

Getting Familiar with Tableau II



Filters

- Tableau filters change the content of the data that may enter a Tableau workbook, dashboard, or view.
- There are a few basic ways to filter that we will cover in this workshop
 - *In the View, and*
 - *On the Filter shelf*

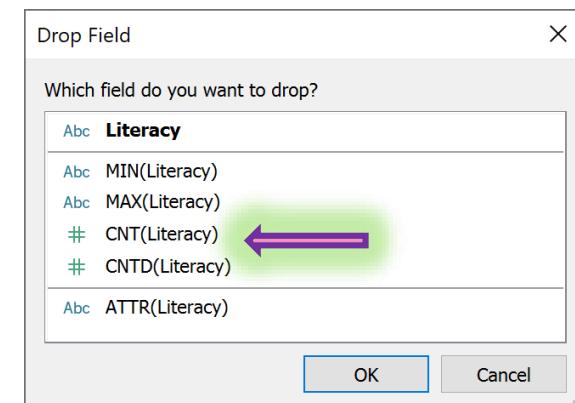


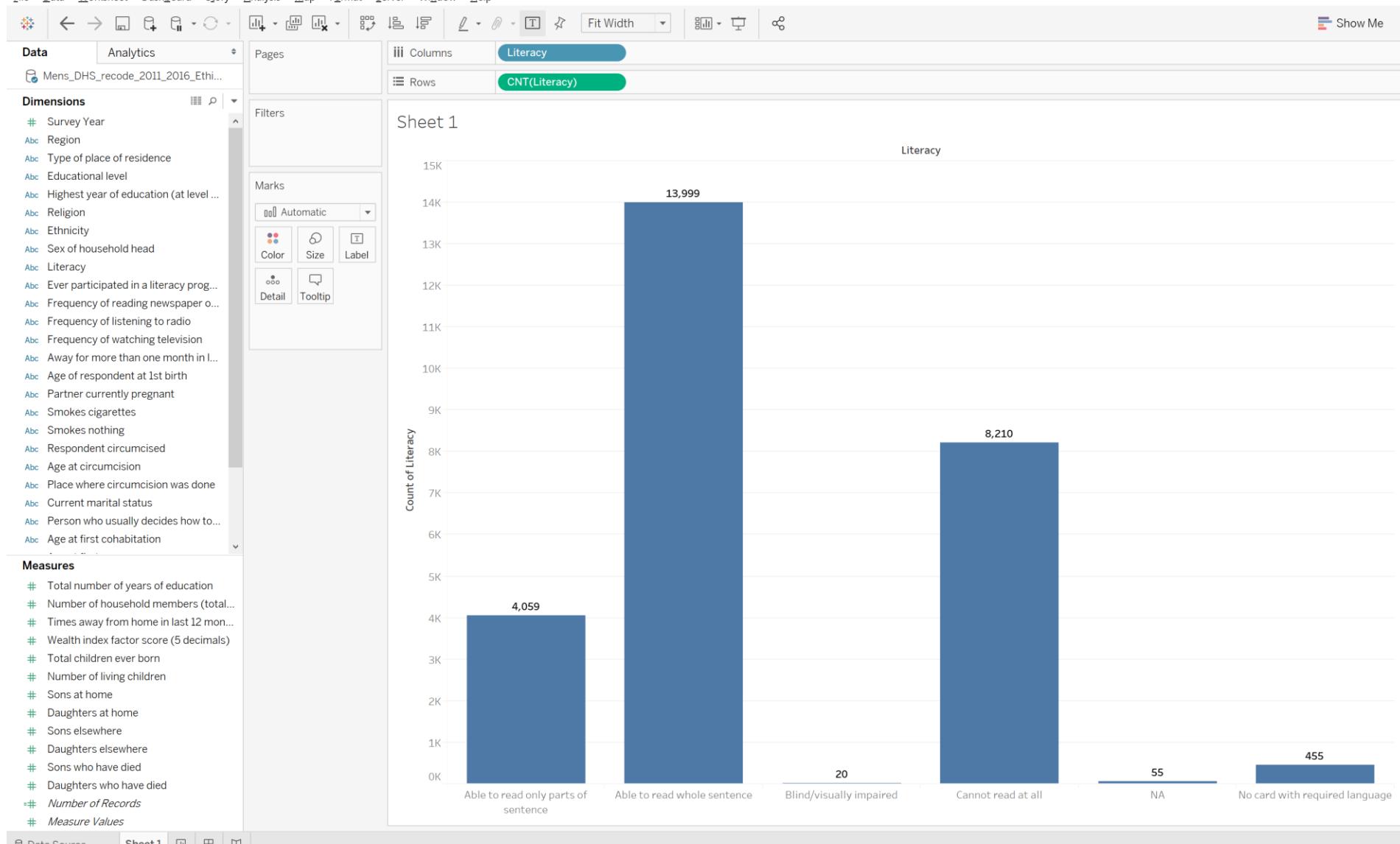
Ways to Filter: *In the View*



Let's Make a Bar Chart

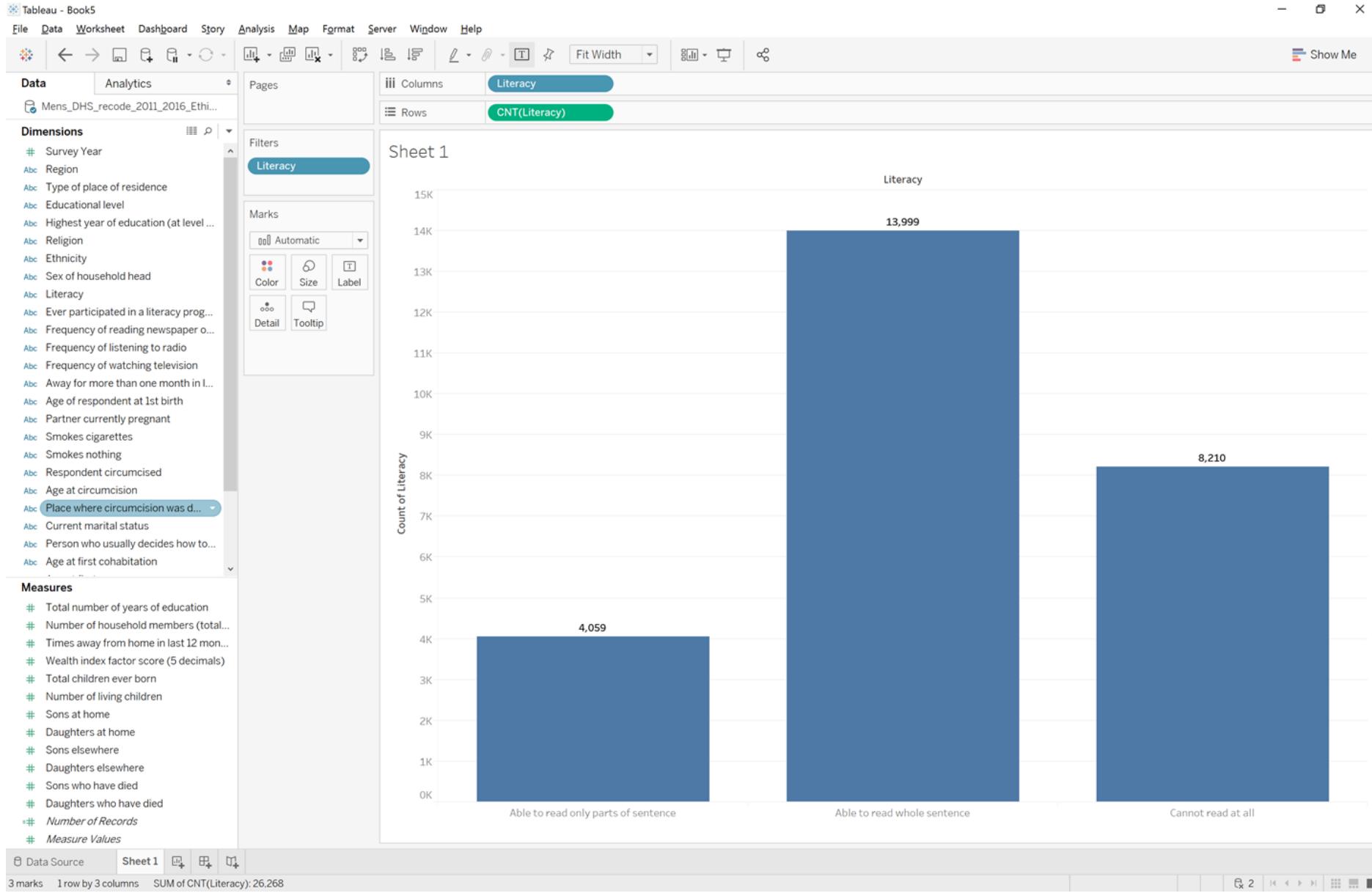
1. Open the DHS Men's workbook (text file)
 - Some fields need conversion into Measures or Dimensions. This can be done as we go along.
2. Drag the dimension **Literacy** onto columns
3. Right Click + Drag the dimension **Literacy** onto rows
4. When menu pops up, select **#CNT(Literacy)**
 - This will allow vertical bars to aggregate the count per category of the column





Click on a bar to bring up the exclude option.

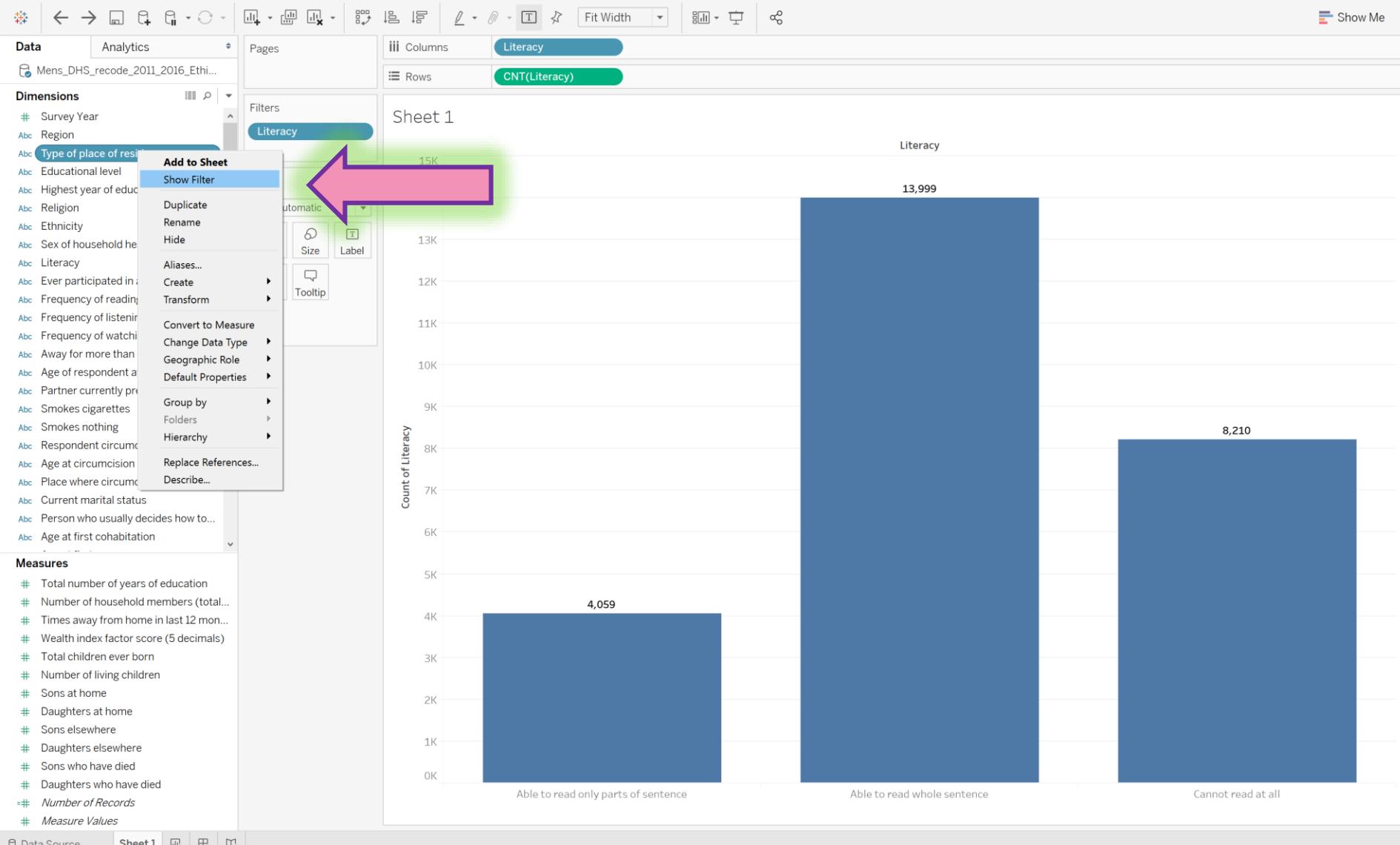
Repeat for the last two bars, to arrive at this:



