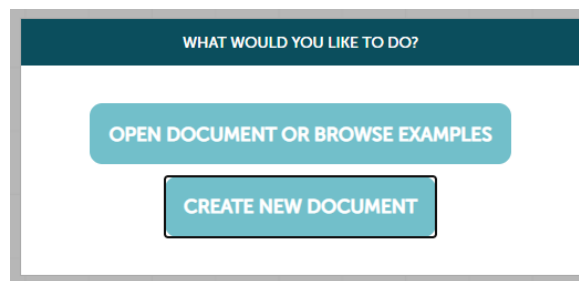


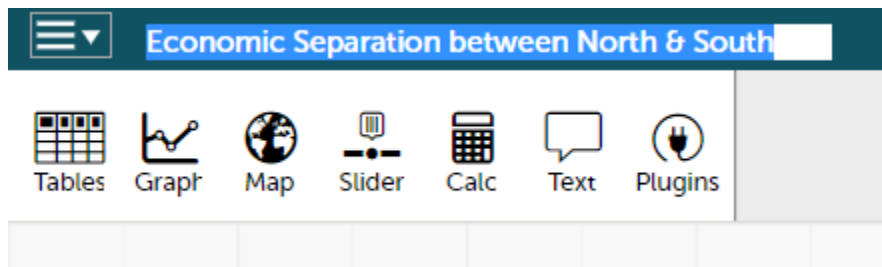
CODAP Minimal Manual

CODAP is a very powerful tool for interpreting datasets and breaking up large trends into smaller subsections. In the example project that accompanies this tutorial we will be exploring the economic production of the Northern and Southern United States leading up to, during, and after the civil war. The South's heavy reliance on slave labor for their agriculture exports, and the North's heavy industry raking in profits led to a breaking point between the two regions. Using CODAP we will be able to examine the economic differences between North and South more closely.

1. To get started with CODAP head to this link: [CODAP](#). You will be prompted to create a document, choose the second option "Create a New Document".

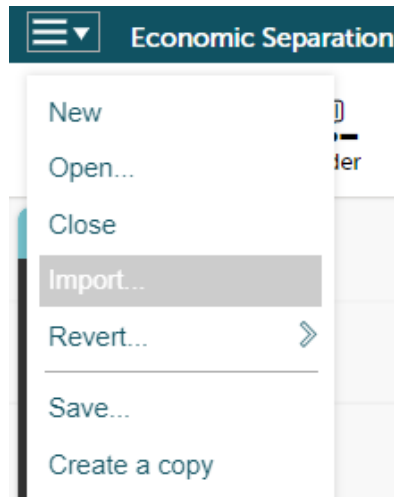


2. You can now see the main CODAP dashboard, in this workspace you have the freedom to create all kinds of graphs from any datasets you import. In the upper left is where all of the tools you will need reside. To begin with, set an appropriate title for your project by clicking on "Untitled Document" and replacing it with your own title.

