



TABLEAU DESKTOP

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Tableau is a useful data visualization tool that is commonly used in the Data Science industry. Tableau is a great way to create data visuals without the need for code. This is because of the drag-and-drop functionality of the program.

This guide will help you set up and get started with Tableau!

SO HOW DO YOU GET STARTED?

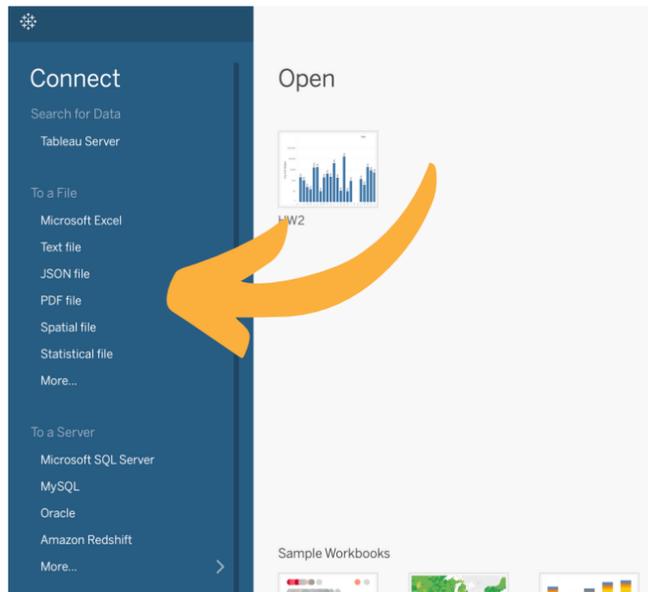


STUDENT ACCOUNT

Tableau Desktop needs to be purchased, but you can access this product for free for 1 year if you have a student email address. Make an account [here](#).

CONNECTING DATA

Data connectors that are available to you are listed on the Connect pane, which is the left pane on the Start page. Select the data file you want to use and you're ready to go!

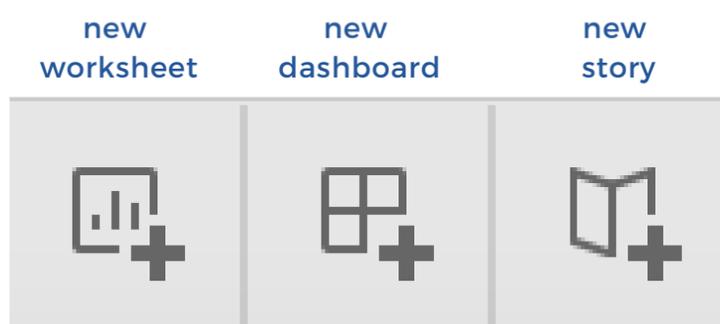


USING CSV FILES

A common file type we use in the DS program are comma-separated-values. The easiest way to open this file in Tableau is to open it into Microsoft Excel and save it as a .xls or another type of excel file.

MAKING VISUALS

Look for these icons at the bottom of the screen. Click the first one to make a new visualization or "worksheet". The second icon is a way that you can organize and present all of your visuals on the same dashboard. The third is a way to present multiple dashboards in a "story".