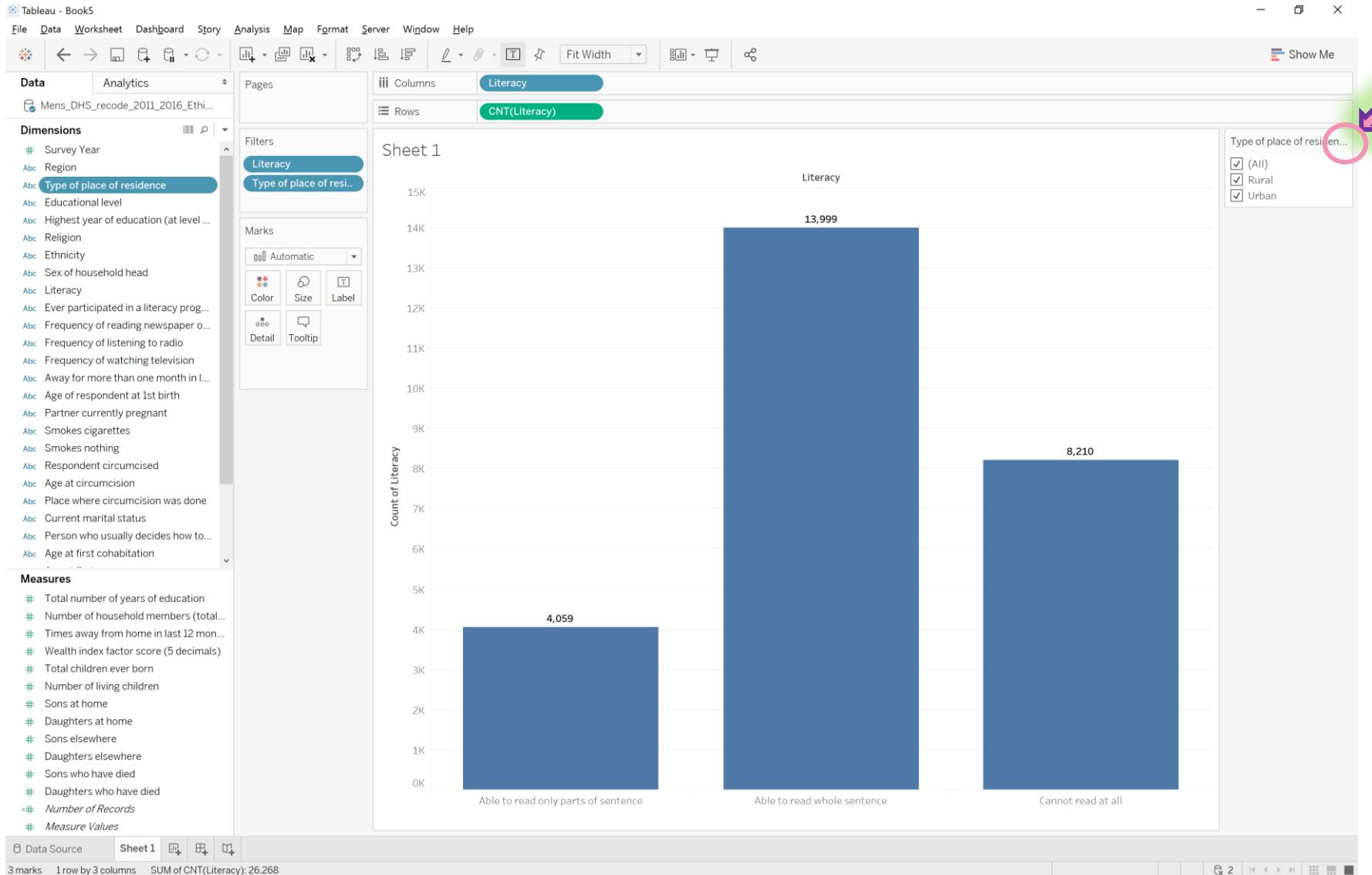


Ways to Filter: *In the View*

- We can instantly add an interactive filter by right-clicking a field from the Data Pane
- Any field will do, but for now let's filter for urban/rural by right-clicking '**Type of place of residence**' and selecting '**Show Filter**'



Change the Interactive Filter type → Click the down arrow in the corner of the Filter to select buttons



Mens_DHS_recode_2011_2016_Ethi...

Dimensions

- # Survey Year
- Abc Region
- Abc Type of place of residence
- Abc Educational level
- Abc Highest year of education (at level ...
- Abc Religion
- Abc Ethnicity
- Abc Sex of household head
- Abc Literacy
- Abc Ever participated in a literacy prog...
- Abc Frequency of reading newspaper o...
- Abc Frequency of listening to radio
- Abc Frequency of watching television
- Abc Away for more than one month in l...
- Abc Age of respondent at 1st birth
- Abc Partner currently pregnant
- Abc Smokes cigarettes
- Abc Smokes nothing
- Abc Respondent circumcised
- Abc Age at circumcision
- Abc Place where circumcision was done
- Abc Current marital status
- Abc Person who usually decides how to...
- Abc Age at first cohabitation

Measures

- # Total number of years of education
- # Number of household members (total...)
- # Times away from home in last 12 mon...
- # Wealth index factor score (5 decimals)
- # Total children ever born
- # Number of living children
- # Sons at home
- # Daughters at home
- # Sons elsewhere
- # Daughters elsewhere
- # Sons who have died
- # Daughters who have died
- # Number of Records
- # Measure Values

Pages iii Columns **Literacy**
 Rows **CNT(Literacy)**

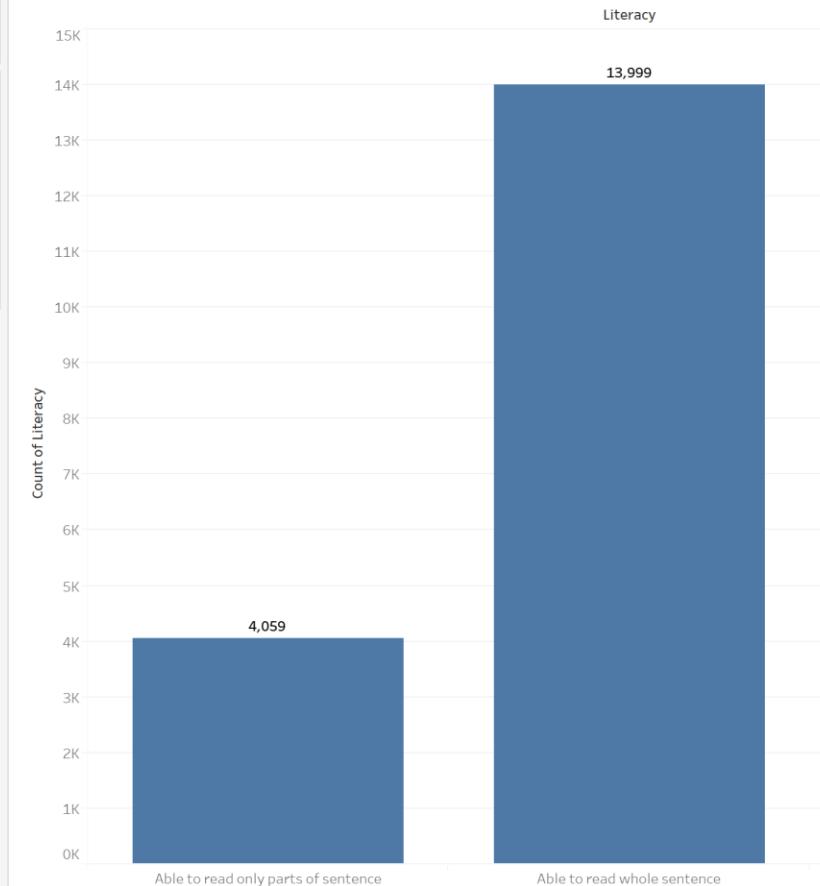
Filters

Literacy
 Type of place of resi...

Marks

Automatic
 Color Size Label
 Detail Tooltip

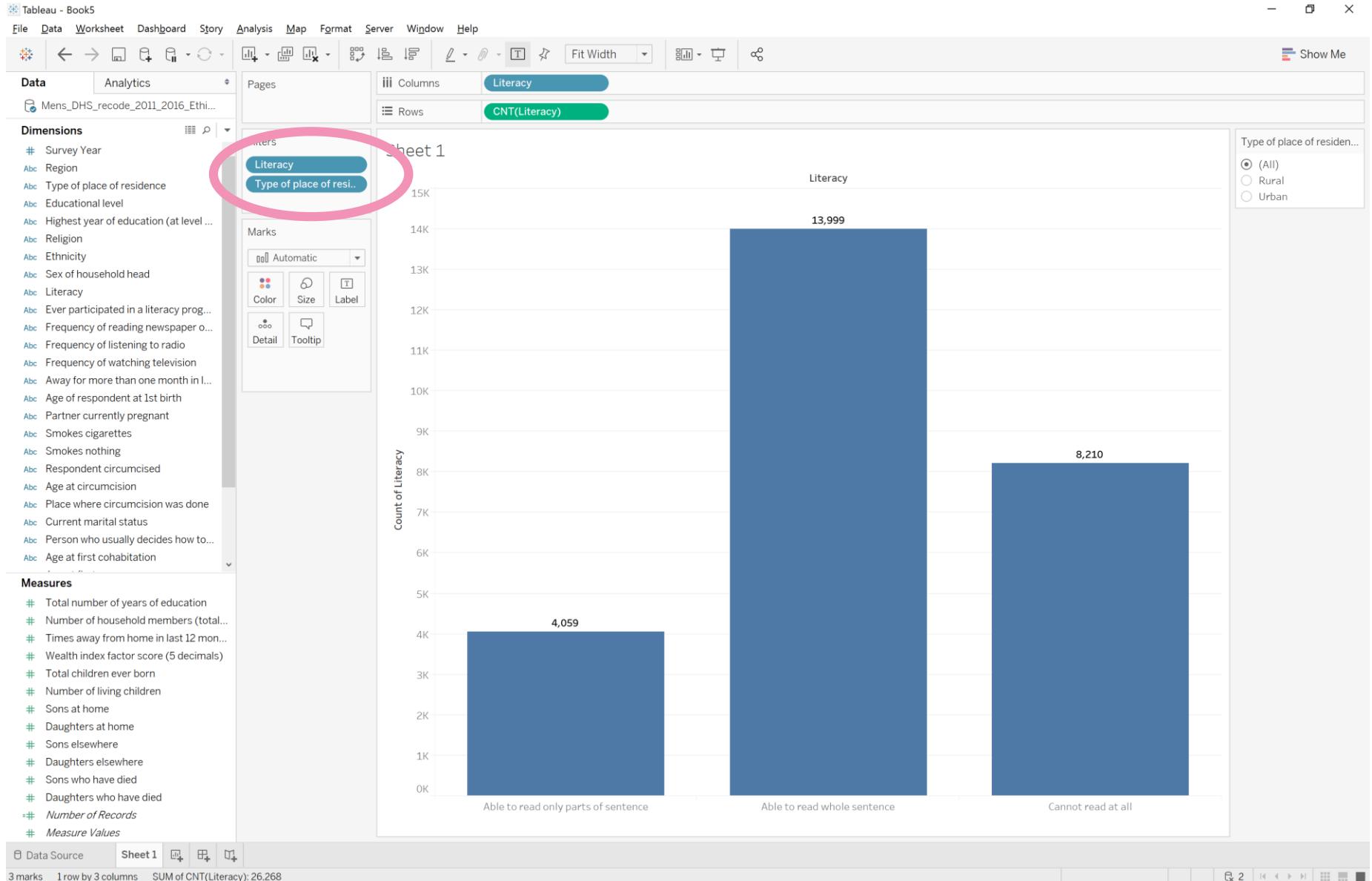
Sheet 1



Type of place ...

