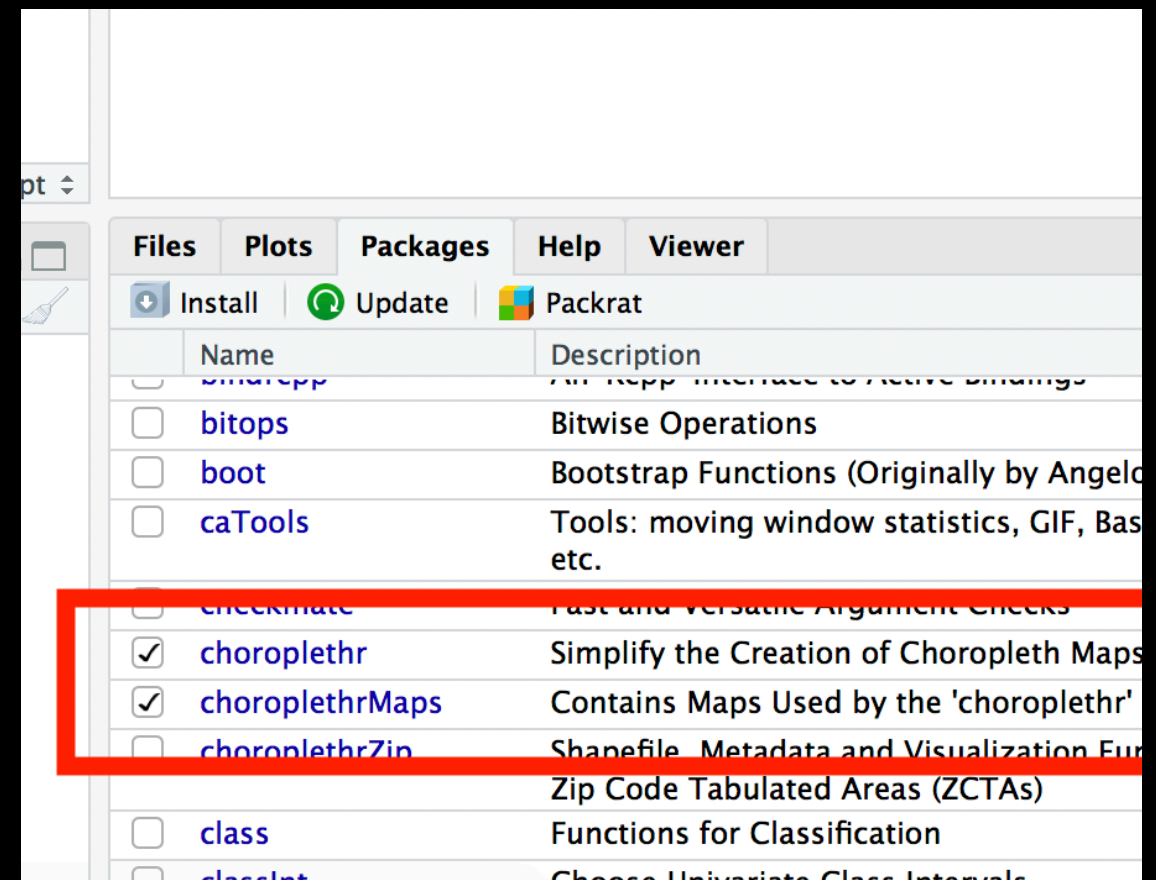
Choroplethr Basics

- Loading the package
- Viewing example data
- Mapping example data
- Customizing maps



Choroplethr Basics

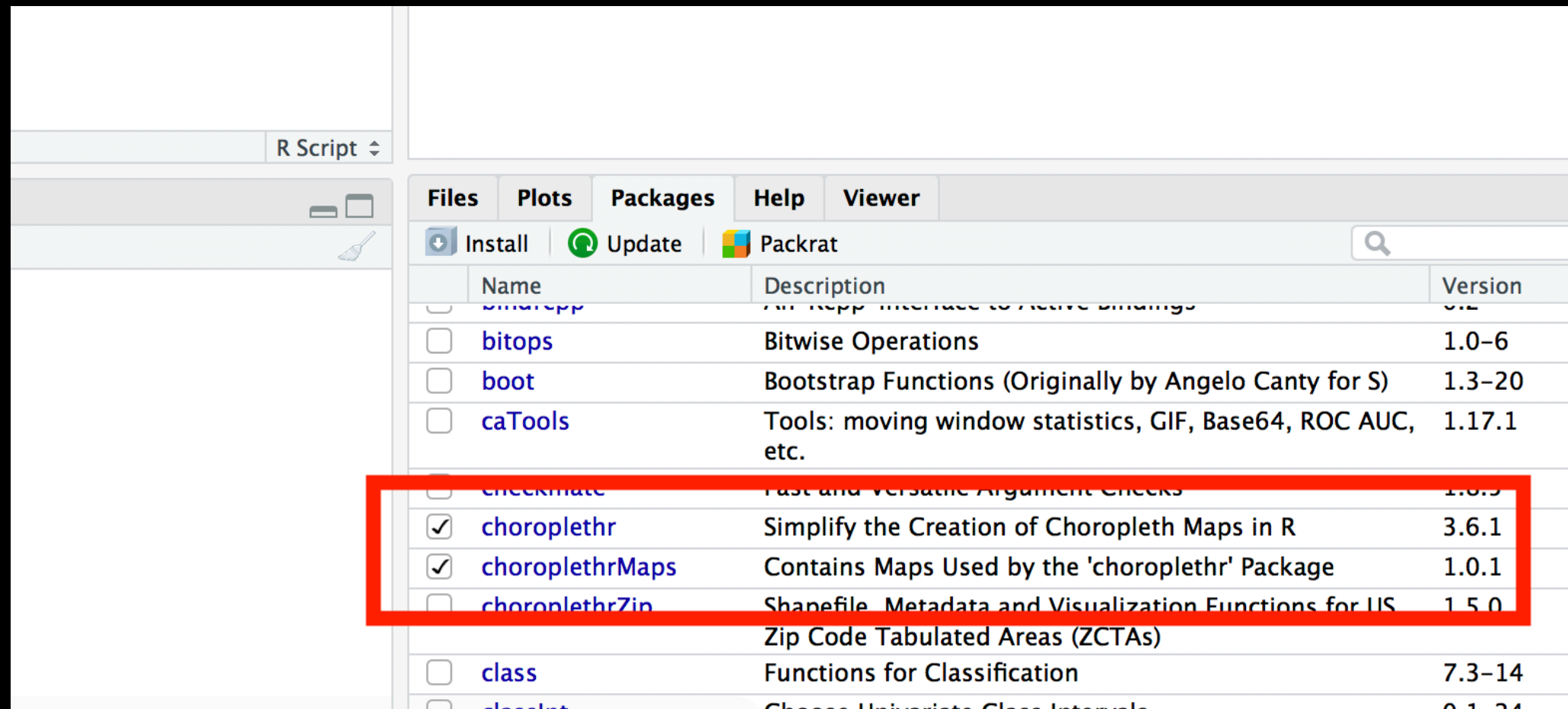
- Loading the package
- Viewing example data
- Mapping example data
- Customizing maps



The screenshot shows the RStudio interface with the console window open. The console output is as follows:

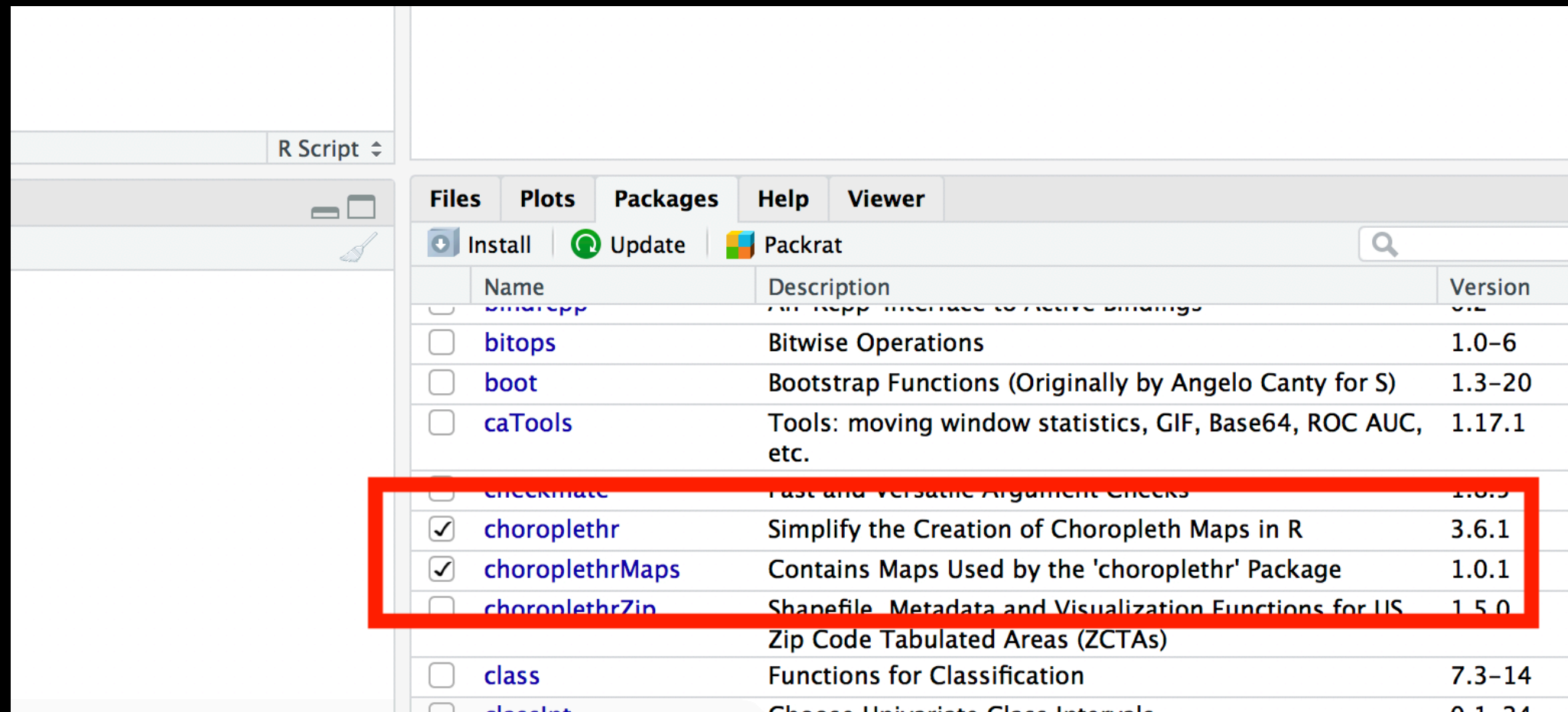
```
1:1 (Top Level) ↕ R Script ↕  
Console Terminal x  
~/Lamstein Consulting/census-consulting-project/course draft/course draft code/ ↗  
> library(choroplethr)  
Loading required package: acs  
Loading required package: stringr  
Loading required package: XML  
  
Attaching package: 'acs'  
  
The following object is masked from 'package:base':  
  
    apply  
  
Choroplethr has a free course: www.CensusMappingCourse.com  
> library(choroplethrMaps)  
> |
```

library(choroplethr)
library(choroplethrMaps)



Verification

Checkmark means “loaded”

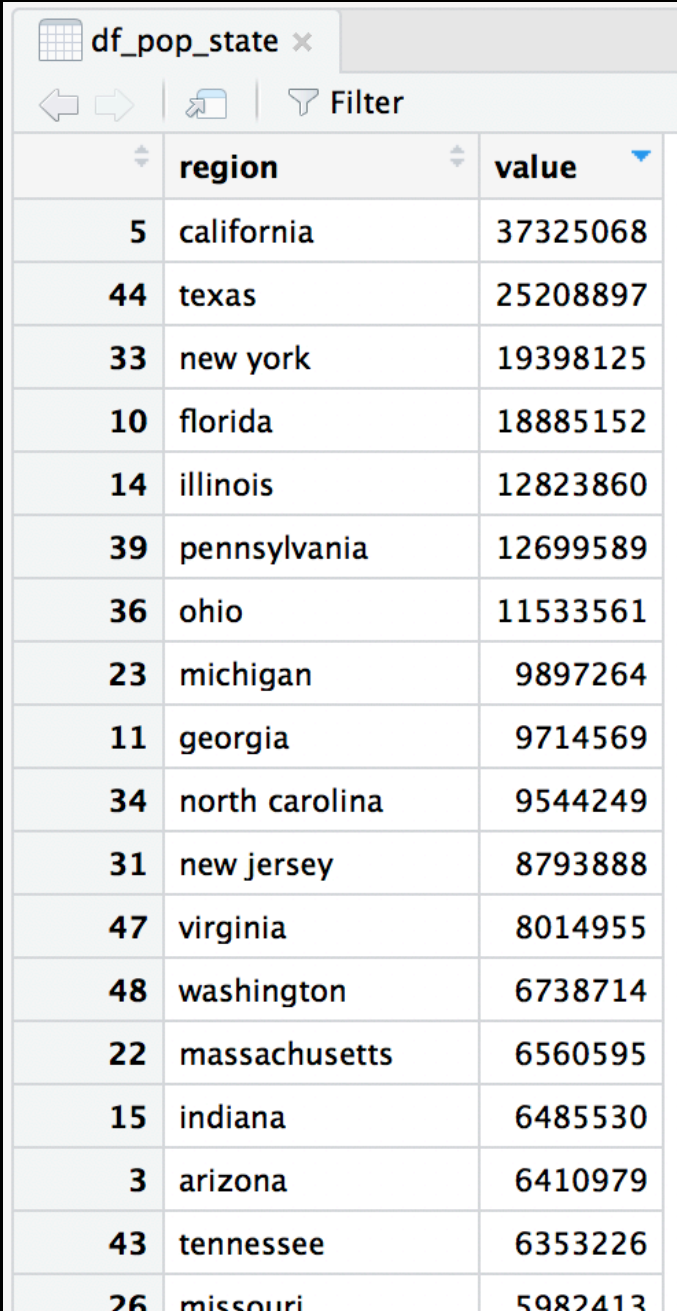


install.packages vs. library

Run library **each time** you load Rstudio

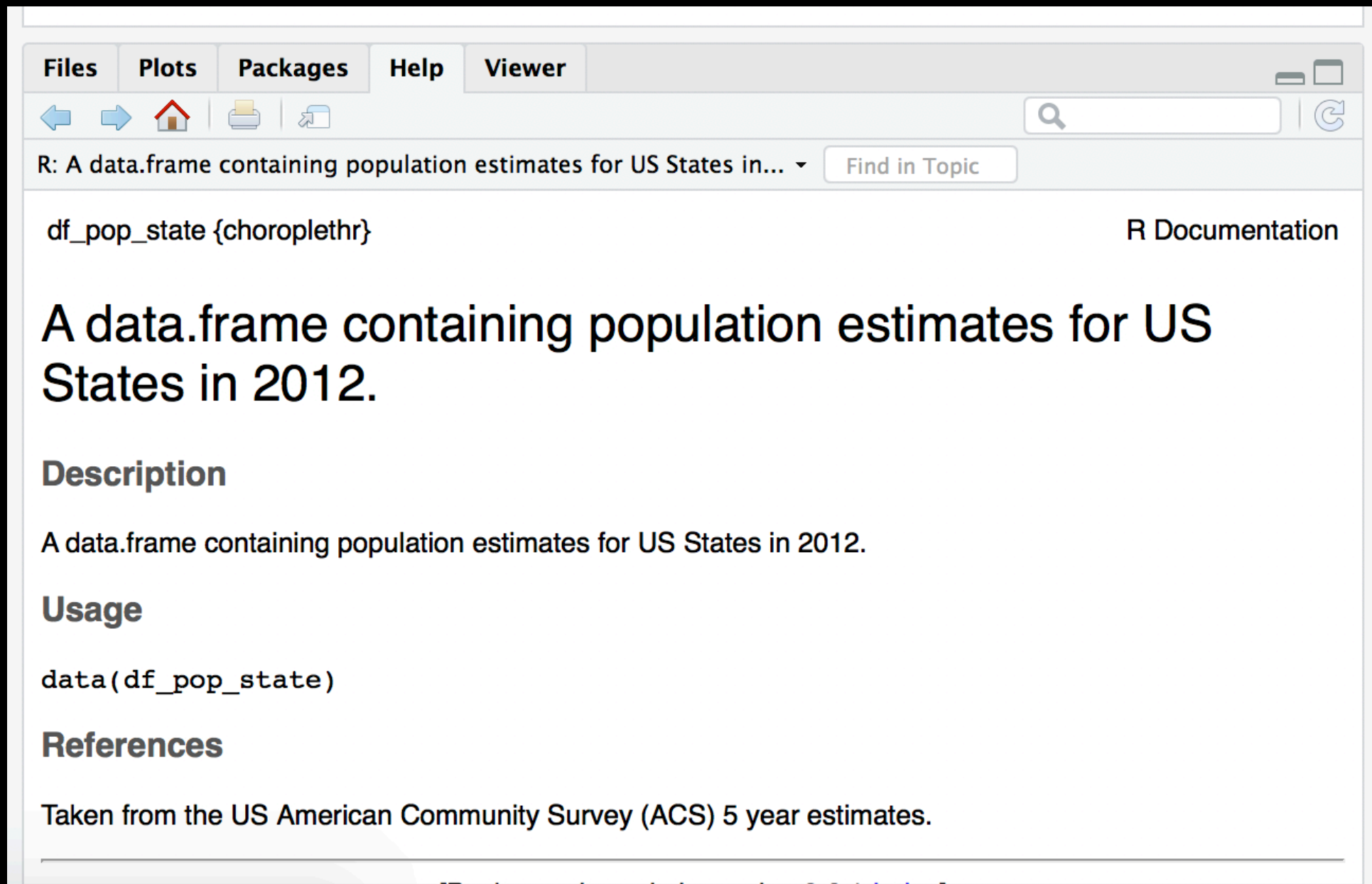
Choroplethr Basics

- Loading the package
- Viewing example data
- Mapping example data
- Customizing maps



