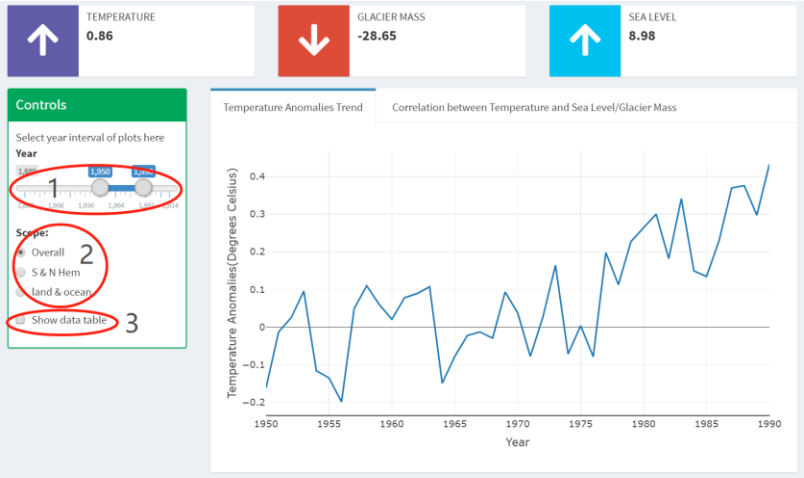
Global Warming, Global Warning-Application User Guide

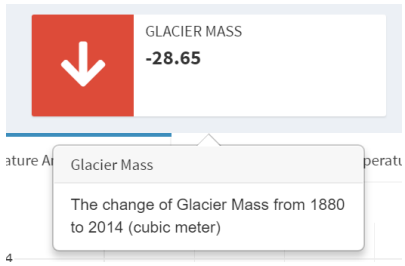
Temperature

Use this tab to explore the trend of temperature anomaly and the correlation between temperature and sea level/glacier mass.

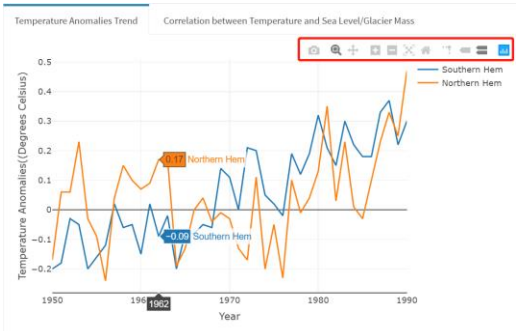
Use control 1 to select the temperature anomalies for the time period of interest. Use control 2 to compare temperature anomalies in the northern and southern hemispheres or land and sea. Use control 3 to explore the raw data.



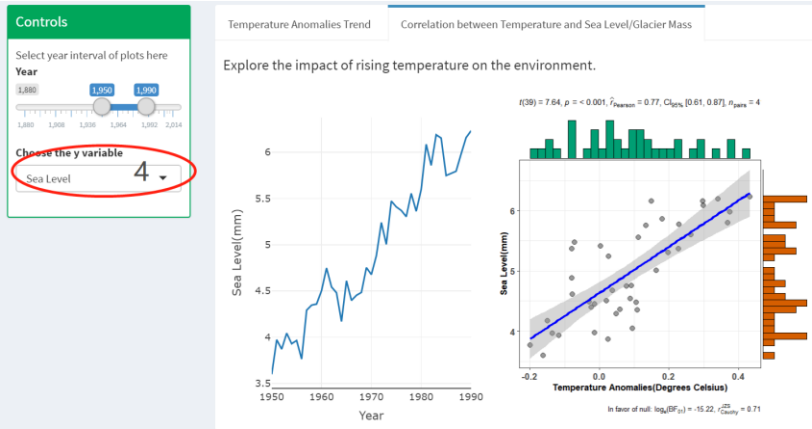
If hover the mouse over the info box, there will have a popup display additional instructions about the values.



Hover the mouse over the plot, the values of the lines above and below the position of the mouse will appear. There are some tools in the upper right corner that can help the user see the plot better.