Edit Filter...
 Remove Filter
 Apply to Worksheets
 Format Filters...
 Customize
 Show Title
 Edit Title...
 Single Value (list)
 Single Value (dropdown)
 Single Value (slider)
 Multiple Values (list)
 Multiple Values (dropdown)
 Multiple Values (custom list)
 Wildcard Match
 Only Relevant Values
 All Values in Database
 Include Values
 Exclude Values
 Hide Card

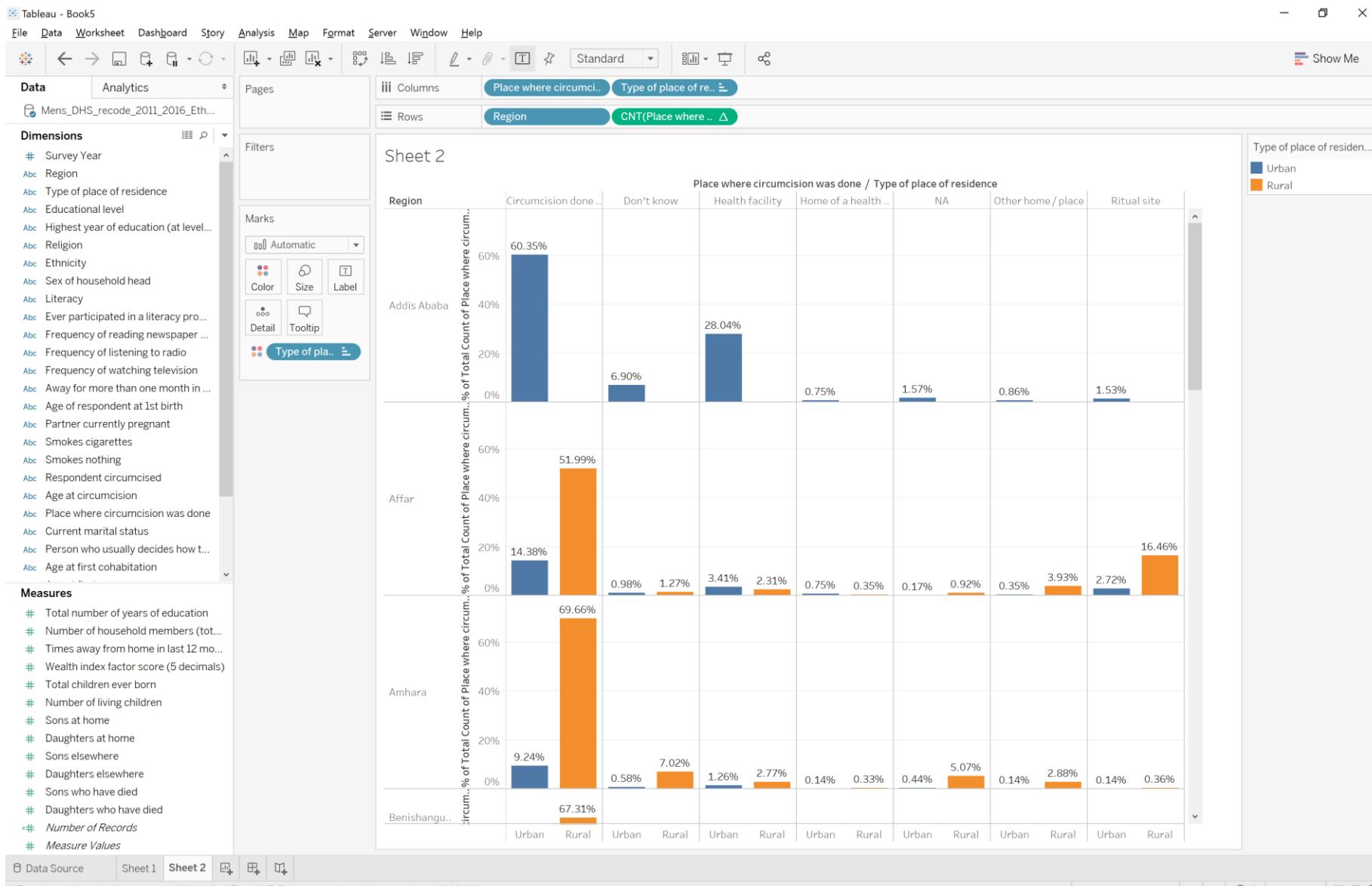
These types of filters put a **pill** in the filter shelf





Ways to Filter: *Using the Filter shelf*

- Instead of clicking exclude or ‘keep only’ one-by-one, you can make broader and more sweeping filter actions through the filter shelf.
- Let’s look at the distribution of Place of Circumcisions across Regions
 1. Drag *Place where circumcision was done* to columns
 2. Drag #CNT(*Place where circumcision was done*) to rows.
 3. Drag *Region* and also place in rows
 4. Finally, let’s drag Type of place of residence (i.e. Urban/Rural) onto columns (Note: Place it AFTER *Place where circumcision was done*)
 - (To match the following example, also drag *Type of place...* to Color, re-sort, and flip the colors)





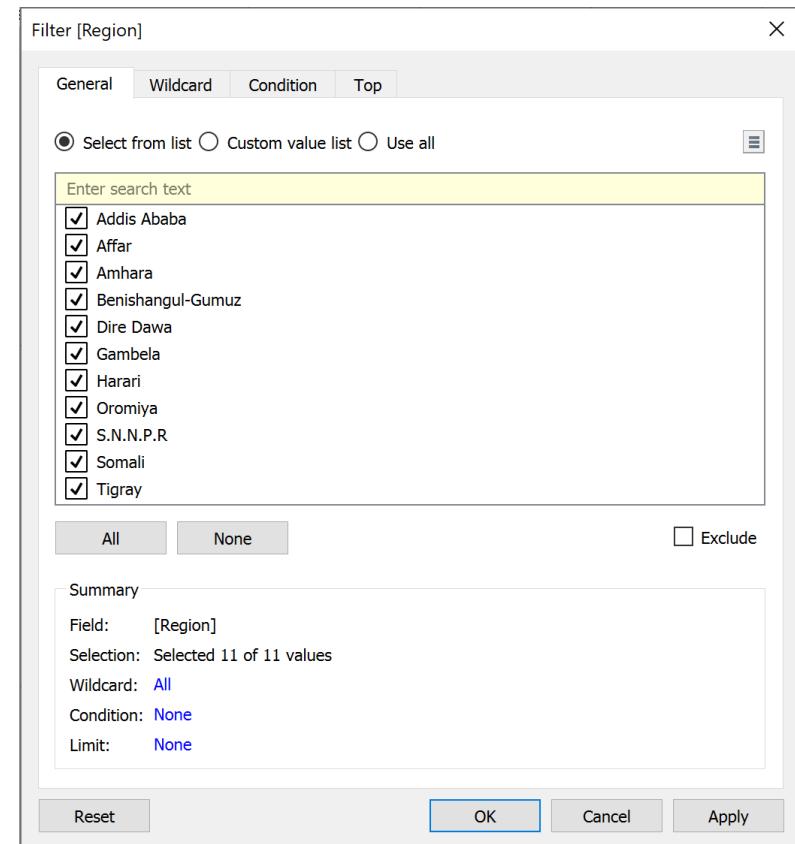
Ways to Filter: *Using the Filter shelf*

- Instead of clicking exclude or ‘keep only’ one-by-one, you can make broader and more sweeping filter actions through the filter shelf.
- Let’s drag the *Region* field and drop it onto the Filter shelf.



Ways to Filter: *Using the Filter shelf*

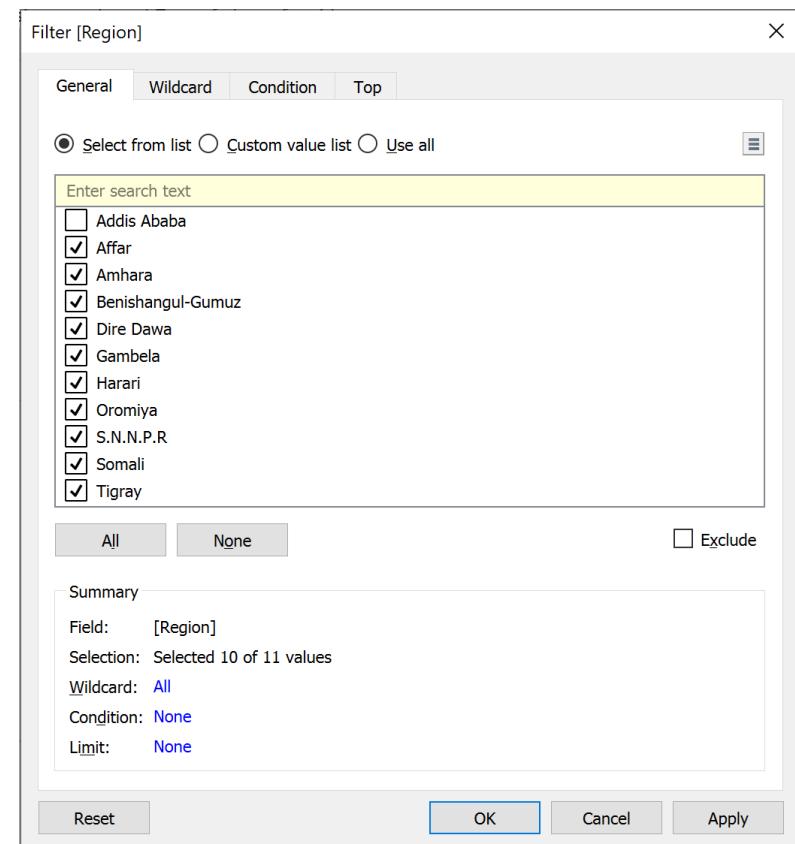
- This is the dialogue we get when we filter by a discrete dimension.
- To deselect a Region (for example, Addis Ababa) you can simply uncheck it from this window.
- You can also Exclude by selecting **None**, then checking the Exclude option, and select which regions you would like to exclude from the View.





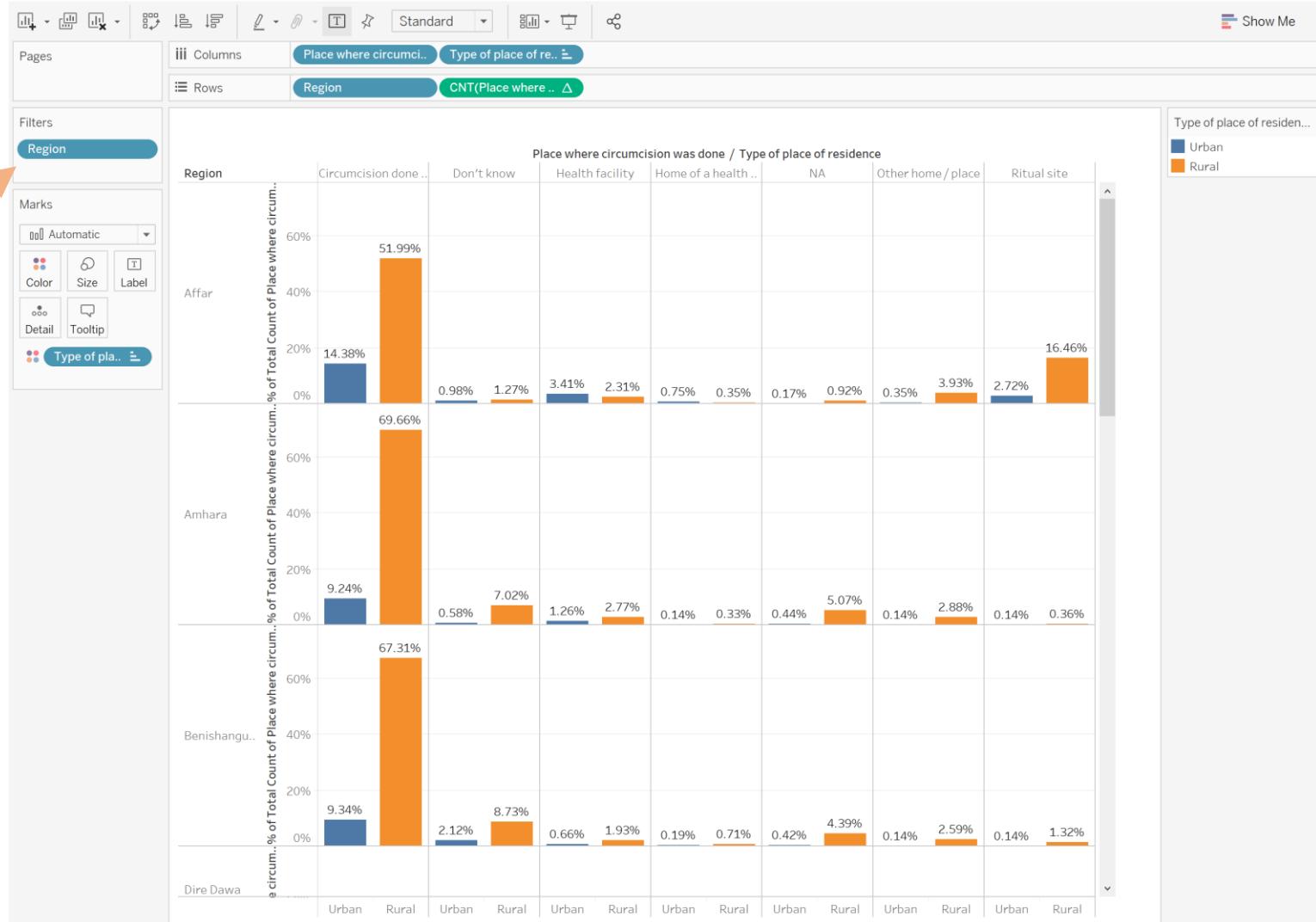
Ways to Filter: *Using the Filter shelf*

- For now, let's de-select Addis Ababa, and hit Ok.



Now Addis Ababa
is absent from the
visual in the View.

