Tableau: making a U.S continental map to showcase research results

CS 590 – Fall 2019 Final project

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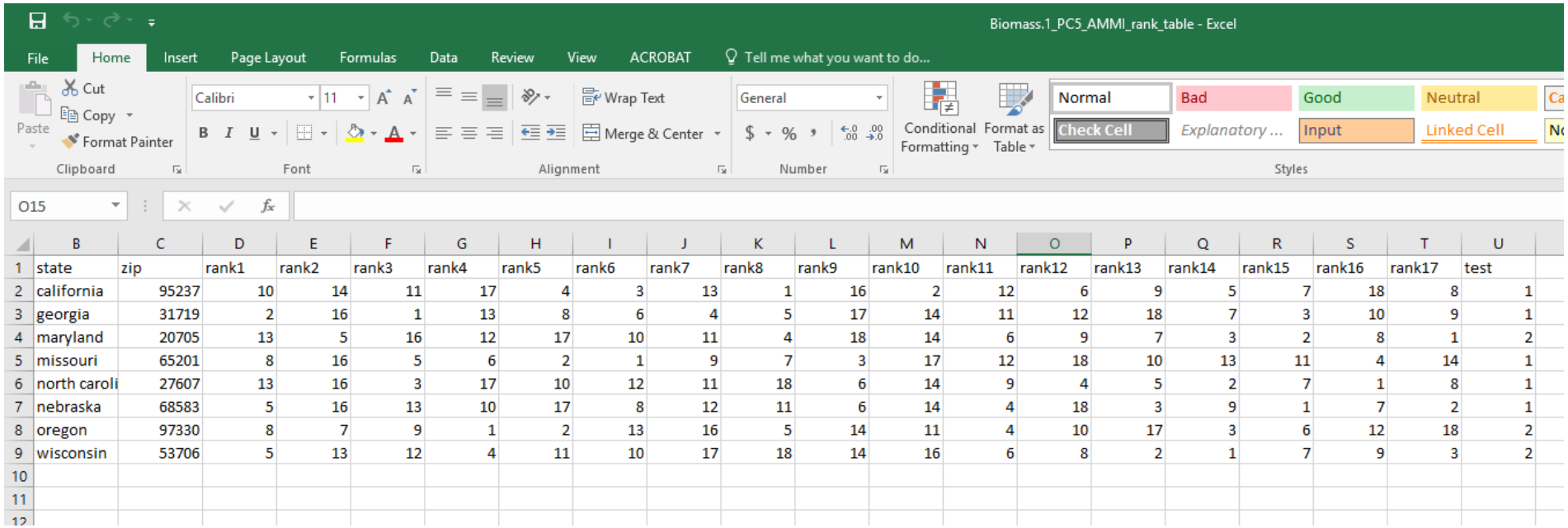
The data

- 8 states had data from our Advance Line testing trial
- Want to show which states we have our breeding lines as top 2 performer vs only top 1 (second best is a check cultivar)
- Only want to show continental U.S so map is cleaner
- Need to have a data frame that has all states names on it
- Made a variable called test, where:
  - 1 = only top one is a breeding line
  - 2 = top 1 and 2 entries are breeding lines



	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	state	zip	rank1	rank2	rank3	rank4	rank5	rank6	rank7	rank8	rank9	rank10	rank11	rank12	rank13	rank14	rank15	rank16	rank17	test
2	california	95237	10	14	11	17	4	3	13	1	16	2	12	6	9	5	7	18	8	1
3	georgia	31719	2	16	1	13	8	6	4	5	17	14	11	12	18	7	3	10	9	1
4	maryland	20705	13	5	16	12	17	10	11	4	18	14	6	9	7	3	2	8	1	2
5	missouri	65201	8	16	5	6	2	1	9	7	3	17	12	18	10	13	11	4	14	1
6	north caroli	27607	13	16	3	17	10	12	11	18	6	14	9	4	5	2	7	1	8	1
7	nebraska	68583	5	16	13	10	17	8	12	11	6	14	4	18	3	9	1	7	2	1
8	oregon	97330	8	7	9	1	2	13	16	5	14	11	4	10	17	3	6	12	18	2
9	wisconsin	53706	5	13	12	4	11	10	17	18	14	16	6	8	2	1	7	9	3	2
10																				
11																				
12																				

Tableau

- I need to add zip code, but Tableau does the longitude and latitude automatically
- Can merge the data with a spreadsheet that has all the states listed
- Recognized automatically that it was a zip code and a state, otherwise you can assign that to the column

