

Altmetric Visualization Toolkit

An introduction to using Tableau Public to visualize Altmetric data

Introduction

This guide is intended to introduce you to some ways you can visualize data downloaded from Altmetric Explorer. Don't worry if you're totally new to [Tableau Public](#) and data visualization! This guide is for beginners, and no prior knowledge or experience is necessary. In addition to an Altmetric Explorer subscription, you'll need to download [Tableau Public](#), but that's it.

This guide walks you through the basics of creating visualizations with as little data cleaning as possible and with as slight of a learning curve as possible. But the sky's the limit! Use this as a jumping off point—we'd love to see what you create.

These visualizations were all created using the same search in Altmetric Explorer. We limited our search to outputs published in the subject area *Environmental Sciences* by researchers affiliated with an anonymous university.

*Please note, this guide was created using a Mac. If you have a PC, the instructions may vary slightly.





Table of Contents

1. [Bubble chart](#)

This example covers how to use bubble charts to compare journal titles and their respective outputs and mentions.

2. [Treemap](#)

This example visualizes the number of times different policy sources have mentioned research outputs.

3. [Line graph #1](#)

This example visualizes the number of Twitter mentions for OA vs. non-OA research outputs.

4. [Line graph #2](#)

This example displays mentions over time for blog, Facebook, and Wikipedia mentions.

5. [Bar chart](#)

This example visualizes the number of news, policy, Facebook, and blog mentions for OA vs. non-OA research outputs.

6. [Choropleth map](#)

This heat map shows where in the world people are talking about research outputs on Twitter.



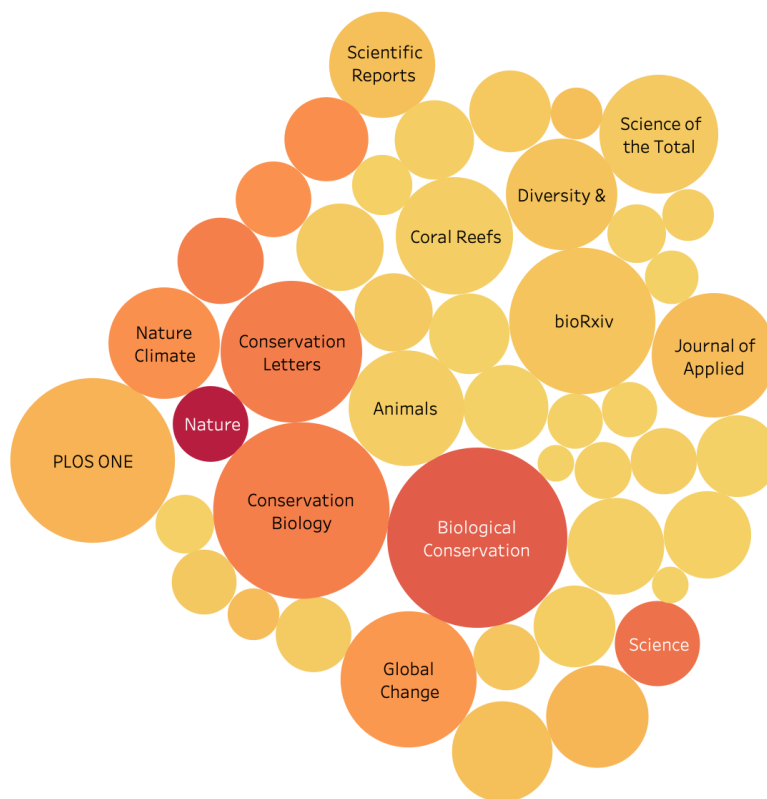
Visualization 1: Bubble chart

What is it? A bubble chart displays clusters of circles. It can communicate different dimensions of data, e.g. the size of the bubble represents one value, while the colors of the bubbles represent another.

Where is the data from? You can create bubble charts using data from different tabs in Altmetric Explorer such as the Journals tab or the Mention Sources tab. In this example we use the Journals tab.

Alternate charts: Depending on your data and personal preference, you could use a Treemap.

Example bubble chart and explanation



This was created using a CSV download from the Journals tab in Altmetric Explorer. The size of the bubbles represent the total number of outputs that have Altmetric attention that were published in the respective journal. The colors of the bubbles represent the total number of times those outputs have been mentioned. In other words, the bigger the bubble, the more publications; the darker the color, the more times those publications have been mentioned online. For this example, you can see that the *Biological Conservation* bubble is large, indicating that many outputs have been published in that journal; the bubble is quite dark, indicating that these outputs have also been mentioned many times.



Instructions

Step 1: Run your search in Altmetric Explorer and download data from the Journals tab. The file format will be CSV. Save the file in .xlsx format (or other Excel format).

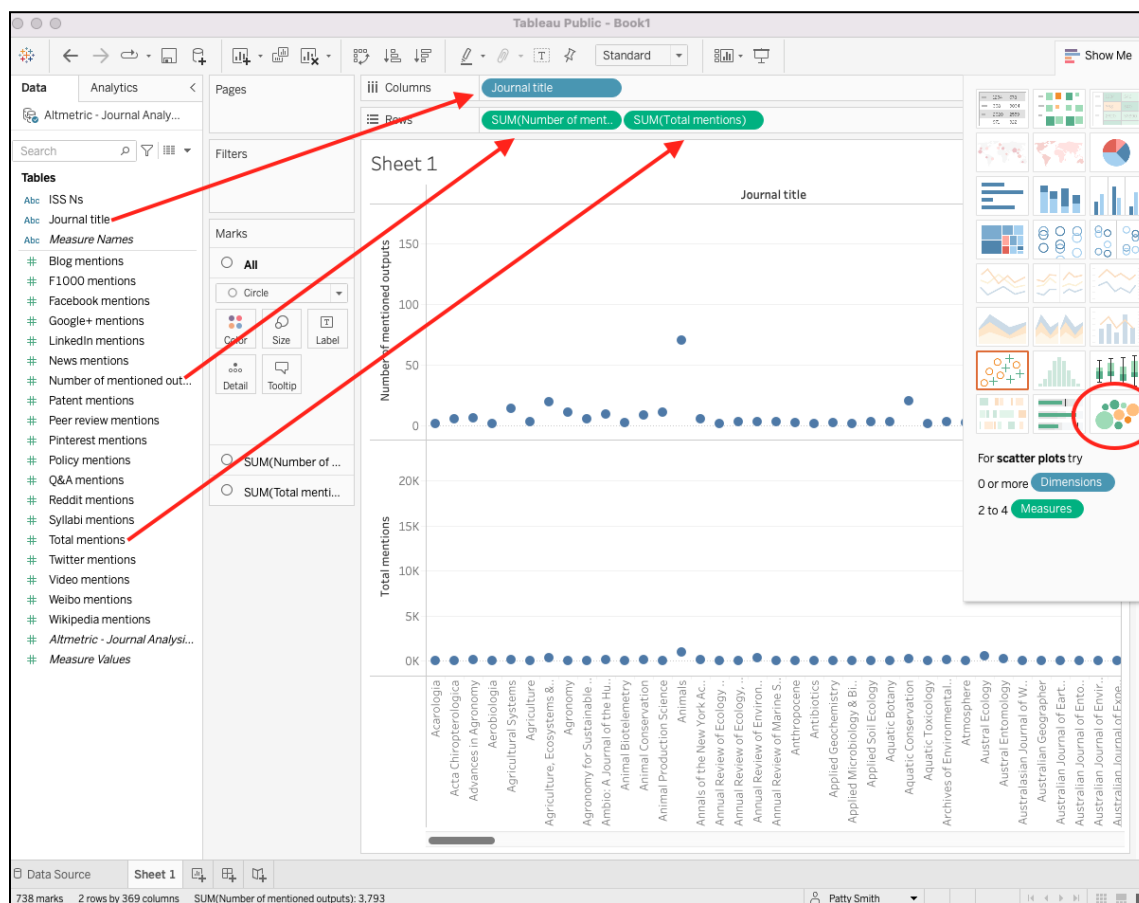
JOURNAL/COLLECTION	TOTAL MENTIONS	NEWS MENTIONS	BLOG MENTIONS	POL MENTIONS	WITTER MENTIONS	PEER REVIEWS MENTIONS
arXiv 880,788 mentioned research outputs in your search	6,404,683	66,152	81,425	1,784	6,064,477	124
PLOS ONE 186,691 mentioned research outputs in your search	2,292,210	192,911	50,642	16,594	1,797,096	3,131
bioRxiv 165,892 mentioned research outputs in your search	4,105,544	47,101	29,595	617	3,141	4,007,258
The Conversation 153,867 mentioned research outputs in your search	12,080,425	1,330,625	66,389	1,213	52	10,270,042
SSRN (Social Science Research Network) 121,588 mentioned research outputs in your search	1,159,619	53,083	62,502	6,172	176	1,000,172
Scientific Reports 119,600 mentioned research outputs in your search	1,897,475	156,064	25,166	1,775	8,301	1,630,447

Step 2: Open Tableau Public (desktop version). On the left side of the screen, you'll see the *Connect* panel. Choose *Microsoft Excel* and connect to the file you just saved. Once the file connects, a new page will open. Click *Sheet 1* in the lower left corner to begin creating your bubble chart.

Type	Field Name	Phys...	Rem...
Abc	Journal title	Altme...	Journ...
Abc	ISSNs	Altme...	ISSNs
+	Number of mentioned outputs	Altme...	Numb...

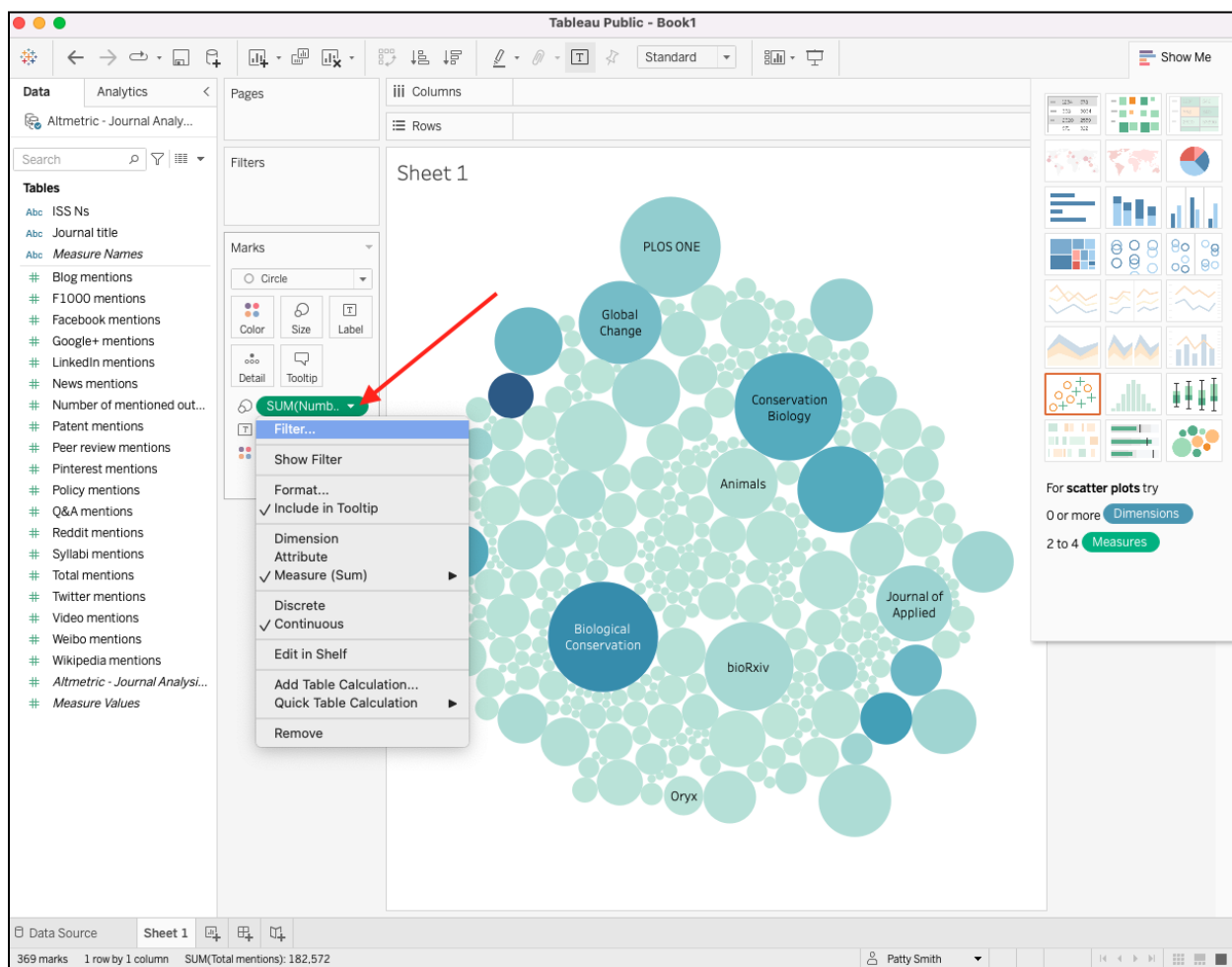


Step 3: In the left panel, you'll see different data points you can use to create visualizations. Drag *Journal title* to the columns section; drag *Number of mentioned outputs* and *Total mentions* to Rows. On the right *Show Me* panel, the bubble chart option will now be clickable. Choose that option.





Step 4: You will now see the beginnings of your bubble chart! All of the data from Altmetric Explorer will be displayed—this could be hundreds (or even thousands!) of journals, each represented by a bubble. To make your chart more compelling, you may want to limit the number of journals in your visualization. To limit what you see, you can apply a filter. You could choose to limit by *Total mentions* or *Number of mentioned outputs*. In this example, we limit by *Number of mentioned outputs*, limiting to journals with 40 or more mentioned outputs.



Filter [Number of mentioned outputs]