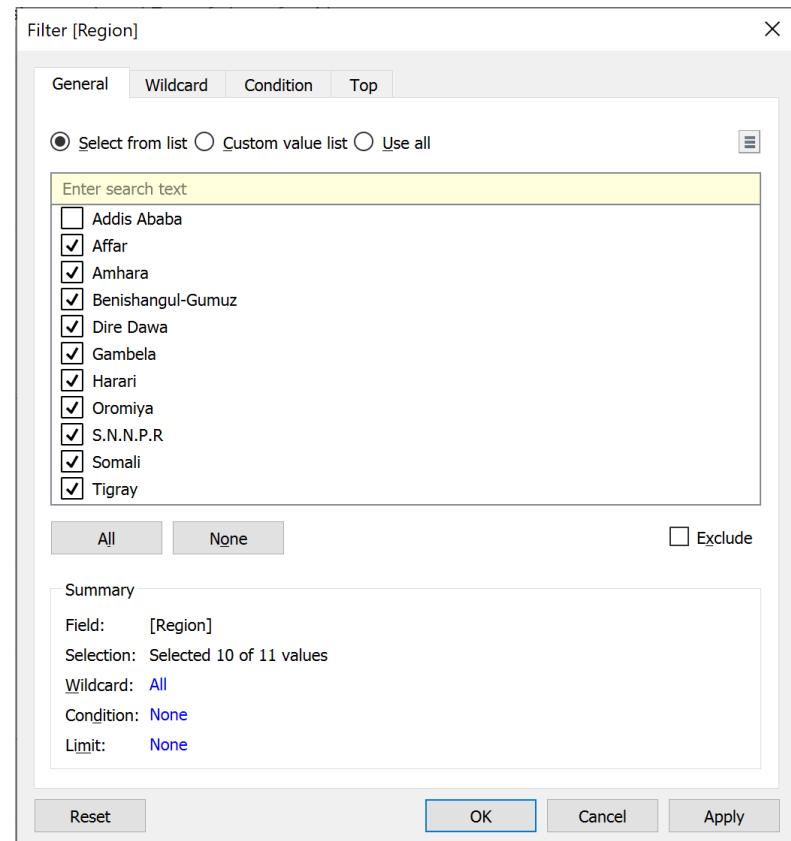
To re-enter the
Filter window for
Region, simply
right-click the field
in the Filter shelf
and select 'Edit
Filter...'





Ways to Filter: *Using the Filter shelf*

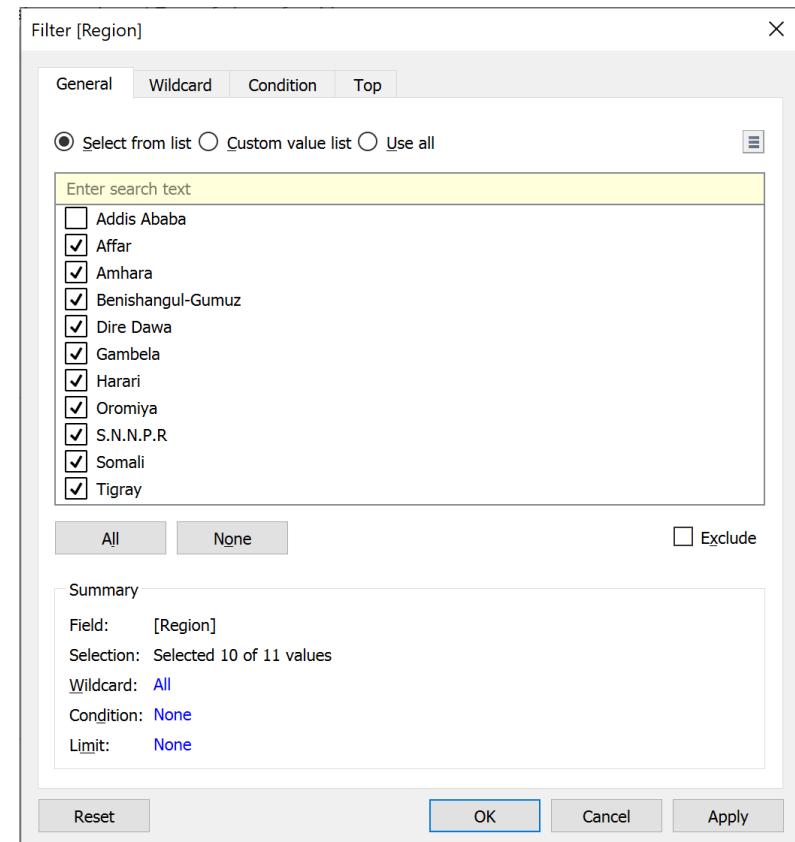
- This is the dialogue we get when we filter by a discrete dimension.
- This is a powerful window, so let's go through some of the features
- The first tab, General, lists all of the values in the field that we're filtering on (i.e. within *Region*).
- We can select All or None of the values to be displayed, or using Exclude, we can choose what we don't want.





Ways to Filter: *Using the Filter shelf - General*

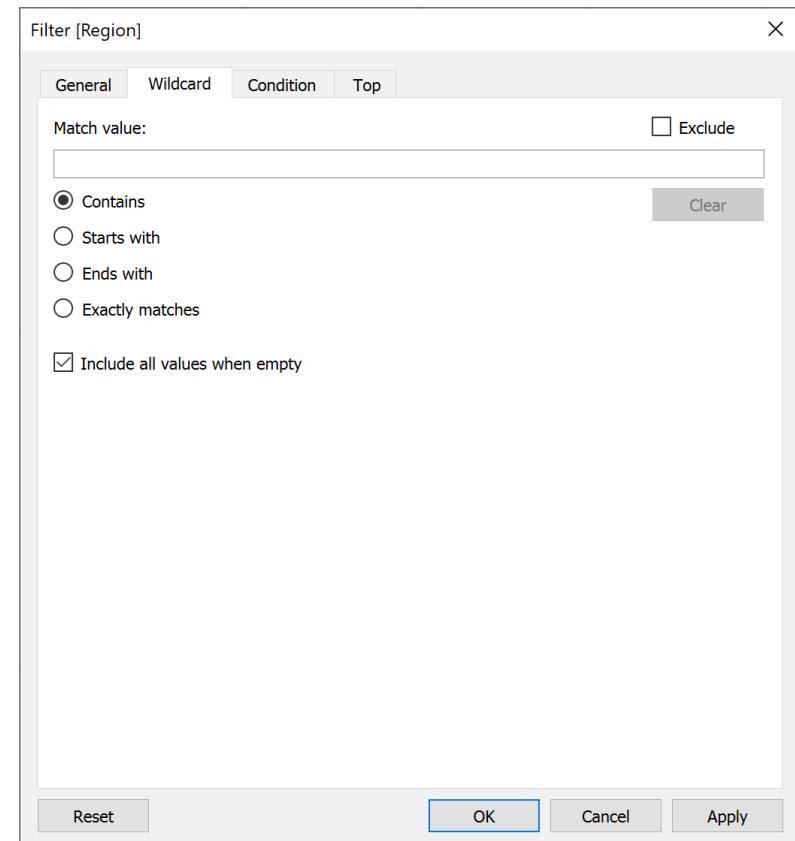
- This is the dialogue we get when we filter by a discrete dimension.
- This is a powerful window, so let's go through some of the features
- The first tab, General, lists all of the values in the field that we're filtering on (i.e. within *Region*).
- We can select All or None of the values to be displayed, or using Exclude, we can choose what we don't want.
- If the list is very long, we can also search for values in the search bar.





Ways to Filter: *Using the Filter shelf - Wildcard*

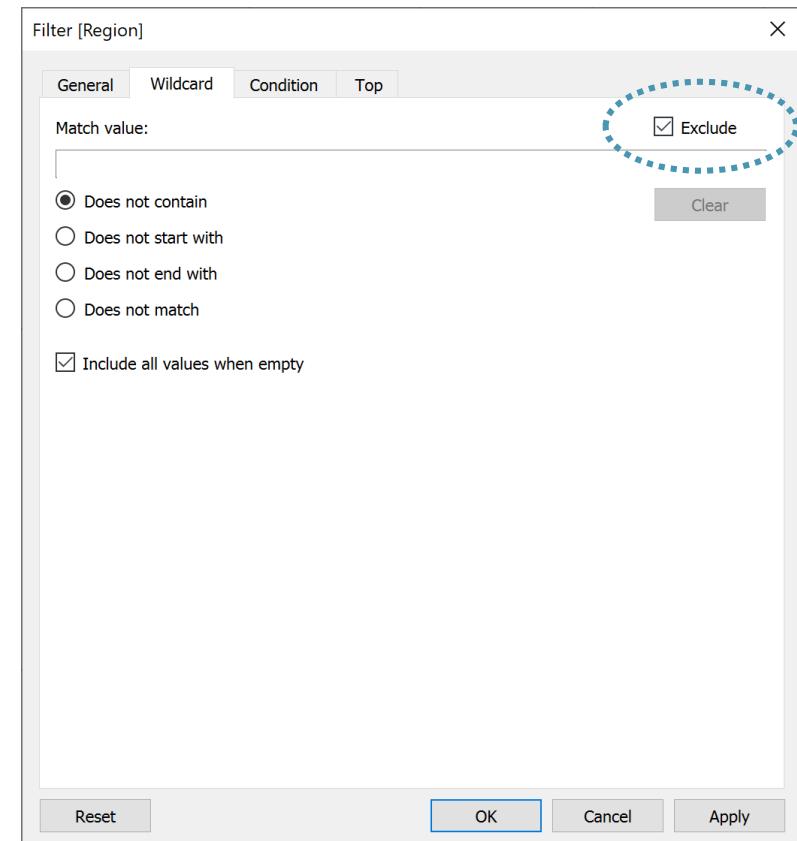
- Wildcard allows you to match for specific values that contain a typed phrase.





Ways to Filter: *Using the Filter shelf - Wildcard*

- Wildcard allows you to match for specific values that contain a typed phrase.
- They also allow you to exclude values that contain a typed phrase.





Ways to Filter: *Using the Filter shelf - Condition*

- Condition lets us filter based on *another* field.
- On the right, we've selected to filter Region by the field corresponding to Total number of years of education. We've set it to average, and the filtering value to be less than 4.
- Pressing Apply/Ok will thus return the Regions where the average Total number of years of education is less than 4 years

Filter [Region]

General Wildcard Condition Top

None
 By field:
Total number of years of education Average
< 4

Range of Values
Min:
Max: Load

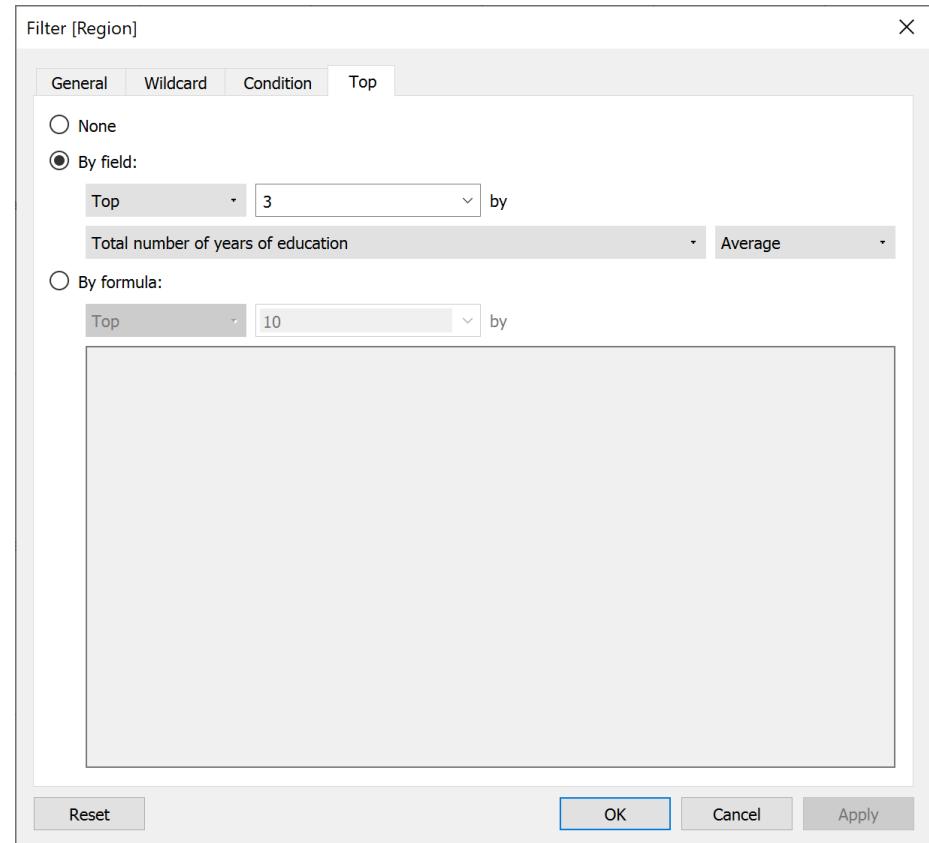
By formula:

Reset OK Cancel Apply



Ways to Filter: *Using the Filter shelf - Top*

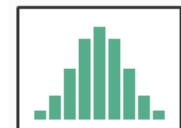
- Conversely, we can filter by the top (or bottom) number of values, also based on another field.
- Here we've filtered for the top 3 Regions based on average Total number of years of education per respondent.