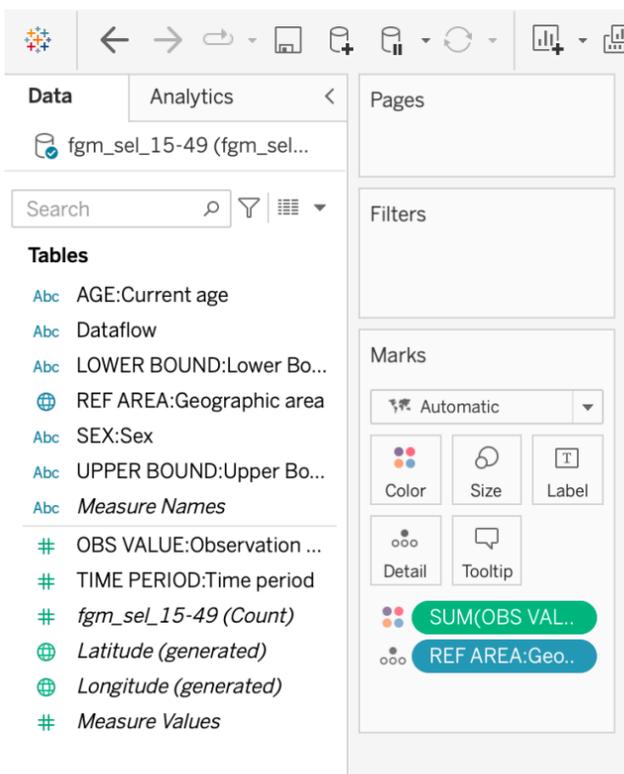


MAKING VISUALIZATIONS

Since Tableau uses a drag-and-drop functionality it is relatively easy to use. Knowing where to start with all of the possibilities might be the hardest part!



WHERE TO BEGIN...

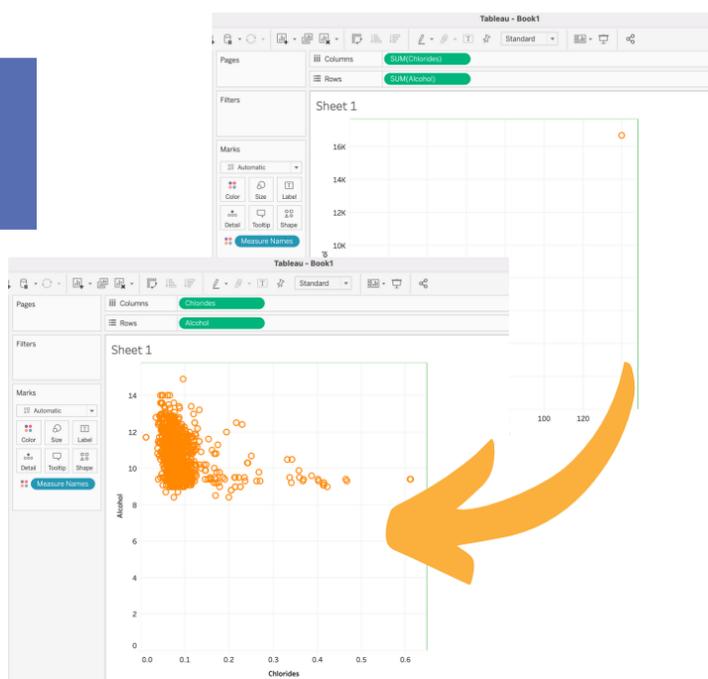


SELECTING DATA

Once you make a new worksheet you will see your data on the left hand side. The categorical variables appear on top with blue icons and the quantitative variables appear below with green icons. You can drag and drop these variables anywhere on the right side of the worksheet to start building a visualization.

OK... THERE'S A SINGLE DOT.

If this happens to you, don't worry! There is an easy solution. Navigate to the top of your window to "Analysis". Click on Analysis and then click "Aggregate Measures". Now you should have a beautiful scatterplot!

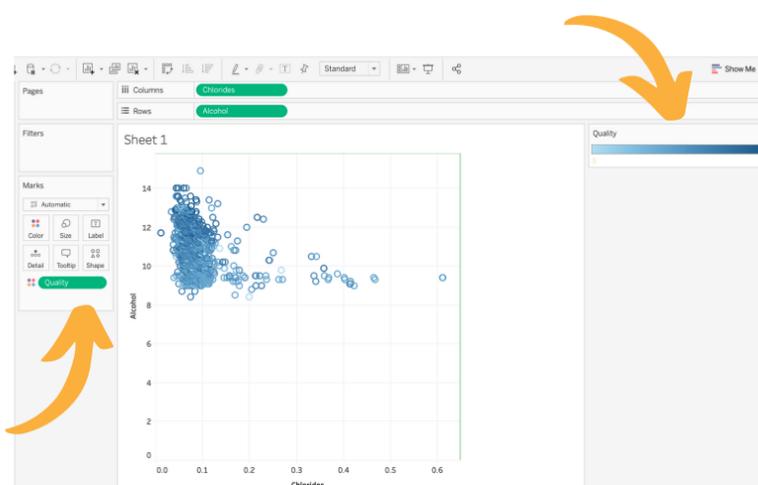


HELPFUL TRICK #2

The "Show Me" tool on the right side of the screen allows you to meander through different chart types super easily. If you want to make a specific one that isn't highlighted for your data it will also show you what variables you need to make that chart. Remember that **dimensions are categorical** variables, and **measures are quantitative** variables.