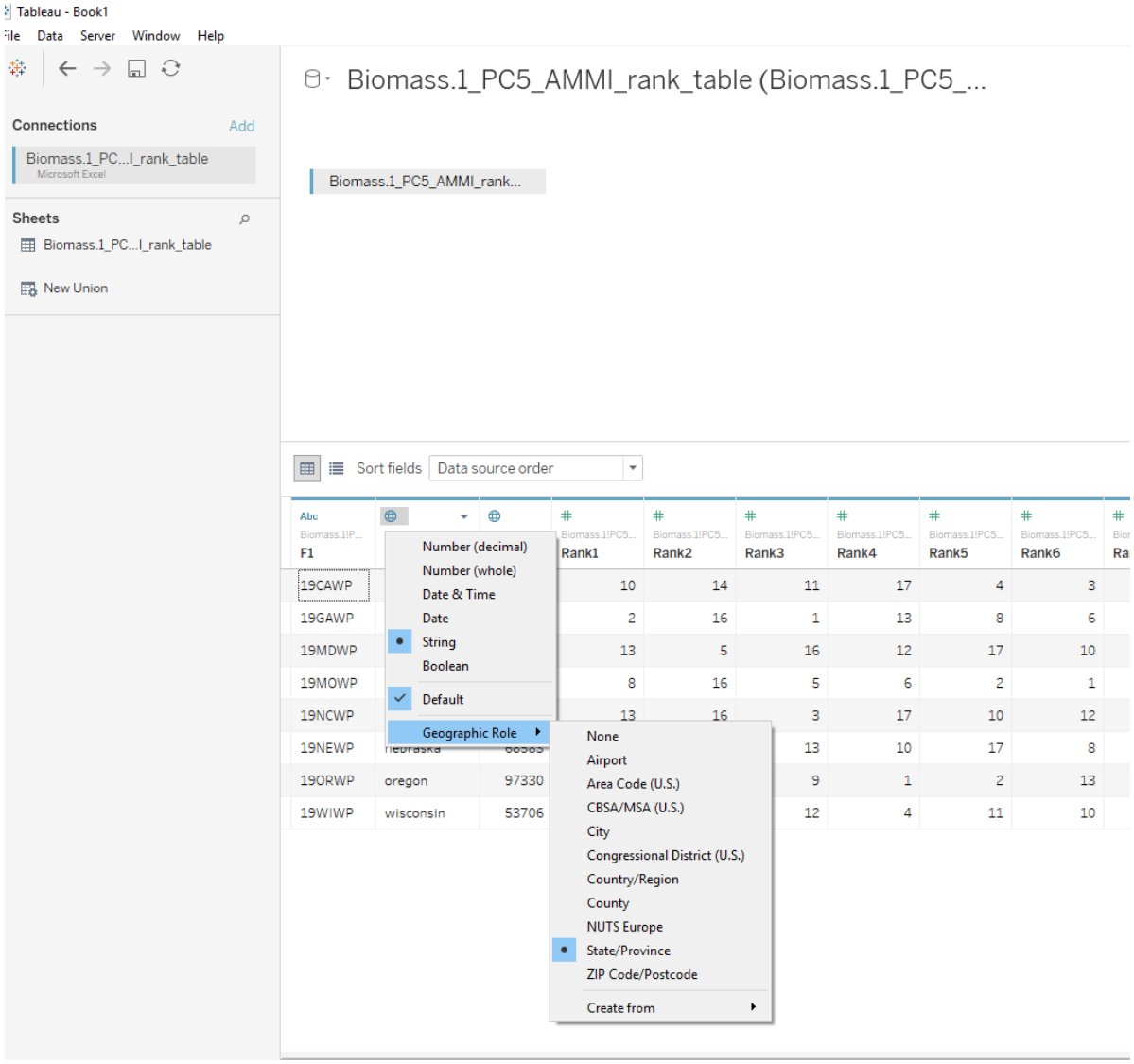


Tableau - Book1
File Data Server Window Help
Connections
Add
Biomass.1_PC...l_rank_table
Microsoft Excel
Sheets
Biomass.1_PC...l_rank_table
New Union
Biomass.1_PC5_AMMI_rank_table (Biomass.1_PC5_...
Biomass.1_PC5_AMMI_rank...
Sort fields
Data source order
F1
Rank1
Rank2
Rank3
Rank4
Rank5
Rank6
19CAWP 10 14 11 17 4 3
19GAWP 2 16 1 13 8 6
19MDWP 13 5 16 12 17 10
19MOWP 8 16 5 6 2 1