Range of values

Range of values

40 170

1 170

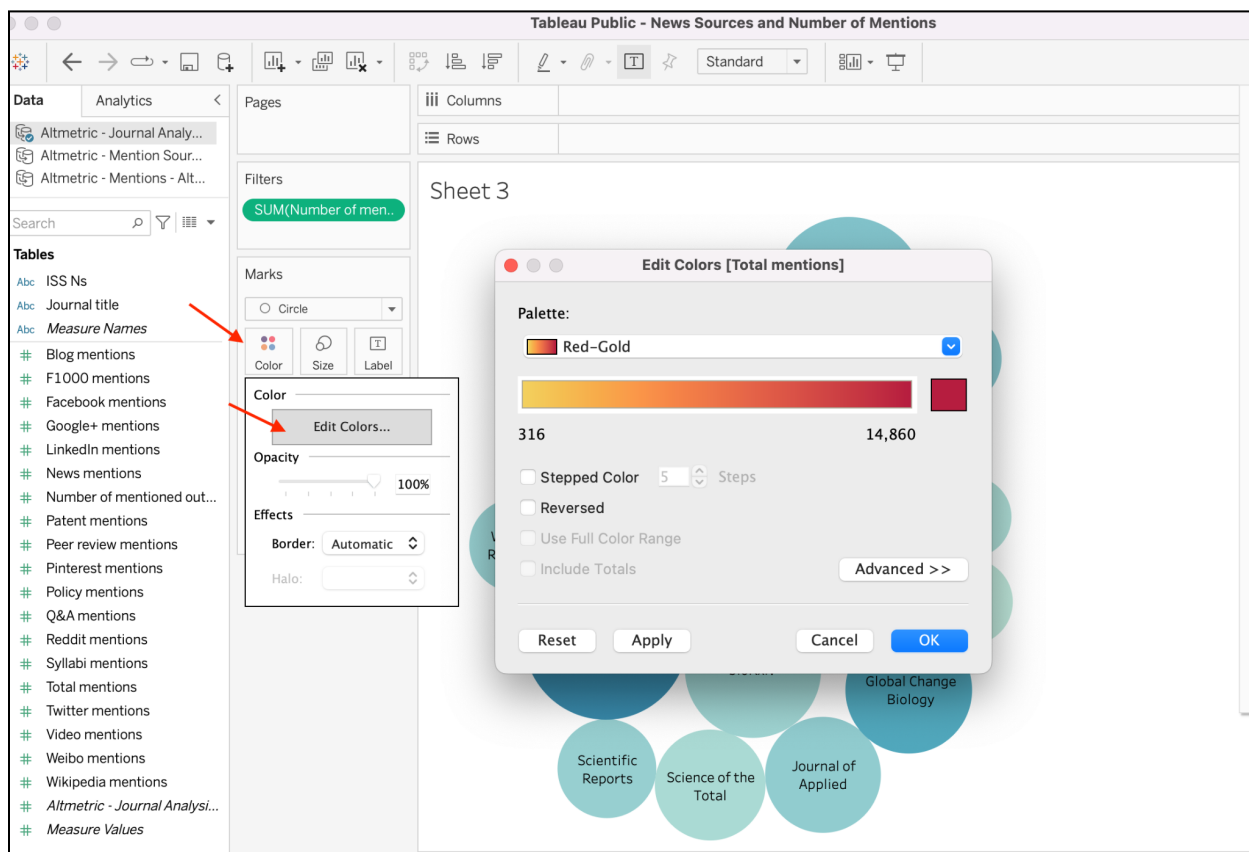
Show: Only Relevant Values

Include Null Values

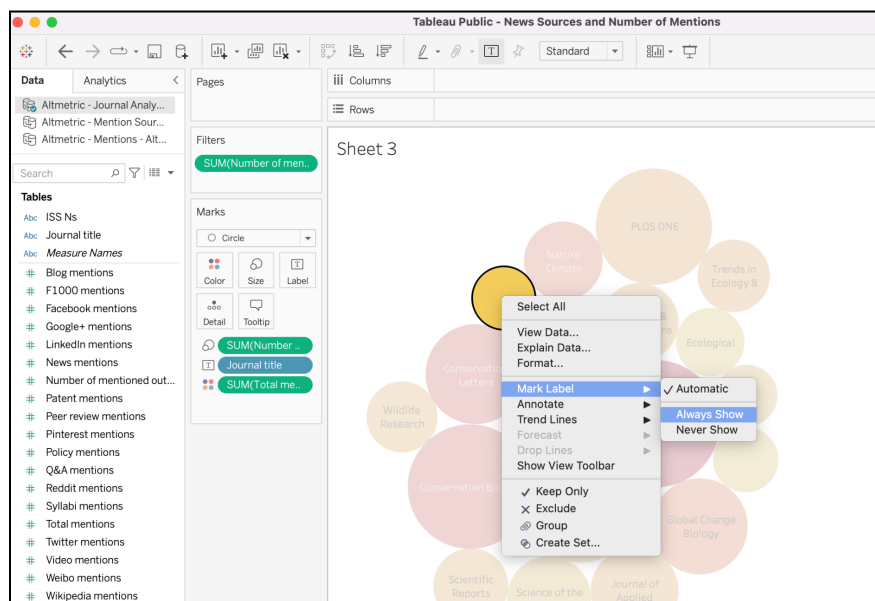
Reset Apply Cancel OK



Step 5: Now, you'll see fewer bubbles, hopefully making your chart easier to read. You can stop here, or you can adjust the color options. Click *Color* in the Marks section, and *Edit Colors*, and choose the option you like.

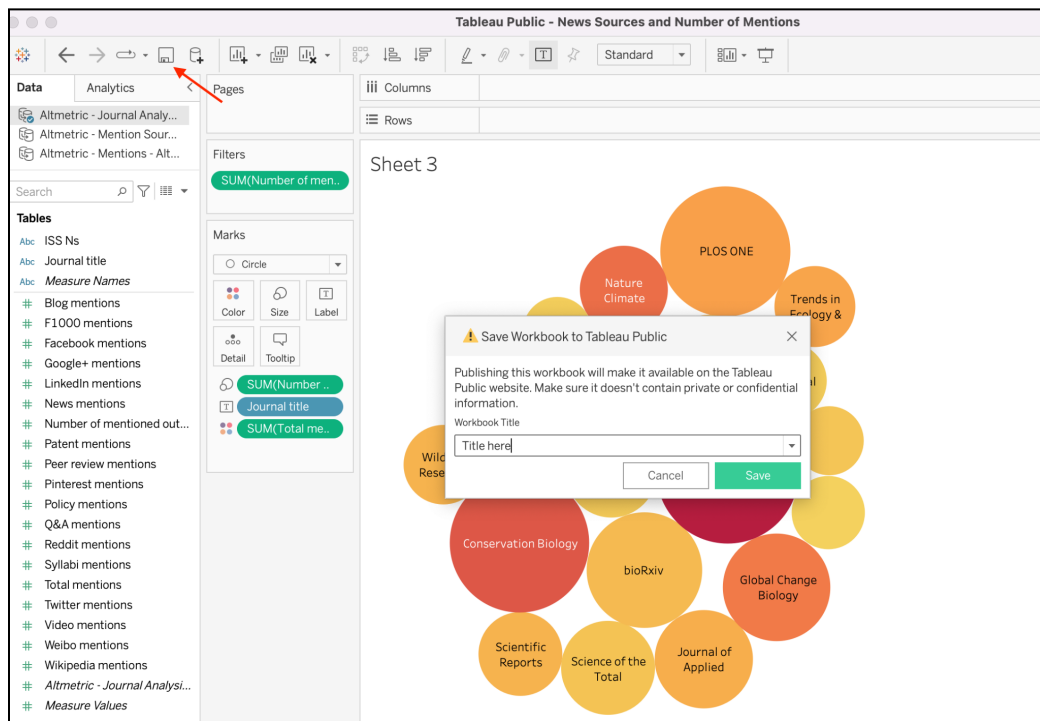


Step 6: You'll notice that not all of the bubbles contain the journal title. This is because the title is probably too long to fit nicely. If you'd like to display the title for a bubble, right click on the bubble > *Mark Label* > *Always Show*. Even if the title does not show by default, you can hover over the bubble to view the journal title, number of mentioned outputs, and total mentions.





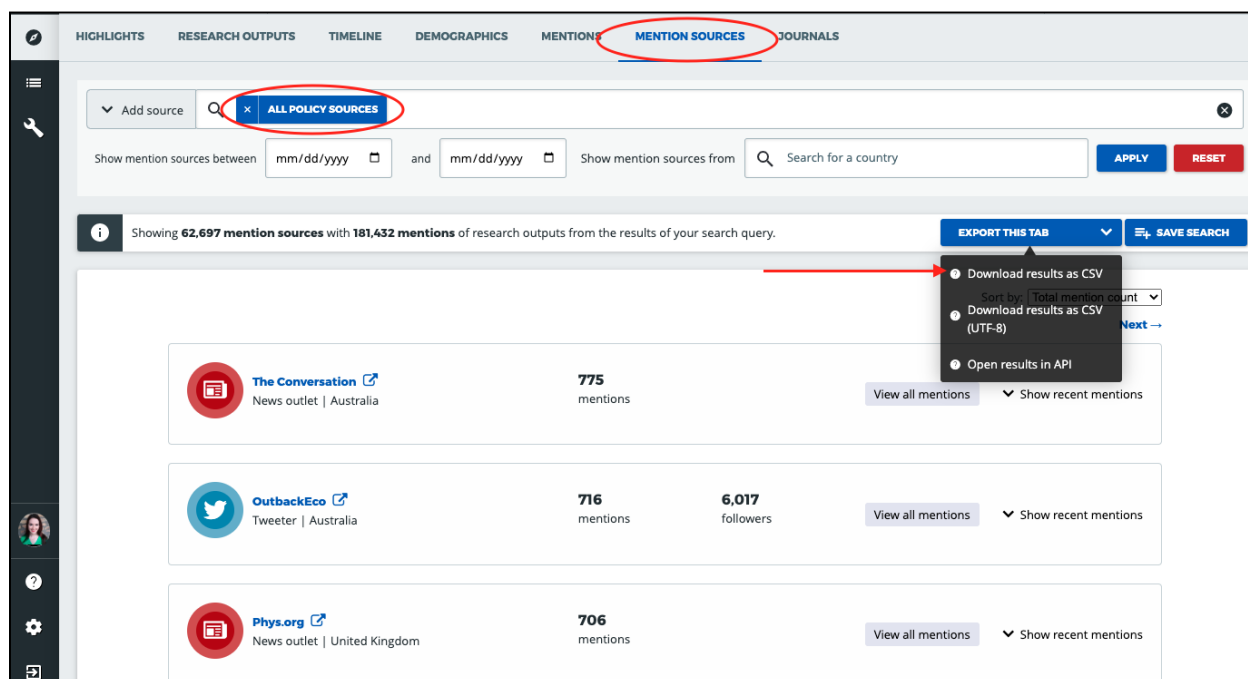
Step 7: Finally, save your visualization to Tableau Public and easily share with colleagues!



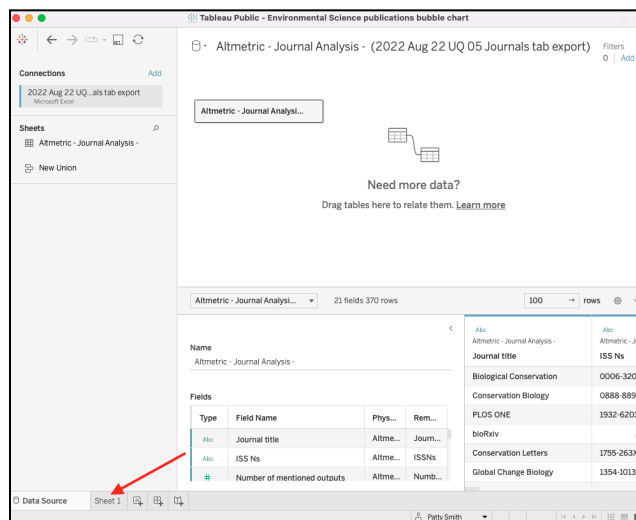
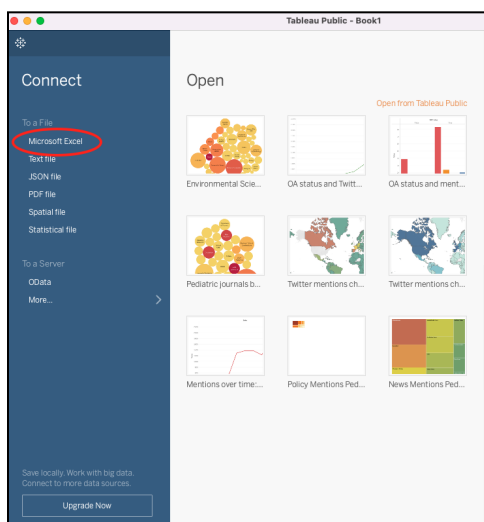


Instructions

Step 1: Run your search in Altmetric Explorer and download data from the Mention Sources tab, first limiting to the type of mentions you're interested in. In this example, we've limited to policy mentions. The file format will be CSV. Save the file in .xlsx format (or other Excel format).

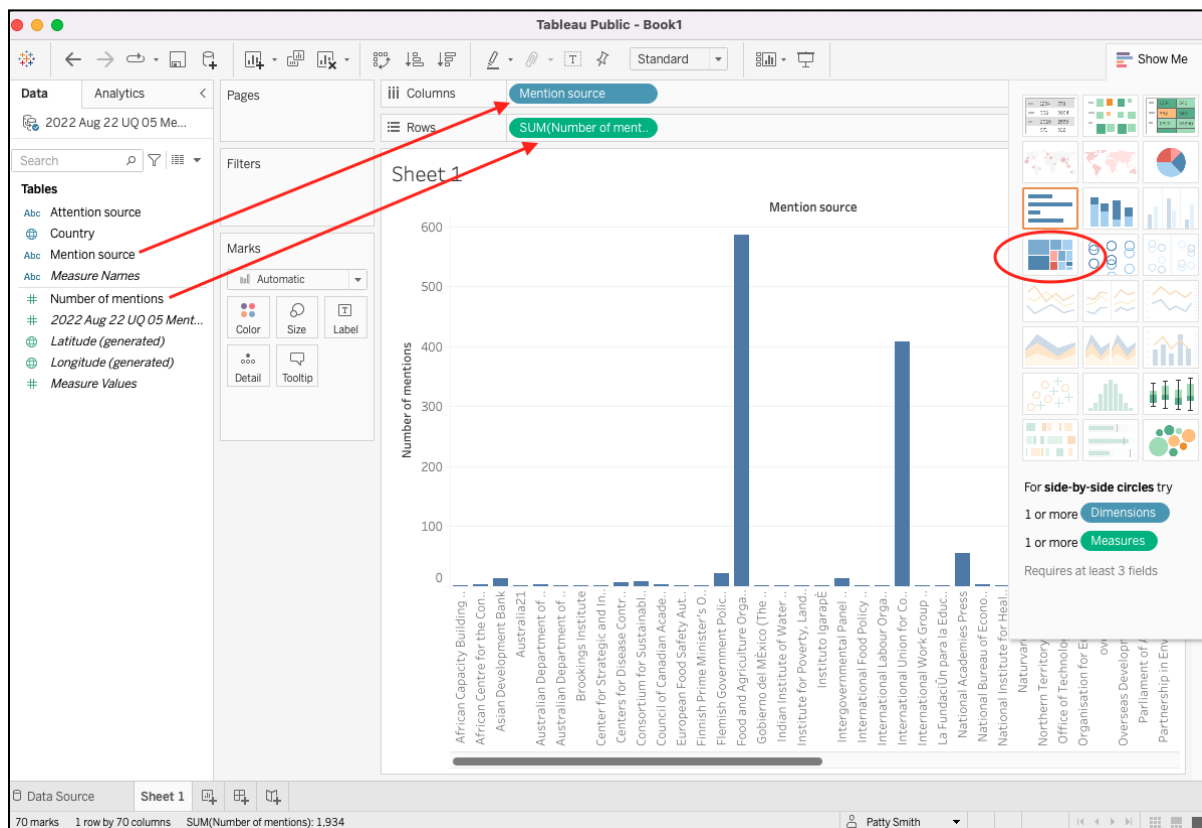


Step 2: Open Tableau Public (desktop version). On the left side of the screen, you'll see the *Connect* panel. Choose *Microsoft Excel* and connect to the file you just saved. Once the file connects, a new page will open. Click *Sheet 1* in the lower left corner to begin creating your bubble chart.



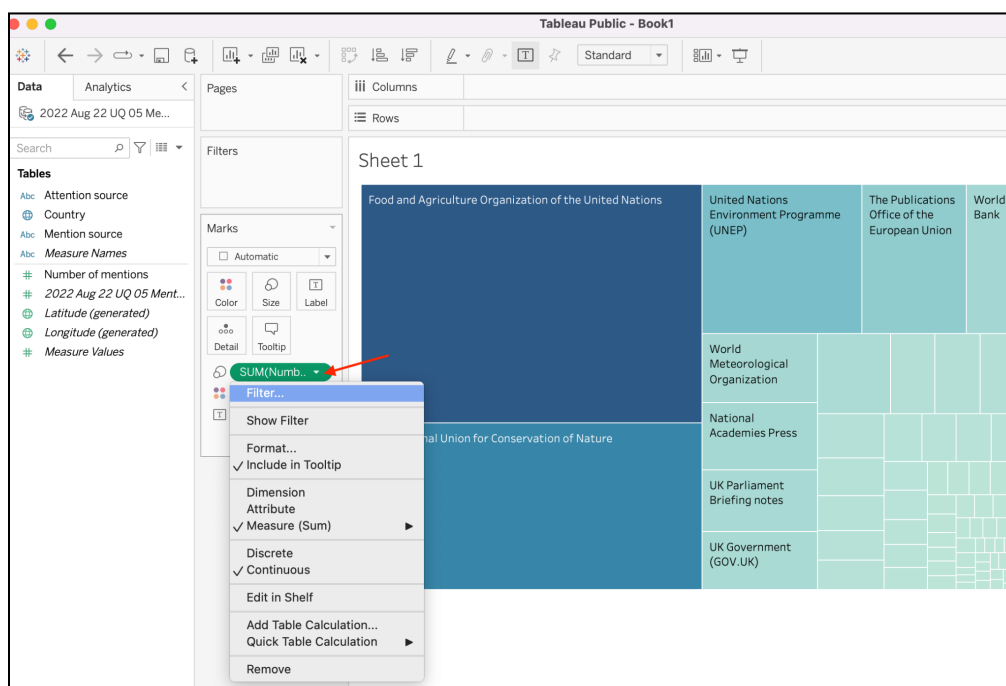


Step 3: In the left panel, you'll see different data points you can use to create visualizations. Drag *Mention source* to the columns section; drag *Number of mentions* to Rows. On the right *Show Me* panel, the treemap option will now be clickable. Choose that option.