HELPFUL TRICK #3

By dragging additional measures or dimensions into the Marks section you can add more dimensions to the chart. If you use color: you can change it by selecting the drop down on the legend and clicking "Edit colors".



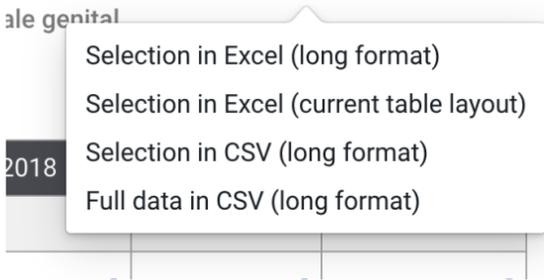


This walkthrough will show you how to make a map to show the location and impact of different variables.



WHERE TO BEGIN...

The dataset used for this tutorial can be found [here](#). We will use FGM data for 15-49 y/o in 23 different countries.

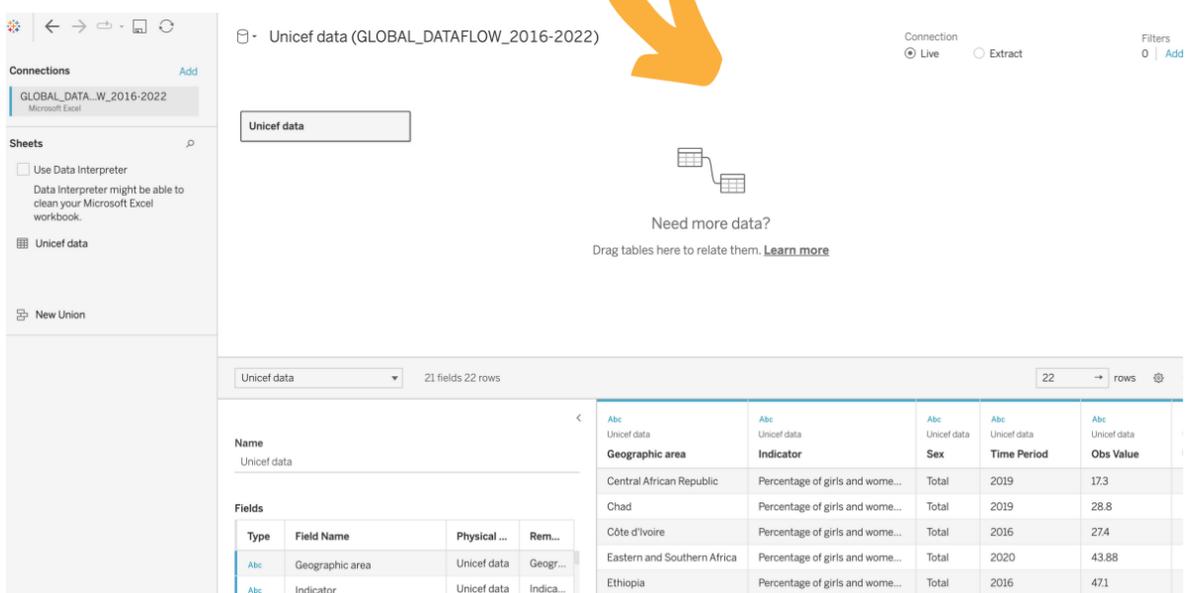
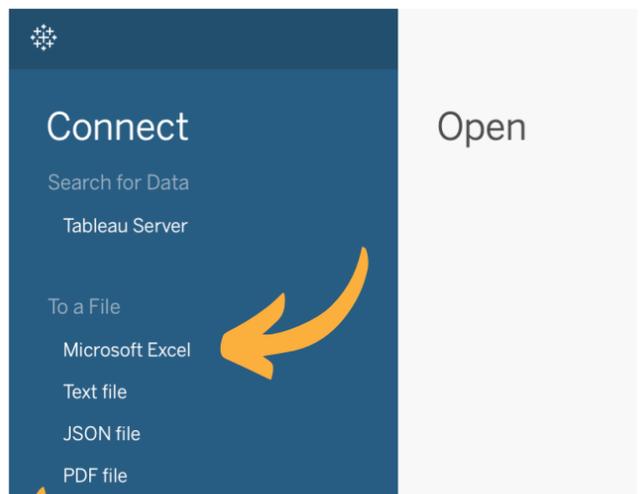