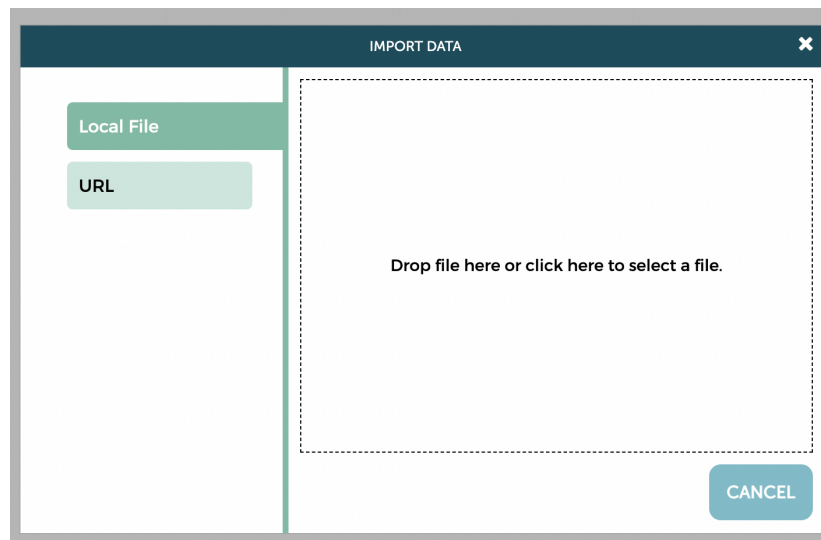


3. Here we will briefly familiarize you with the tools above. The first tool "Tables" is used to import datasets into the workspace. Currently, CODAP is only able to accept .csv files (which can be created from standard Excel files). The "Graph" tool will drop a new graph box into the workspace, allowing you to choose which data you want displayed in that graph. Finally, the "Text" tool allows you to put informative text boxes into the workspace. The Map, Slider, and Plugins are used to display specific types of data, we will not be using those tools today.

4. To get started creating our project we will have to import a dataset or create one inside of CODAP. To import a dataset click on the three bar menu button in the top left corner and then select import from the dropdown menu.



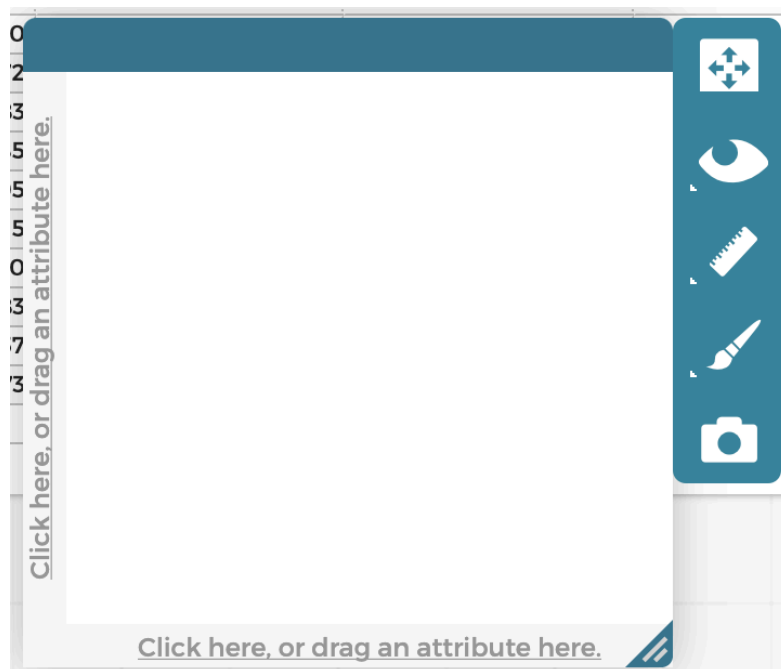
5. From here you will see a window asking you to open a file or drag and drop it into the window. Place any .csv type file into the prompt. *Note: you can export Excel files as .csv files to make them compatible with CODAP*.