Ways to Filter: *Using the Filter shelf – Continuous data*

- With the  menu open, select the measure *# Total children ever born*
- This will automatically highlight the histogram option
- Select the histogram option
- A histogram will now be shown in the view.
- Change the bin size of this histogram by finding the newly created “Total children ever born(bin)” field under Dimensions
- Right-click this field and select edit. Change the size of bins to 1





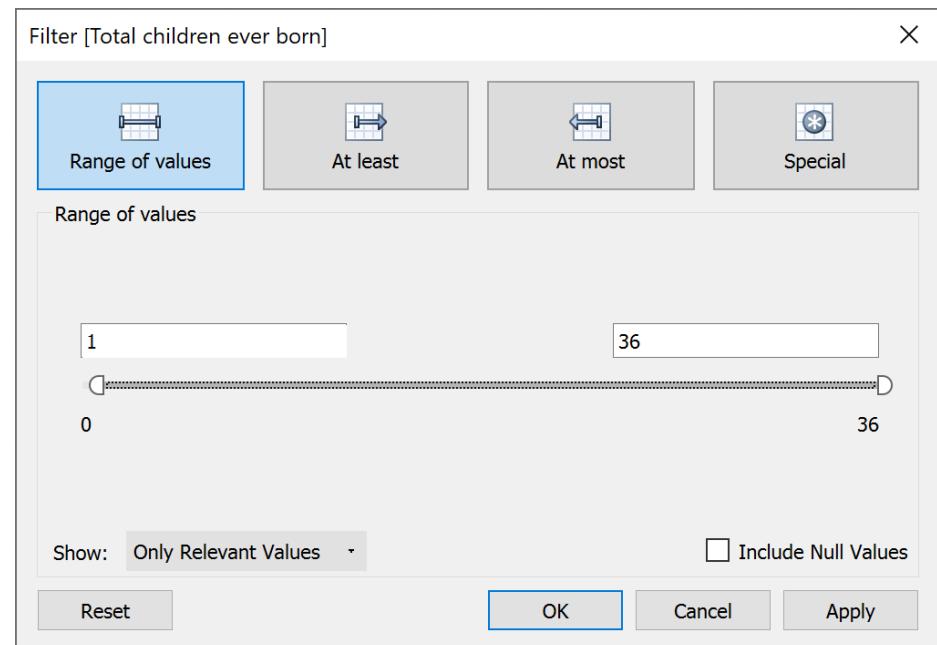
Ways to Filter: *Using the Filter shelf – Continuous data*

- Notice the long bar for respondents who have zero children? We can filter that out to look at only male Ethiopian respondents who have 1 child or more.
- To do this, drag the measure **# Total children ever born** onto the filter shelf.
- When prompted “How do you want to filter?”, select “**# All Values**”



Ways to Filter: *Using the Filter shelf – Continuous data*

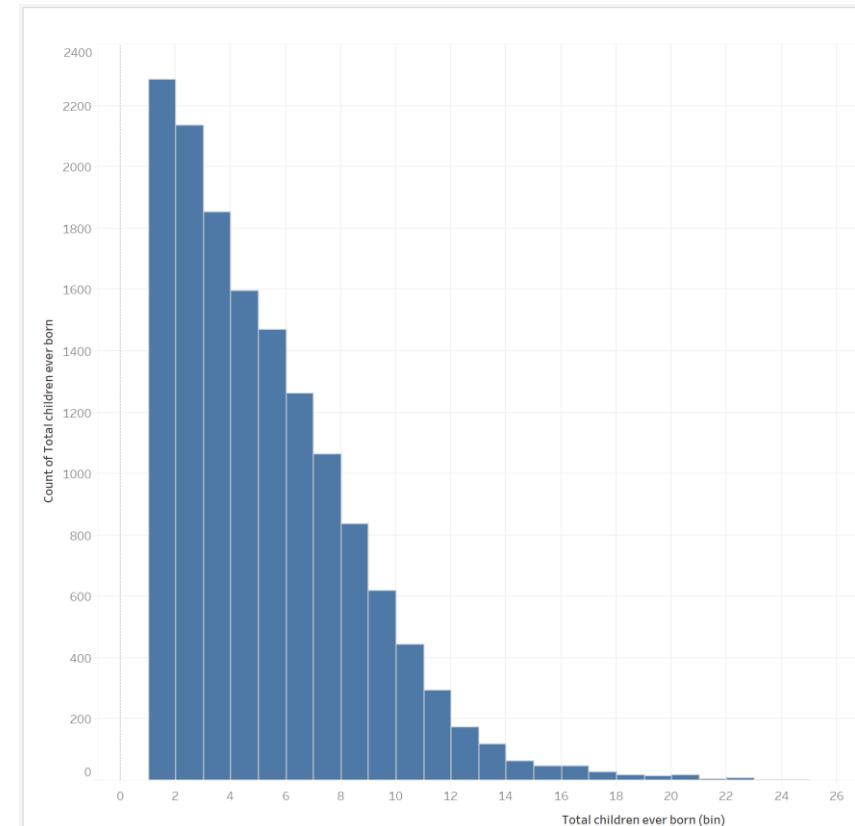
- Here we have the filter for numeric/continuous data.
- We can specify our filter to create cutoffs at either or both ends.
- For this example, let's use a Range of Values and set the lower value to **1**, and hit "Ok".



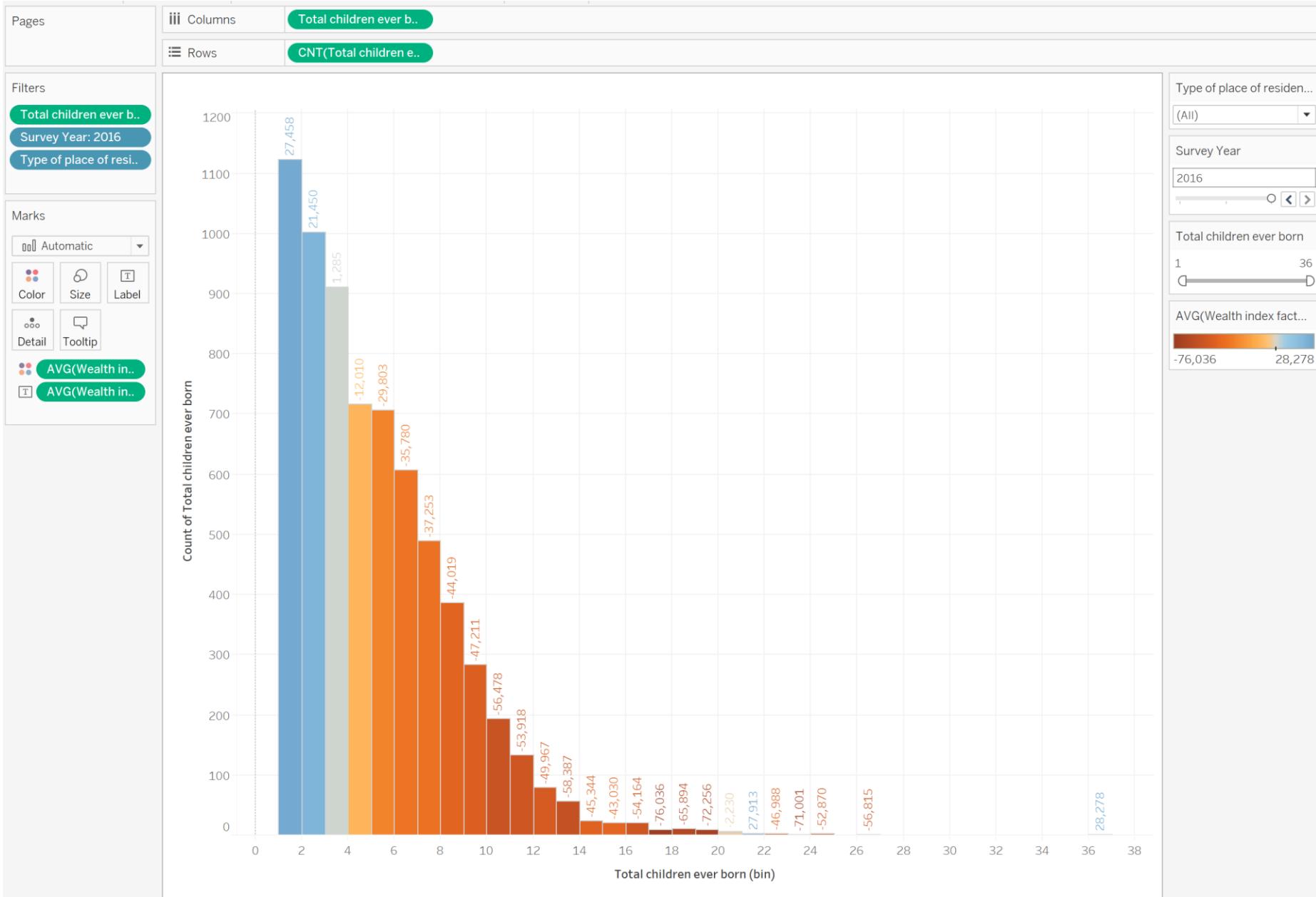


Ways to Filter: *Using the Filter shelf – Continuous data*

- The view will now be filtered to begin at a lower bound of 1 Total child ever born.
- Let's go ahead and "Show Filter", by Right+clicking the field in the Filter Shelf.
- For a deeper look, we can filter for Survey Year and Rural/Urban
- We can also add color by measure Wealth Index Factor Score



Adding colors and labels makes the histogram more easier on the eyes





Mapping

- As we've seen in the first module, when connected to the internet, Tableau has built in maps that can locate geographic locations at the level of sub-national state (e.g. Benishangul-Gumuz, Afar Region, Addis Ababa, etc.).



Tableau - Getting Started with Tableau II

File Data Worksheet Dashboard Story Analysis Map Format Server Window Help

Data Analytics

Mens_DHS_recode_2011_2016_Eth...

Dimensions

- # Survey Year
- Abc Re Add to Sheet
- Abc Ty Duplicate
- Abc Ec Rename
- Abc Hi Hide
- Abc Re
- Abc Et Aliases...
- Abc Se Create
- Abc Li Transform
- Abc Ev Convert to Measure
- Abc Fr Change Data Type
- Abc Fr Geographic Role
- Abc Fr Default Properties
- Abc Al Group by
- Abc Ag Folders
- Abc Pa Hierarchy
- Abc Sr Replace References...
- Abc Sr Describe...
- Abc Age at circumcision
- Abc Place where circumcision was c
- Abc Current marital status
- Abc Person who usually decides how t...
- Abc Age at first cohabitation

Measures

- # Total number of years of education
- # Number of household members (tot...)
- # Times away from home in last 12 mo...
- # Wealth index factor score (5 decimals)
- # Total children ever born
- # Number of living children
- # Sons at home
- # Daughters at home
- # Sons elsewhere
- # Daughters elsewhere
- # Sons who have died
- # Daughters who have died
- # Number of Records
- # Measure Values

Pages Columns Rows

Filters

Sheet 5

Drop field here

Marks Automatic

- Color
- Size
- Text
- Detail
- Tooltip

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

Drop field here

Drop field here

Data Source Sheet 1 Sheet 2 Using the Filter Shelf - Continuou... Sheet 2 (4) Sheet 5

30

Tableau - Getting Started with Tableau II

File Data Worksheet Dashboard Story Analysis Map Format Server Window Help

Show Me

Data Analytics

Mens_DHS_recode_2011_2016_Eth...

Dimensions

- # Survey Year
- (@) Region
- Abc Type of place of residence
- Abc Educational level
- Abc Highest year of education (at level...)
- Abc Religion
- Abc Ethnicity
- Abc Sex of household head
- Abc Literacy
- Abc Ever participated in a literacy pro...
- Abc Frequency of reading newspaper ...
- Abc Frequency of listening to radio
- Abc Frequency of watching television
- Abc Away for more than one month in ...
- Abc Age of respondent at 1st birth
- Abc Partner currently pregnant
- Abc Smokes cigarettes
- Abc Smokes nothing
- Abc Respondent circumcised
- Abc Age at circumcision
- Abc Place where circumcision was done
- Abc Current marital status

Measures

- # Total number of years of education
- # Number of household members (tot...)
- # Times away from home in last 12 mo...
- # Wealth index factor score (5 decimals)
- # Total children ever born
- # Number of living children
- # Sons at home
- # Daughters at home
- # Sons elsewhere
- # Daughters elsewhere
- # Sons who have died
- # Daughters who have died
- (@) Latitude (generated)
- (@) Longitude (generated)
- # Number of Records
- # Measure Values