DOWNLOADING DATA

Once you navigate to the page, hover over the download button and click "Selection in Excel (long format)".

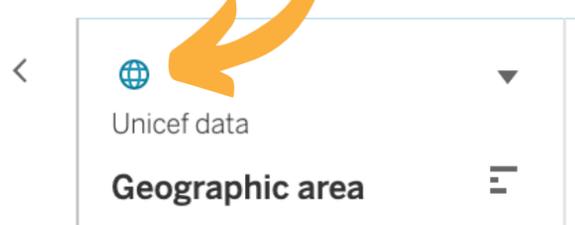
OPEN DATASET

Once you open Tableau Desktop you will see the connect option on the left-hand side. Click the Microsoft Excel option and then navigate to where you saved the data file and open it. Your screen should now look like the below image.



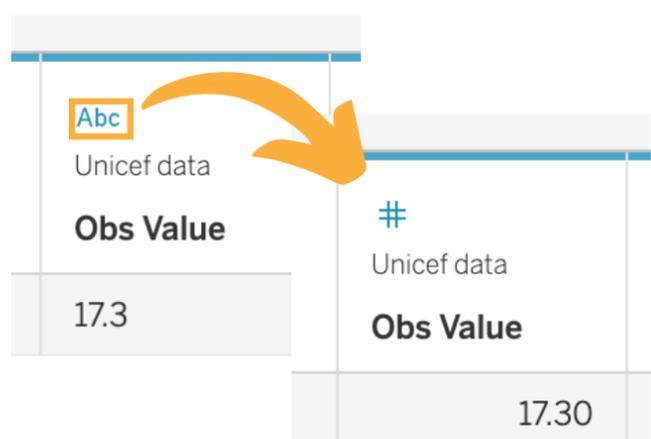
CHANGING DATA TYPE

Navigate to the **Geographic area** column. Click on the "Abc" label in blue. Hover over "Geographic Role", then select "Country/Region". The label should now be a "globe" instead of "Abc".



CHANGING DATA II

The other data type we need to change is the **Obs Value** column. Similar to how you changed the previous column, click "Abc" then select "Number (decimal)". The new label should be a "#".





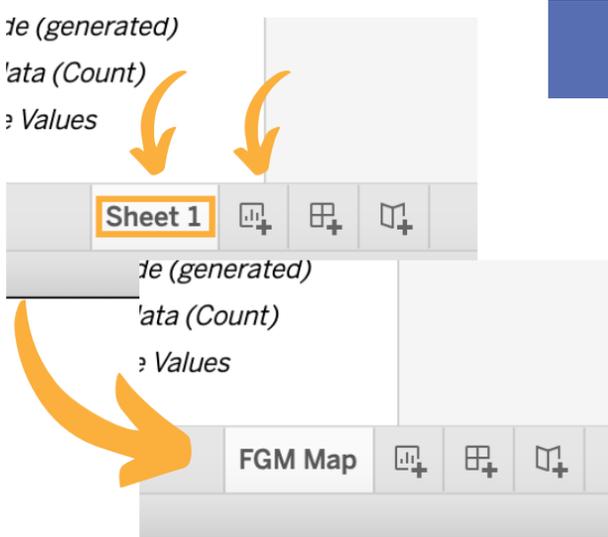
Now that we have the dataset loaded in and set up we can start creating the map visualization!



CONTINUING FROM THE PREVIOUS PAGE...

