Milken Institute School of Public Health
THE GEORGE WASHINGTON UNIVERSITY

PUBH6299: Visual Exploration of Public Health Data
Handout #2

Fall 2018

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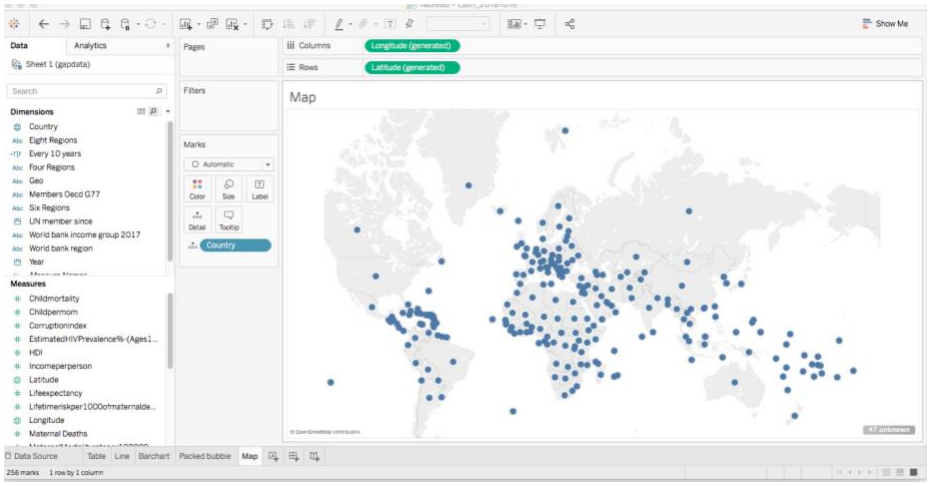
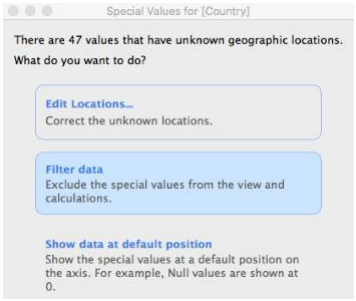
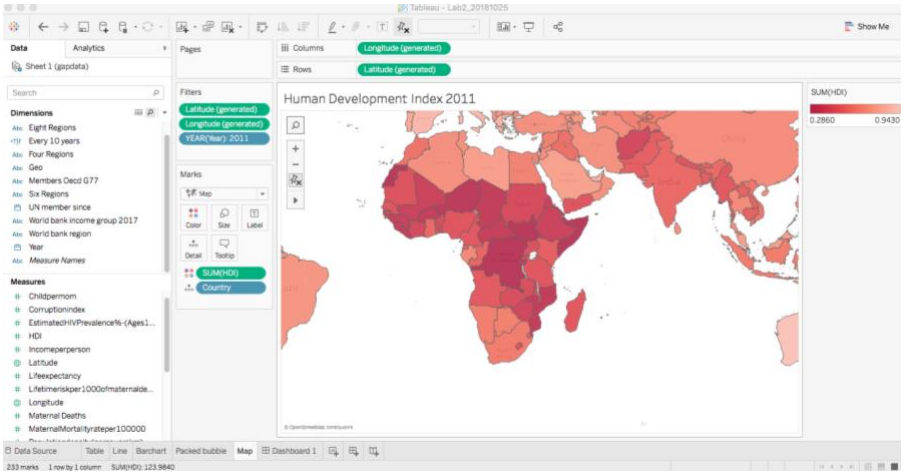
Create a Map

1. Drag Country from Dimensions to Detail in the Marks Card
2. You'll see "47 Unknown" at the bottom right. This means that Tableau does not recognize locations in your data. Click on the **47 Unknown** and then select **Edit Locations** to see which locations are not recognized.
    a. Once you click on this, you'll see that the locations not recognized are Regions, sub-regions, and former country names. If there is a value that needed to be corrected, you can manually type in a country name or latitude and longitude values.
    b. Cancel out of this and click on **47 Unknown** again and select **"Filter data"** to exclude these categorizations of the countries from the geotagging.