A screenshot of a data frame viewer window titled 'df_pop_state'. The window shows a table with three columns: an index column, a 'region' column, and a 'value' column. The table contains 20 rows of data, representing population values for various US states. The interface includes navigation arrows and a 'Filter' button at the top.

	region	value
5	california	37325068
44	texas	25208897
33	new york	19398125
10	florida	18885152
14	illinois	12823860
39	pennsylvania	12699589
36	ohio	11533561
23	michigan	9897264
11	georgia	9714569
34	north carolina	9544249
31	new jersey	8793888
47	virginia	8014955
48	washington	6738714
22	massachusetts	6560595
15	indiana	6485530
3	arizona	6410979
43	tennessee	6353226
26	missouri	5982413



The image is a screenshot of the R documentation window for the `df_pop_state` dataset. The window has a menu bar with 'Files', 'Plots', 'Packages', 'Help', and 'Viewer'. Below the menu bar is a toolbar with navigation icons and a search bar. The main content area shows the title 'R: A data.frame containing population estimates for US States in...' followed by a 'Find in Topic' button. The documentation text includes the package name 'df_pop_state {choroplethr}', the title 'A data.frame containing population estimates for US States in 2012.', a 'Description' section with the same text, a 'Usage' section with the code `data(df_pop_state)`, and a 'References' section stating 'Taken from the US American Community Survey (ACS) 5 year estimates.'

Files Plots Packages Help Viewer

R: A data.frame containing population estimates for US States in... Find in Topic

df_pop_state {choroplethr} R Documentation

A data.frame containing population estimates for US States in 2012.

Description

A data.frame containing population estimates for US States in 2012.

Usage

```
data(df_pop_state)
```

References

Taken from the US American Community Survey (ACS) 5 year estimates.

?df_pop_state

? Means “help”

```
Console Terminal x
~/Lamstein Consulting/census-consulting-project/c
> data(df_pop_state)
> df_pop_state
```

	region	value
1	alabama	4777326
2	alaska	711139
3	arizona	6410979
4	arkansas	2916372
5	california	37325068
6	colorado	5042853
7	connecticut	3572213
8	delaware	900131
9	district of columbia	605759
10	florida	18885152
11	georgia	9714569
12	hawaii	1362730
13	idaho	1567803
14	illinois	12823860
15	indiana	6485530
16	iowa	3047646
17	kansas	2851183

data(df_pop_state)

Load the data

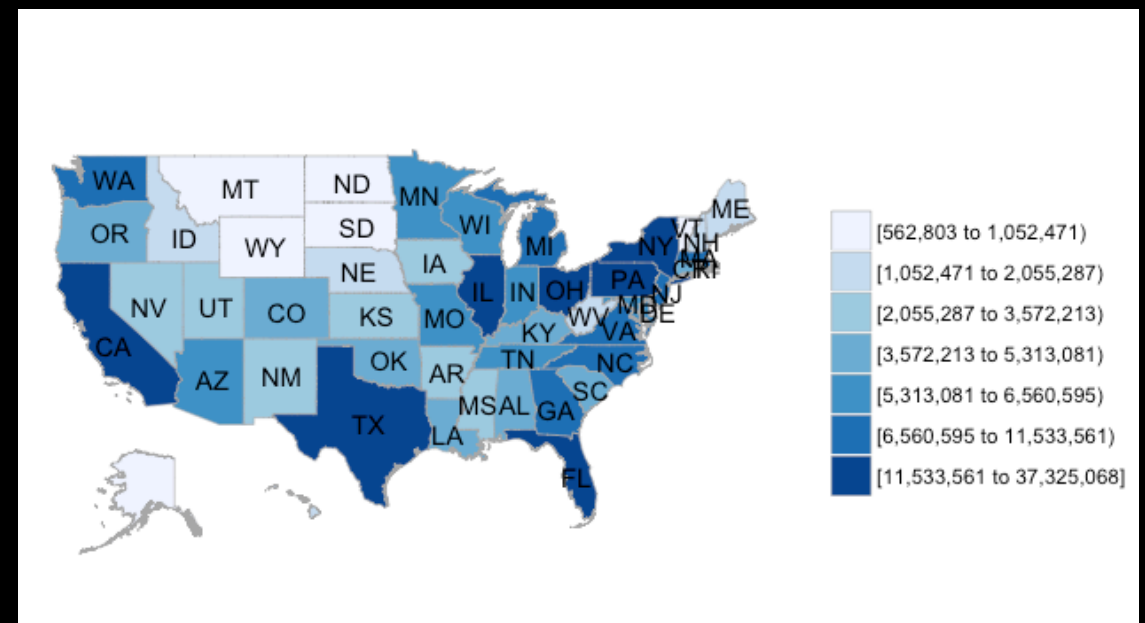
df_pop_state x		
Filter		
	region	value
5	california	37325068
44	texas	25208897
33	new york	19398125
10	florida	18885152
14	illinois	12823860
39	pennsylvania	12699589
36	ohio	11533561
23	michigan	9897264
11	georgia	9714569
34	north carolina	9544249
31	new jersey	8793888
47	virginia	8014955
48	washington	6738714
22	massachusetts	6560595
15	indiana	6485530
3	arizona	6410979
43	tennessee	6353226
26	missouri	5982413

View(df_pop_state)

Click “region” and “value” to sort

Choroplethr Basics

- Loading the package
- Viewing example data
- Mapping example data
- Customizing maps

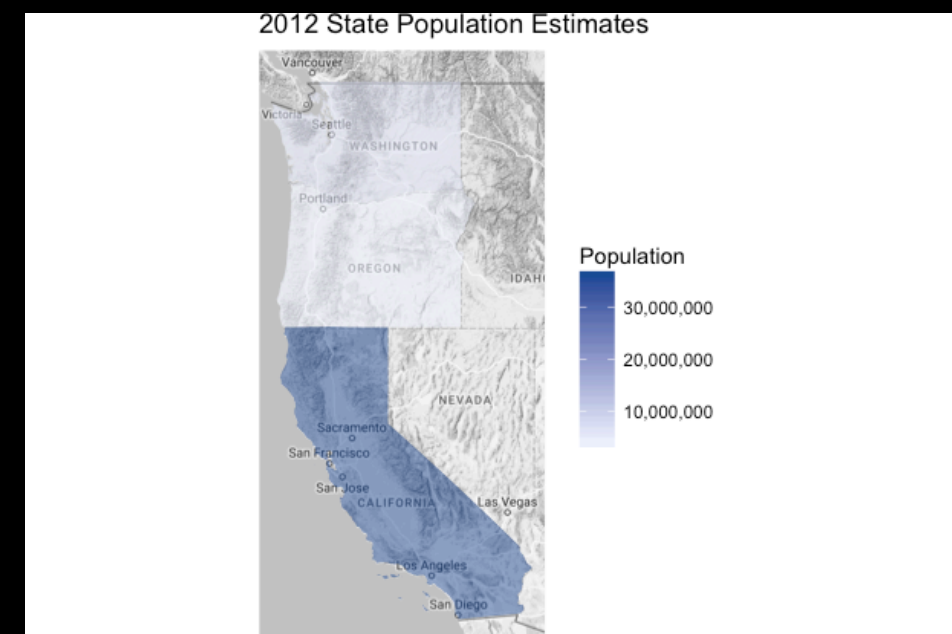
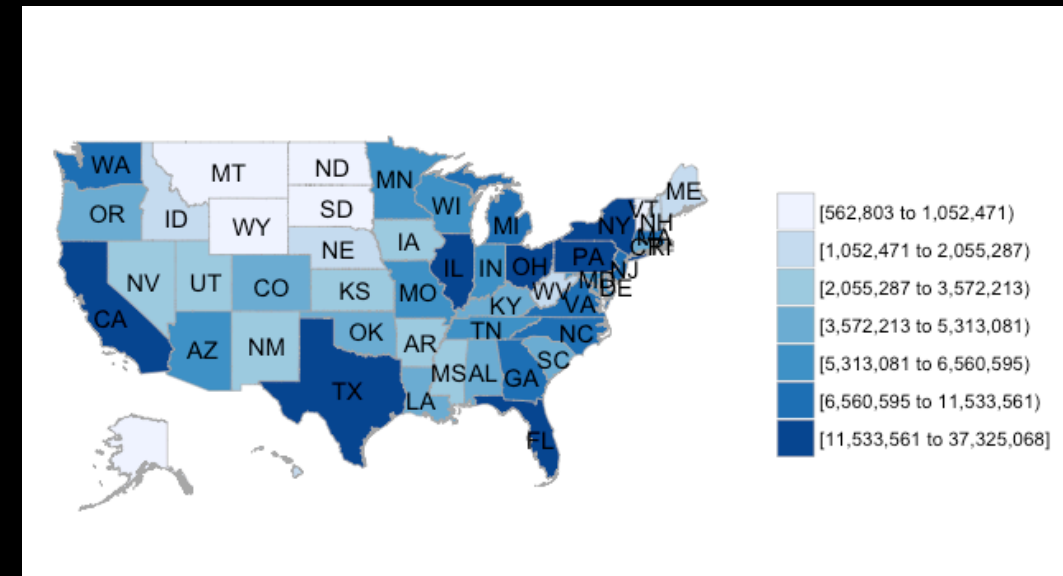