19NCWP 13 16 3 17 10 12
19NEWP 13 10 17 8
19ORWP oregon 97330 9 1 2 13
19WIWP wisconsin 53706 12 4 11 10
Number (decimal)
Number (whole)
Date & Time
Date
String
Boolean
Default
Geographic Role
None
Airport
Area Code (U.S.)
CBSA/MSA (U.S.)
City
Congressional District (U.S.)
Country/Region
County
NUTS Europe
State/Province
ZIP Code/Postcode
Create from

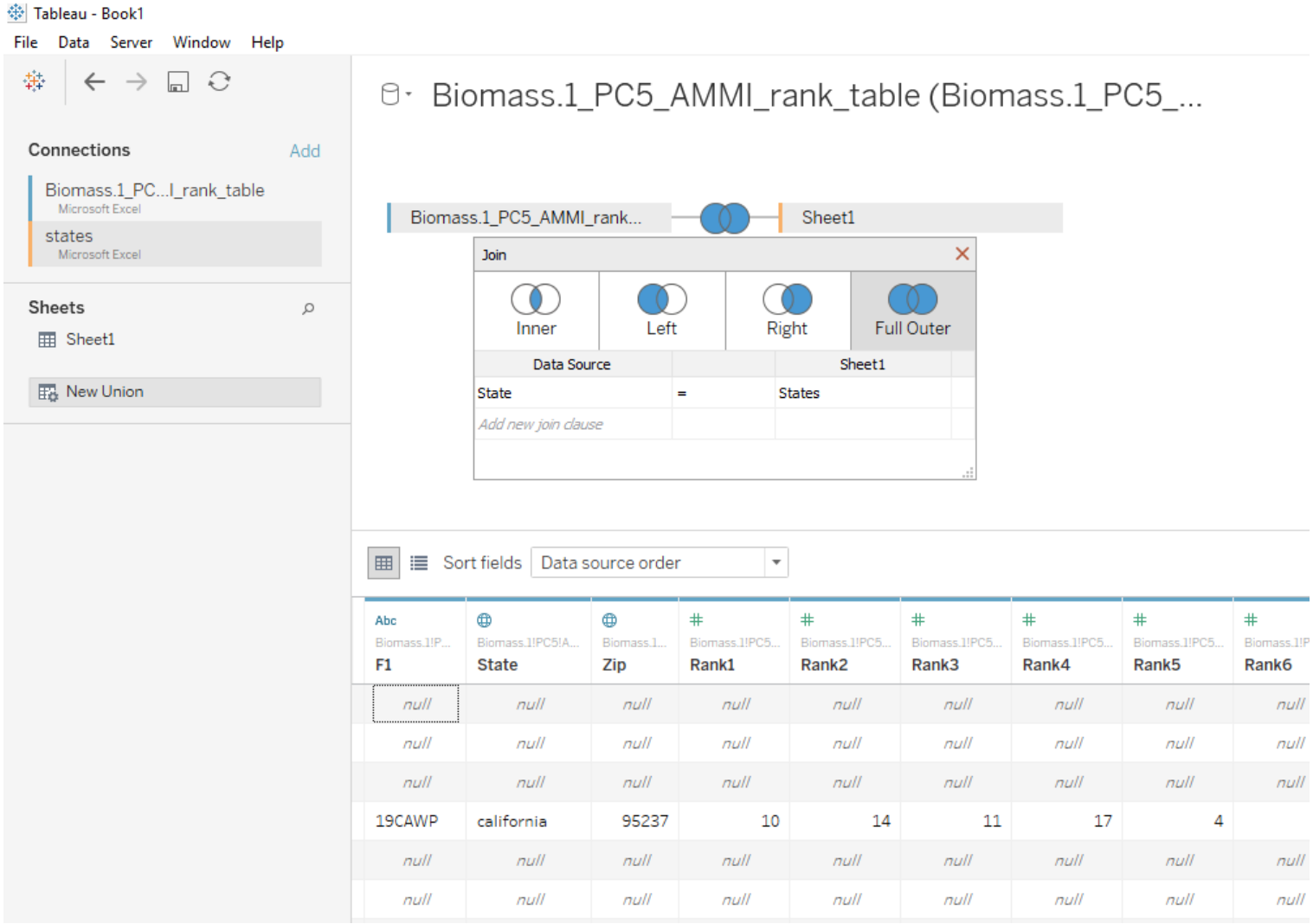
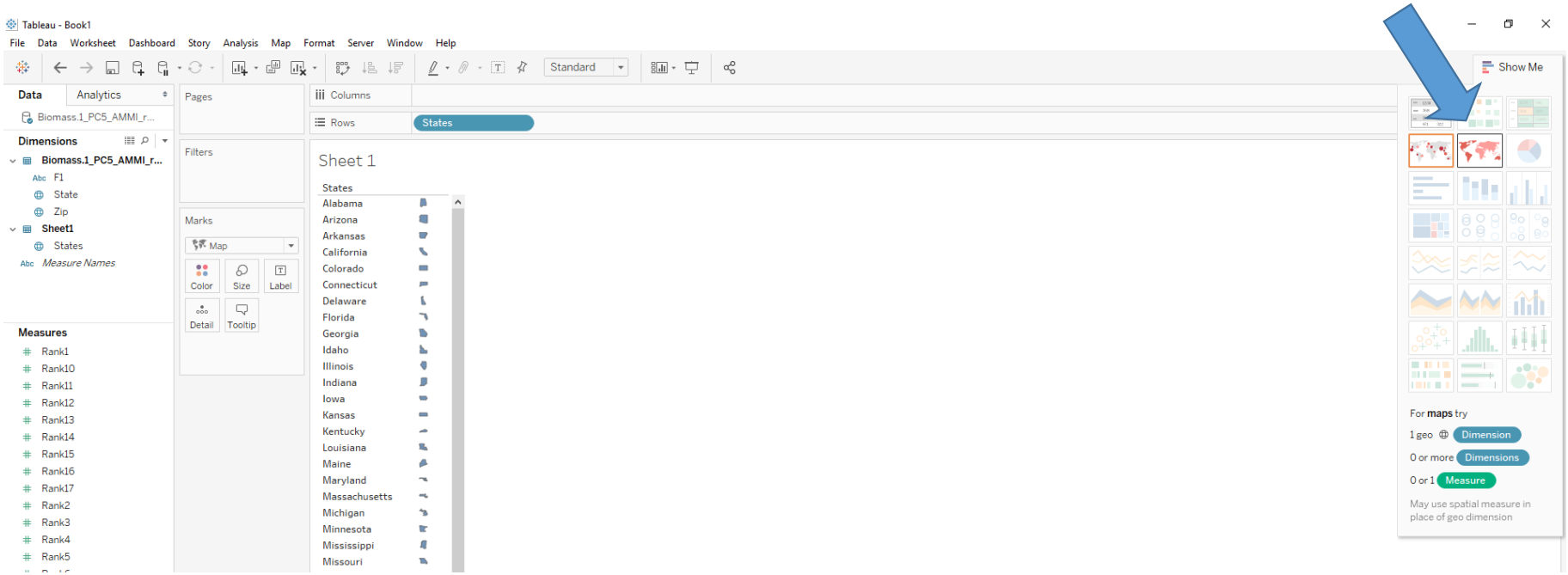