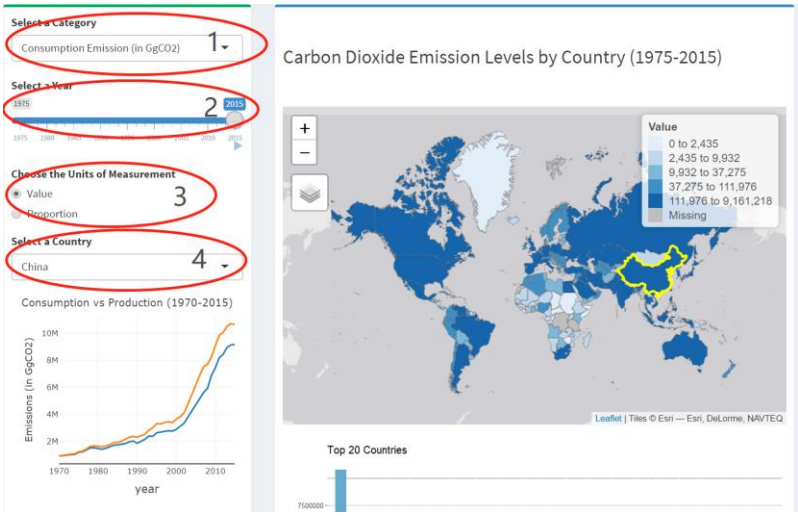
Use control 4 to select the y variable for the two plots on the right.



World Map

Use this tab to explore the levels of carbon dioxide emissions and the trends of carbon dioxide emissions in each country over years.

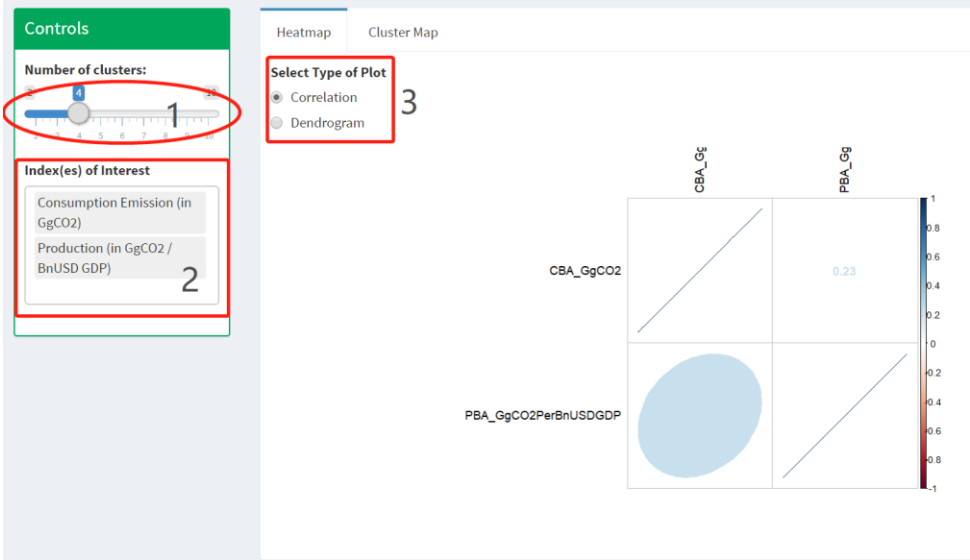
Use control 1 to select the category of CO2 emission of interest. The map and the plot “Top 20 Countries” will change with the options. Use control 2 to select the year of interest. Use control 3 to choose the units of measurement. Users can choose whether to look at the value of each country or the proportion of national emissions. Use control 4 to select interested country, the selected country will be marked with yellow lines on the map. The chart below the control 4 will change to show emission trends for the selected country.