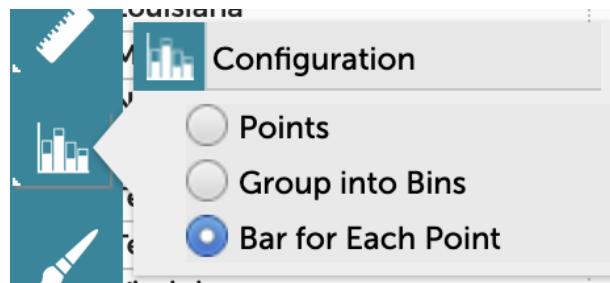
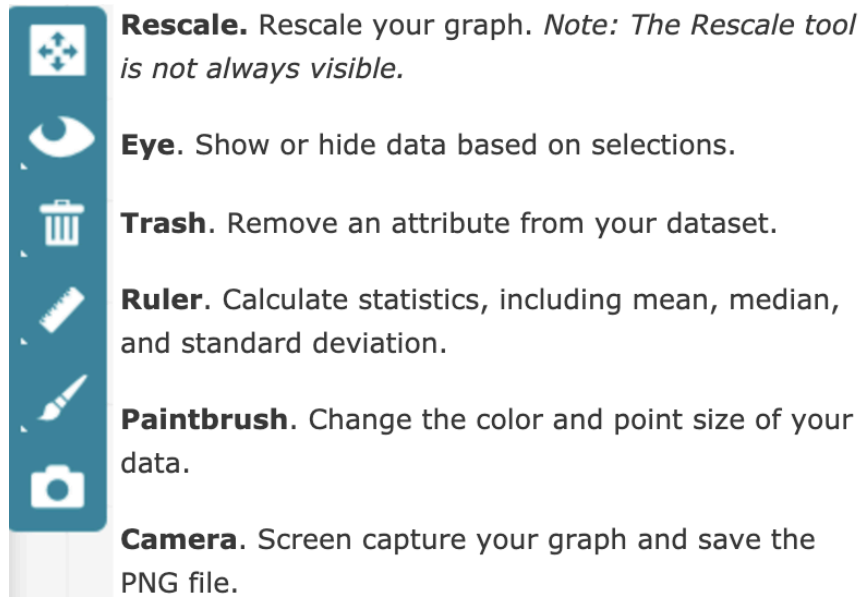
6. Once your file has been selected, you should see it appear as a table in your workspace.

CSA_Manufacturing						
cases (18 cases)						
Index	Row	State	Manufacturing Sites 1860	Manufacturing Sites 1870	Capital Invested in Manufacturing 1860	Capital Invested in Manufacturing 1870
1	1	Total, Confederate states	20631	33360	95922489	109882904
2	2	Alabama	1459	2188	9098181	5714032
3	3	Arkansas	518	1070	1316610	1782913
4	4	Florida	185	659	1874125	1679930
5	5	Georgia	1890	3836	10900000	13950125
6	6	Louisiana	1744	2557	7151172	18313974
7	7	Mississippi	976	1731	4384492	4501714
8	8	North Carolina	3689	3642	9693703	8140473
9	9	South Carolina	1230	1584	6931756	5400418
10	10	Tennessee	2572	5317	14400000	15595295
11	11	Texas	983	2399	3272450	5284110
12	12	Virginia	5385	8377	26900000	29539920
13	13	Total, border states	10305	23873	68952887	156812875
14	14	Delaware	615	800	5452887	10839093
15	15	Kentucky	3450	5390	20300000	29277809
16	16	Maryland	3083	5812	23200000	36428729
17	17	Missouri	3157	11871	20000000	80257244
18	18	Total, free states and territories	108573	192601	840802835	1838098898

7. Now that our data has been imported we can begin to create graphs that visualize trends and changes in our data. *Note: when importing datasets from external sources it is important to include attribution to the source of the dataset. The datasets in this example project were retrieved from Cambridge University Press's Historical Statistics of the United States using US Census data from 1860 to 1870.* An easy way to include attribution is by using a text box. Simply click on the Text tool and an editable text box will be dropped into your workspace. Feel free to move that text box by clicking and dragging the box by its blue header bar.
8. Creating graphs in CODAP is a very easy process, first, click on the Graph tool to drop a new graph into the workspace.