Tableau - Book1
File Data Server Window Help
Connections Add
Biomass.1_PC...l_rank_table
Microsoft Excel
states
Microsoft Excel
Sheets
Sheet1
New Union
Biomass.1_PC5_AMMI_rank_table (Biomass.1_PC5_...
Biomass.1_PC5_AMMI_rank...
Sheet1
Join
Inner
Left
Right
Full Outer
Data Source
Sheet1
State
=
States
Add new join clause
Sort fields
Data source order
Abc
F1
State
Zip
Rank1
Rank2
Rank3
Rank4
Rank5
Rank6
null
19CAWP
california
95237
10
14
11
17
4

Plotting

- States as rows
- Select the map graph



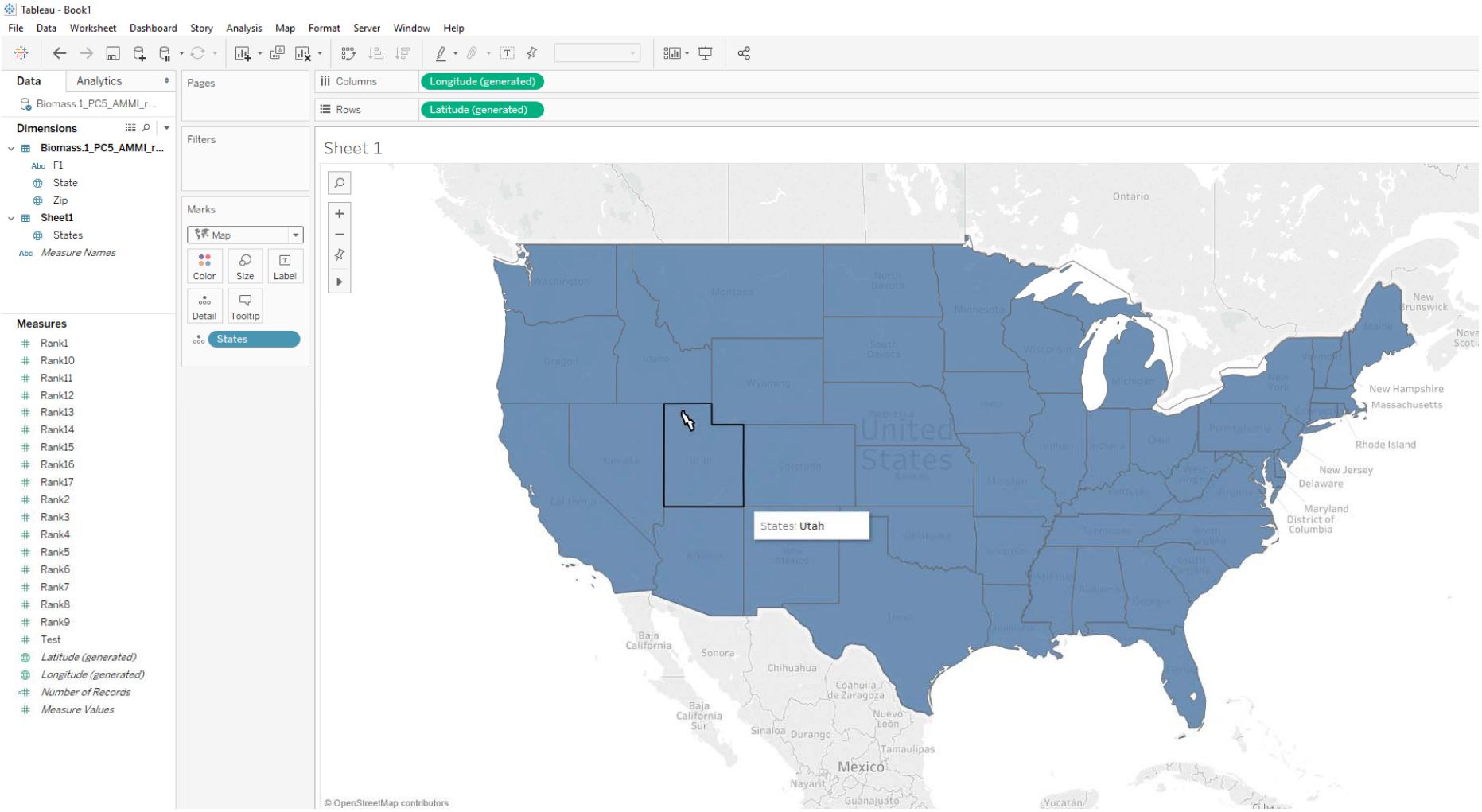


Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Data
Analytics
Biomass.1_PC5_AMMI_r...
Dimensions
Biomass.1_PC5_AMMI_r...
F1
State
Zip
Sheet1
States
Measure Names
Measures
Rank1
Rank10
Rank11
Rank12
Rank13
Rank14
Rank15
Rank16
Rank17
Rank2
Rank3
Rank4
Rank5
Rank6
Rank7
Rank8
Rank9
Test
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Filters
Marks
Map
Color
Size
Label
Detail
Tooltip
States
Columns
Longitude (generated)
Rows
Latitude (generated)
Sheet 1
States: Utah
Ontario
Washington
Montana
North Dakota
Minnesota
Oregon
Idaho
South Dakota
Wisconsin
Wyoming
Michigan
New York
Maine
New Brunswick
New Hampshire
Massachusetts
Rhode Island
New Jersey
Delaware
Maryland
District of Columbia
United States
Baja California
Sonora
Chihuahua
Coahuila de Zaragoza
Nuevo León
Baja California Sur
Sinaloa
Durango
Tamaulipas
Mexico
Nayarit
Guanajuato
Yucatán
© OpenStreetMap contributors

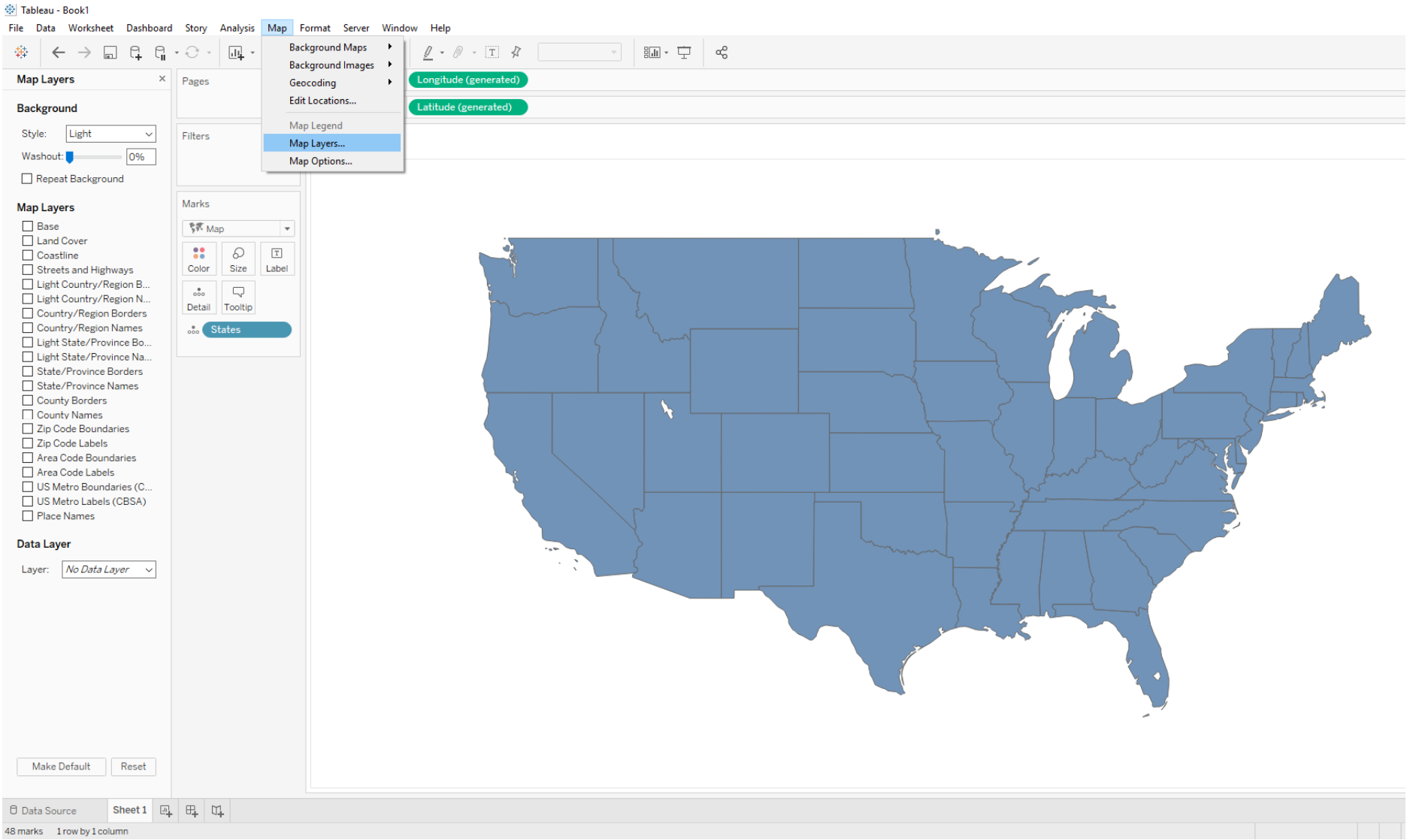


Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Background Maps
Background Images
Geocoding
Edit Locations...
Map Legend
Map Layers...
Map Options...
Map Layers
Background
Style: Light
Washout: 0%
Repeat Background
Map Layers
Base
Land Cover
Coastline
Streets and Highways
Light Country/Region B...
Light Country/Region N...
Country/Region Borders
Country/Region Names
Light State/Province Bo...
Light State/Province Na...
State/Province Borders
State/Province Names
County Borders
County Names
Zip Code Boundaries
Zip Code Labels
Area Code Boundaries
Area Code Labels
US Metro Boundaries (C...
US Metro Labels (CBSA)
Place Names
Data Layer
Layer: No Data Layer
Make Default
Reset
Pages
Filters
Marks
Map
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Size
Label
Detail
Tooltip
States
Longitude (generated)
Latitude (generated)
Data Source
Sheet 1
48 marks
1 row by 1 column

Plotting

- Add Test as color
- Select colors I want
- Add the top 2 entries for each state