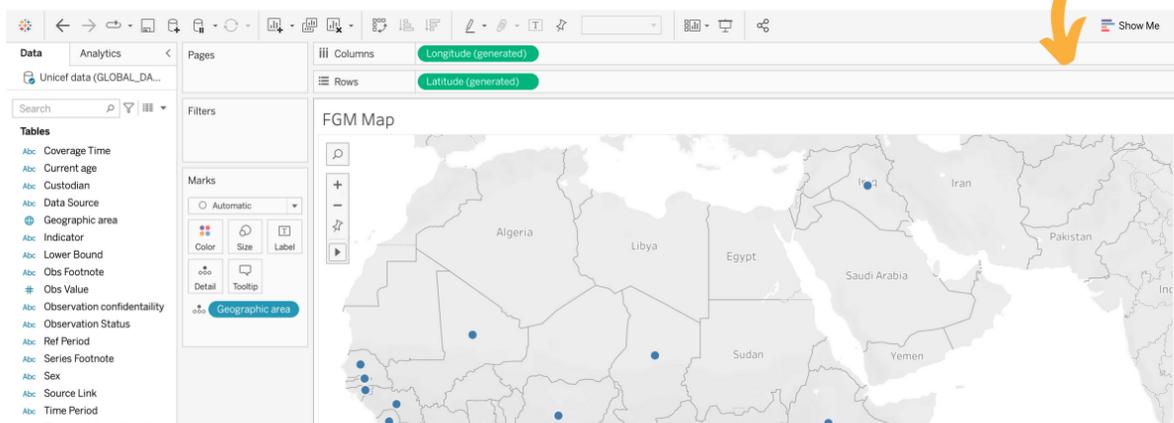
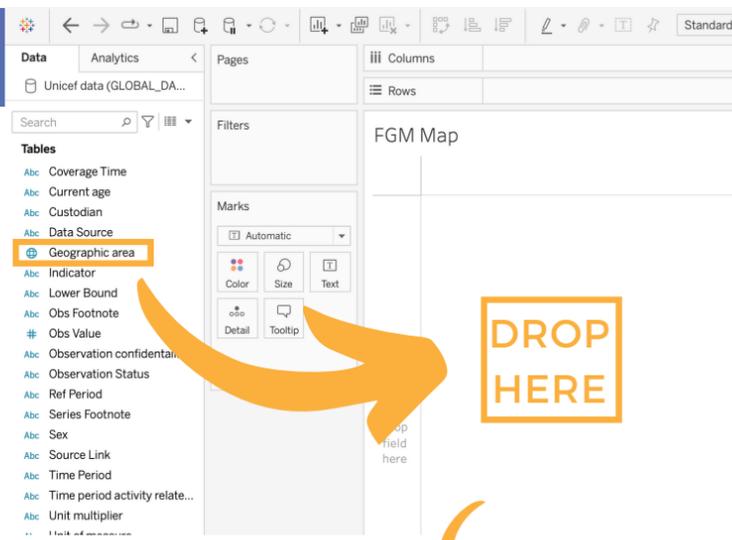
OPENING A NEW SHEET

At the bottom of your screen, next to the "Data Source" tab, click "Sheet1" or create a new sheet with the icon directly to the right. If you right-click your sheet tab you can also "Rename" your sheet as shown here.