Pages Columns Rows Standard

Sheet 5 Drop field here

Marks Automatic

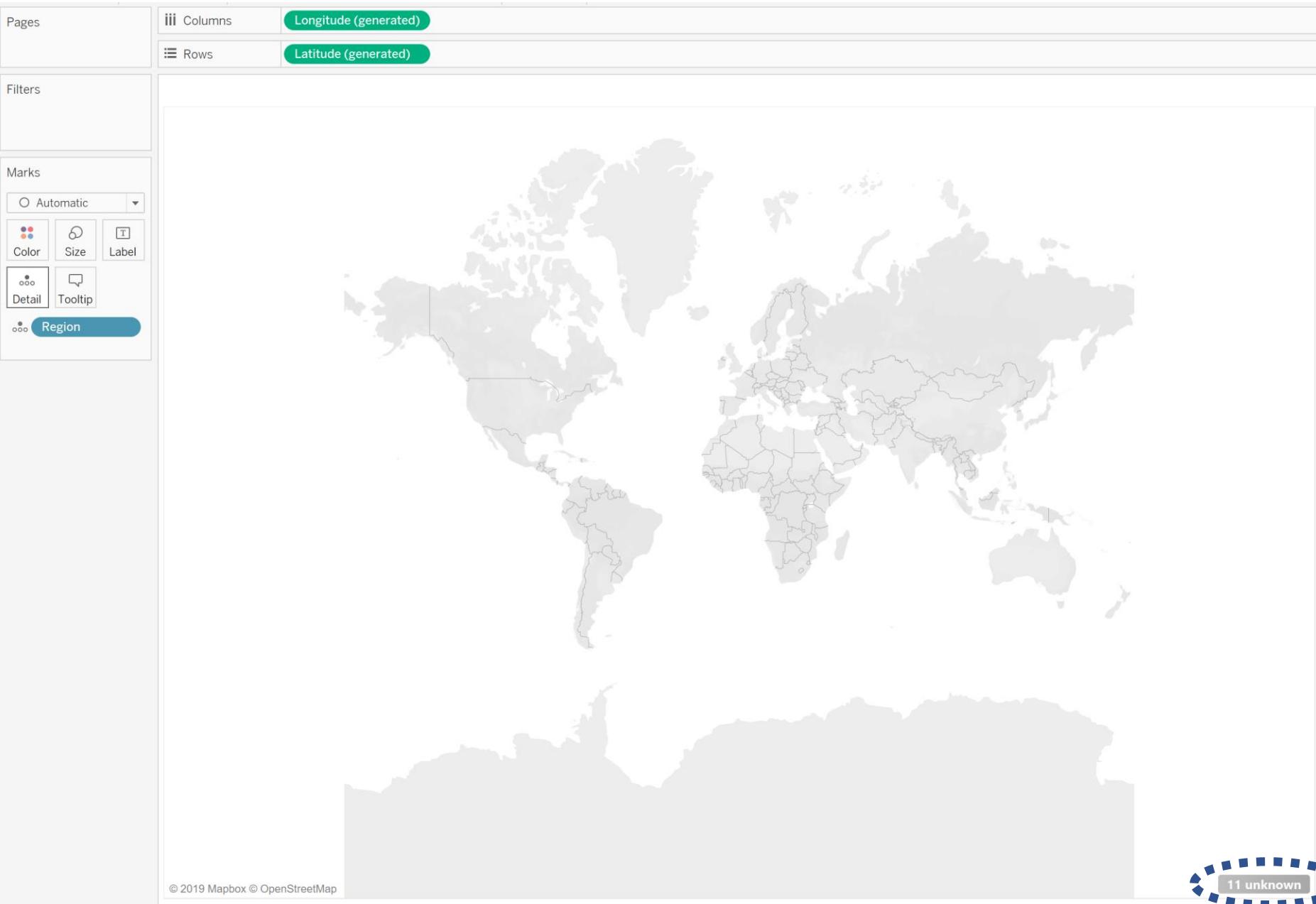
Color Size Text Detail Tooltip Region

Drop field here Drop field here

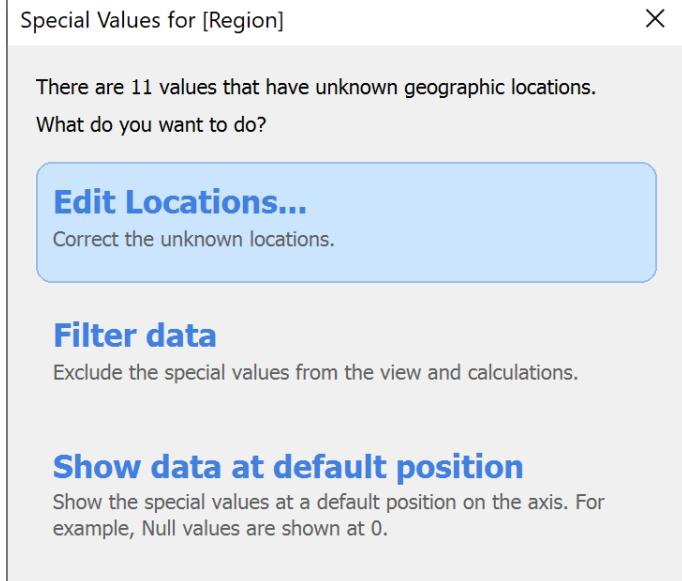
Data Source Sheet 1 Sheet 2 Using the Filter Shelf - Continuo... Sheet 2 (4) Sheet 5

Ex 2 31

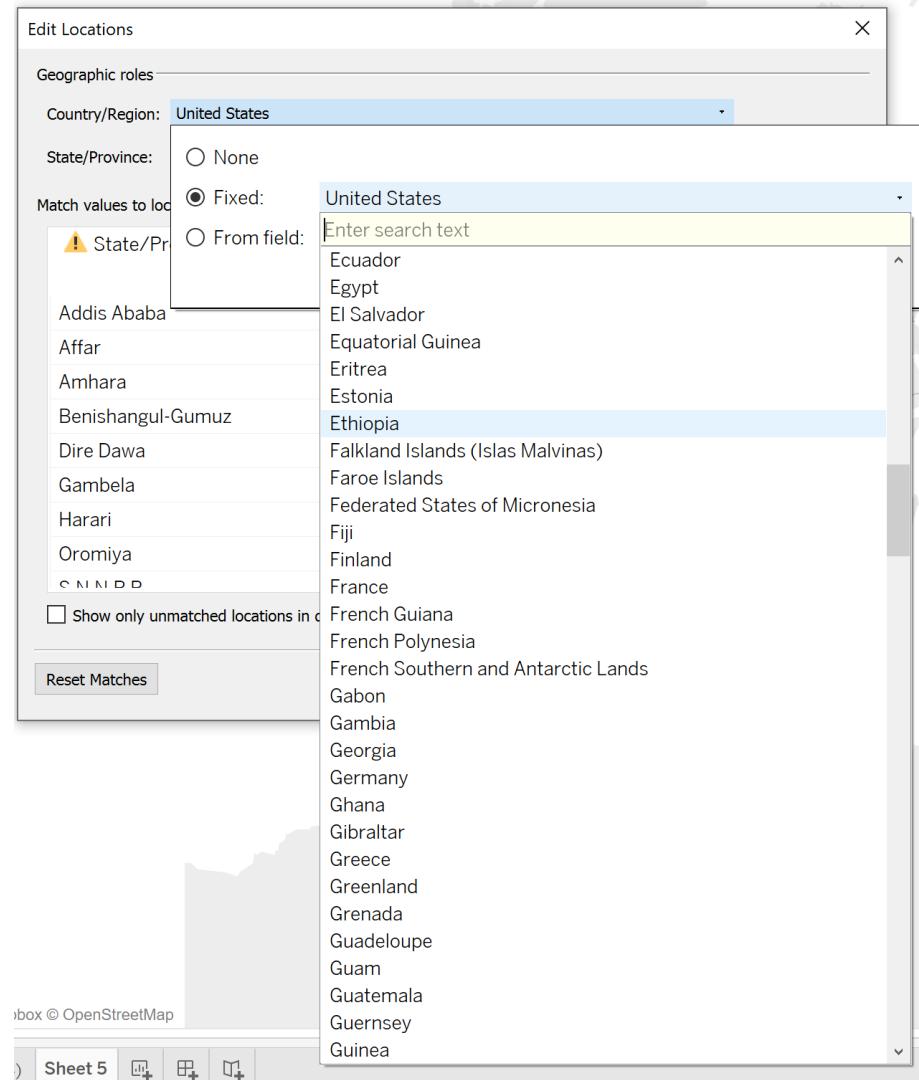
The screenshot shows the Tableau interface with the 'Dimensions' pane open on the left. The 'Region' dimension is selected and highlighted with a red oval. A large black arrow points from the 'Dimensions' list to the 'Marks' card in the shelf pane, specifically highlighting the 'Region' tooltip option.



1



2



Edit Locations

Geographic roles

Country/Region: Ethiopia

State/Province: Region ⚠ 3 issues

Match values to locations

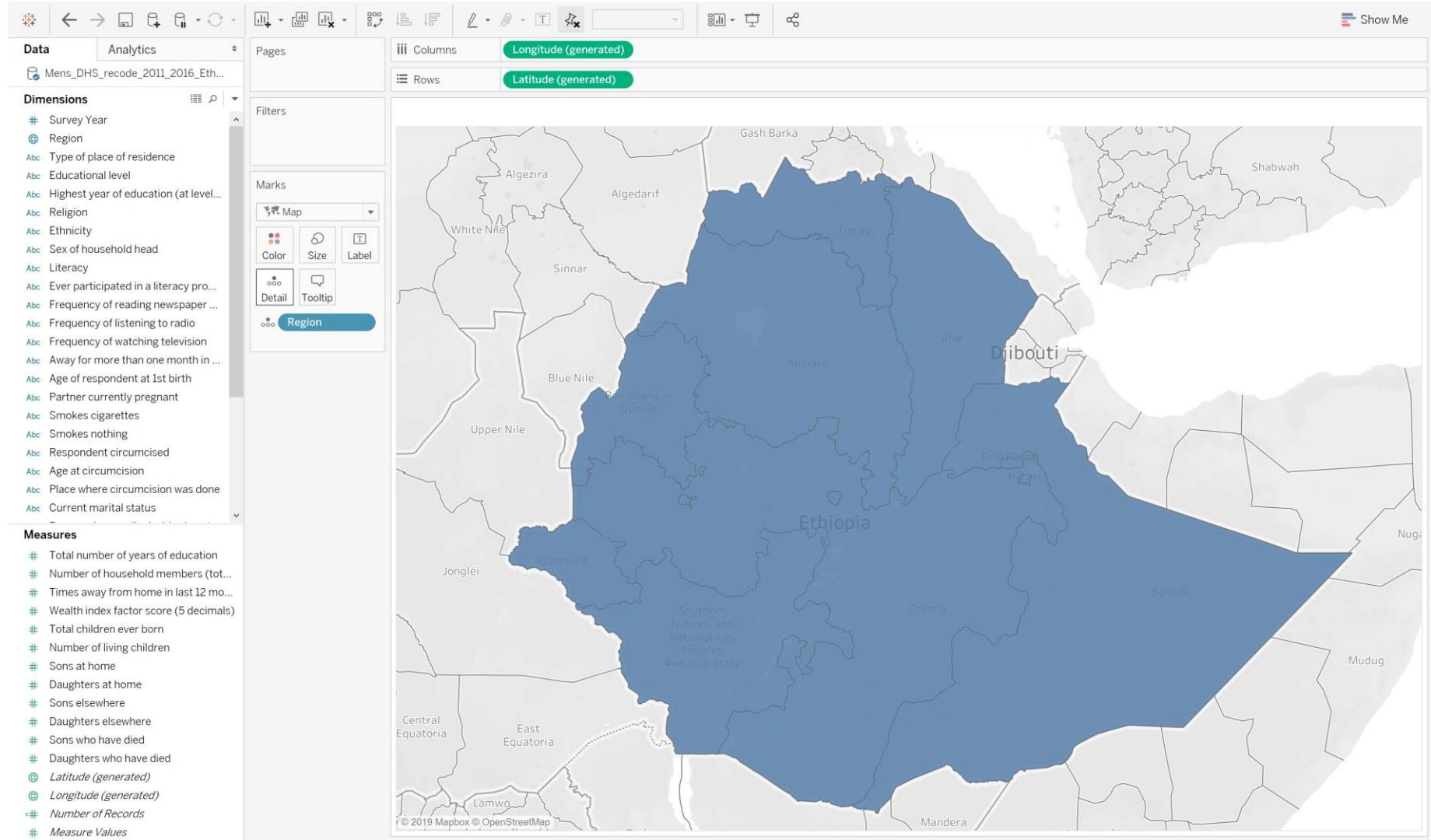
⚠ State/Province

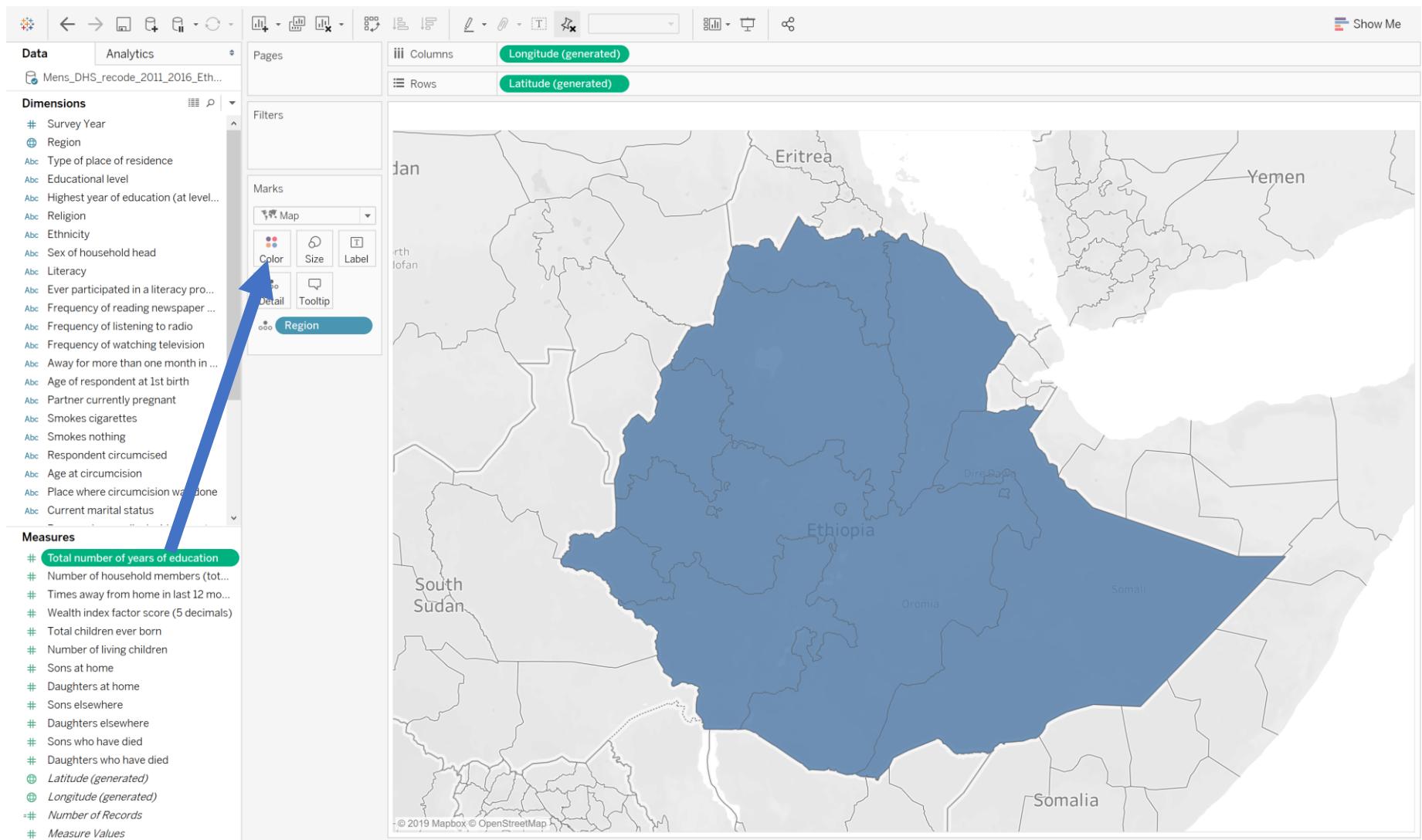
Your Data	Matching Location
Affar	Unrecognized
Oromiya	Unrecognized
S.N.N.P.R	
Addis Ababa	
Amhara	
Benishangul-Gumuz	
Dire Dawa	
Gambela	
Harari	
<input type="checkbox"/> Show only unmatched locations in drop down list	
Reset Matches	