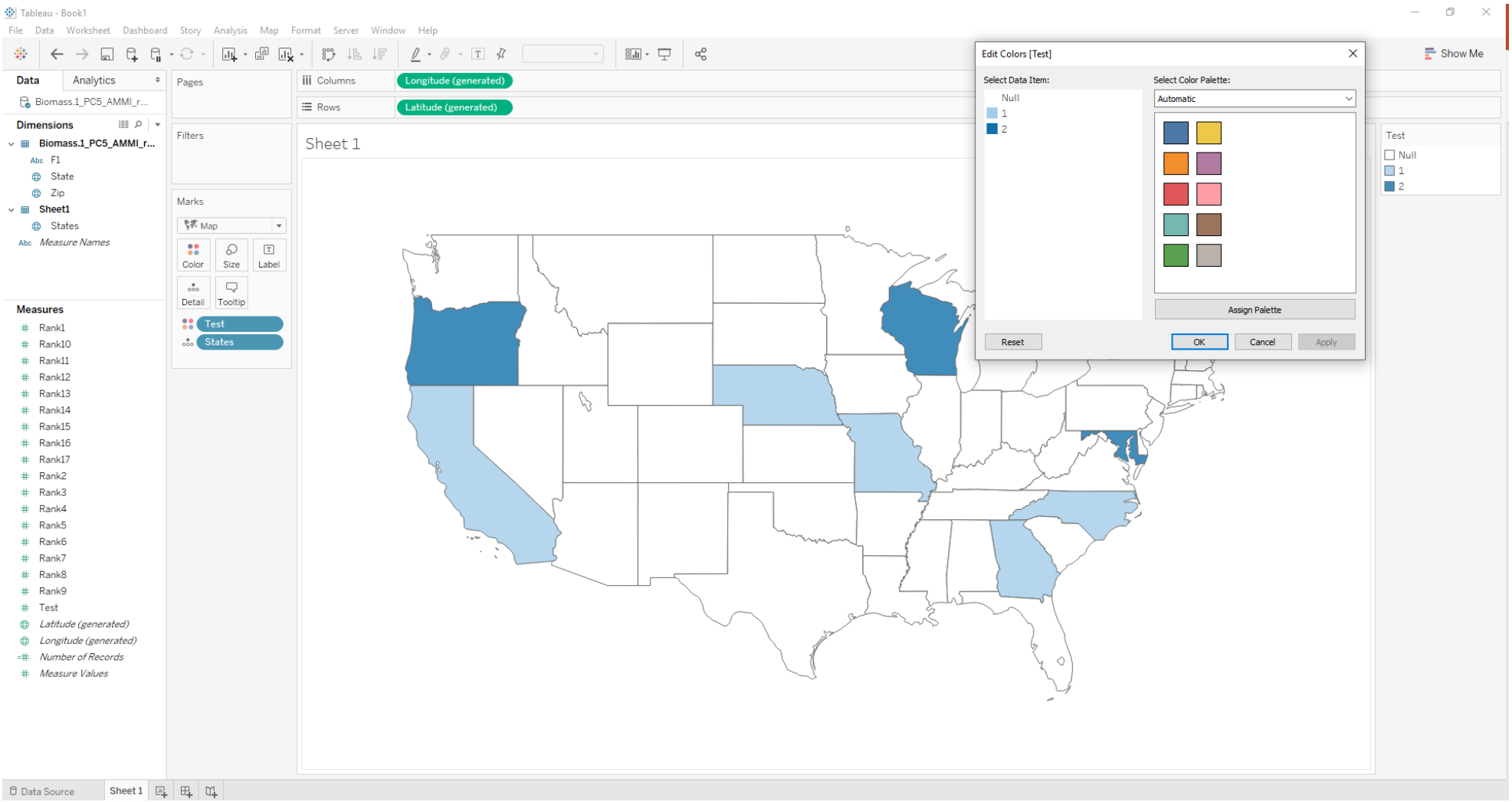
Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Show Me
Data
Analytics
Biomass.1_PC5_AMMI_r...
Dimensions
Biomass.1_PC5_AMMI_r...
F1
State
Zip
Sheet1
States
Measure Names
Measures
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Rank16
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Rank3
Rank4
Rank5
Rank6
Rank7
Rank8
Rank9
Test
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Pages
Filters
Marks
Map
Color
Size
Label
Detail
Tooltip
Test
States
Columns
Longitude (generated)
Rows
Latitude (generated)
Sheet 1
Edit Colors [Test]
Select Data Item:
Null
1
2
Select Color Palette:
Automatic
Assign Palette
Reset
OK
Cancel
Apply
Test
Null
1
2
Data Source
Sheet 1

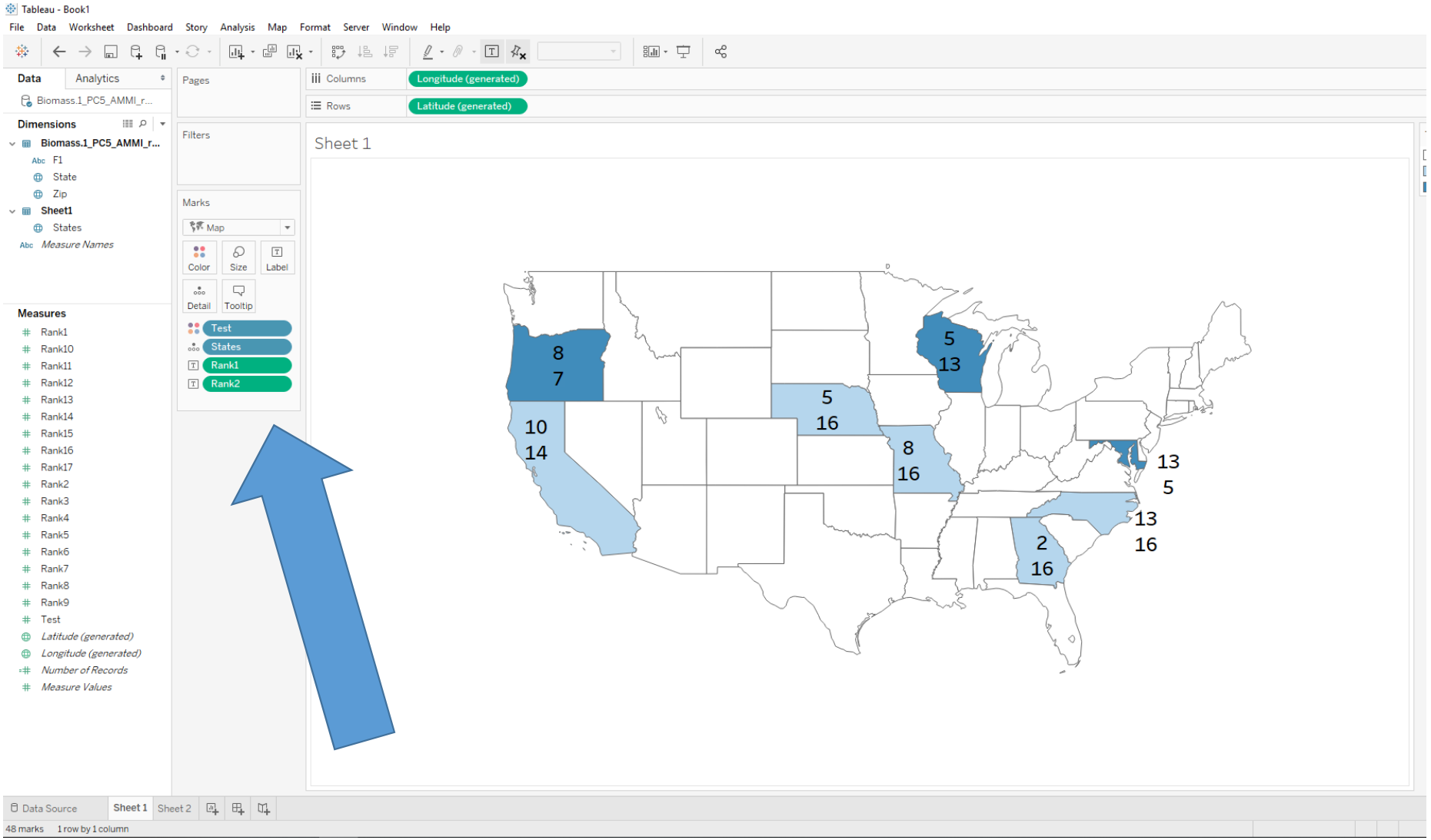
Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Data Analytics
Biomass.1_PC5_AMMI_r...
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Biomass.1_PC5_AMMI_r...
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Longitude (generated)
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Tooltip
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Rank1
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Latitude (generated)
Sheet 1
8
7
10
14
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16
8
16
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13
13
5
13
16
2
16
Data Source
Sheet 1
Sheet 2
48 marks
1 row by 1 column