CREATING THE MAP

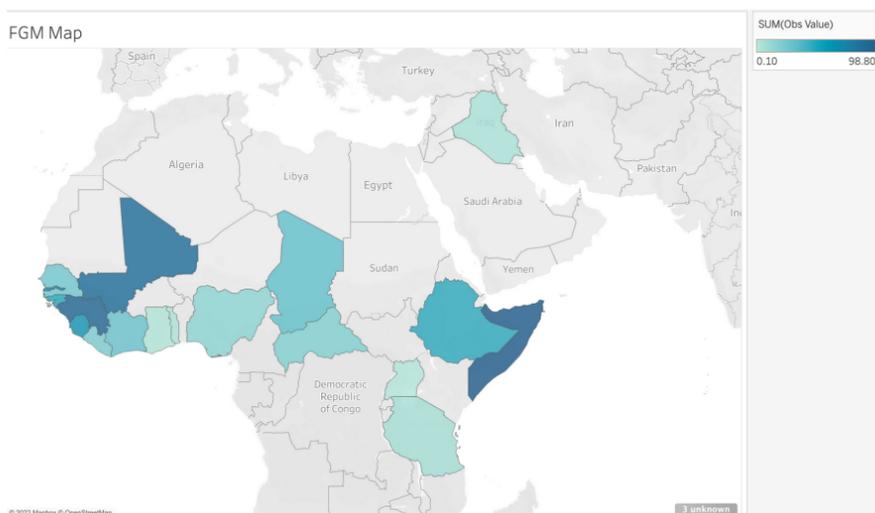
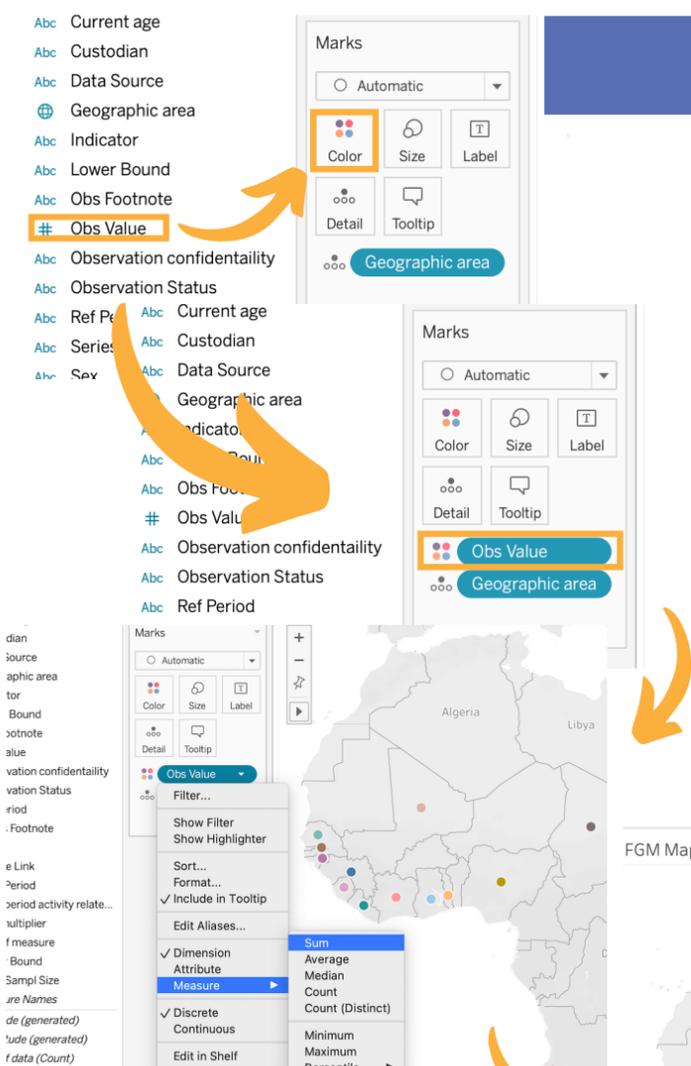
Find the **Geographic area** column under "Tables" on the left-hand side. Click, drag, and drop this column into the center of your screen. Your screen should now appear like the one below.



ADDING DATA TO THE MAP

Find the **Obs Value** column under "Tables". Click, drag, and drop this column onto the "Color" box in the "Marks" section to the right. Then, right-click on the Obs Value icon in the Marks section.

Then, hover over "Measure" and select "Sum". The result should be a map that shows the percentage of FGM-affected women in each country.



The next part of the tutorial will show you different ways to customize a map.