df_pop_state x		
Filter		
	region	value
5	california	37325068
44	texas	25208897
33	new york	19398125
10	florida	18885152
14	illinois	12823860
39	pennsylvania	12699589
36	ohio	11533561
23	michigan	9897264
11	georgia	9714569
34	north carolina	9544249
31	new jersey	8793888
47	virginia	8014955
48	washington	6738714
22	massachusetts	6560595
15	indiana	6485530
3	arizona	6410979
43	tennessee	6353226
26	missouri	5982413

(region, value) pairs

Choroplethr Basics

- Loading the package
- Viewing example data
- Mapping example data
- Customizing maps



FilesPlotsPackagesHelpViewer

R: Create a choropleth of US StatesFind in Topic

state_choropleth {choroplethr}R Documentation

Create a choropleth of US States

Description

The map used is state.map in the package choroplethrMaps. See state.regions in the choroplethrMaps package for a data.frame that can help you coerce your regions into the required format.

Usage

```
state_choropleth(df, title = "", legend = "", num_colors = 7,
  zoom = NULL, reference_map = FALSE)
```

Arguments

df	A data.frame with a column named "region" and a column named "value". Elements in the "region" column must exactly match how regions are named in the "region" column in state.map.
title	An optional title for the map.
legend	An optional name for the legend.
num_colors	The number of colors to use on the map. A value of 0 uses a divergent scale (useful for visualizing negative and positive numbers), A value of 1 uses a continuous scale (useful for visualizing outliers), and a value in [2, 9] will use that many quantiles.
zoom	An optional vector of states to zoom in on. Elements of this vector must exactly match the names of states as they appear in the "region" column of ?state.regions.
reference_map	If true, render the choropleth over a reference map from Google Maps.

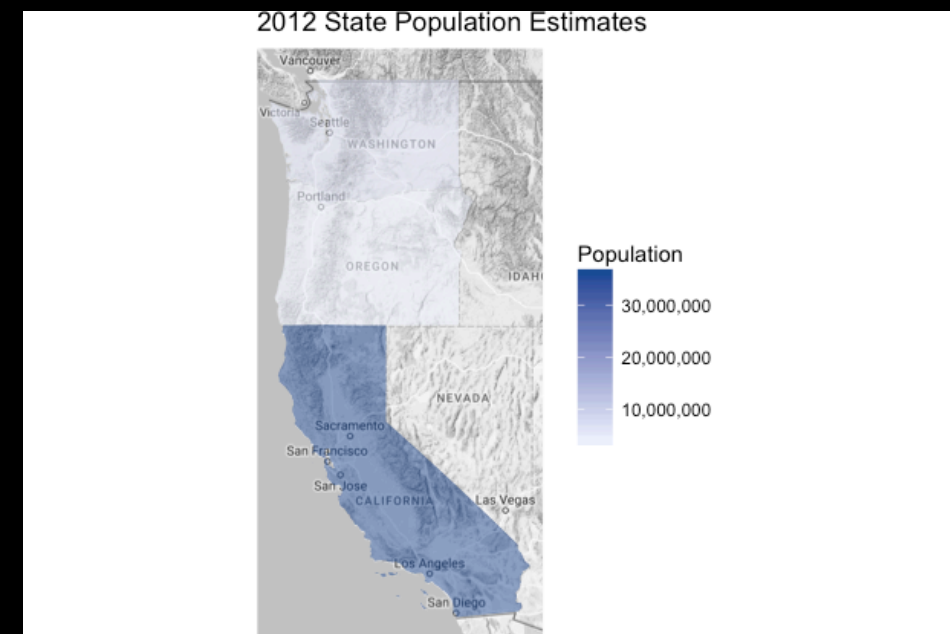
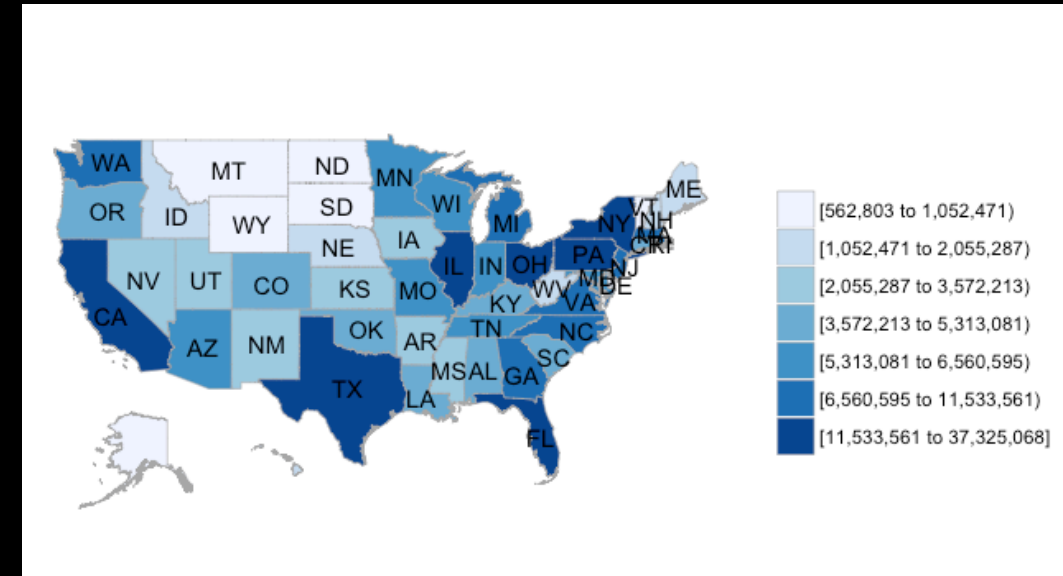
Examples

```
## Not run:
# default parameters
data(df_pop_state)
state_choropleth(df_pop_state,
  title = "US 2012 State Population Estimates",
  legend = "Population")
```