Plotting

- If I want to add dots for the Zip code where the trial (or office) was, need to make a new layer -> DUAL AXIS MAP

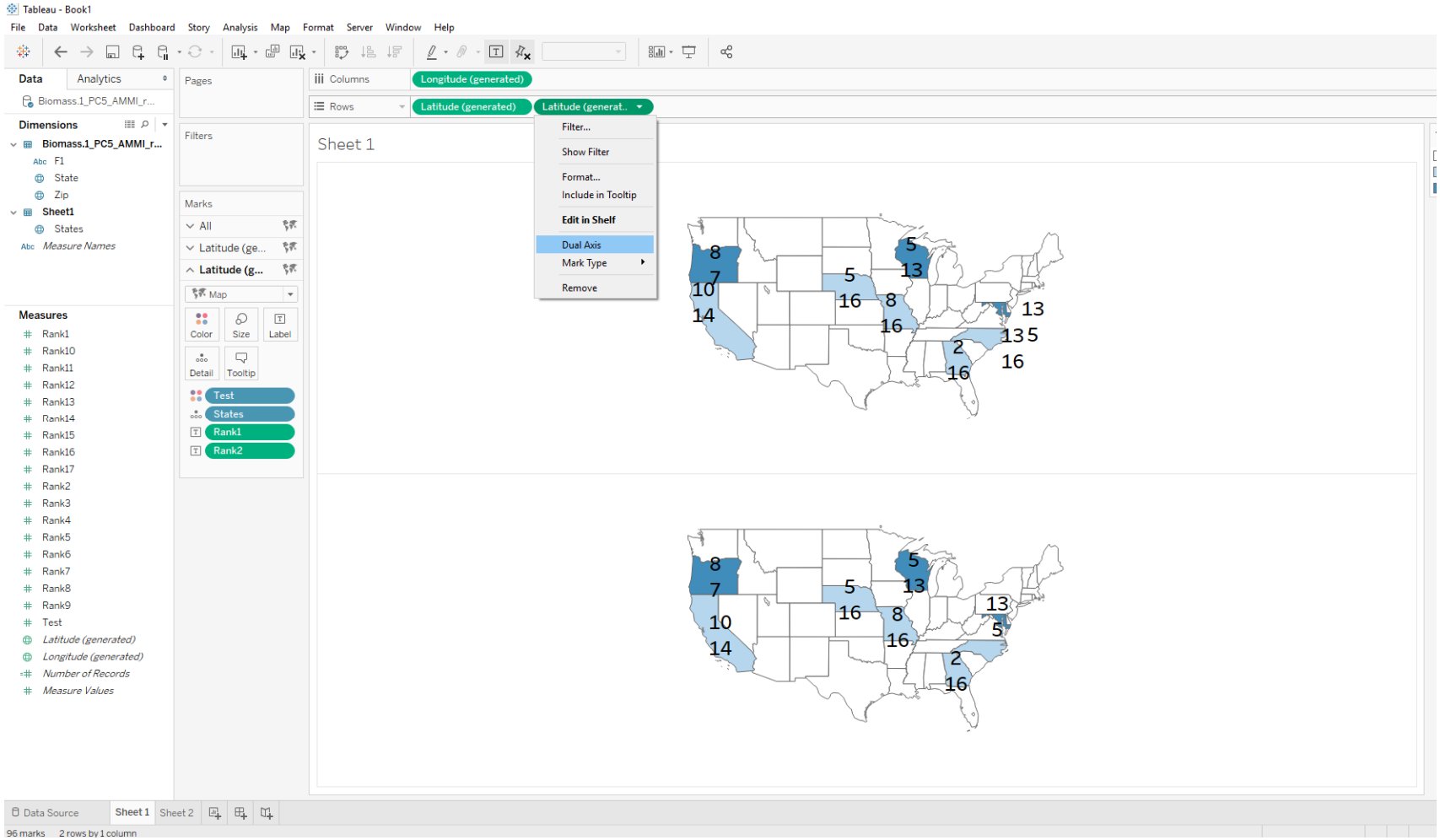
Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Data Analytics
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Biomass.1_PC5_AMMI_r...
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Longitude (generated)
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Measure Values
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Label
Detail
Tooltip
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Filter...
Show Filter
Format...
Include in Tooltip
Edit in Shelf
Dual Axis
Mark Type
Remove
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8
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16
Data Source
Sheet 1
Sheet 2
96 marks
2 rows by 1 column