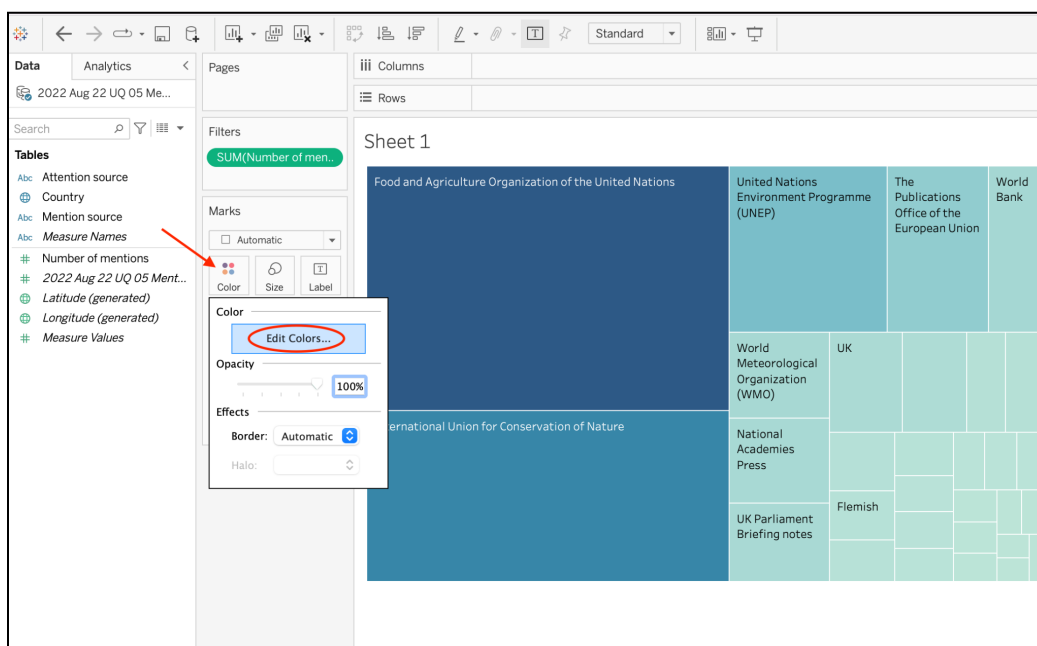




Step 4: You will now see the beginnings of your treemap! All of the data from Altmetric Explorer will be displayed—this could be hundreds (or even thousands!) of policy sources, each represented by a rectangle. To make your chart more compelling, you may want to limit the number of policy sources in your visualization. To limit what you see, you can apply a filter. In this example, we limit by *Number of mentions*, limiting to policy sources with 5 or more mentioned outputs.

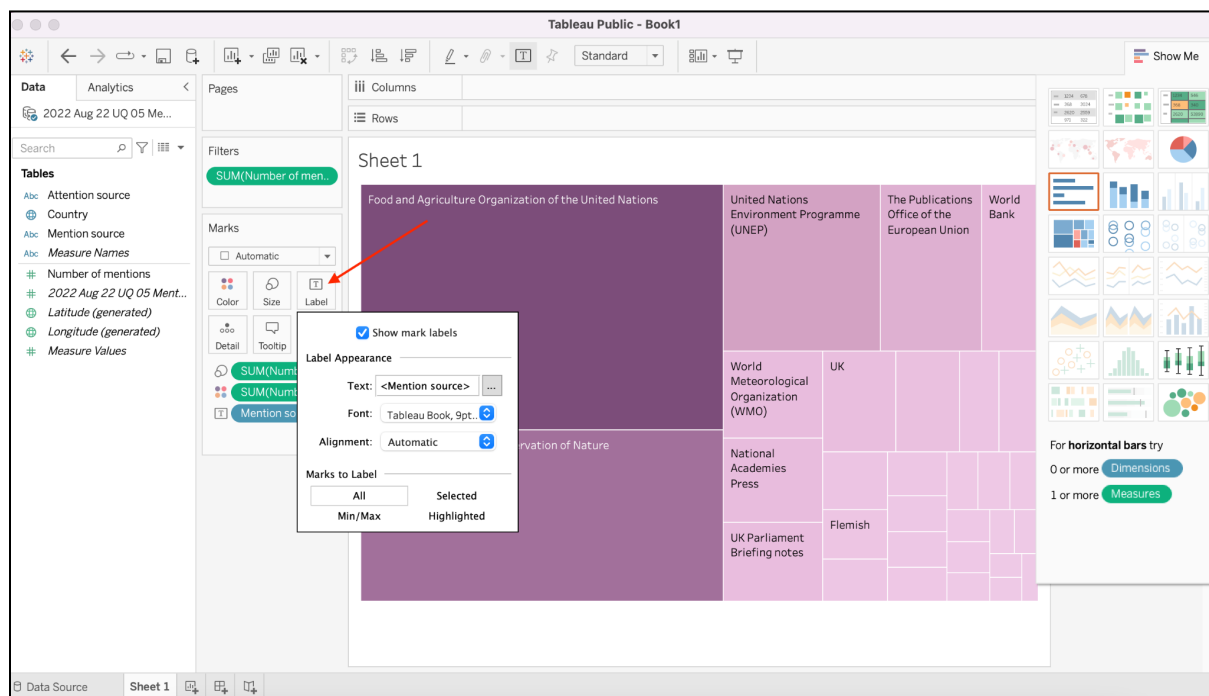


Step 5: Now, you'll see fewer rectangles, hopefully making your chart easier to read. You can stop here, or you can adjust the color options. Click *Color* in the Marks section, and *Edit Colors*, and choose the option you like.





Step 6: You'll notice that not all of the rectangles contain the policy source name, or that some are truncated. This is because they are probably too long to fit nicely. If you'd like to display the name for a rectangle, right click on the rectangle > *Mark Label* > *Always Show*. Even if the policy source name does not show by default, you can hover over the rectangle to view the source and number of mentions. You can also edit the font size, orientation, alignment, etc., by clicking on the *Label* section in the *Marks* box.



Step 7: Finally, save your visualization to Tableau Public and easily share with colleagues! Remember, in addition to highlighting policy sources, you could also create treemaps highlighting news sources, blogs, etc.



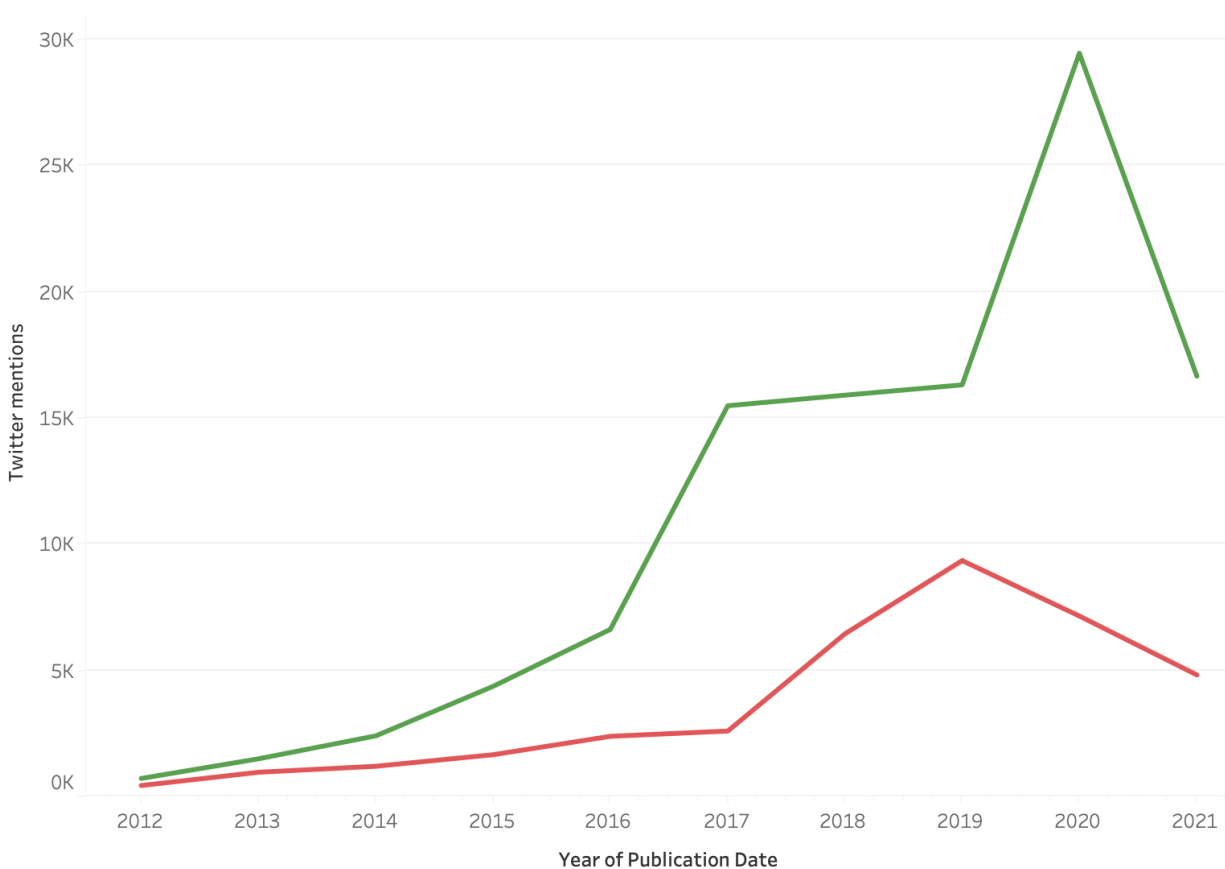
Visualization 3: Line graph #1

What is it? A graph that uses lines to connect individual data points. Often used to visualize data over time.

Where is the data from? In this example we use the Research Outputs tab.

Alternate charts: Depending on your data and personal preference, you could use a bar chart.

Example line graph and explanation



This was created using a CSV download from the Research Outputs tab in Altmetric Explorer. The green line represents the number of Twitter mentions of Open Access outputs, while the red line represents the number of Twitter mentions of outputs that are not Open Access. In Tableau, you can hover over any data point in the timeline to see the details of the total number of research outputs from that year and the total number of Twitter mentions.



Instructions

Step 1: Run your search in Altmetric Explorer and download data from the Research Outputs tab. The file format will be CSV. Save the file in .xlsx format (or other Excel format).

Showing 6,034 research outputs from the results of your search query. Of those, 3,889 have been mentioned.

EXPORT THIS TAB | SAVE SEARCH

Download results as CSV
Download results as CSV (UTF-8)
Open results in API

Altmetric Attention Score	Research Output
6332	Worldwide decline of the entomofauna: A review of its drivers Article in <i>Biological Conservation</i> , April 2019
3619	Global warming and recurrent mass bleaching of corals Article in <i>Nature</i> , March 2017
3151	The global impact of climate change on biodiversity Article in <i>Nature Climate Change</i> , May 2019
3007	Rebuilding marine life Article in <i>Nature</i> , April 2020
2995	Camera-trap evidence that the silver-backed chevrotain <i>Tragulus versicolor</i> ... Article in <i>Nature Ecology & Evolution</i> , November 2019
2380	Bending the curve of terrestrial biodiversity needs an integrated strategy Article in <i>Nature</i> , September 2020
2187	Global hotspots and correlates of emerging zoonotic diseases Article in <i>Nature Communications</i> , October 2017
2147	Protecting the global ocean for biodiversity, food and climate Article in <i>Nature</i> , March 2021
1974	People have shaped most of terrestrial nature for at least 12,000 years Article in <i>Proceedings of the National Academy of Sciences of the United States of America</i> , April 2021
1893	Global collision-risk hotspots of marine traffic and the world's largest fish... Article in <i>Proceedings of the National Academy of Sciences of the United States of America</i> , May 2022
1868	Global priority areas for ecosystem restoration Article in <i>Nature</i> , October 2020
1660	Biodiversity redistribution under climate change: Impacts on ecosystems and... Article in <i>Science</i> , March 2017

Step 2: Open Tableau Public (desktop version). On the left side of the screen, you'll see the *Connect* panel. Choose *Microsoft Excel* and connect to the file you just saved. Once the file connects, a new page will open. Click *Sheet 1* in the lower left corner to begin creating your line graph.

Connect

To a File

- Microsoft Excel
- Text file
- JSON file
- PDF file
- Spatial file
- Statistical file

To a Server

- OData
- More...

Open

Open from Tableau Public

- Environmental Sci...
- OA status and Twitt...
- OA status and ment...
- Pediatric journals b...
- Twitter mentions ch...
- Twitter mentions ch...
- Mentions over time...
- Policy Mentions Ped...
- News Mentions Ped...

Tableau Public - Environmental Science publications bubble chart

Altmetric - Journal Analysis - (2022 Aug 22 UQ 05 Journals tab export) Filters 0 | Add

Connections

- 2022 Aug 22 UQ...als tab export
Microsoft Excel

Sheets

- Altmetric - Journal Analysis -
- New Union

Need more data?
Drag tables here to relate them. [Learn more](#)

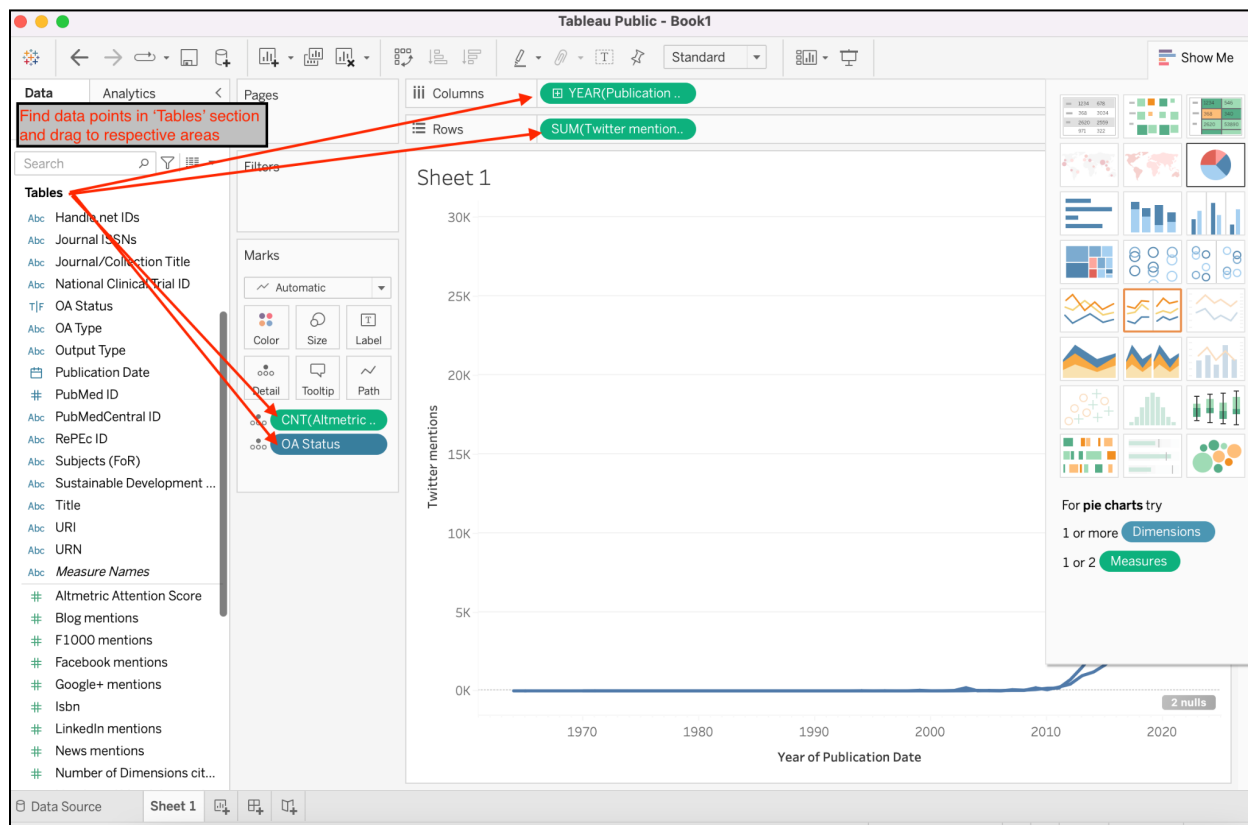
Altmetric - Journal Analysis - 21 fields 370 rows

Type	Field Name	Phys...	Rem...
Altmetric - Journal Analysis -	Journal title	Altme...	Journ...
Altmetric - Journal Analysis -	ISS Ns	Altme...	ISSNs
Altmetric - Journal Analysis -	Number of mentioned outputs	Altme...	Numb...