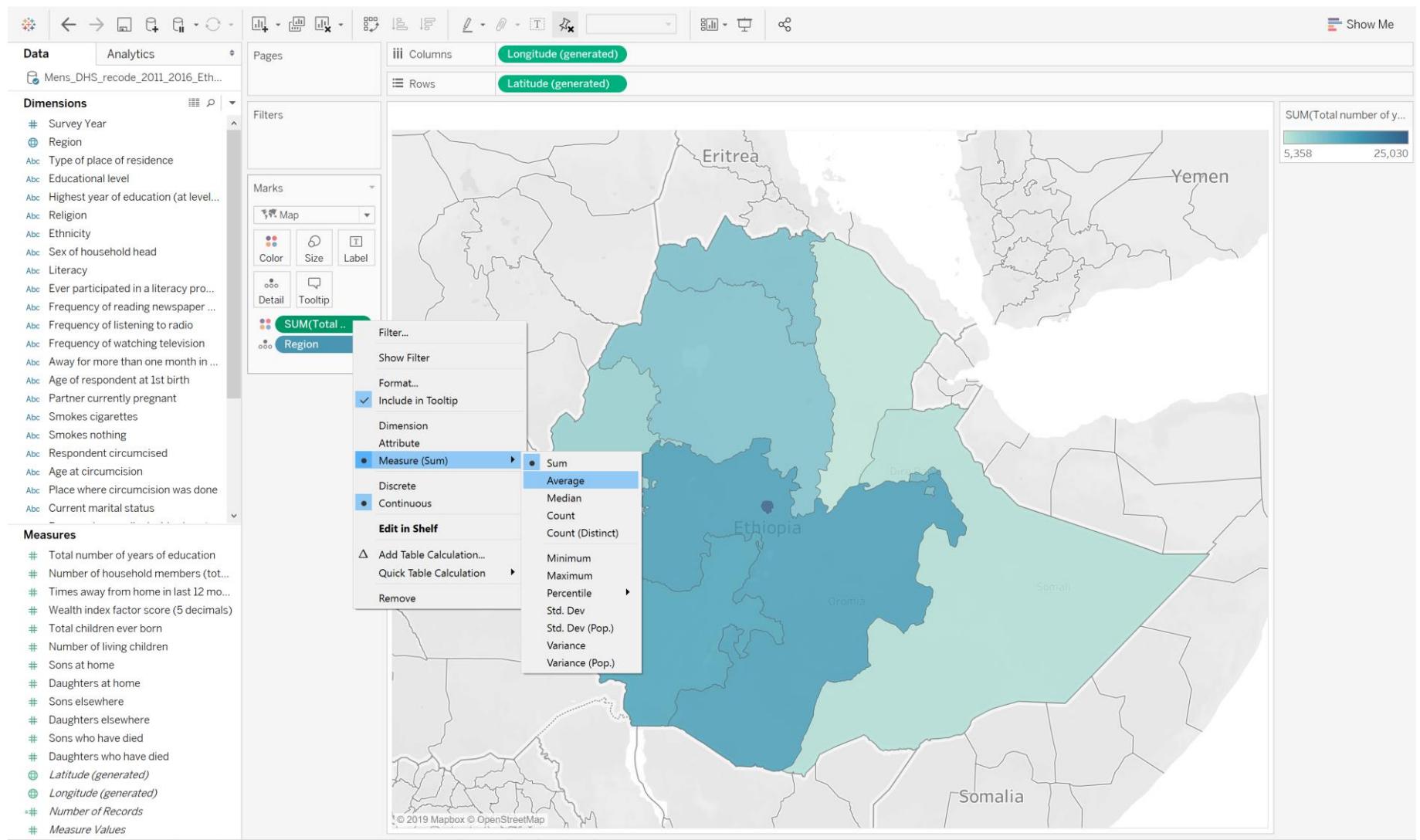
Enter a Latitude and Longitude...

Addis Ababa
Afar
Amhara
Benishangul-Gumuz
Dire Dawa
Gambella
Harari
Oromia
Somali
Southern Nations and Nationalities People...
Tigray

Note: You may have to change the marks from Automatic to Map in order for the regions to be shaded, rather than represented as a point.









GPS Point Data

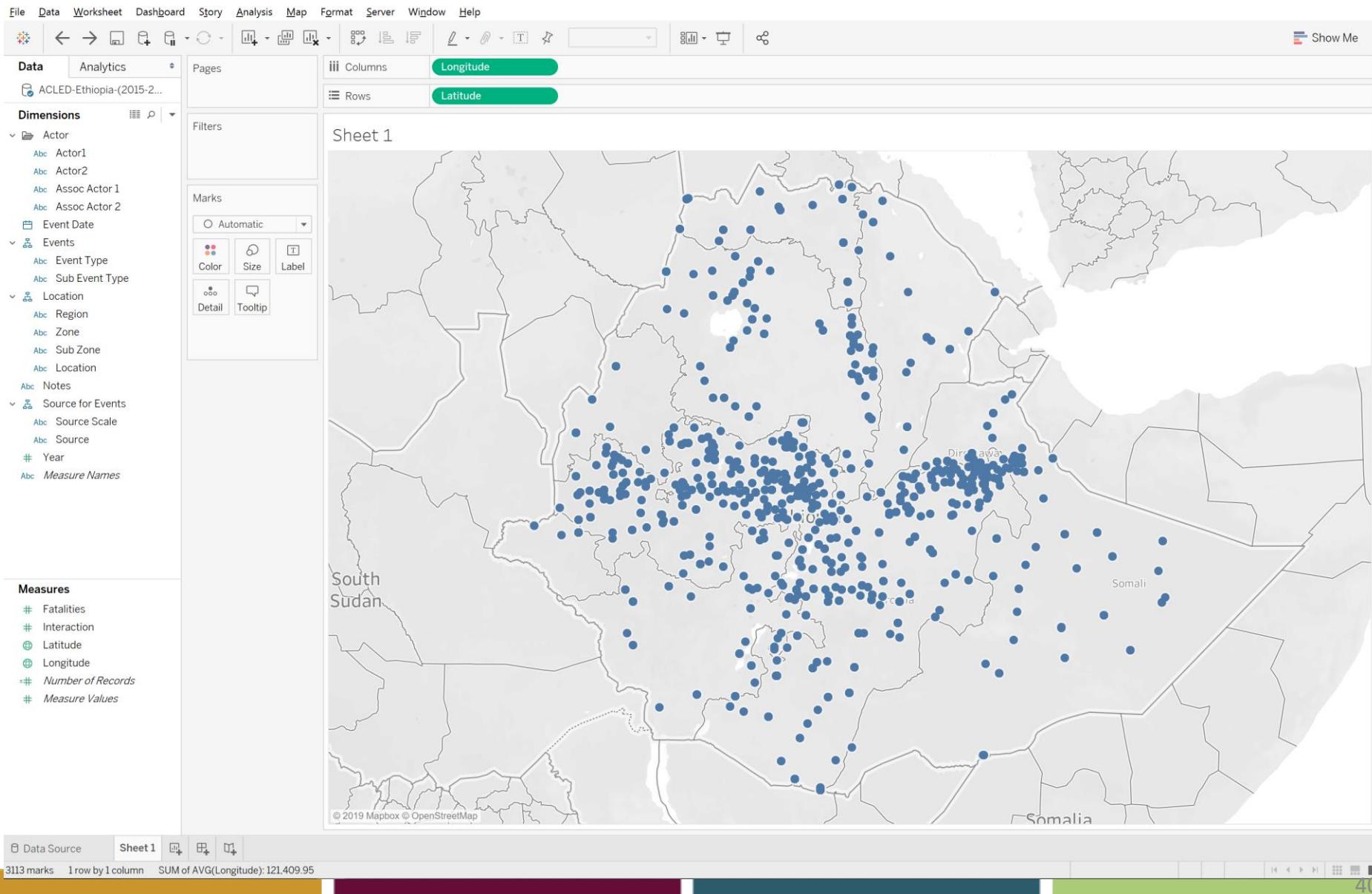
- Save this workbook to Tableau Public
- Now, let's re-visit our ACLED Workbook.
 1. Hide un-needed fields
 - Data Id
 - Iso
 - Event Id Cnty
 - Time Percision
 - Inter1
 - Inter2
 - Country
 - Geo Precision
 - Timestamp
 - Iso3
 2. Convert “*Event Date*” field from Text to Date
 3. In the Data pane of your worksheet, Group by Folder
 4. Assign geographic role to *Region*
 5. Group *Actors* info into “*Actors*” folder
 6. Create Hierarchies for: (*hierarchy name*)
 - **Events**
 - *Event Type*
 - *Sub Event Type*
 - **Source For Events**
 - *Source Scale*
 - *Source*
 - **Location**
 - Region
 - Zone
 - Sub-Zone
 - Location



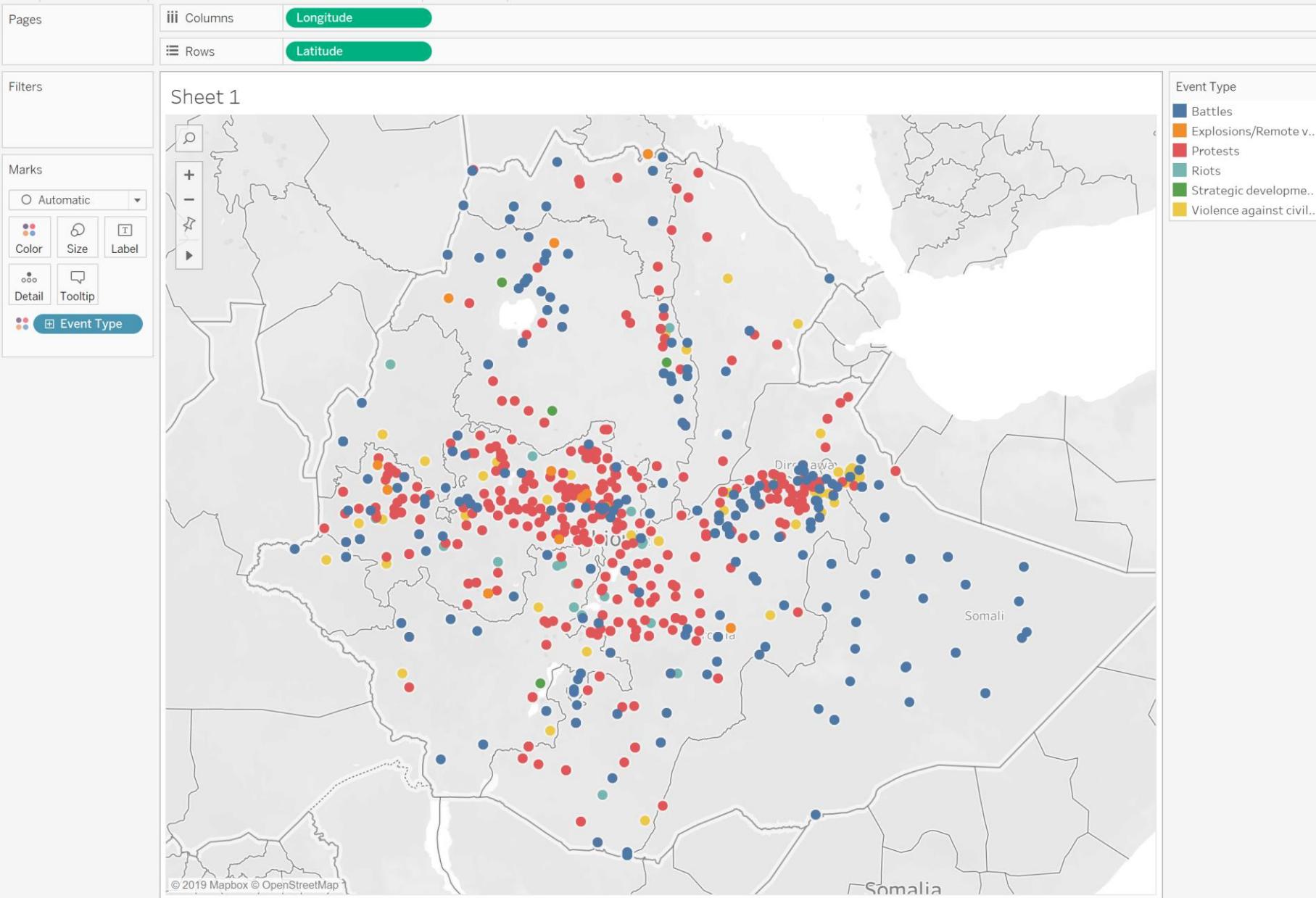
GPS Point Data

- To display the Longitude/Latitude Measures fields into GPS points, simply hold control and click each field (*not the generated Lat/Long*).
- To map the points you can either drag the two selected fields onto the View, or click the Show Me pane and select the first map option
- What shows is a GPS point which is an average of all of the respective Longitudes and Latitudes.
- To show each point, simply disaggregate the data by de-selecting Aggregate Measures found under the Analysis menu at the top of the window