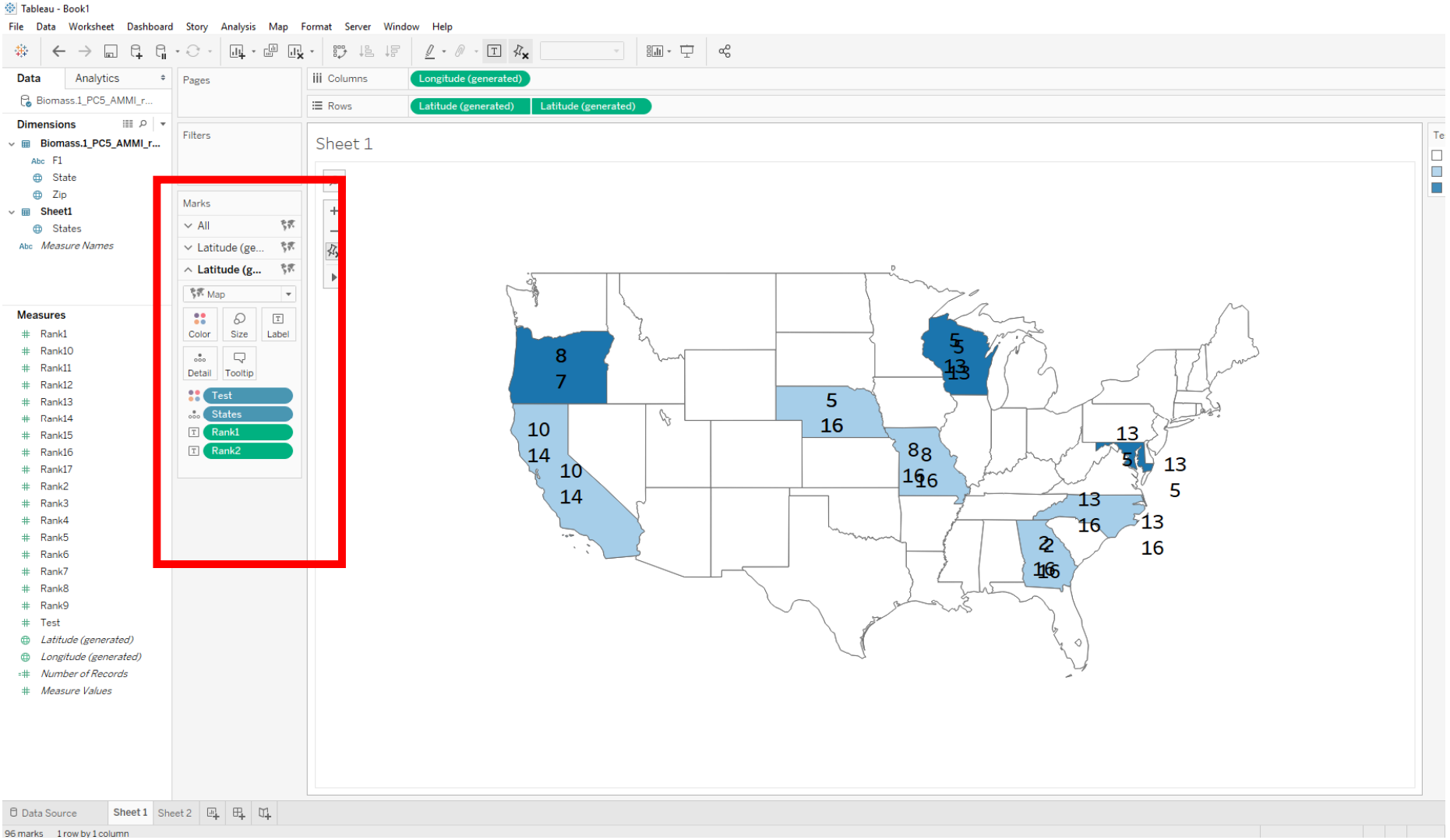
Tableau - Book1
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Data
Analytics
Biomass.1_PC5_AMMI_r...
Dimensions
Biomass.1_PC5_AMMI_r...
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Longitude (generated)
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Measure Values
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Filters
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Label
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Tooltip
Test
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Rank1
Rank2
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Rows
Latitude (generated)
Latitude (generated)
Sheet 1
Data Source
Sheet 1
Sheet 2
96 marks
1 row by 1 column

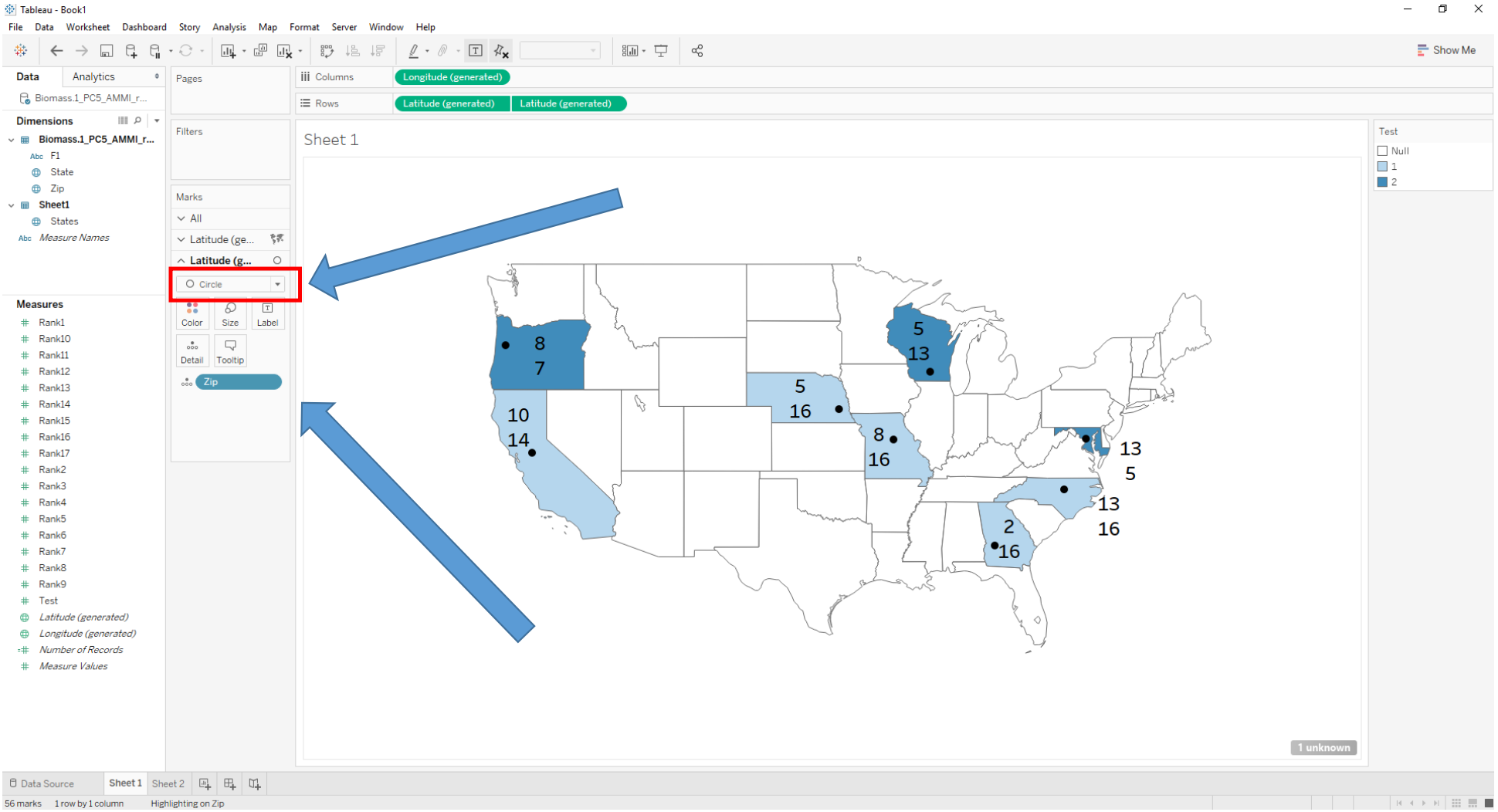
Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Show Me
Data
Analytics
Biomass.1_PC5_AMMI_r...
Dimensions
Biomass.1_PC5_AMMI_r...
F1
State
Zip
Sheet1
States
Measure Names
Measures
Rank1
Rank10
Rank11
Rank12
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Longitude (generated)
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Latitude (generated)
Latitude (generated)
Sheet 1
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5
16
8
16
5
13
13
5
13
16
2
16
Test
Null
1
2
1 unknown
Data Source
Sheet 1
Sheet 2
56 marks
1 row by 1 column
Highlighting on Zip