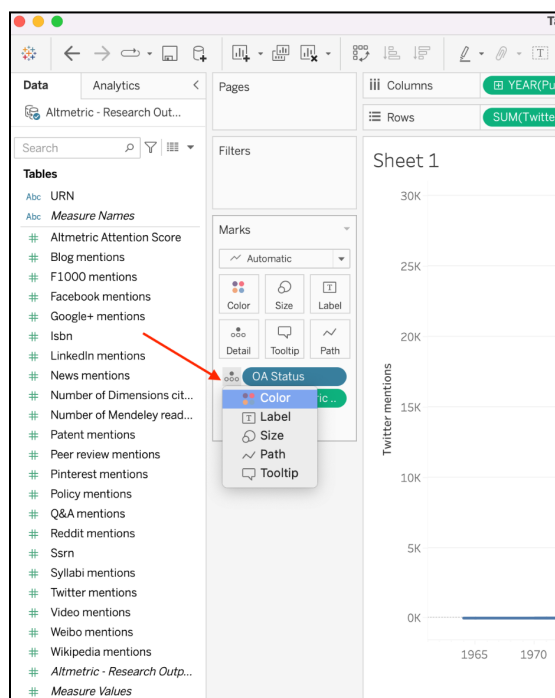
Sheet 1



Step 3: In the left panel, you'll see different data points you can use to create visualizations. Drag *Publication date* to the columns section; drag *Twitter mentions* to Rows. Drag *OA Status* and *Altmetric - Research Outputs counts* to the Marks section. Tableau should automatically adjust to a line graph, but if not, you can choose the line graph option in the right hand *Show Me* column.

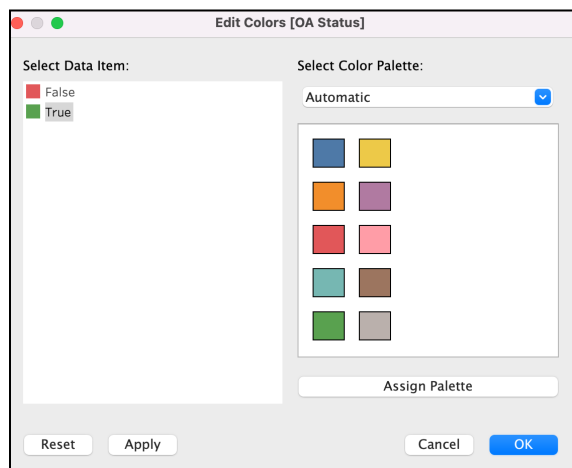
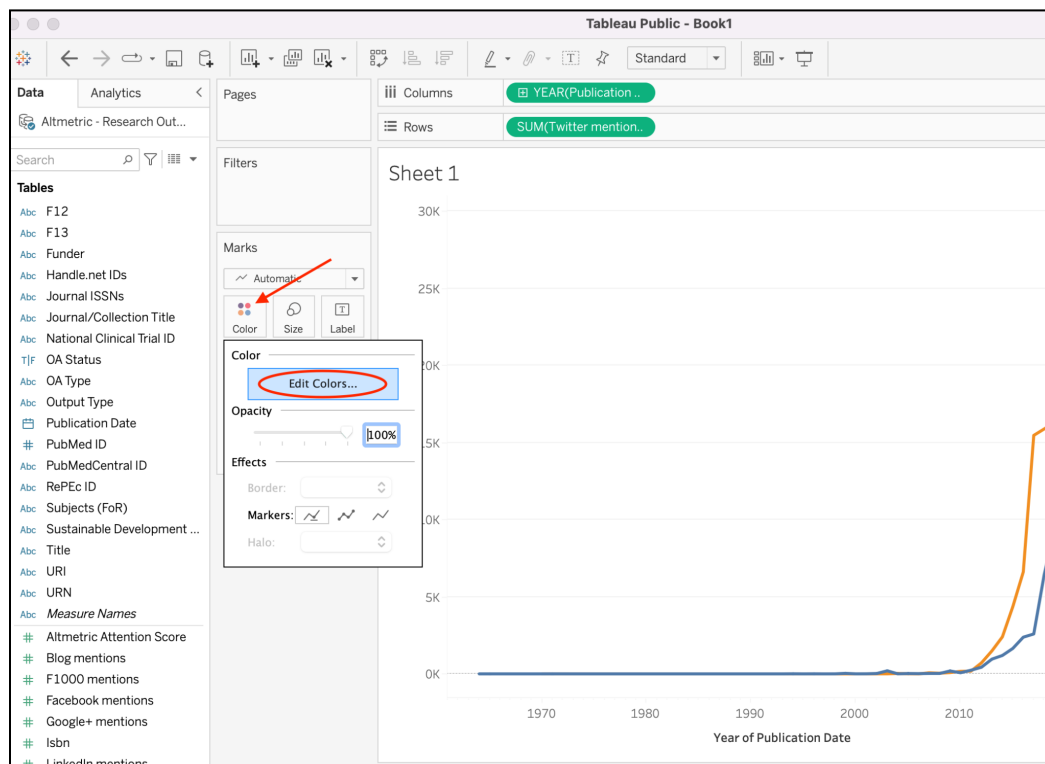


Step 5: Next, click the icon next to OA Status and change to *Color*.



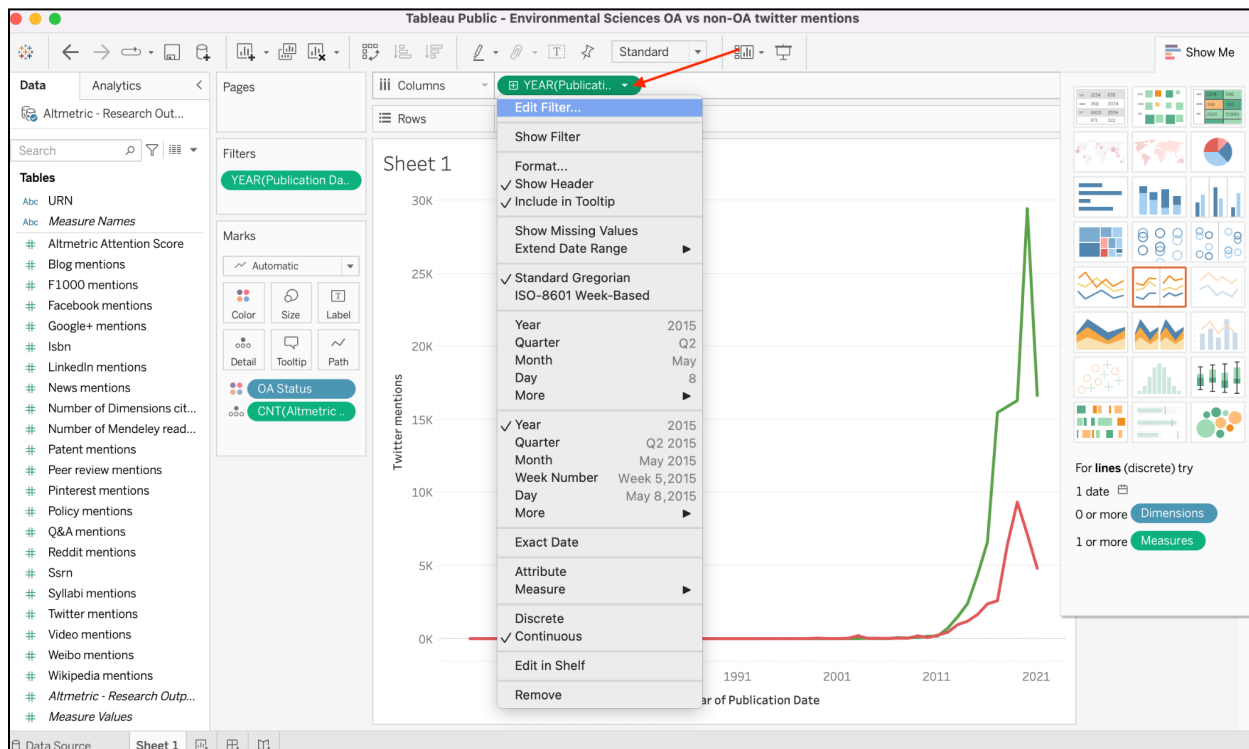


Step 6: To edit the default colors, click the main *Color* icon in the *Marks* section and click *Edit Colors*, and choose the colors you like, for example, red for OA status 'false' and green for OA status 'true'.

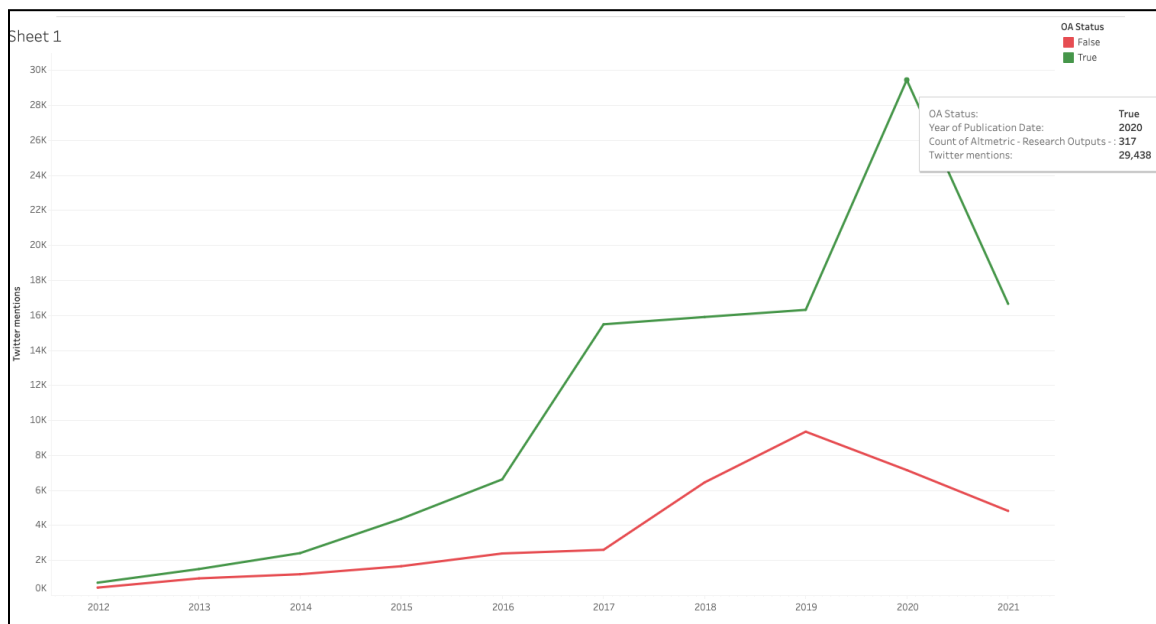




Step 7: The default time frame is all time, so you may want to filter by a specific date range. Click the small dropdown arrow next to the *YEAR* data point in the *Columns* section. Click *Filter* and limit by your desired date range. In this example, we will limit to 2012 to 2021.



Step 8: You can now easily see that OA outputs get much more attention on Twitter than outputs that are not OA. Finally, save your visualization to Tableau Public and easily share with colleagues! Remember, in addition to comparing the number of Twitter mentions, you could create a line graph with any other type of source Altmetric tracks.





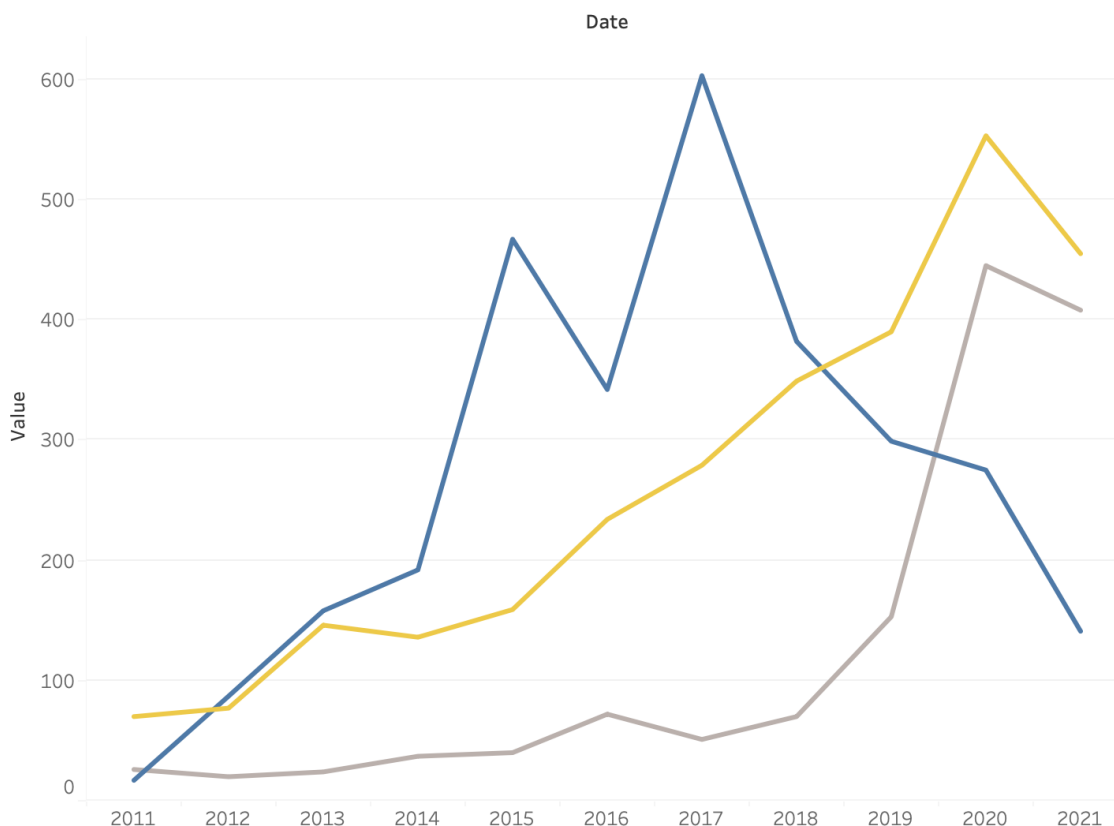
Visualization 4: Line graph #2

What is it? A graph that uses lines to connect individual data points. Often used to visualize data over time.

Where is the data from? In this example we use the Timeline tab.

Alternate charts: Depending on your data and personal preference, you could use a bar chart.

Example line graph and explanation

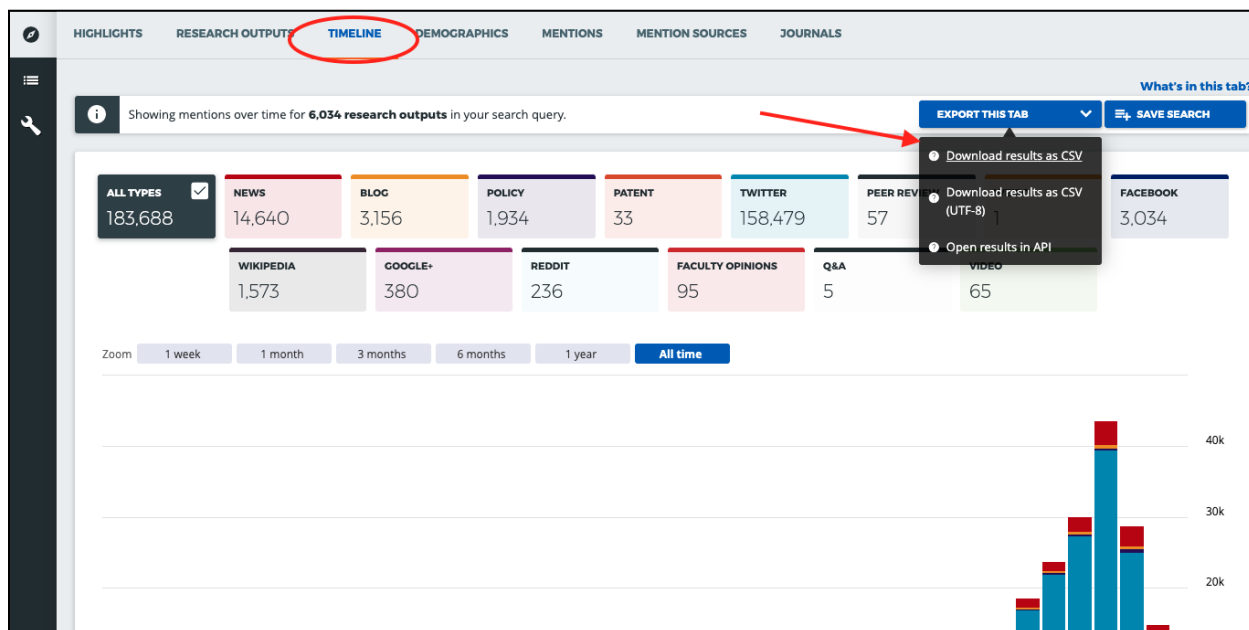


This was created using a CSV download from the Timeline tab in Altmetric Explorer. The blue line represents the number of Facebook mentions, the yellow line represents the number of blog mentions, and the grey line represents the number of Wikipedia mentions. In Tableau, you can hover over any data point in the timeline to see the details of the total number of research outputs from that year and the total number of mentions from that source. You can see that for this data set, Facebook mentions have dramatically declined in recent years, blog mentions have steadily increased, and wikipedia mentions have dramatically increased.