3. Change the Mark type from Automatic to **Map**
4. Drag **HDI** to **Color**
5. Click **Color** and change it to **Red** and **Reverse** the color gradation. Click OK.
6. Drag **HDI** to **Filter** and select All Values, then from the **Special** menu, select **Non-null values.** Click OK.
7. Drag **Year** to **Filter** and select **2011** only.
8. Your map should look like this now.
9. Give it a meaningful title

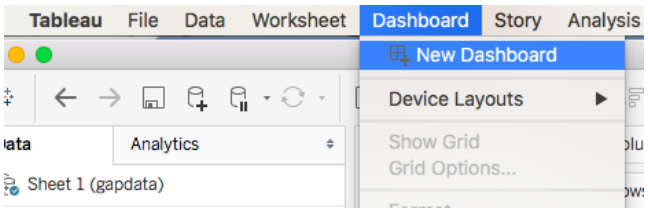


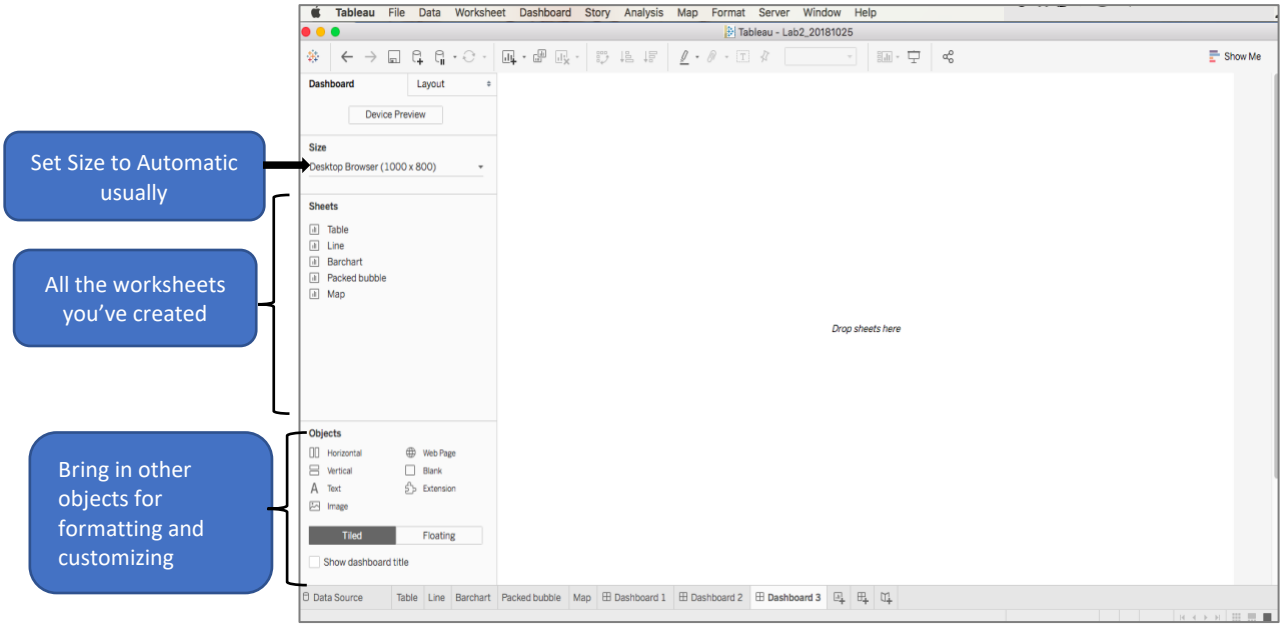


Pull it all together in a dashboard

Orientation to Dashboard

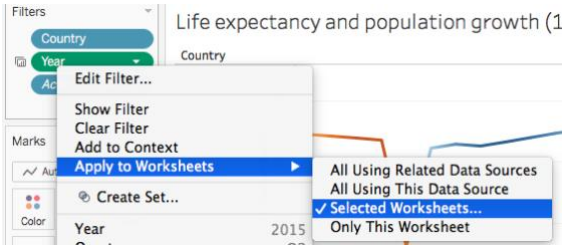
1. Create a new dashboard by clicking Dashboard → New Dashboard from the menu or by clicking on at the bottom of your Tableau window.