CUSTOMIZING A MAP

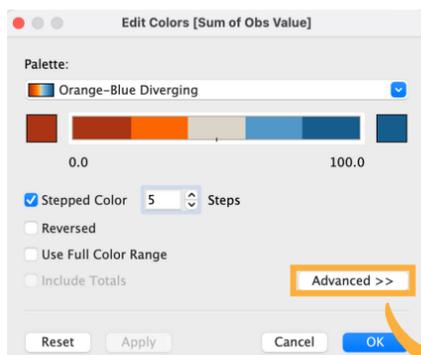
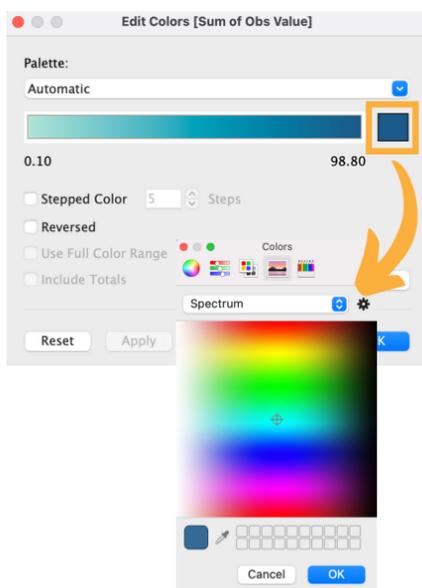
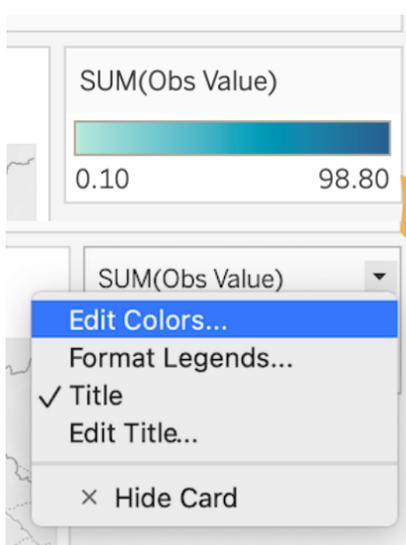
Now that the map is created we can customize the colors, formats, and marks to make the map our own.



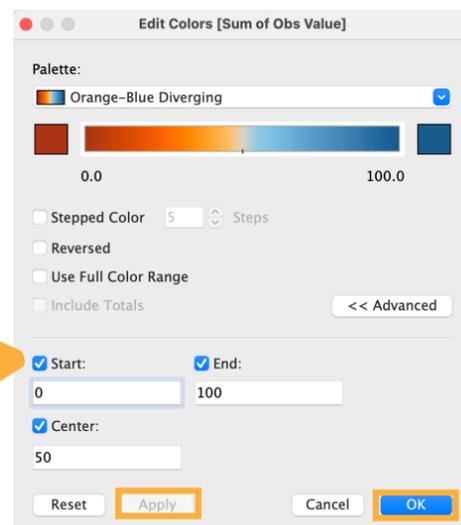
LET'S GET CUSTOMIZING...

CHANGING MAP COLORS

Navigate to the color legend on the right side of the screen. Click the dropdown arrow and then click "Edit Colors...". You can use premade colors by selecting from the dropdown or you can pick custom colors by clicking on the colored squares. Using stepped color is good for data with values that fall within specific ranges. You can also click "Advanced >>" and set the start, stop, and middle values as shown below.