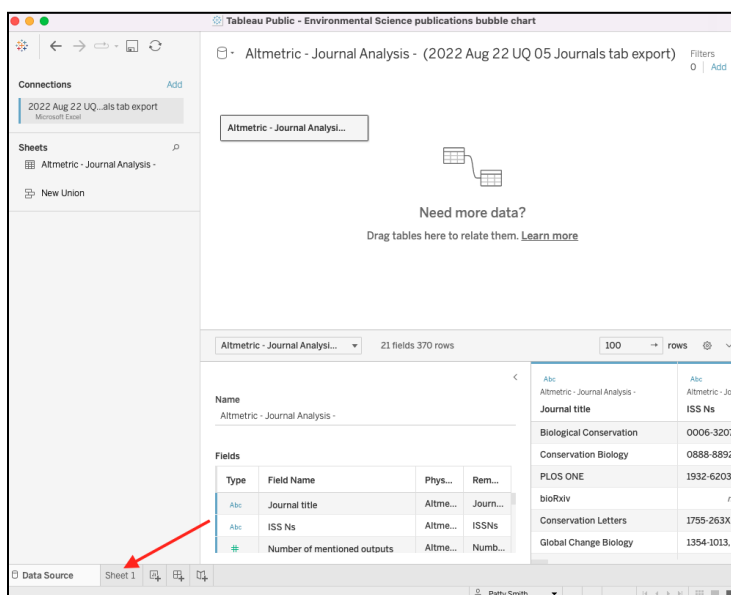
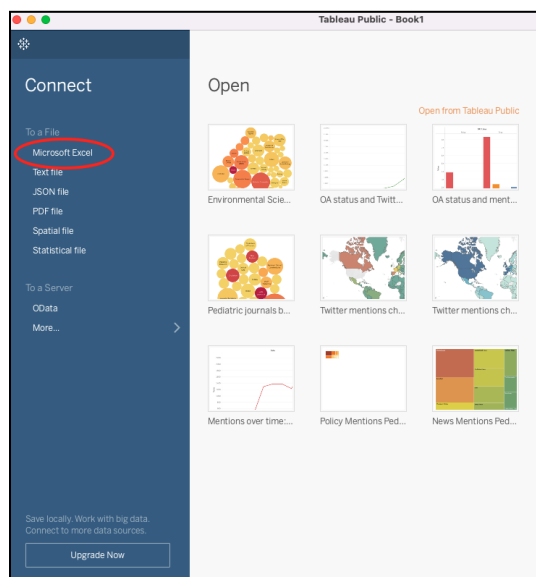


Instructions

Step 1: Run your search in Altmetric Explorer and download data from the Timeline tab. The file format will be CSV. Save the file in .xlsx format (or other Excel format).

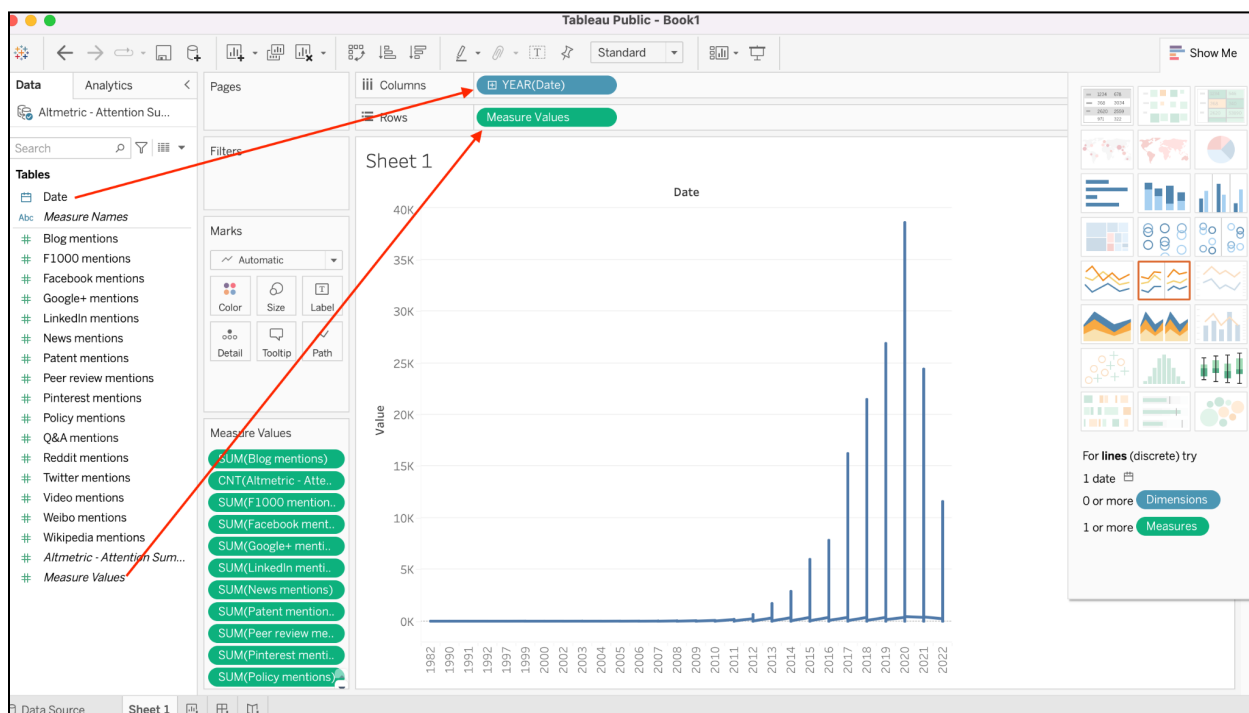


Step 2: Open Tableau Public (desktop version). On the left side of the screen, you'll see the *Connect* panel. Choose *Microsoft Excel* and connect to the file you just saved. Once the file connects, a new page will open. Click *Sheet 1* in the lower left corner to begin creating your line graph.



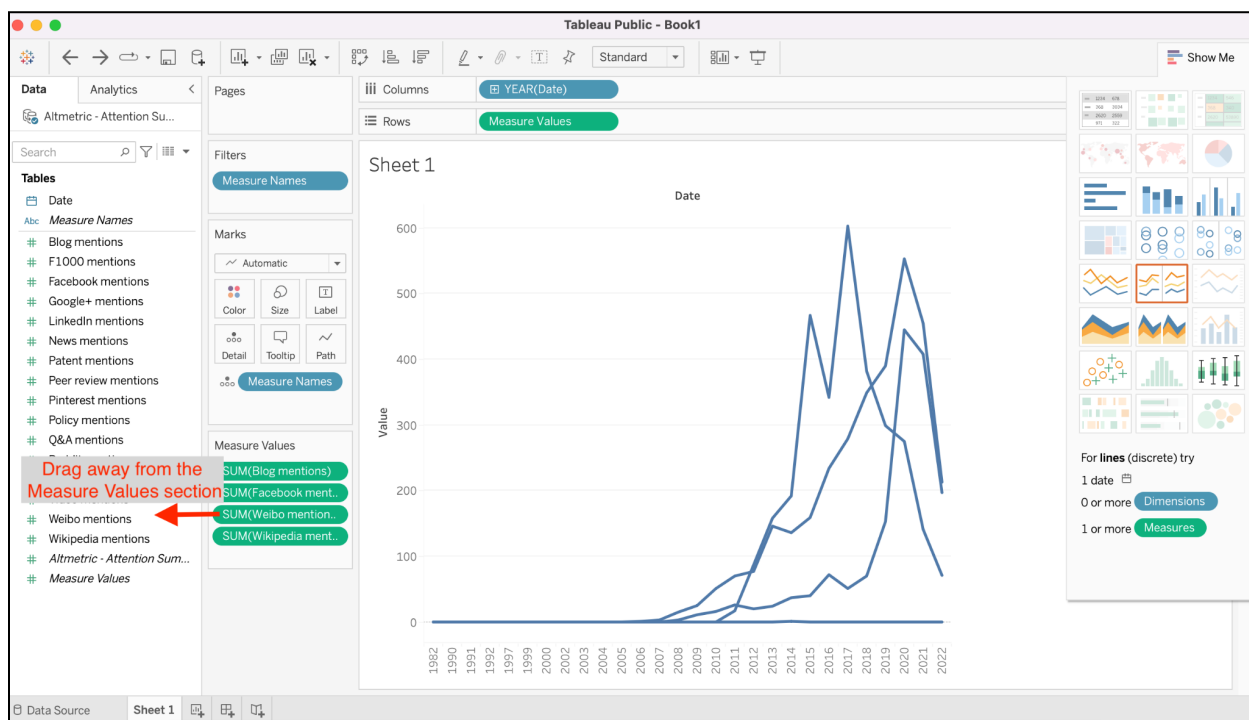


Step 3: In the left panel, you'll see different data points you can use to create visualizations. Drag *Date* to the columns section; drag *Measure Values* to Rows. Tableau should automatically adjust to a line graph, but if not, you can choose the line graph option in the right hand *Show Me* column.

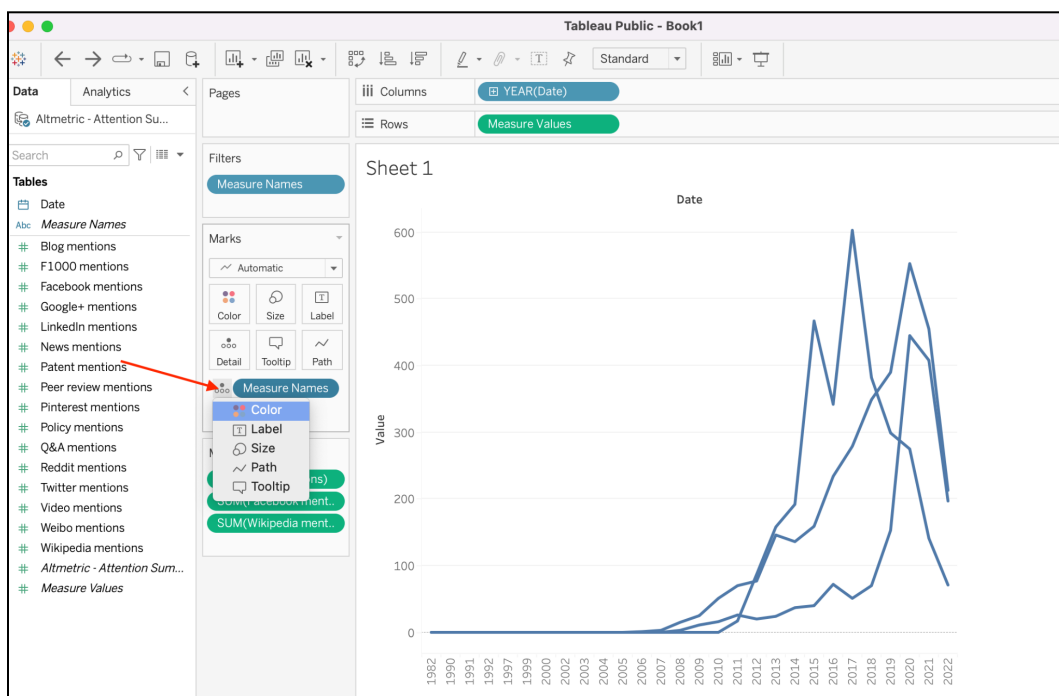




Step 4: Once you drag *Measure Values* to Rows, a new area will appear where all of the measure values are listed. All of the different types of mentions will be listed here, and you will remove any of the mention types that you're not interested in for this visualization. In this example, we will remove all of the mention types except Blog mentions, Facebook mentions, and Wikipedia mentions. Simply drag and drop the mention types you don't want off the *Measure Values* panel. The line graph will change as you remove the unwanted mention types.

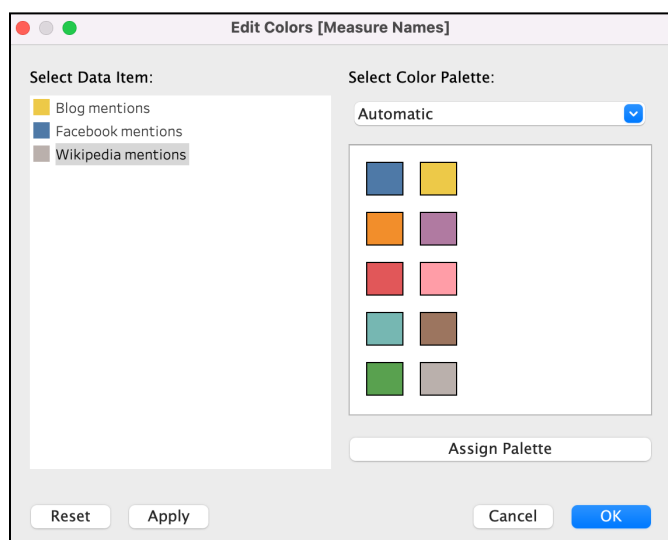
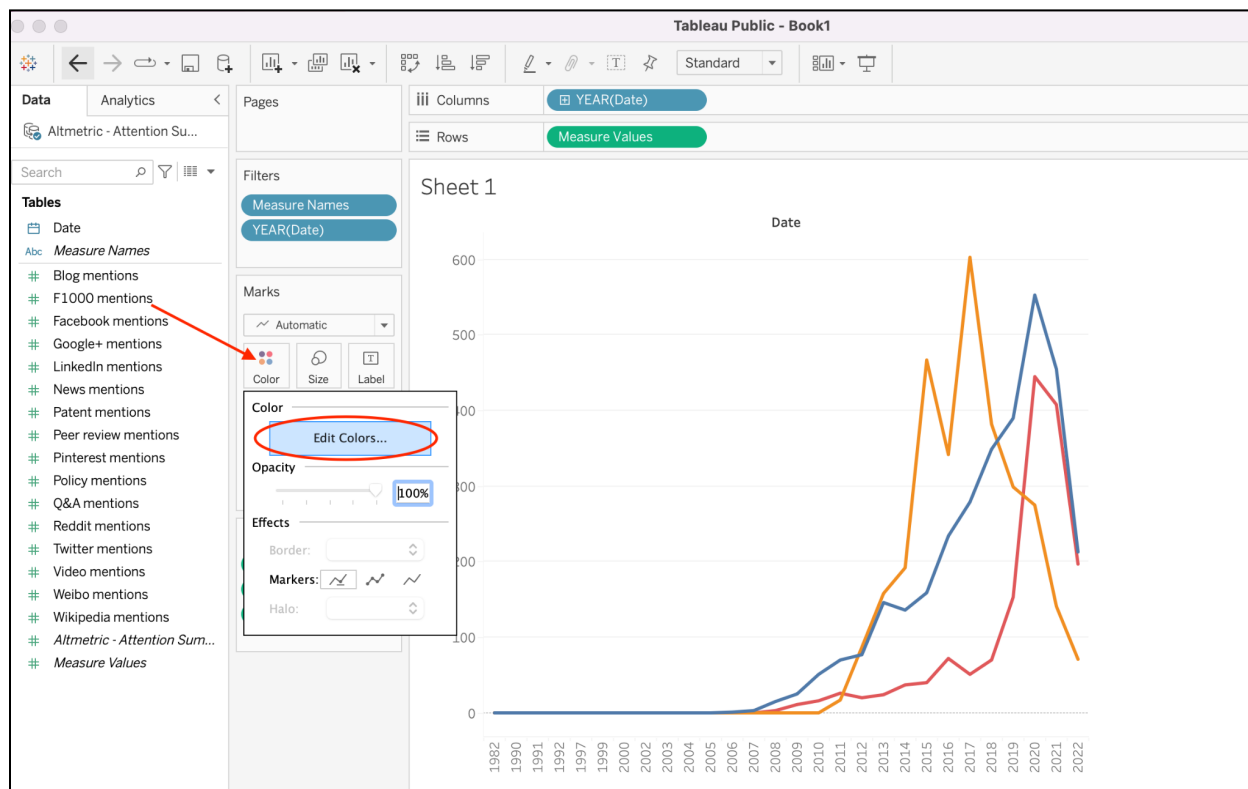


Step 5: Next, click the icon next to Measure Names and change to Color.