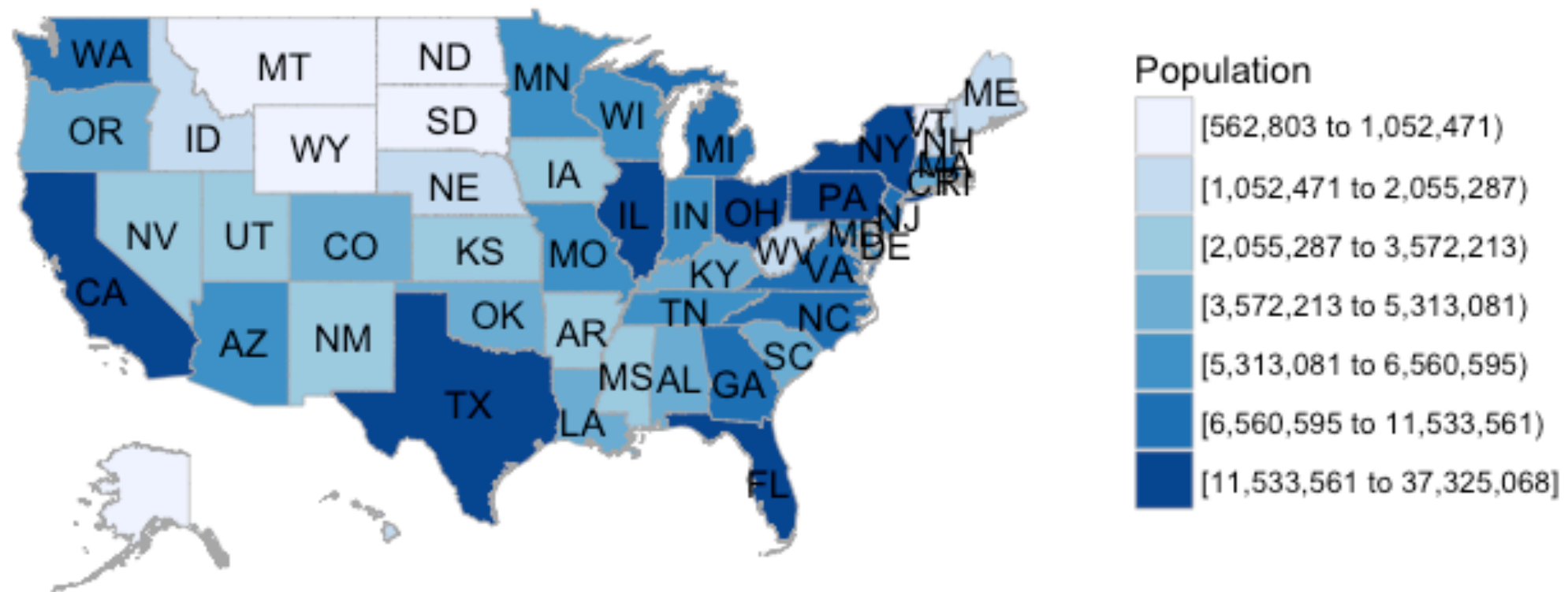
?state_choropleth

Customizing Maps

- Title and legend
- Scale
- Zoom
- Reference map



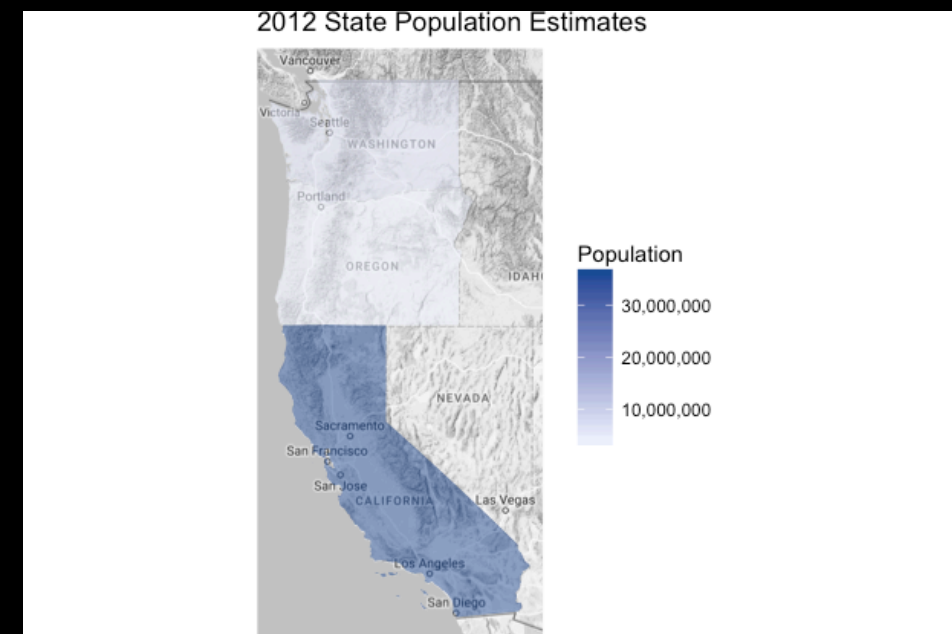
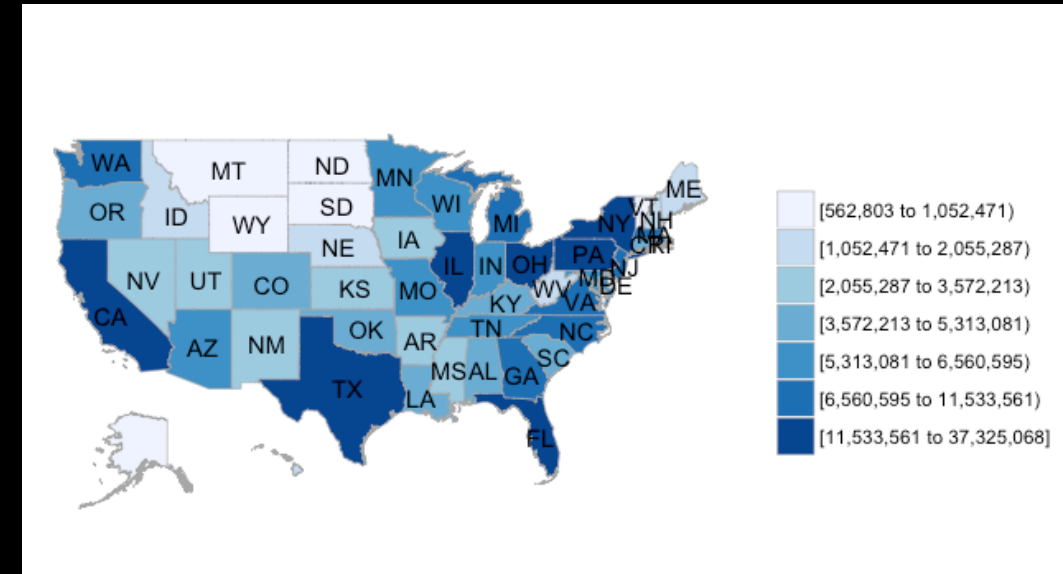
2012 State Population Estimates

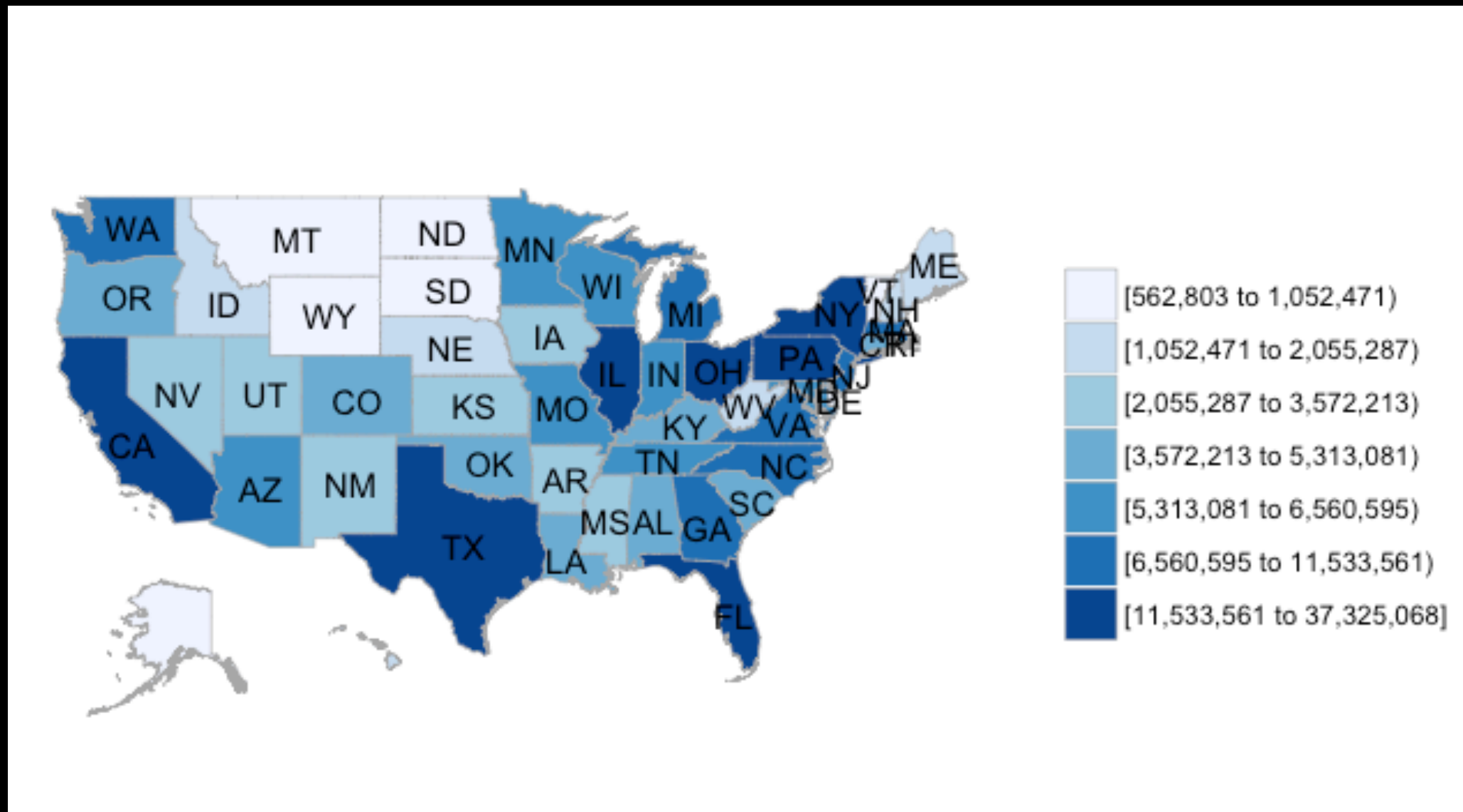


```
state_choropleth(df_pop_state,  
                 title = "2012 State Population Estimates",  
                 legend = "Population")
```

