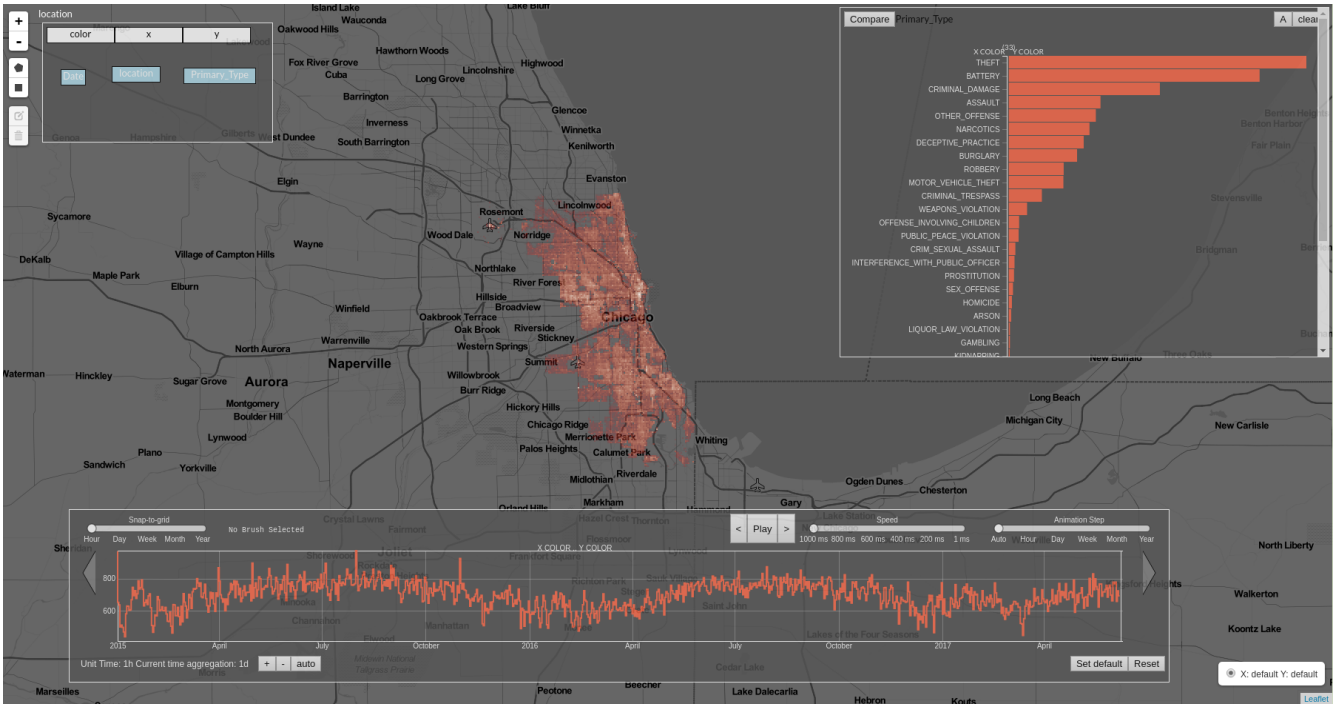
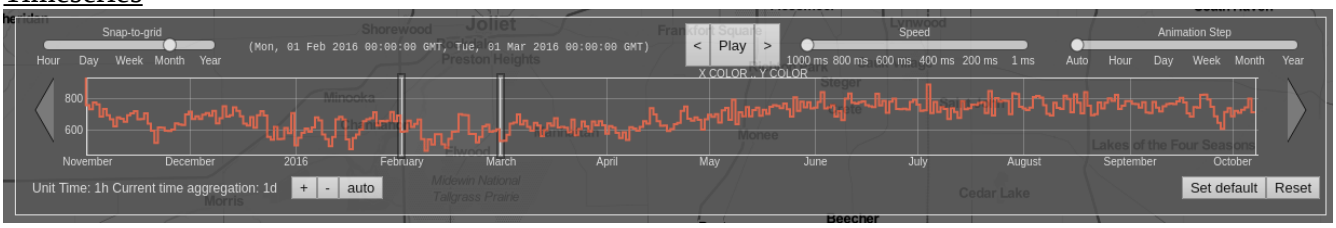
Nanocubes Web Viewer Documentation