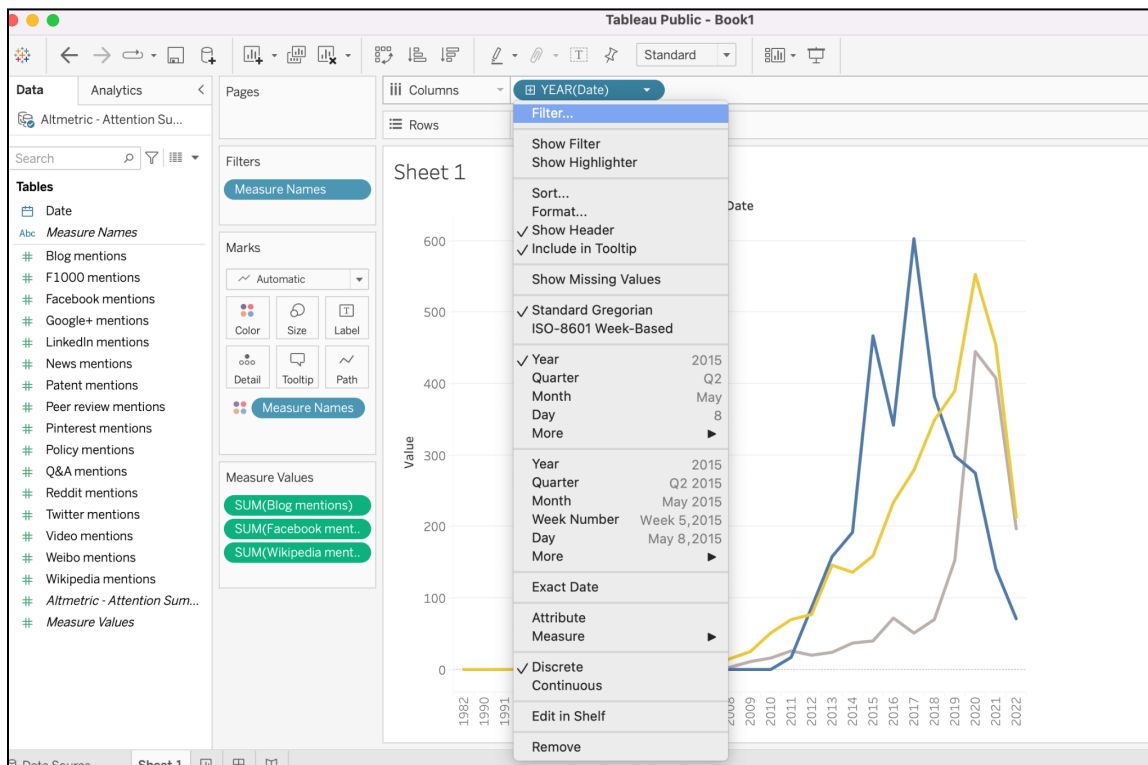


Step 6: To edit the default colors, click the main *Color* icon in the *Marks* section and click *Edit Colors*, and choose the colors you prefer.

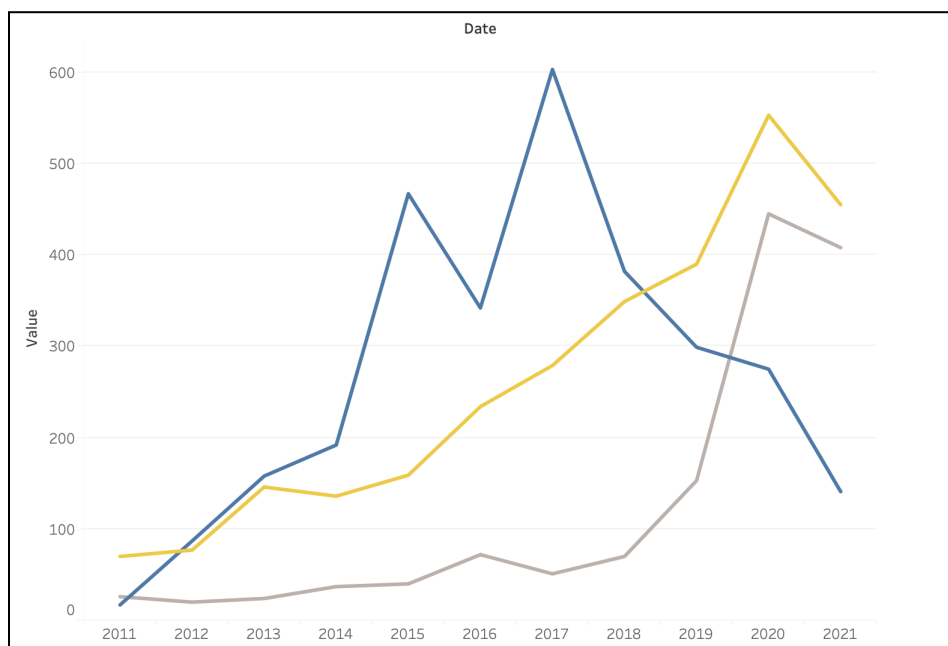




Step 7: The default time frame is all time, so you may want to filter by a specific date range. Click the small dropdown arrow next to the *YEAR* data point in the *Columns* section. Click *Filter* and limit by your desired date range. In this example, we will limit to 2011 to 2021.



Step 8: You can now easily see that Facebook mentions have dramatically declined in recent years, blog mentions have steadily increased, and wikipedia mentions have dramatically increased. Finally, save your visualization to Tableau Public. Remember, you can create multiple versions of this graph with different types of mentions!





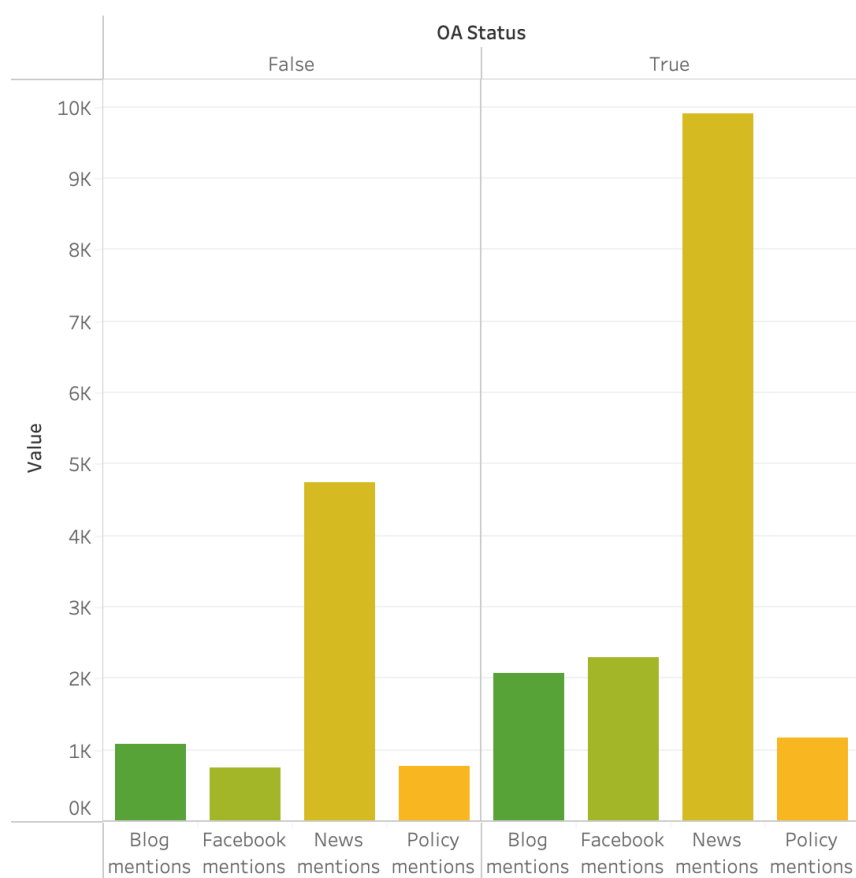
Visualization 5: Bar chart

What is it? A chart that uses rectangular bars or columns that represent the total amount of data for that category.

Where is the data from? In this example we use the Research Outputs tab.

Alternate charts: Depending on your data and personal preference, you could use a line graph, table, etc.

Example bar chart and explanation

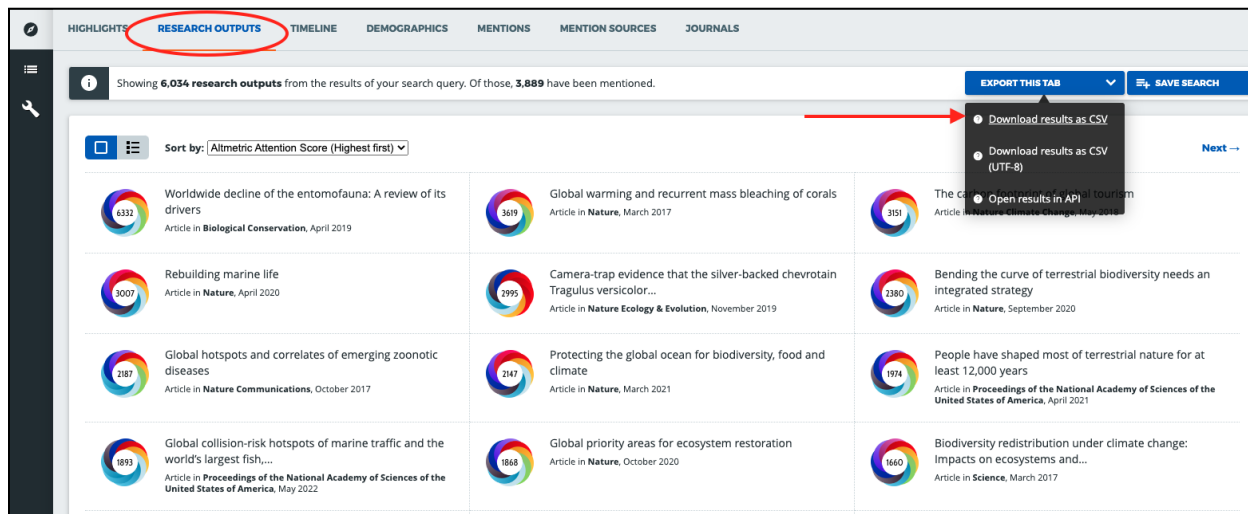


This was created using a CSV download from the Research Outputs tab in Altmetric Explorer. The left side displays Blog mentions, Facebook mentions, News mentions, and Policy mentions received by non-OA outputs. The right side displays mentions received by OA outputs in the same sources. In Tableau, you can hover over any bar in the chart to see the full details. It is worth noting that in this dataset, 3,321 outputs are non-OA, while 2,713 are OA. Even though there are fewer OA publications, they still received more online attention in each category in this chart.

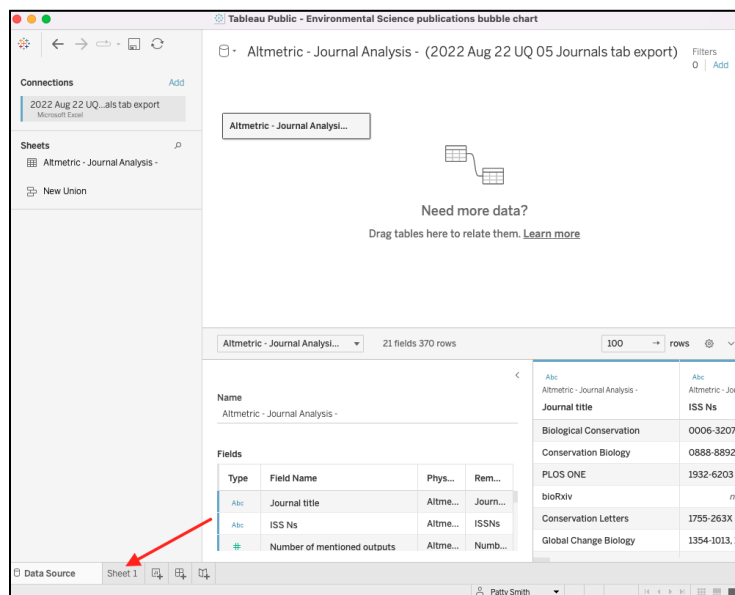
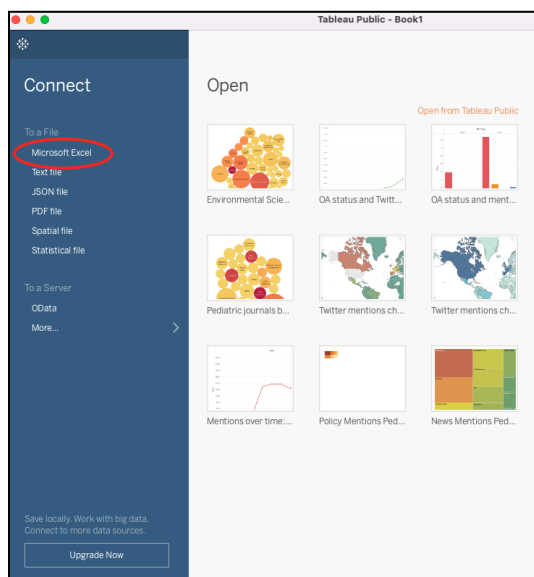


Instructions

Step 1: Run your search in Altmetric Explorer and download data from the Research Outputs tab. The file format will be CSV. Save the file in .xlsx format (or other Excel format).

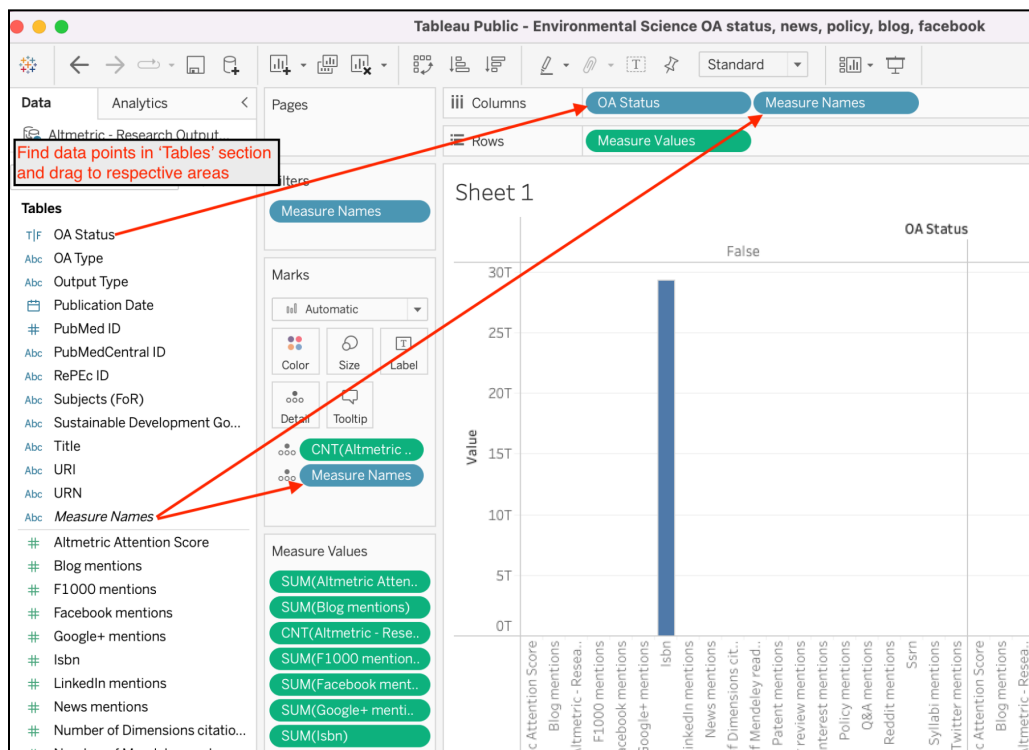


Step 2: Open Tableau Public (desktop version). On the left side of the screen, you'll see the Connect panel. Choose *Microsoft Excel* and connect to the file you just saved. Once the file connects, a new page will open. Click *Sheet 1* in the lower left corner to begin creating your line graph.

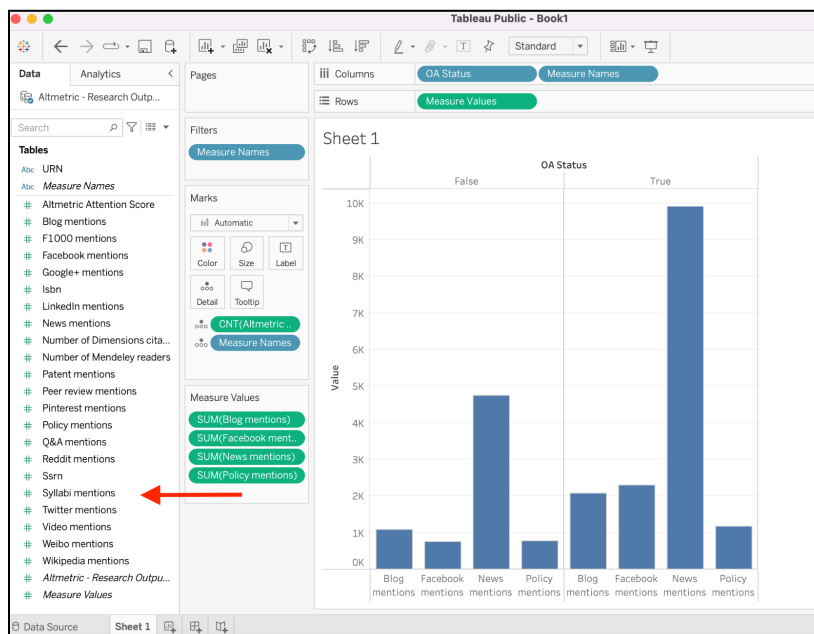




Step 3: In the left panel, you'll see different data points you can use to create visualizations. Drag *OA Status* and *Measure Names* to the columns section; drag *Measure Values* to Rows. Drag *Measure Names* and *Altmetric - Research Outputs counts* to the Marks section.