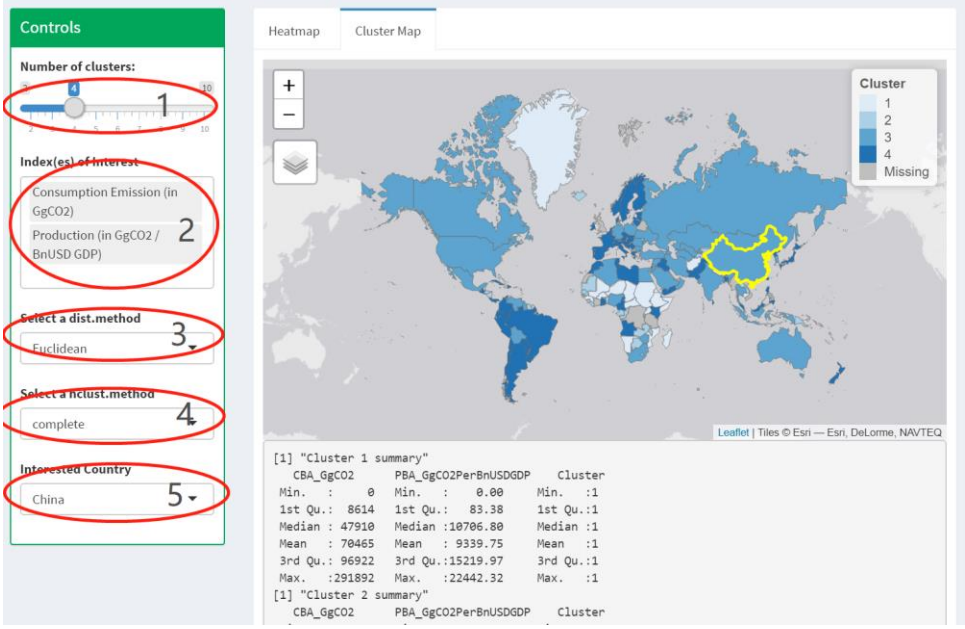
Cluster Analysis

Use this tab to cluster countries to get a better understanding of their co2 emissions.

Use control 1 to select the number of clusters. Use control 2 to select the variables of interest to plot the correlation matrix and heatmap. Use control 3 to select the type of plot, “Correlation” shows the correlation matrix and “Dendrogram” shows the heatmap of the selected variables.



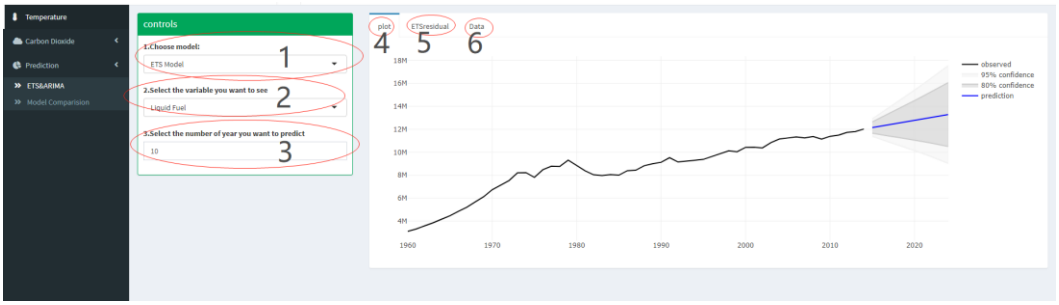
In the tab panel “Cluster Map”, use control 1 to choose number of clusters. Use control 2 to select the interested variables. Use control 3 and control 4 to change the method of clustering. Use control 5 to select country and the selected country will be highlighted in the map to show which cluster it belongs to. Summary of each cluster is shown below the map.



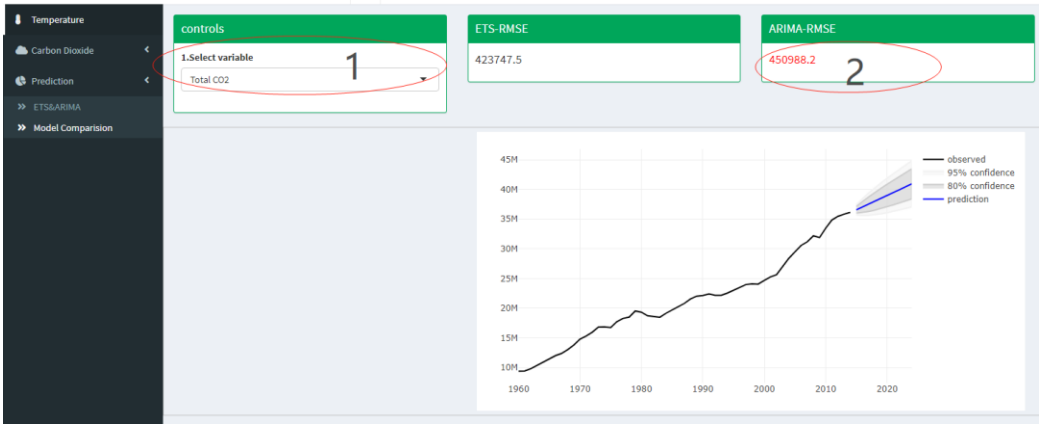
Forecasting Method

Use this tab to forecast the future value of carbon dioxide emissions and temperature, to get the future trend.

Use control 1 to select forecasting model. Use control 2 to select variables of interest. Use control 3 to select number of years of interest. Click on panel 4 to see the plot. Click on ETS residual to see the residual of ETS model, click on panel 6 to see the data table of ETS forecasting.



Choose Model Comparison. Use control 1 to select variable to compare. Look at panel 2 to see the red number means the best model of a specific variable.



To support data exploration activity, our app supports interactivity by allowing user to select any observations in the line plot and observe the corresponding value of forecasting outcome.