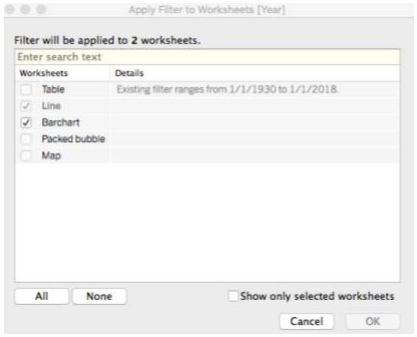




Filters

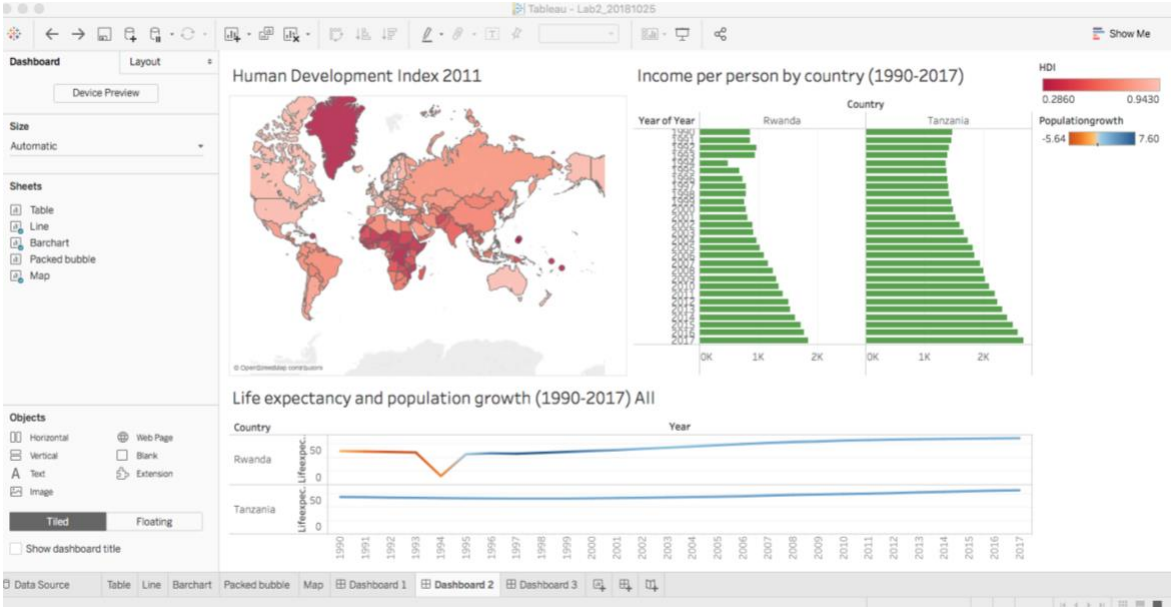
1. Apply the **Year** Filter from your Line Chart or Bar Chart worksheet, and select to apply to your Line Chart and Bar Chart. This will carry over the filter across the designated sheets.





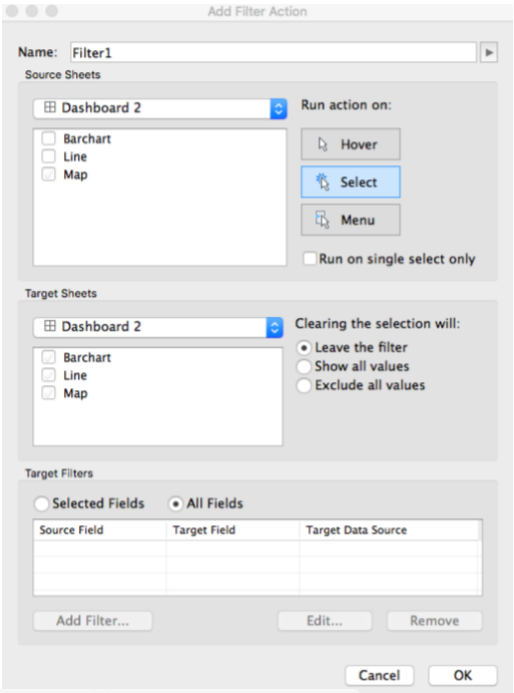
Set up Dashboard

1. Drag in your Line, Bar chart and Map worksheets into the view. You can have a variation of the below.

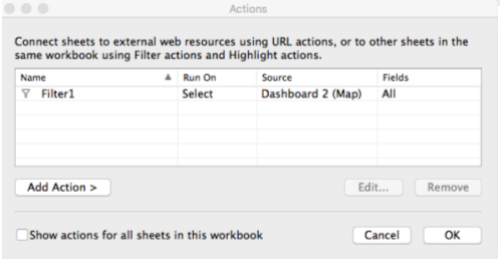


Dashboard Actions

Dashboard Actions allow you to run a filter across all the visuals in your dashboard. This can be useful when creating interactive visuals for analyses, publications, blogs, etc.