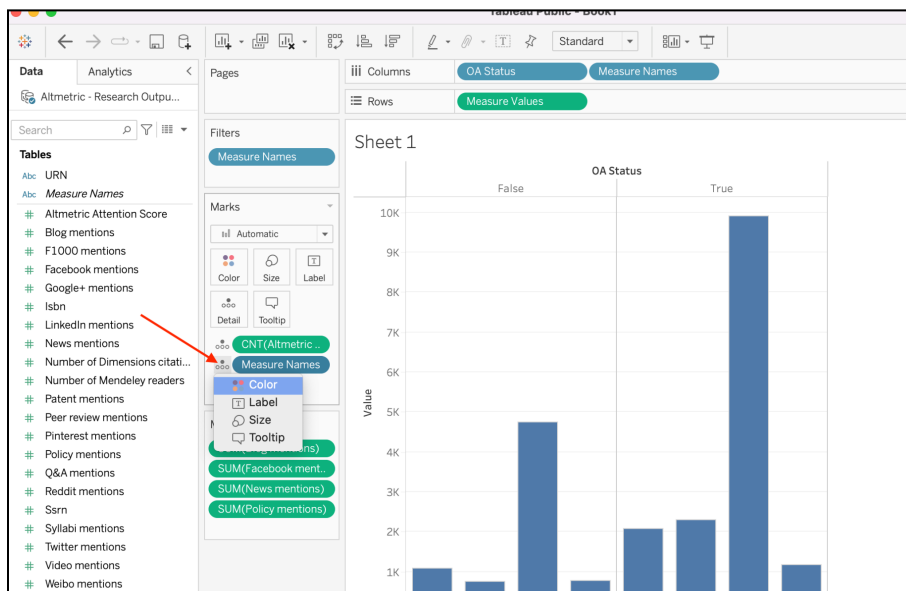


Step 4: Once you drag *Measure Values* to Rows, a new area will appear where all of the measure values are listed. All of the different types of mentions will be listed here, and you will remove any of the mention types you don't want for this visualization. In this example, we remove all of the mention types except Blog mentions, Facebook mentions, News mentions, and Policy mentions. Simply drag and drop the mention types you don't want off the *Measure Values* panel. The bar chart will change as you remove the unwanted mention types.

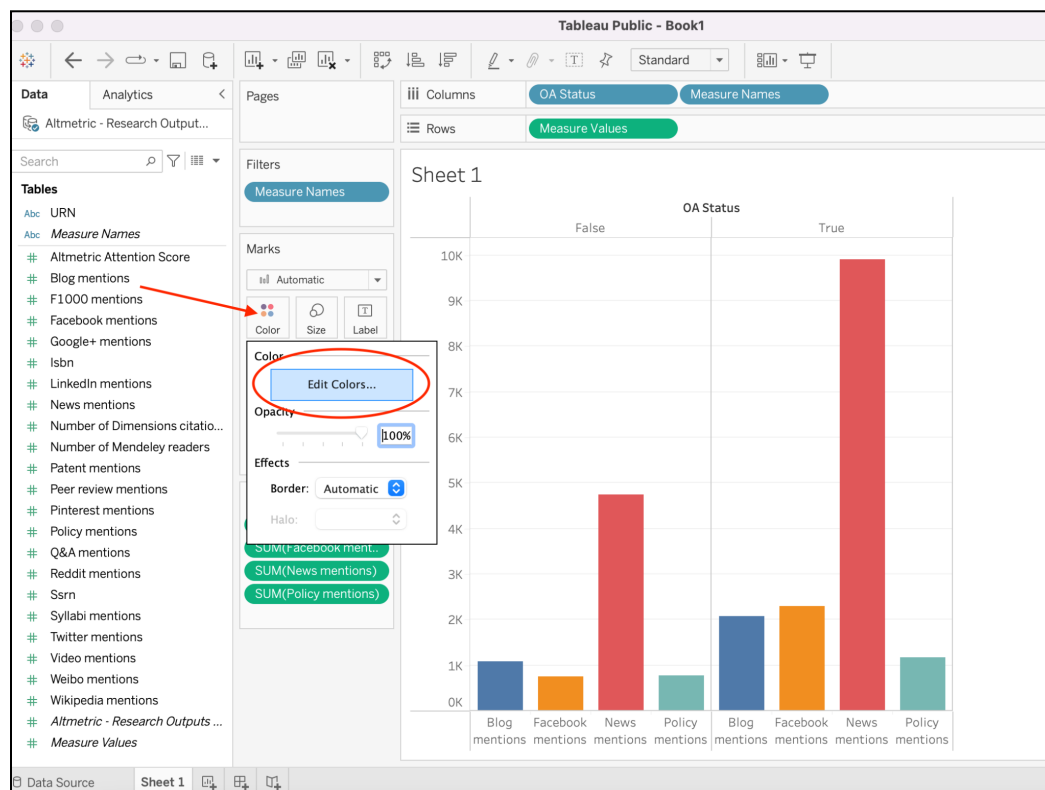




Step 5: Next, click the icon next to Measure Names and change to *Color*.

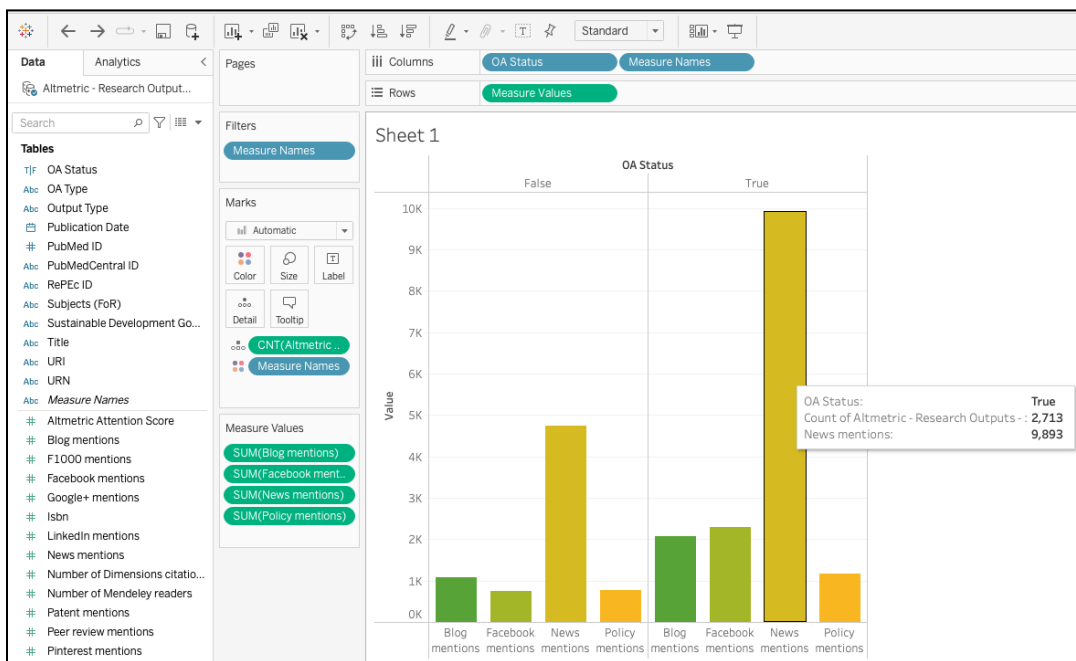


Step 6: To edit the default colors, click the main *Color* icon in the *Marks* section and click *Edit Colors*, and choose the colors you prefer.





Step 7: You can now easily see that in each of these sources, OA outputs receive more attention than non-OA outputs, especially in news sources. Hover over the bars in the chart for full details, including the total number of OA and non-OA publications in this dataset. Remember to save your visualization to Tableau Public!





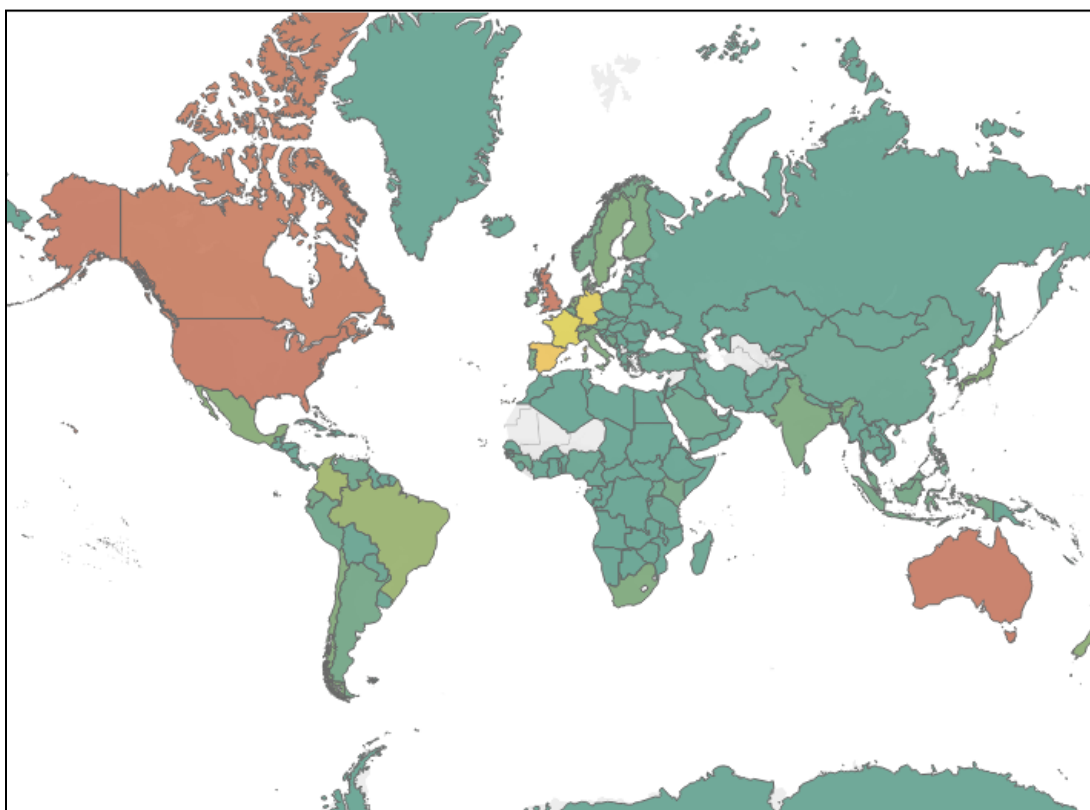
Visualization 6: Choropleth map

What is it? A choropleth map is a thematic map in which geographic areas are colored or shaded according to the range in which the data point of interest falls. In the case of Altmetric, countries will be shaded according to the number of Twitter, Facebook, news, or policy mentions from that country.

Where is the data from? The Demographics tab in Altmetric Explorer

Alternate charts: Depending on your data and personal preference you could create a table.

Example choropleth map and explanation

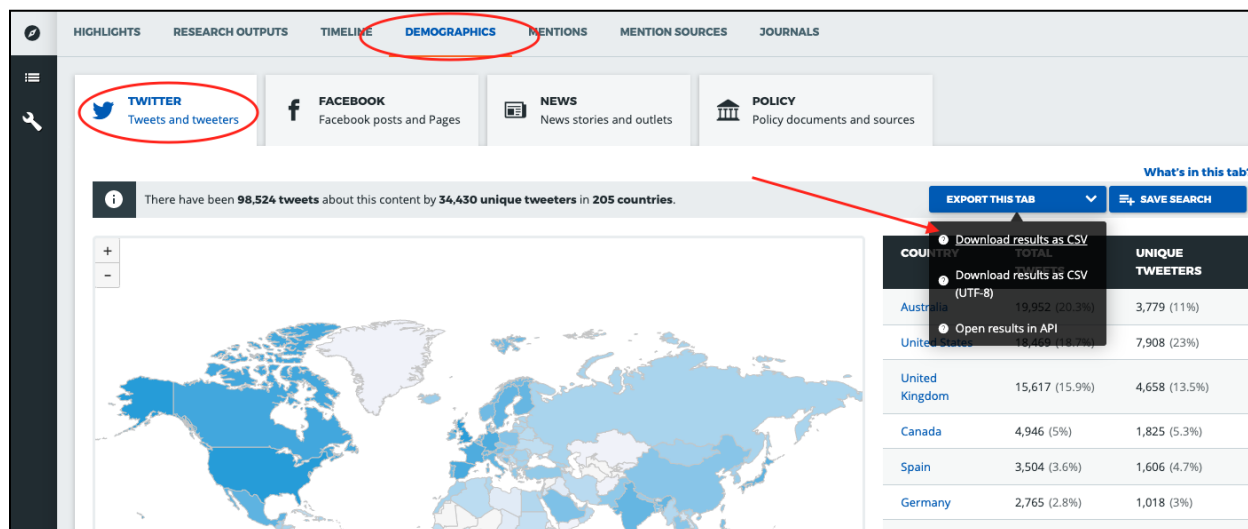


This was created using a CSV download from the Demographics tab in Altmetric Explorer, specifically looking at Twitter mentions. The “hotter” countries have more Twitter activity, while the “cooler” countries have less Twitter activity. In Tableau, you can hover over any country to view the full mention details. When you create these maps, there will usually be one country that appears as *Unknown* in the data. This is because geographic locations on Twitter are self-identified by users, and some users choose not to specify where they are located. For a fun twist, consider making these maps in your school or company colors!

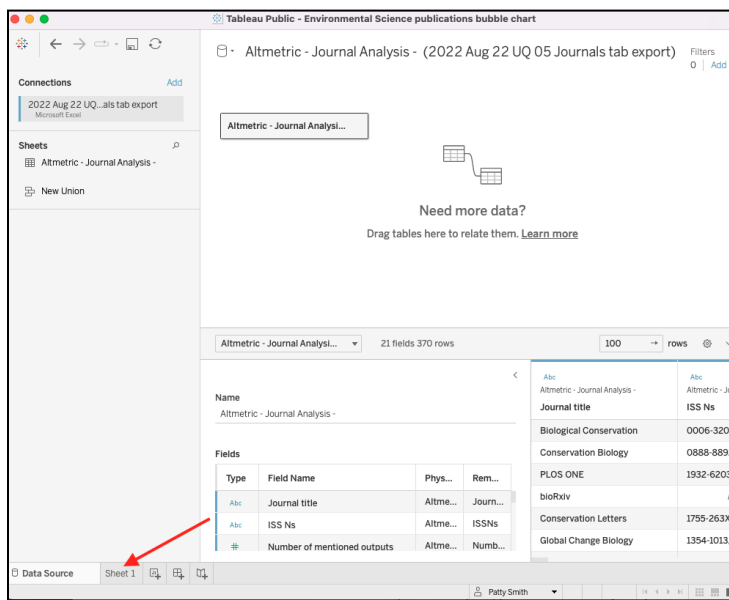
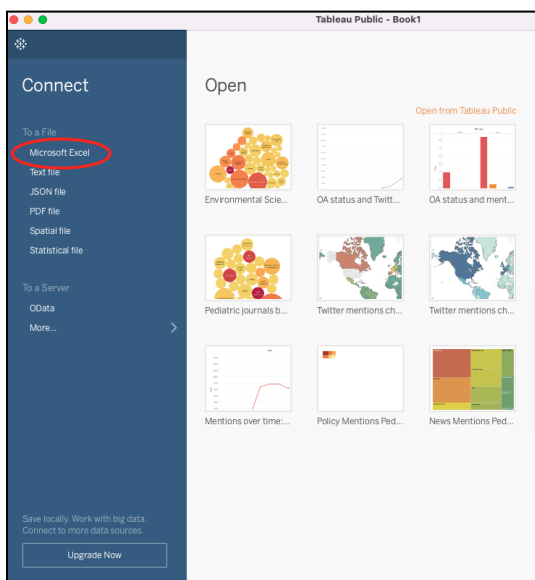


Instructions

Step 1: Run your search in Altmetric Explorer and download data from the Demographics tab; make sure you are on the Twitter section of the tab. The file format will be CSV. Save the file in .xlsx format (or other Excel format).