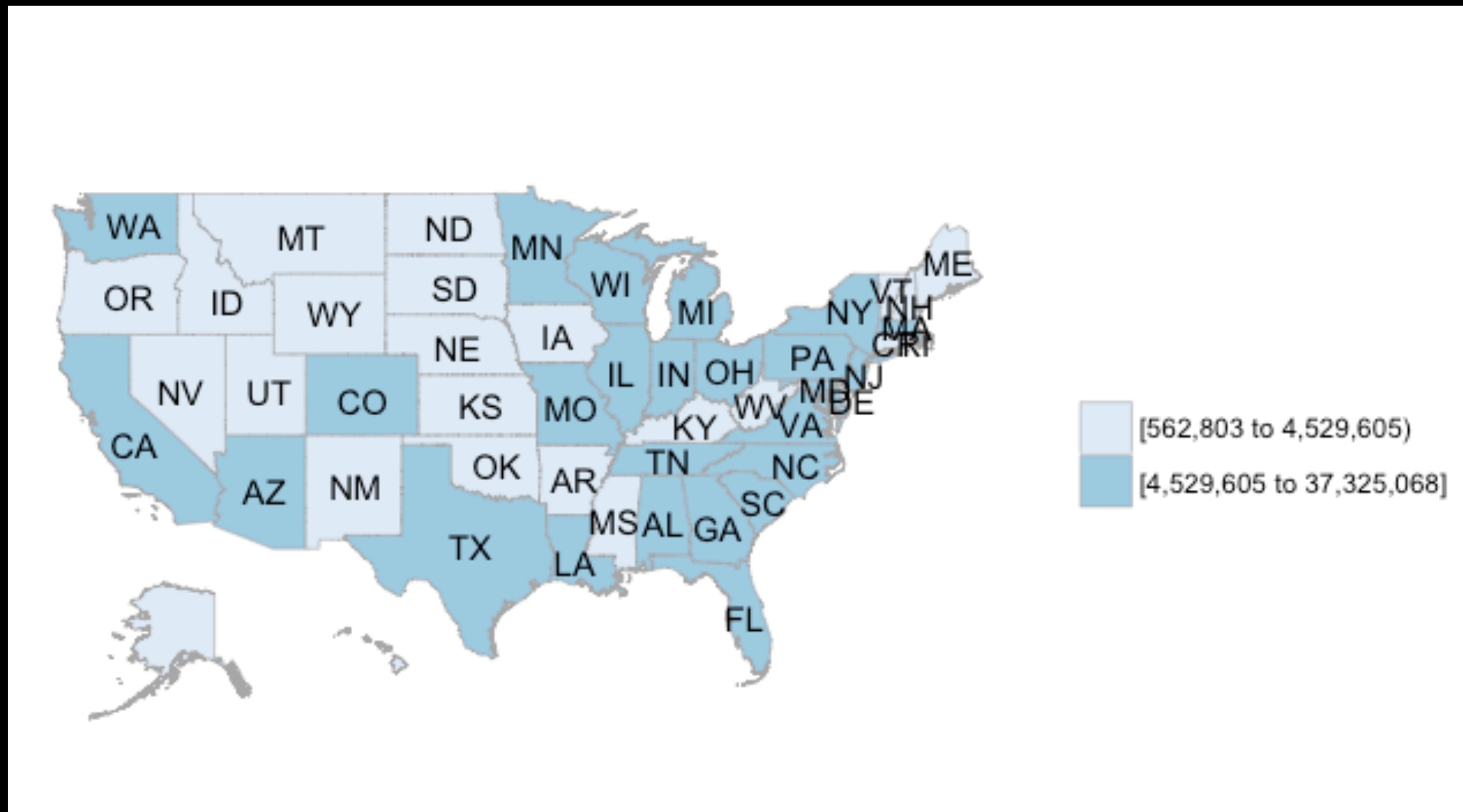
Customizing Maps

- Title and legend
- **Scale**
- Zoom
- Reference map

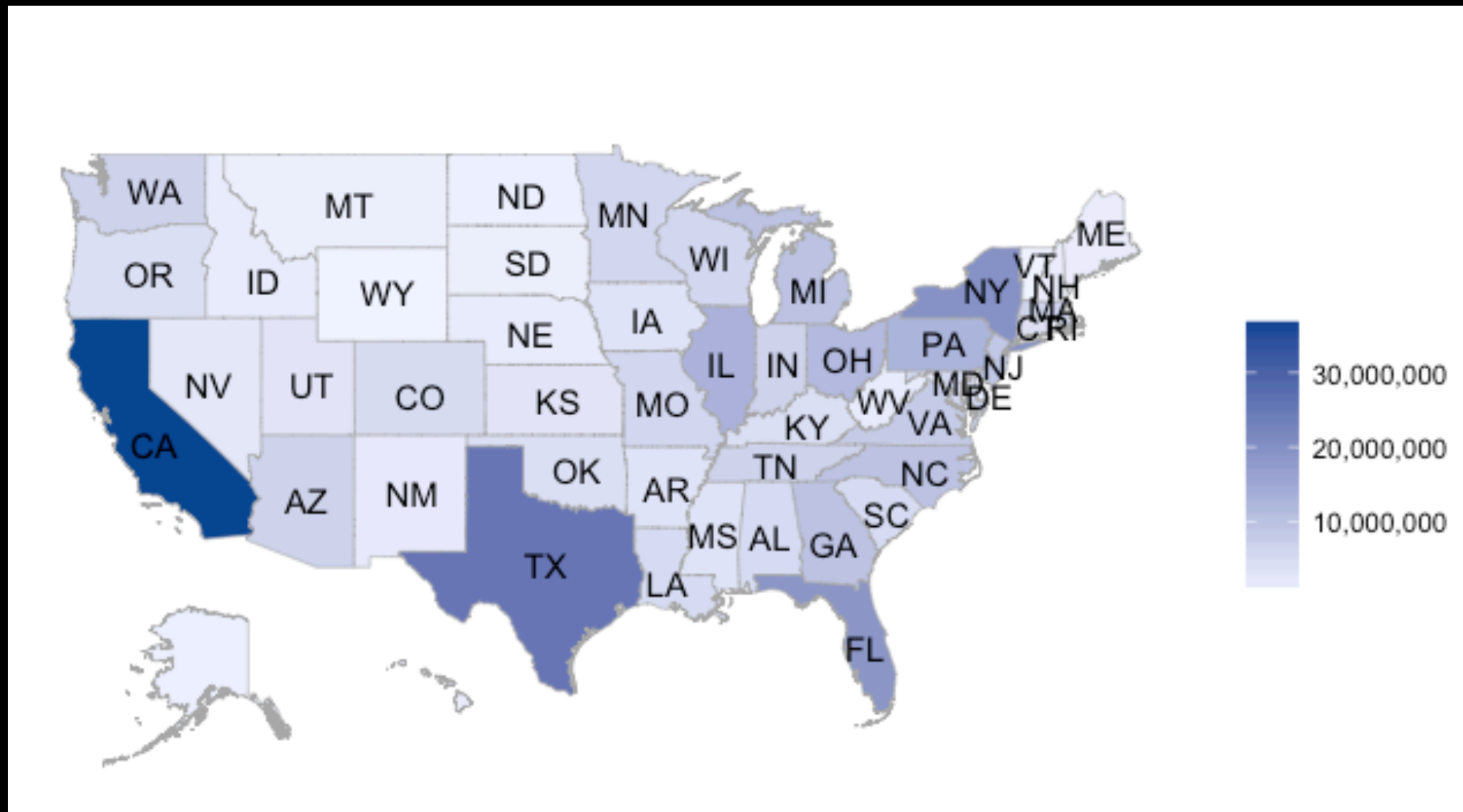




```
state_choropleth(df_pop_state, num_colors = 7)
```