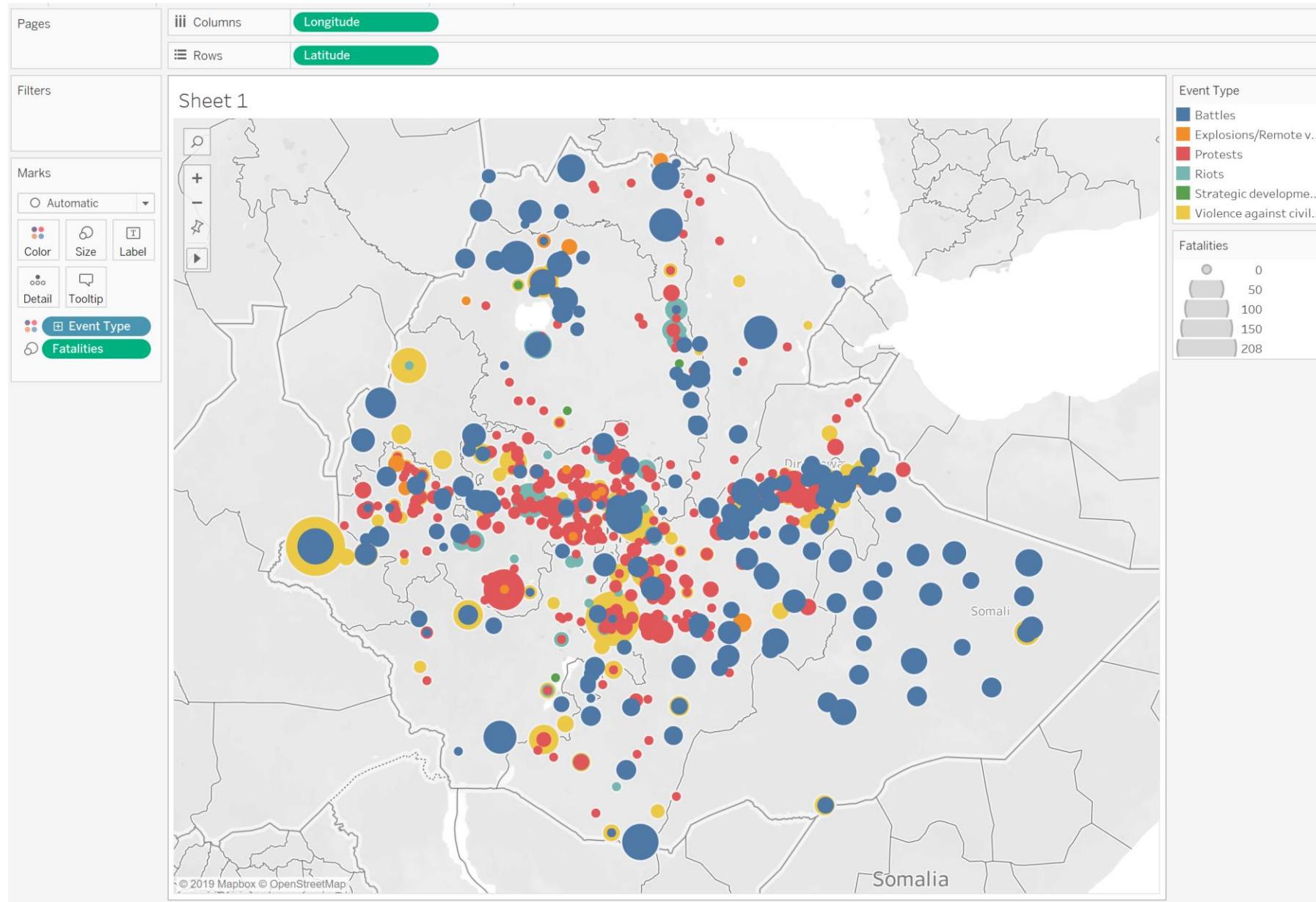
You can now color, group, size, etc. by adding variables of interest onto the view



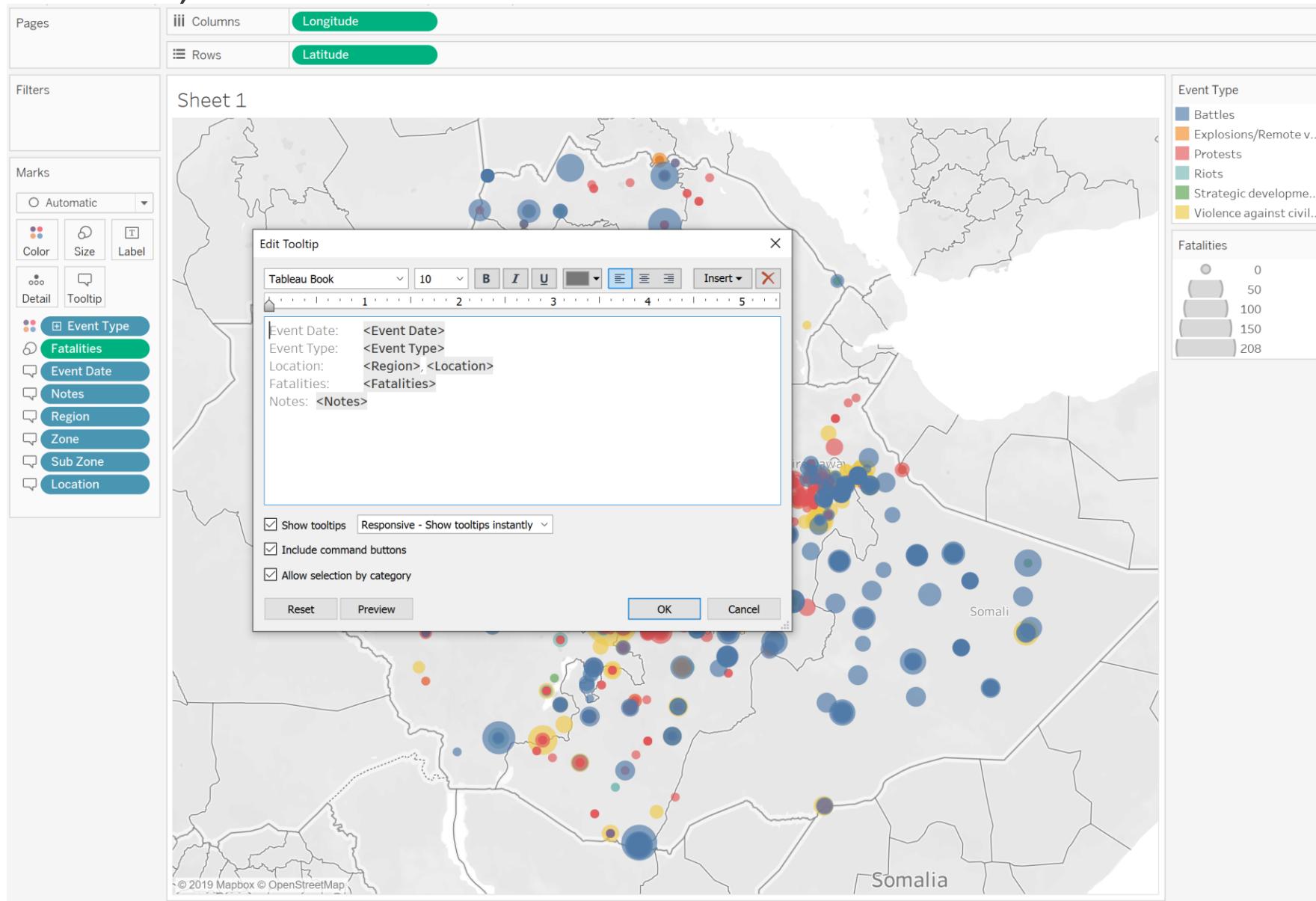
Color by Event



Size by Fatalities (edit sizes and opacity)



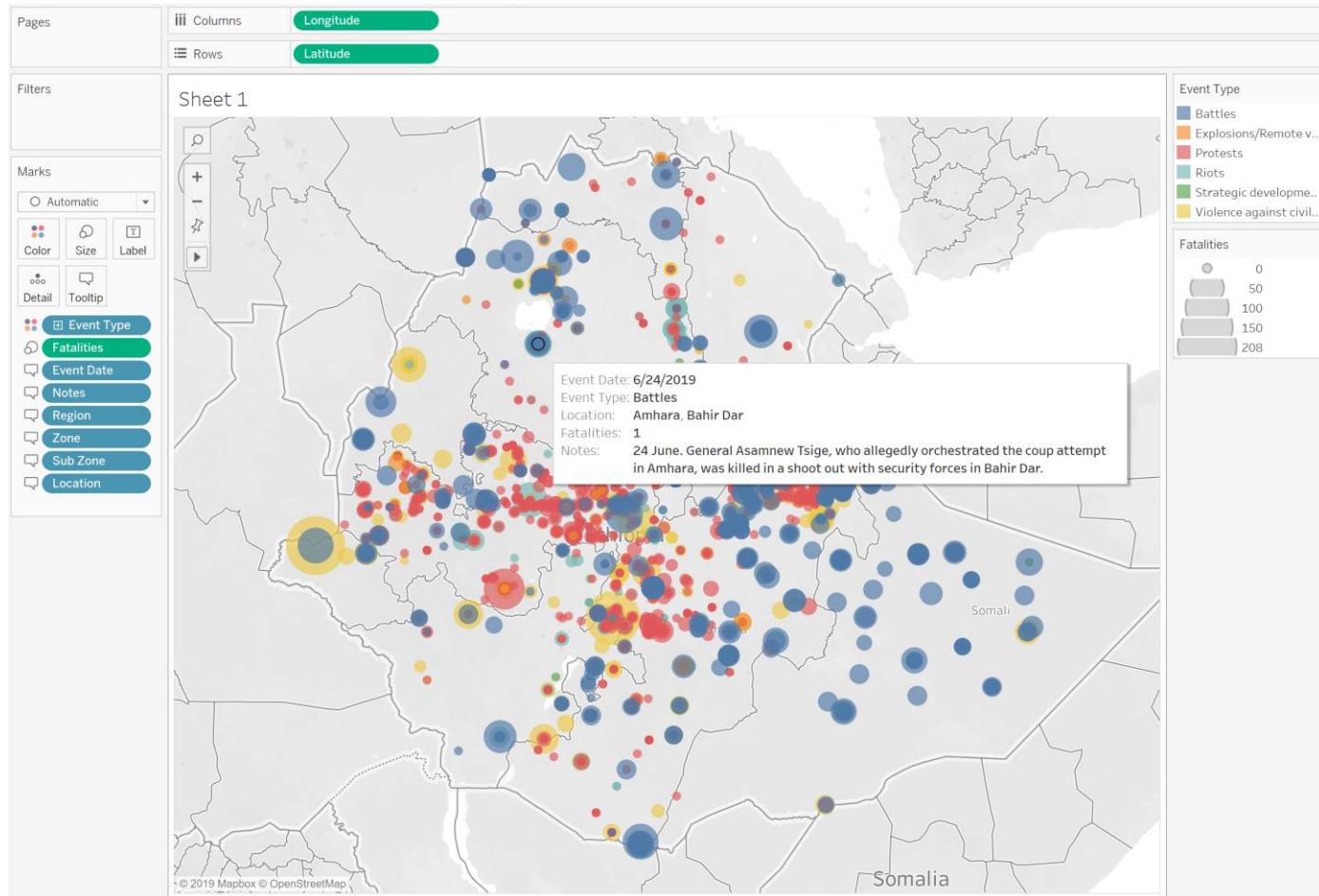
Drag and add to the tooltip: Notes, Event date, location, source.





For the next module

Save this map
(along with the
ACLED
workbook).
We'll be using
this to construct
a dashboard



End of Module 3