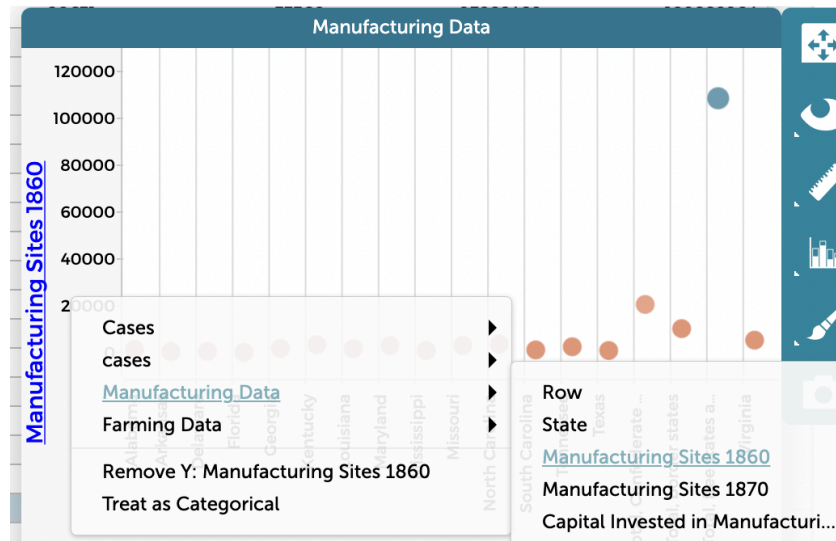


9. In the image above you can see what a new graph will look like. I will briefly describe the components of the graph tool and then explain how to set up a graph with example data. First, looking at the toolbar along the right side you have 5 tools available:



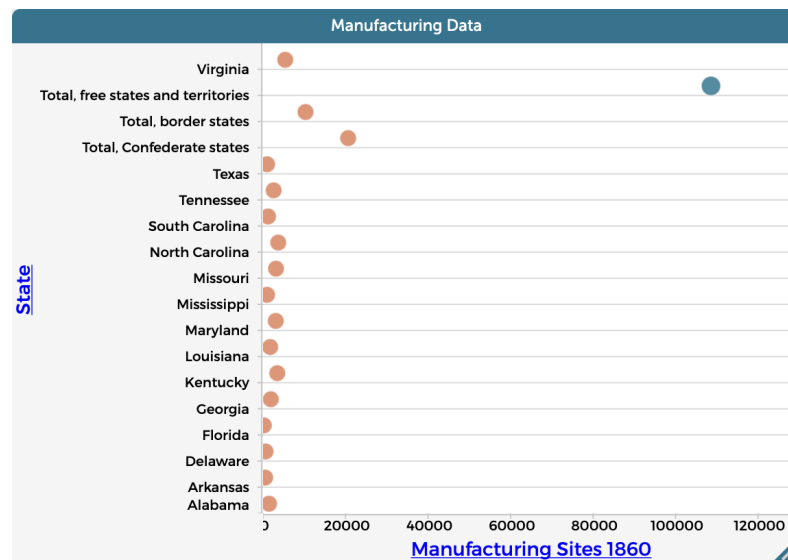
In this example project we will be going over the rescale, eye, and configuration tools. On the graph itself you have control over the two axes of the graph. By clicking on the axes to open a dropdown menu allows you to set the data for your graphs.

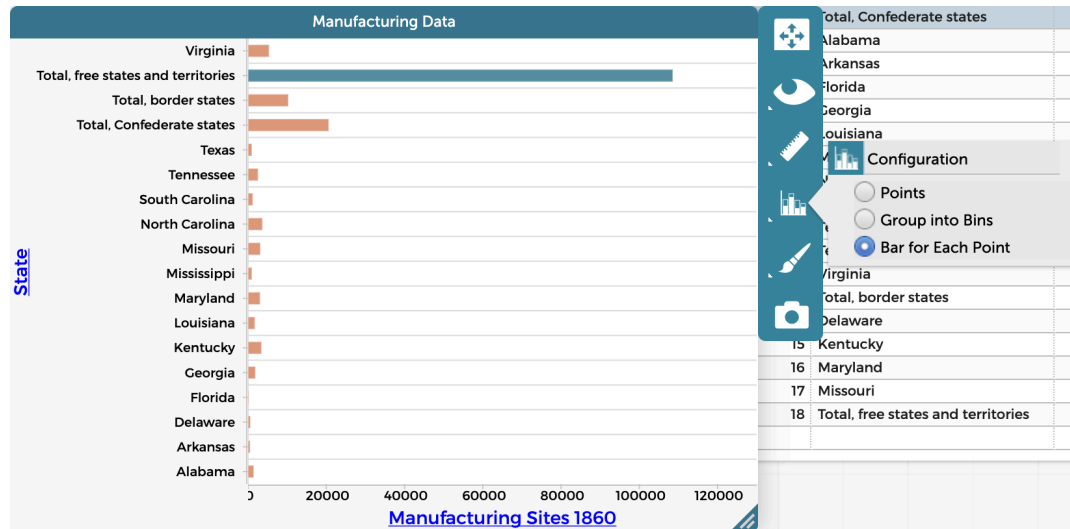
10. Now that you have a blank graph, we can begin to add some data to the graph. It may be best to simply place your entire data on the graph using what you know about the x and y axis for data plots. (More information on that here: [DRY MIX Graphing Tips](#)). This is because we will be able to cut our large graphs into smaller pieces by examining the trends we see.