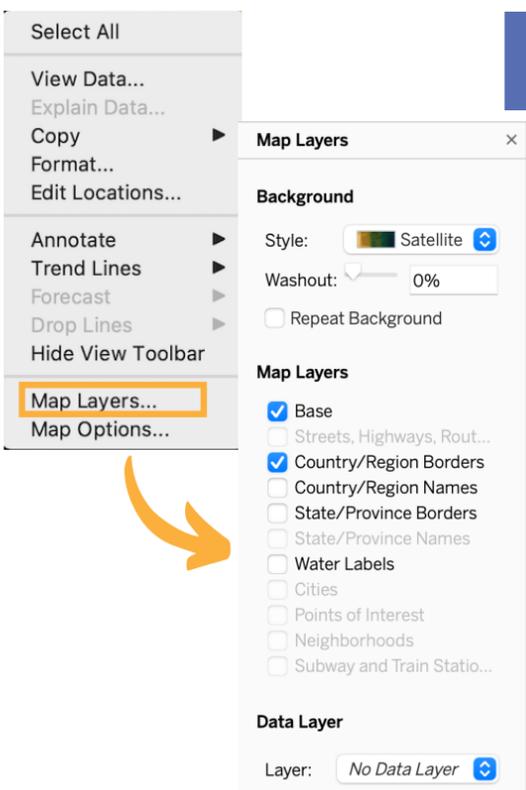
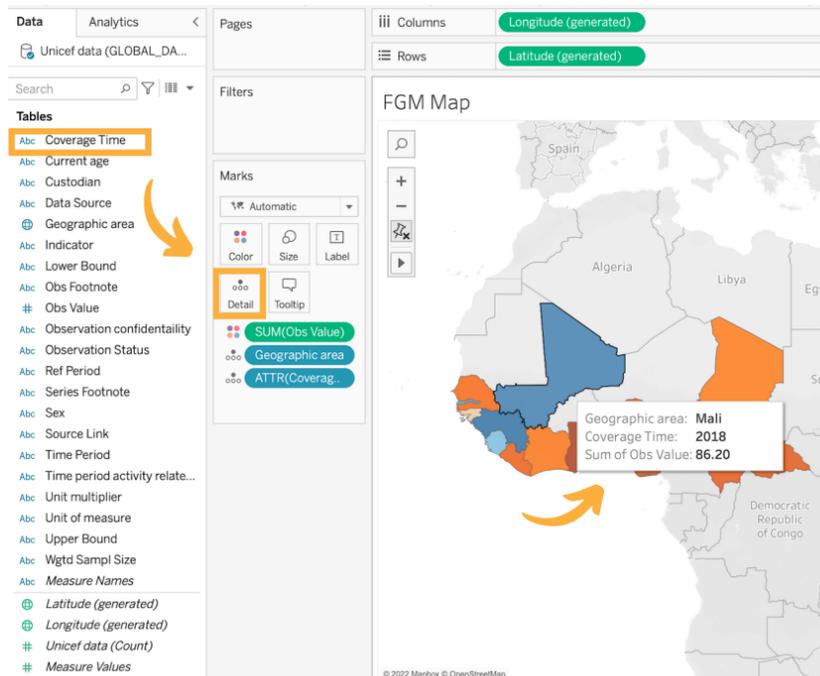
Using "Stepped color" is a good way to show data with values that fall within specific ranges.



Click "Apply" to see changes or "OK" when you are done.

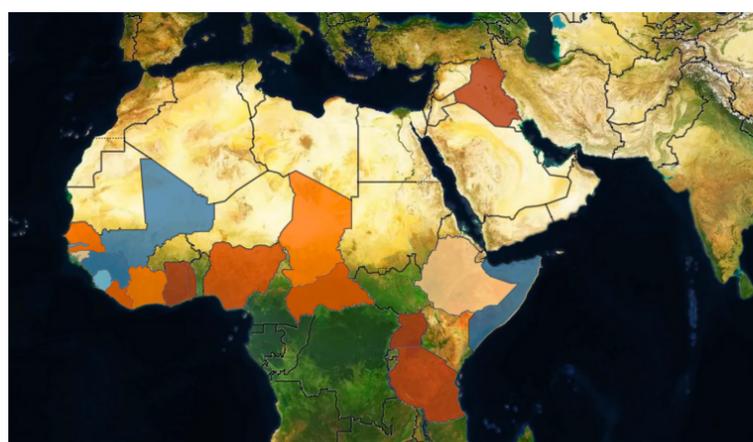
CREATING THE MAP

Since Tableau charts are all naturally interactive, we can add additional variables to the "Detail" or "Tooltip" Marks. It's even possible to put other graphs in the "Tooltip"! Shown here: we click and drag "Coverage Time" into the "Detail" box. Now when we hover over any country we will also see the timeframe that the data was recorded.



CHANGING MAP LAYERS

Right-click anywhere on the map and then select "Map Layers...". A new frame will appear on the left-hand side with tons of options to change the appearance of your map. Some of these options include style, country borders, country names, and water labels. First, try selecting a different style and then play around with the other selections.



Can you get your graph to look like this one?