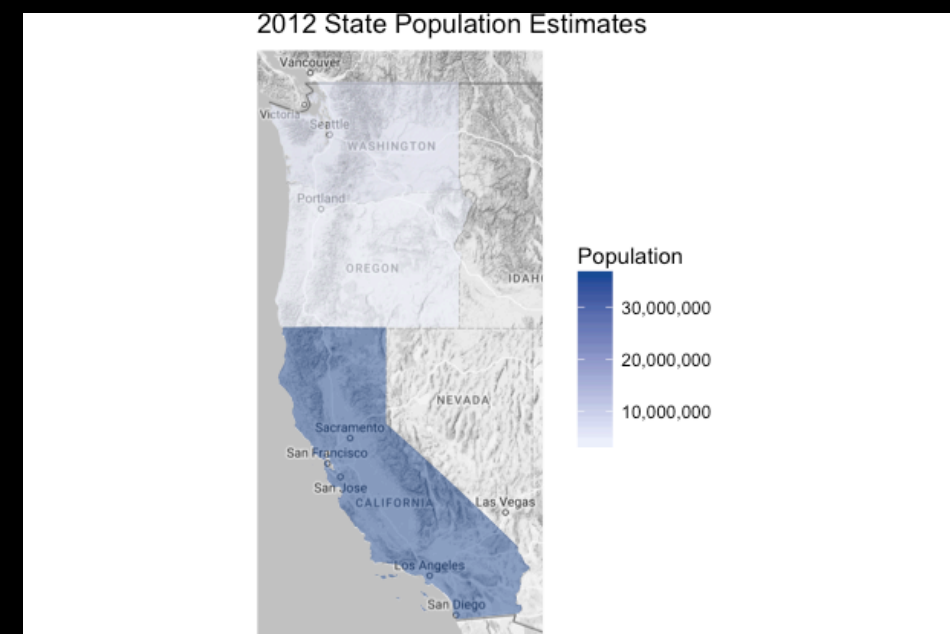
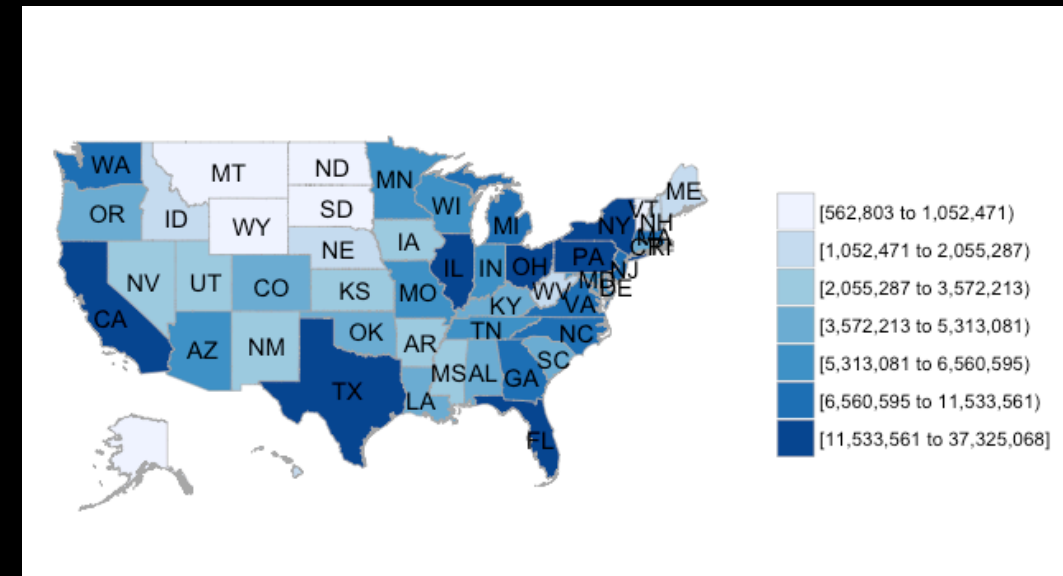
```
state_choropleth(df_pop_state, num_colors = 2)
```

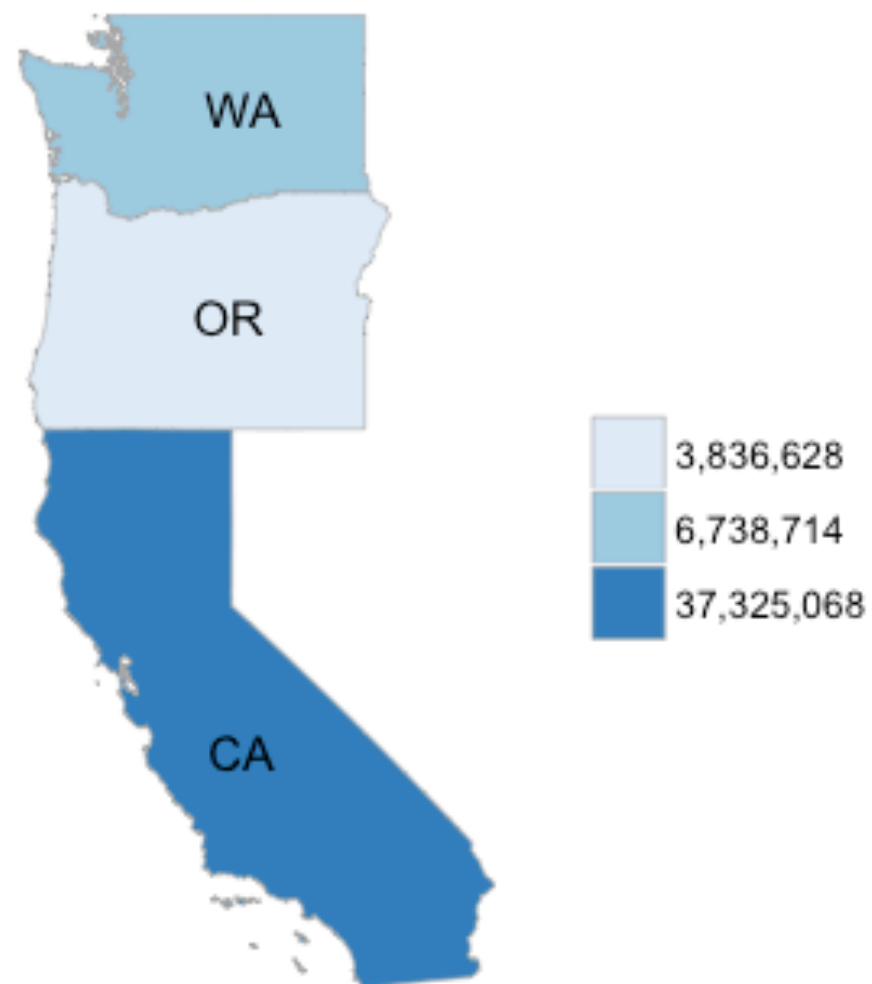


```
state_choropleth(df_pop_state, num_colors = 1)
```


Customizing Maps

- Title and legend
- Scale
- Zoom
- Reference map





```
state_choropleth(df_pop_state,  
  zoom = c("california", "oregon", "washington"))
```

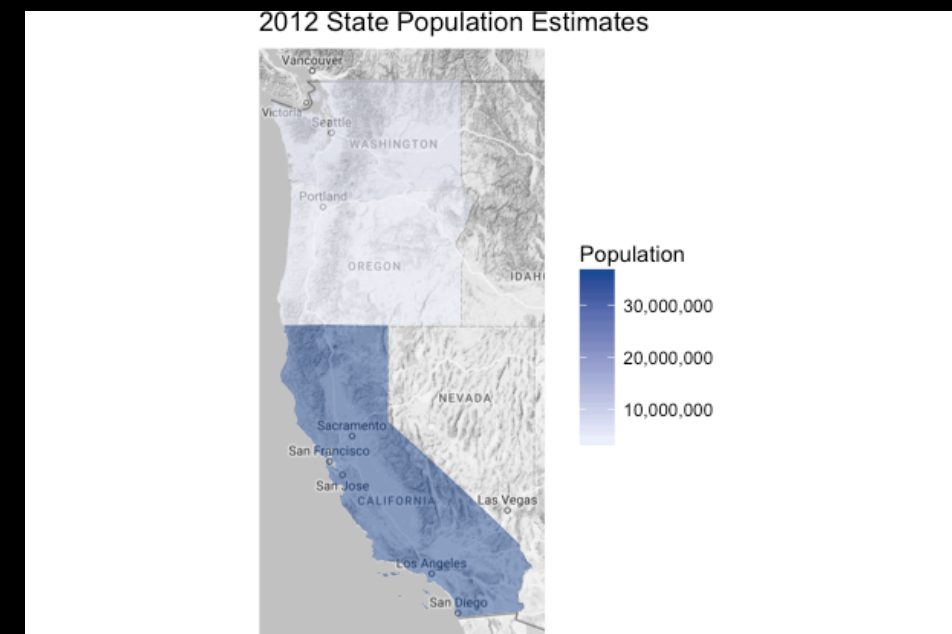
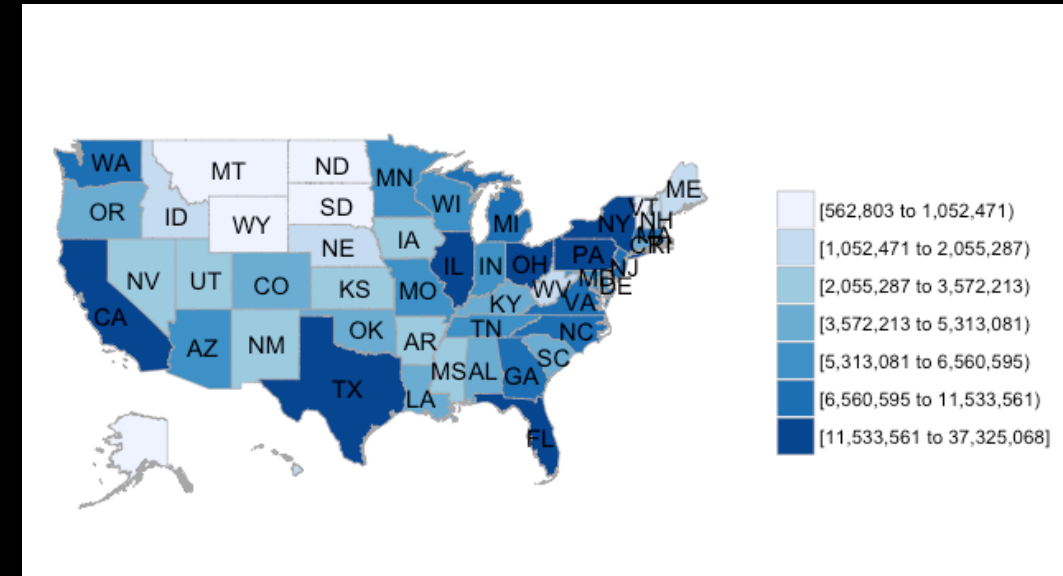
```
Console Terminal x
~/Lamstein Consulting/census-consulting-project/course draft/course
> library(choroplethrMaps)
> data(state.regions)
> state.regions
```