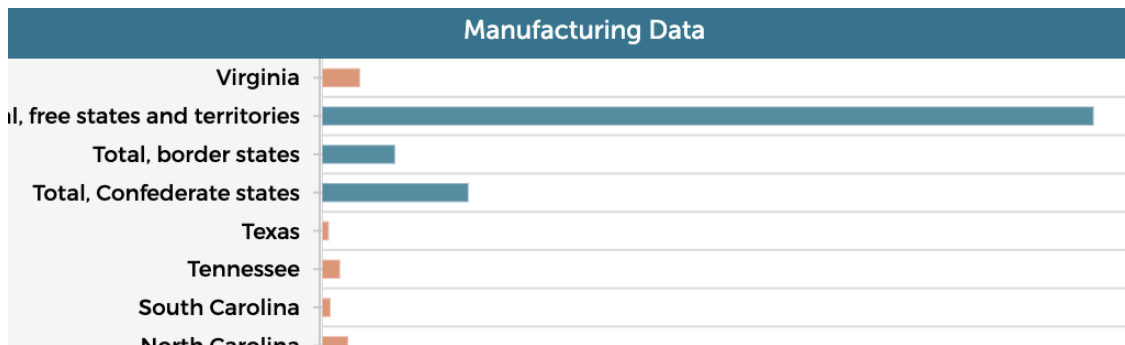
*Note: By default your graph data will be called “cases”, you can change this by clicking on the second header of your table where it says “cases (## cases)” and renaming it to something more appropriate, like in the example above.

11. Now we have our first graph, however the data may be hard to interpret due outliers and other factors. Luckily, CODAP provides a variety of tools to make our data much more meaningful. To begin with I will be using the Configuration tool to convert this data point graph, into a bar graph which provides easier insight into this type of data.