1. Click Dashboard → Actions → Add Action → Filter
2. In the <u>Source Sheet section</u>
    a. Select **Map** as the source sheet.
    b. Set the action to be run on **Select**
3. In the <u>Target Sheet section</u>,
    a. Select all the sheets
    b. Set the clear the selection setting to "**Leave the Filter**". This will filter the view to the selected countries and leave it unless you click on another country.
4. Click OK, click OK again.
5. Click on a country to test out the filter action.



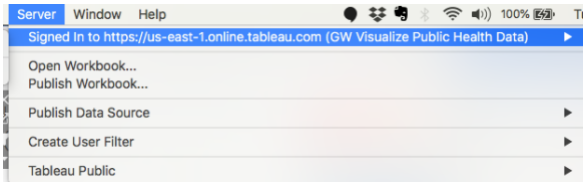
Tips & Tricks

Sharing visualizations

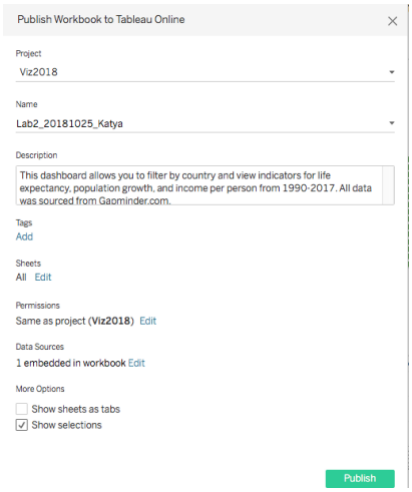
Interactive

Publish to Tableau Public GWU Course

- Make sure you are signed in to the GWU Public Health Course server



- Click Server → Publish Workbook
    - Select Viz2018 as the Project, and include your name as part of the workbook name.
    - Embed in blogs/websites/online profiles



[Publish to the Tableau Public Online Gallery]

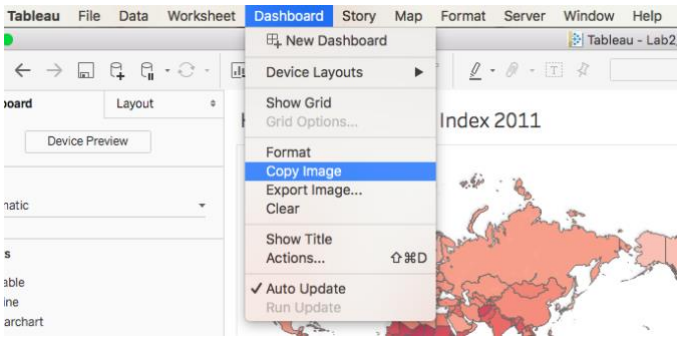
Static

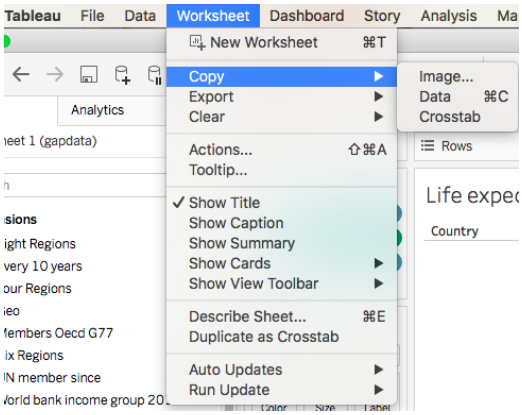
Print to PDF

If you need to print a PDF of all the visuals or a selected worksheet/dashboard for a presentation or meeting, etc. where the audience needs a physical copy or they do not have Tableau Reader, you can print it to PDF.
https://onlinehelp.tableau.com/current/pro/desktop/en-us/help.htm#printing.html#PDF

Copy/Export Image

Sometimes, you need just the image for a presentation, publication or other function. For higher quality images, it is suggested to Export the Image. Where quality of images isn't crucial, such as emailing a copy for feedback to a colleague/classmate, copying the image is sufficient. You can also copy/export a crosstab of the data behind the visual which can be helpful in verifying visuals and data points.