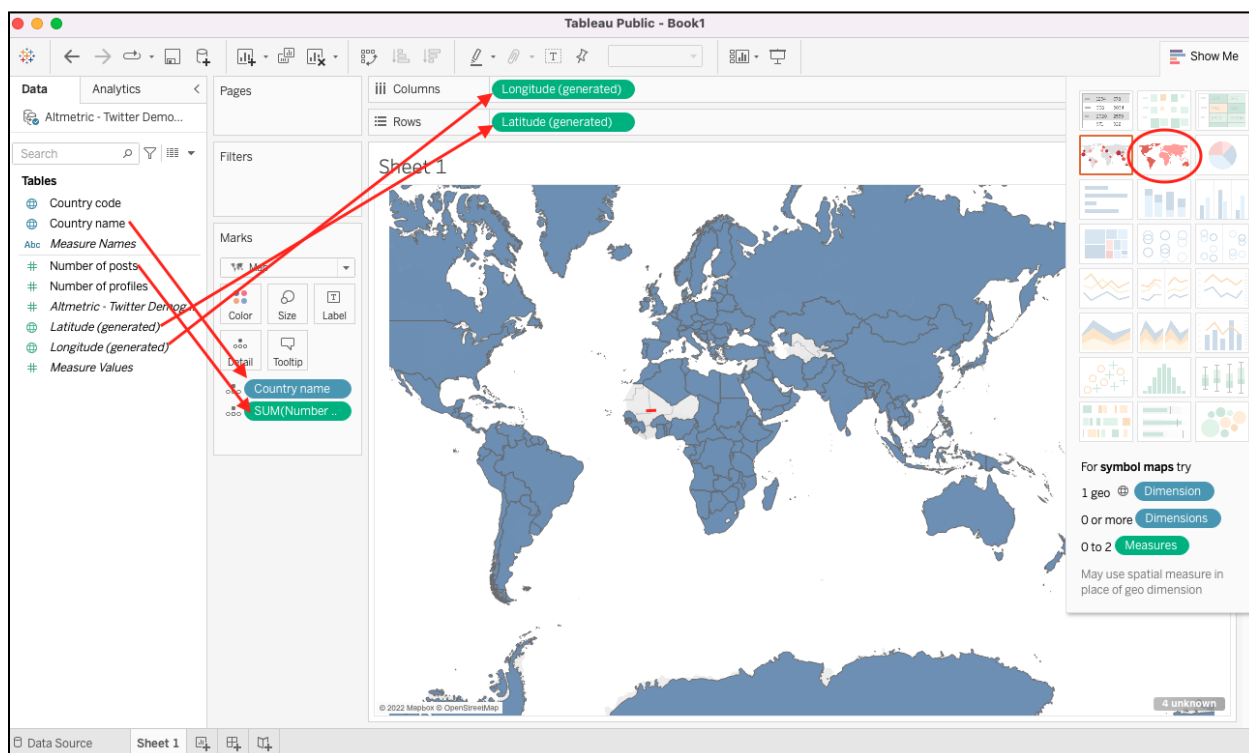


Step 2: Open Tableau Public (desktop version). On the left side of the screen, you'll see the *Connect* panel. Choose *Microsoft Excel* and connect to the file you just saved. Once the file connects, a new page will open. Click *Sheet 1* in the lower left corner to begin creating your line graph.

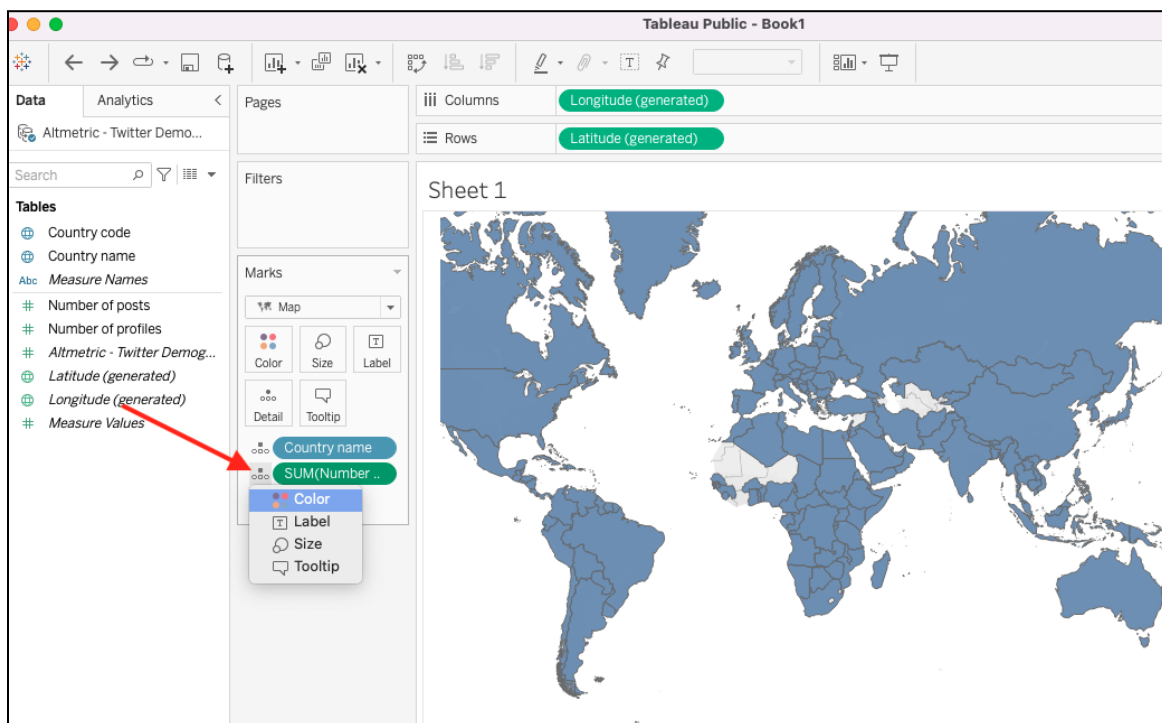




Step 3: In the left panel, you'll see different data points you can use to create visualizations. Drag *Longitude* to the columns section; drag *Latitude* to Rows. Drag *Country Name* and *Number of posts* to the Marks section. Finally, choose the second *map* option in the *Show Me* panel on the right side.

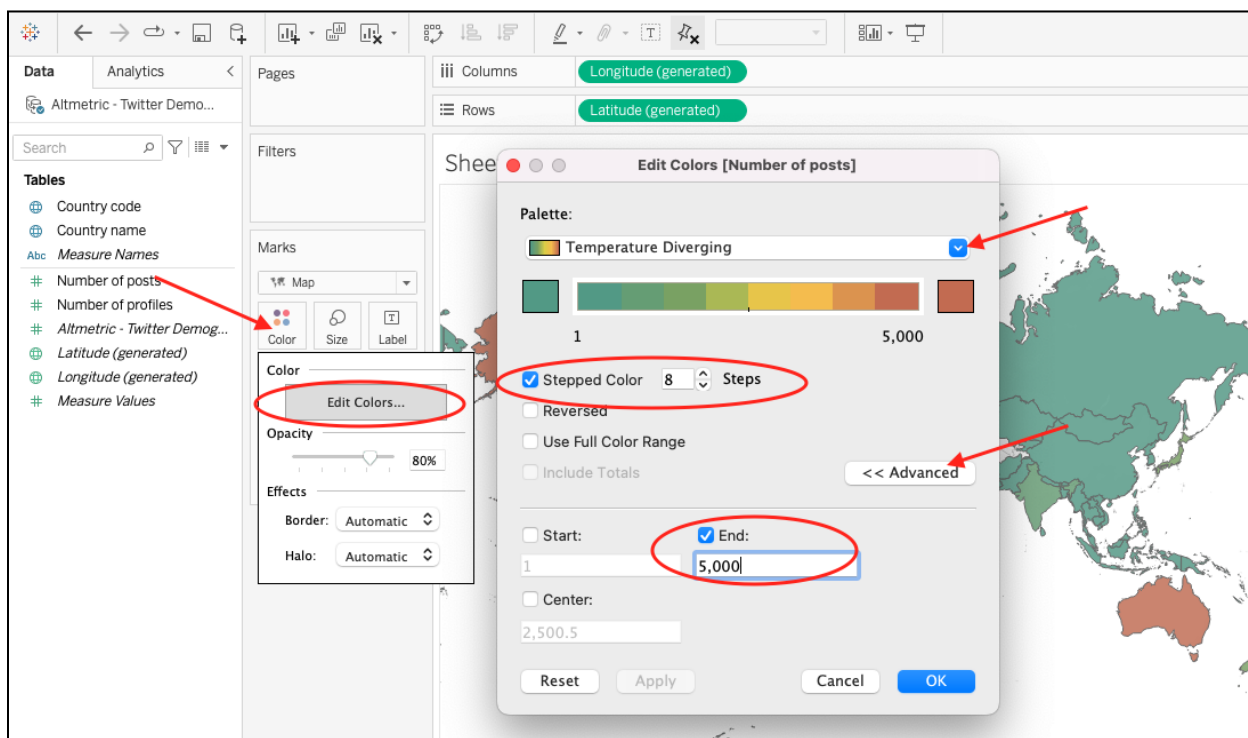


Step 4: Next, click the icon next to *SUM (Number of posts)* and change to *Color*.

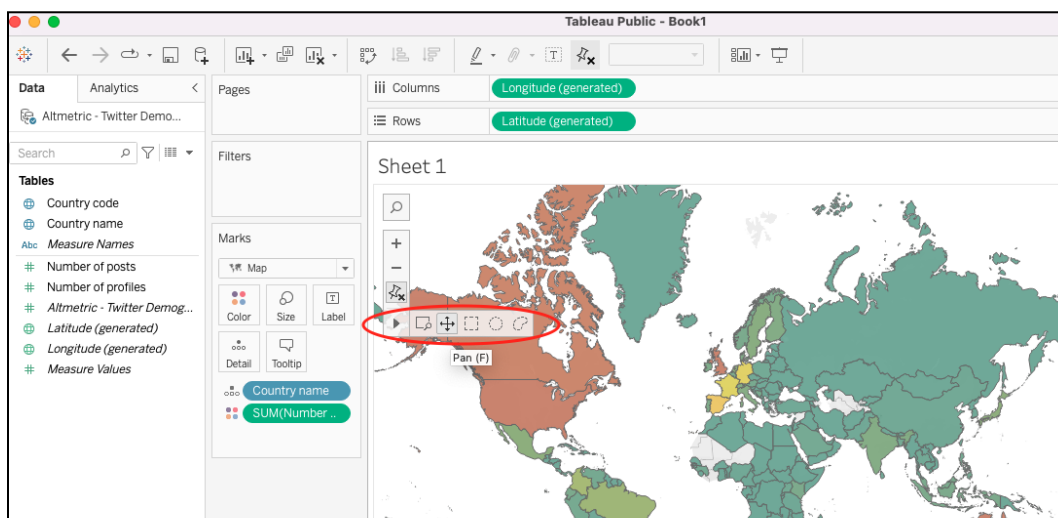




Step 5: To edit the default colors, click the main *Color* icon in the *Marks* section and click *Edit Colors*, and choose the colors you prefer. Oftentimes, there will be a few countries that have many more Twitter mentions than other countries, so the default color scale may not be very compelling. You can adjust the advanced color settings to change the color distribution. In this example, we used stepped color (set to 6 steps). We also went into the advanced settings and changed the *End* number to 5,000. Please note, if you change the *End* number, the default legend in Tableau will not display the correct scale and you will most likely have to create your own legend if you wish to include one.

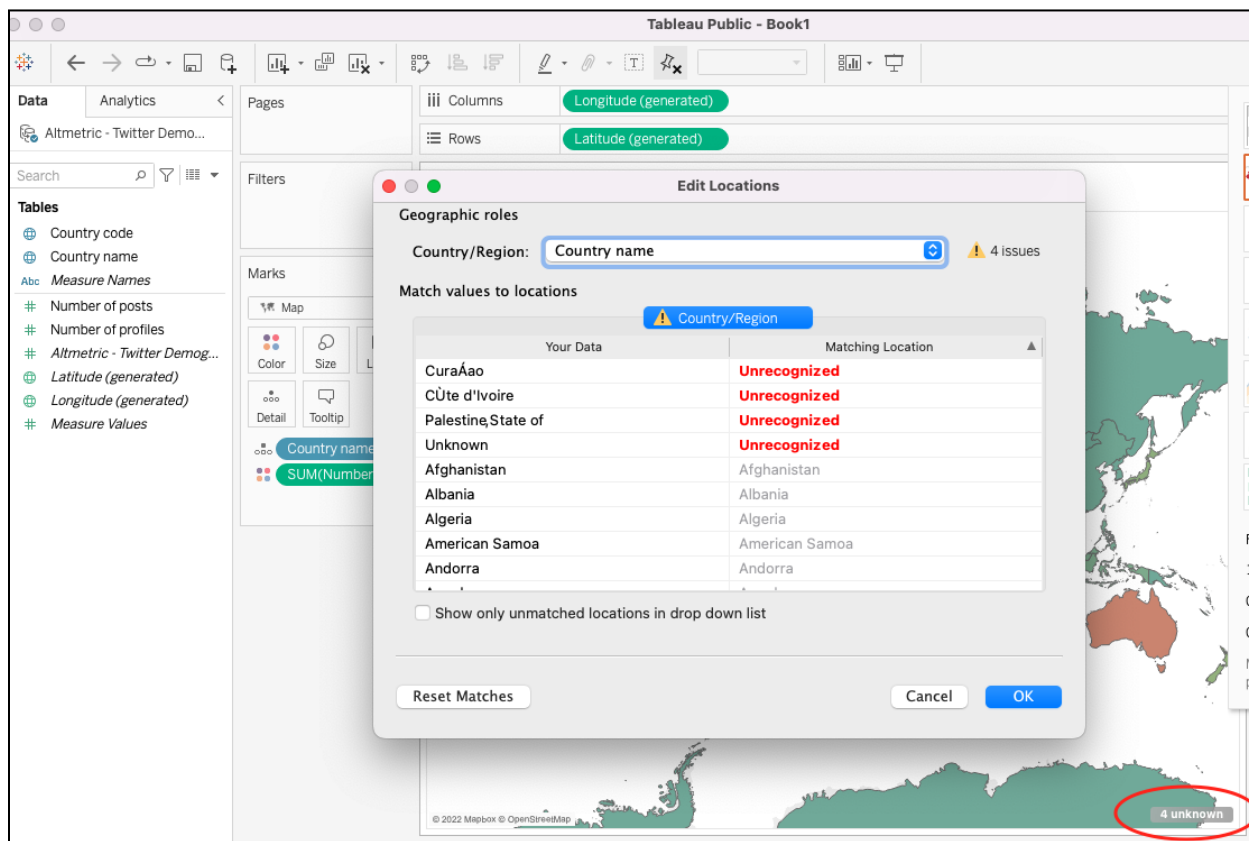


Step 6. You can change the default placement of the map by clicking the *Pan* button and dragging the image.

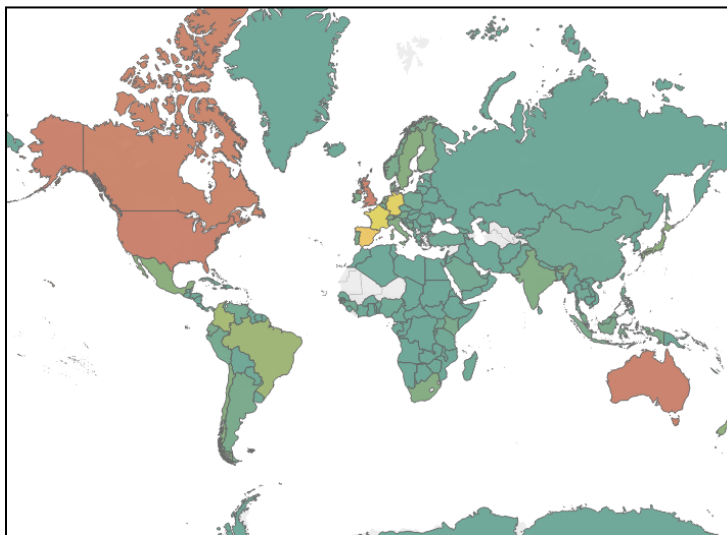




Step 7: In the lower right corner, you may notice a small icon that says *X unknown* countries. This is likely because Tableau didn't recognize special characters. Once you click the *unknown* button, a menu will pop up where you can manually change the unknown countries. When you create these maps with Twitter data, there will usually be one country that appears as *Unknown* that you cannot correct. This is because geographic locations on Twitter are self-identified by users, and some users choose not to specify where they are located.



Step 8: Save to Tableau Public. And now you have your final map! Hover over any country to see the full details.





Conclusion

We hope you found this guide useful. If you have any suggestions, ideas, or questions, please email us at support@altmetric.com. We would love to see what you come up with!