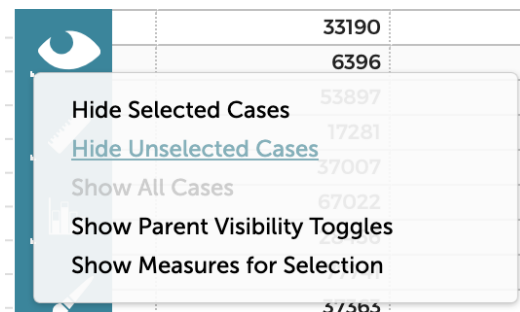




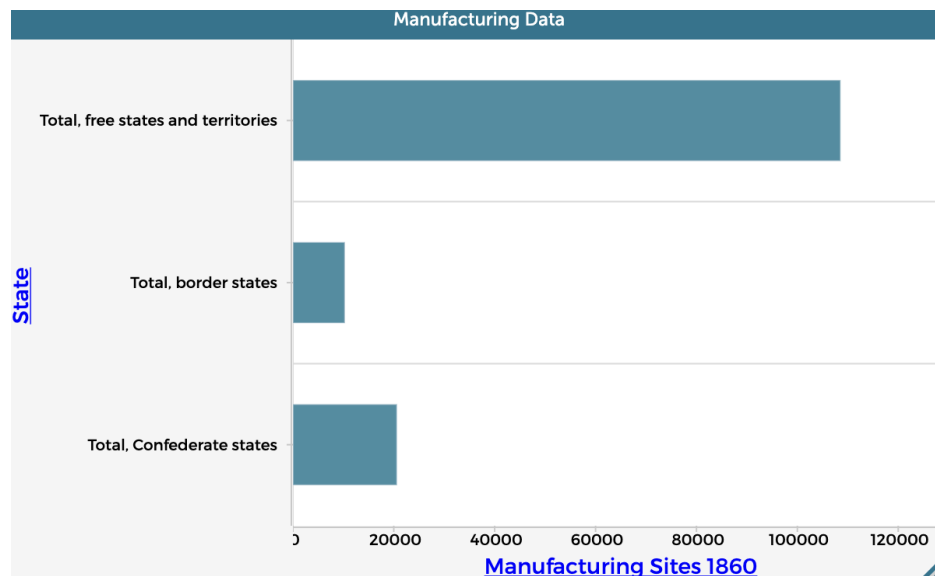
12. While the data is already much more readable, it's hard to see how many manufacturing sites were present in the smaller Southern States when the data from the Northern States is dominating the X-axis. In order to overcome this we can create two separate graphs from this data set using the Eye tool. One graph will contain the aggregate Manufacturing data from both sides, while the other will contain only the data of the southern states.
13. In order to use the Eye tool we will first have to select the data points that we want to keep in our new graph. Graph points (or bars) can be selected by holding shift and clicking on them. Selected points should appear with a blue highlight.



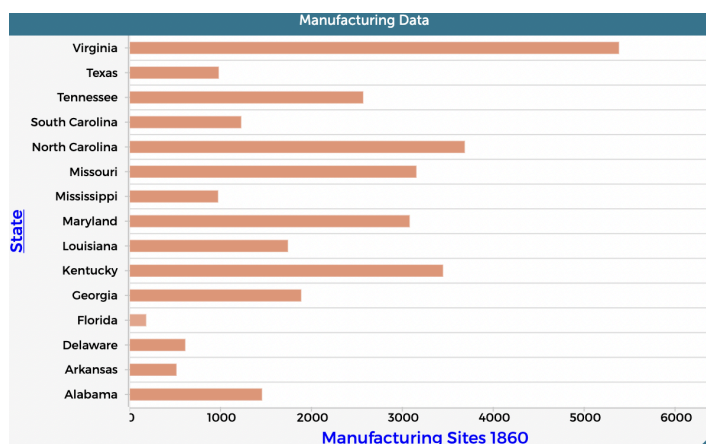
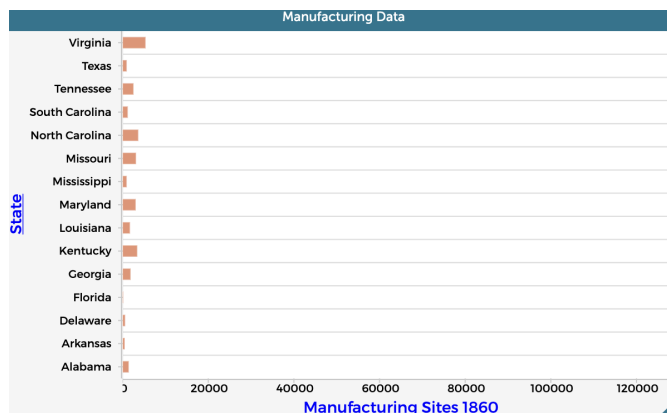
14. Now, click on the eye tool and select "Hide Unselected Cases"



15. The graph you have now only contains the points that you had selected, this gives a much more detailed snapshot of what is happening in smaller geographical or time periods. See the examples below:



16. You may have a case where the graph does not rescale after selecting cases and using the Eye tool, like the graph below. In this case, you can click on the Rescale tool and CODAP will automatically fit your data to the window. See the before and after below:



17. Now you can repeat steps 10-16 to create additional graphs that help to explore changes and continuities in the data. See the example project linked here: [Economic Separation between North & South](#) for more details on comparing to sets of data.