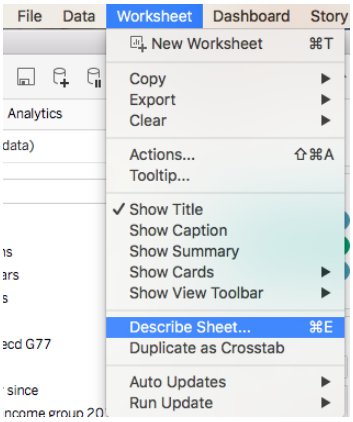


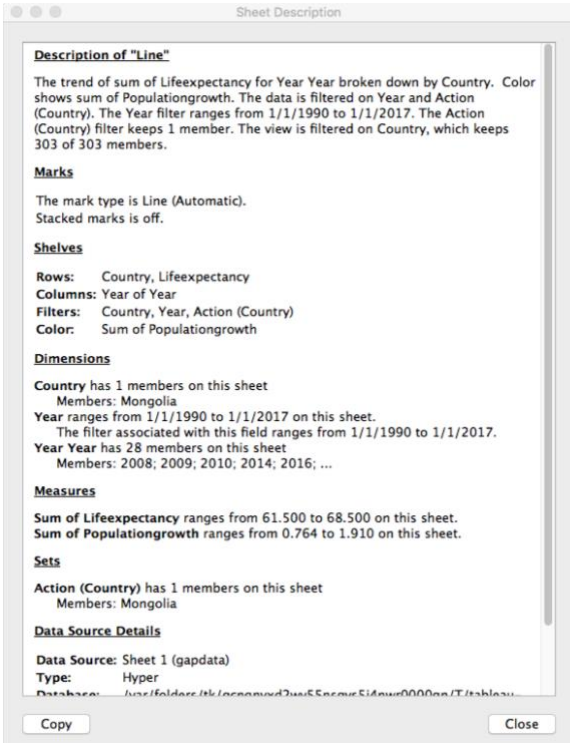


"Code" behind the visual

To see how a particular visual was created and what variables were placed where (rows, columns, Marks card settings, filters, etc.):

1) Click on Worksheet
2) Describe Sheet





Calculations

Every 10 Years from Lecture 1

1. Right click in the Measures pane, click "Create Calculated Field"
2. Type in the following formula which will apply a true/false value for where the Year variable contains a 0, giving you Trues for Years such as 1900, 1910, 1920 and so on.

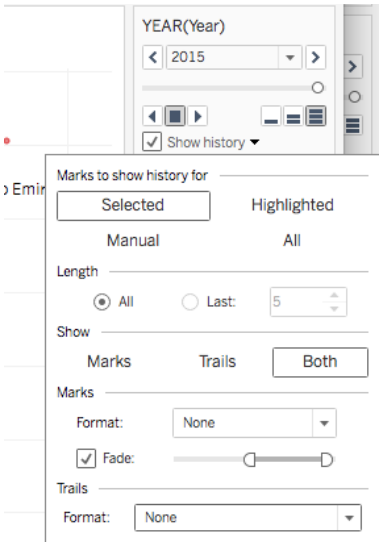
Importing other datasets

- Survey data
- Statistical files (SAS, R, etc.)

Exercise 1: Create a moving visualization (GapMinder)

Hints:

- You need to create a calculated field for Income per day (income/365.25)
- Filters: filter out null values for income per person and life expectancy
- Pay attention to variables are in Columns and Rows
- Look at what variables are on Marks card
- Edit page settings to show Trails & Marks
- Final edits and formatting
    - X-axis
    - Title
    - Colors of Four regions



Exercise 2: Create a simple visual to explore the dataset of interest from Assignment 1

- Explore the data quality and completeness
- Look for any noticeable trends/patterns/outliers
- Create one visual to share with the group