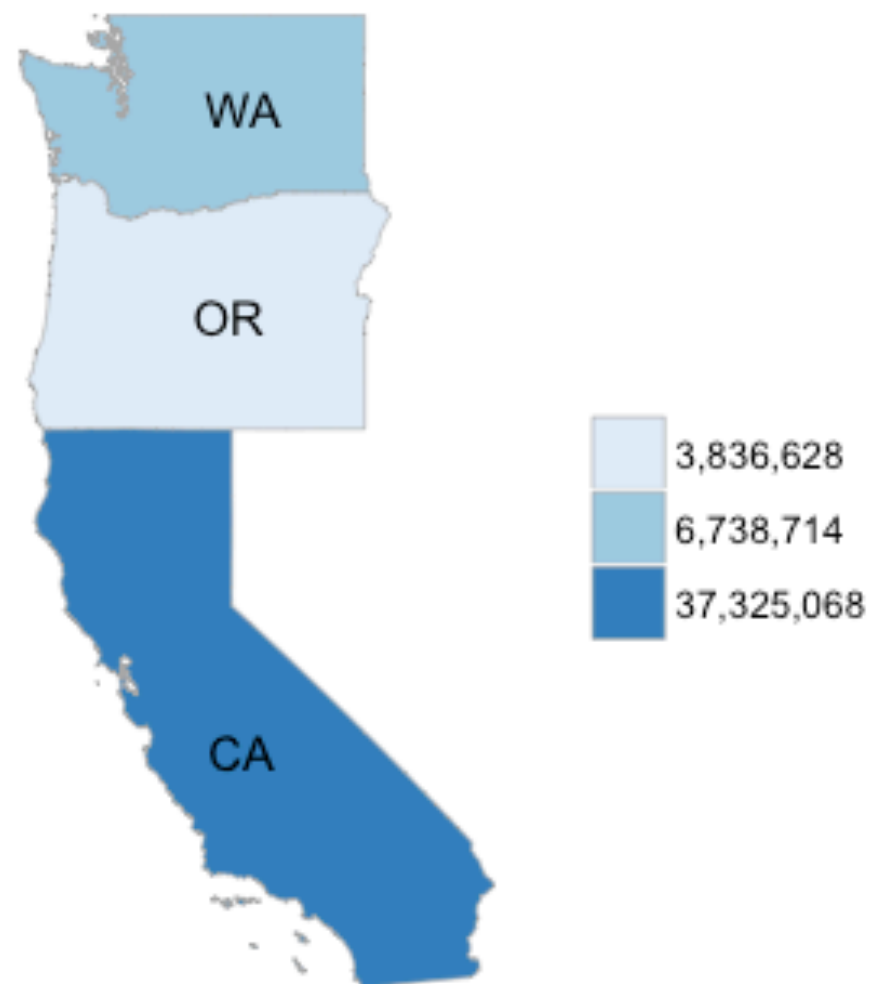
	region	abb	fips.numeric	fips.character
1	alaska	AK	2	02
2	alabama	AL	1	01
3	arkansas	AR	5	05
4	arizona	AZ	4	04
5	california	CA	6	06
6	colorado	CO	8	08
7	connecticut	CT	9	09
8	district of columbia	DC	11	11
9	delaware	DE	10	10
10	florida	FL	12	12
11	georgia	GA	13	13
12	hawaii	HI	15	15
13	iowa	IA	19	19
14	idaho	ID	16	16
15	illinois	IL	17	17
16	indiana	IN	18	18

?state.regions

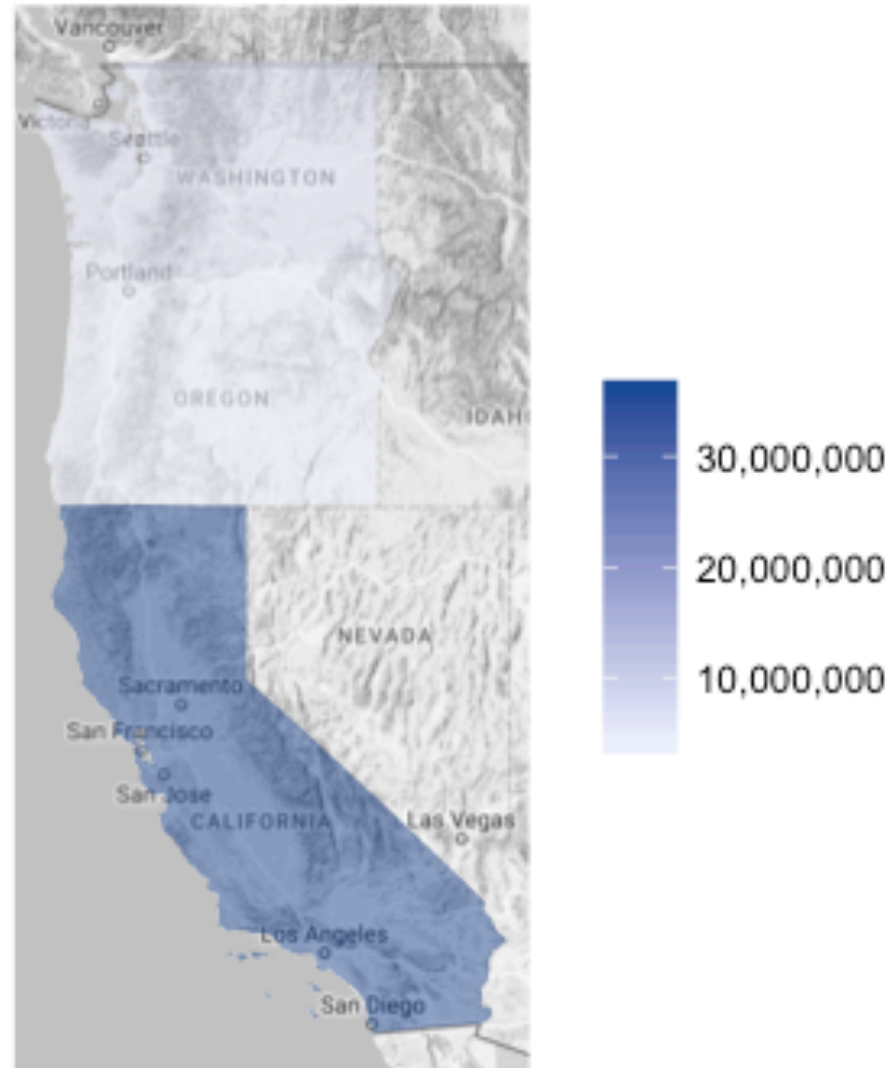
Customizing Maps

- Title and legend
- Scale
- Zoom
- Reference map





```
state_choropleth(df_pop_state,  
  zoom = c("california", "oregon", "washington"))
```



```
state_choropleth(df_pop_state,  
  num_colors = 1,  
  zoom = c("california", "oregon", "washington"),  
  reference_map = TRUE)
```

Choroplethr Basics

- Loading the package
- Viewing example data
- Mapping example data
- Customizing maps