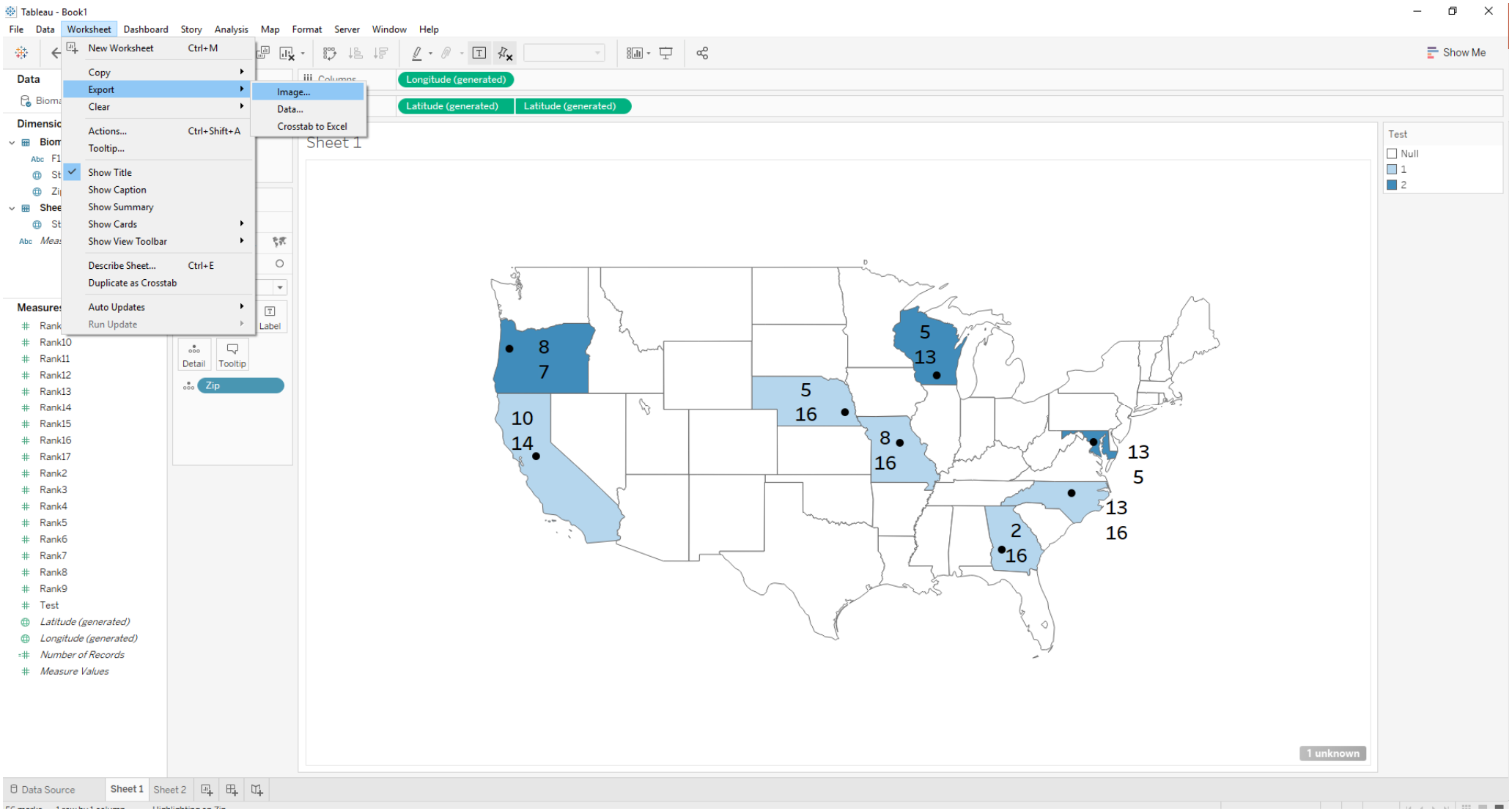
Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
New Worksheet Ctrl+M
Copy
Export
Clear
Actions... Ctrl+Shift+A
Tooltip...
Show Title
Show Caption
Show Summary
Show Cards
Show View Toolbar
Describe Sheet... Ctrl+E
Duplicate as Crosstab
Auto Updates
Run Update
Image...
Data...
Crosstab to Excel
Show Me
Longitude (generated)
Latitude (generated)
Latitude (generated)
Sheet 1
Test
Null
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Measures
Rank
Rank10
Rank11
Rank12
Rank13
Rank14
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Rank9
Test
Latitude (generated)
Longitude (generated)
Number of Records
Measure Values
Detail
Tooltip
Zip
Label
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14
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16
5
13
8
16
13
5
13
16
2
16
1 unknown
Data Source
Sheet 1
Sheet 2

The end! Thank you!

github.com/lais-bm/CS590lbastos/tree/final