Timeseries



- Brush/time selection
  - Select a certain time range by clicking and dragging on the timeseries rectangle
  - Snap-to-grid options: Hour, Day, Week, Month, Year (brush will auto snap to nearest time option; in the example above it is snapping to nearest month)
  - Time selection is displayed
- Play button/animation
  - Only works when a time is selected
  - Pressing play will animate and display data corresponding to new time selection, and iterate the next time selection after a period of time
  - Speed and step options: Speed is time in between each iteration, animation step is how much the selection will jump for each iteration
  - Single iteration forward (>) and backwards (<) buttons
- Time Aggregation
  - Unit Time is the minimum bucket size holding a single data point
  - Current time aggregation is the current bucket size
  - + and – buttons will manually increase/decrease the time aggregation (note: time aggregation will no longer be automatic until the auto button is pressed again)
  - auto button automatically sets the time aggregation to best fit
- Reset and set default buttons

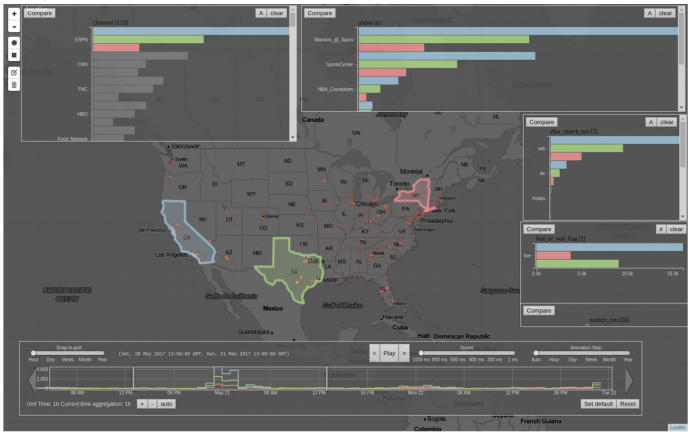
- Set default button saves your current option settings and time selection
- Reset resets the timeseries to the default settings

- Pan buttons
  - Hover mouse over either triangle to pan the timeseries to the left or right
  - If pan buttons are buggy, also able to pan the time series by dragging the x-axis labels (in the picture above it would be the month names)

Map

- Leaflet tools

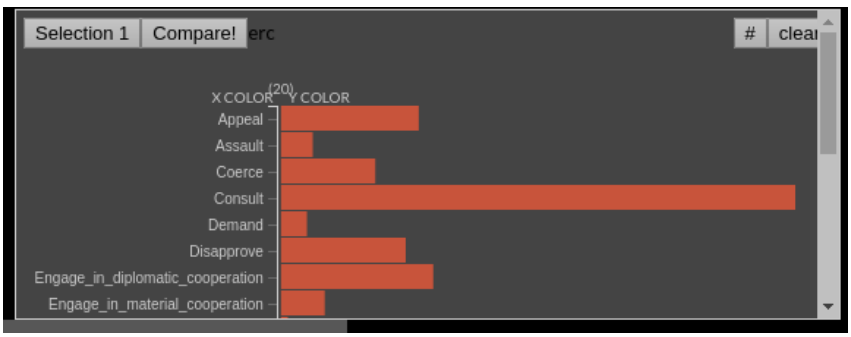
  - Found at the top left of the viewer
  - +/- : zoom in/out
  - Pentagon: Polygon draw
  - Square: Rectangle draw
  - Edit layers: Editing mode, can edit polygon shape and color
  - Trash: Delete polygons



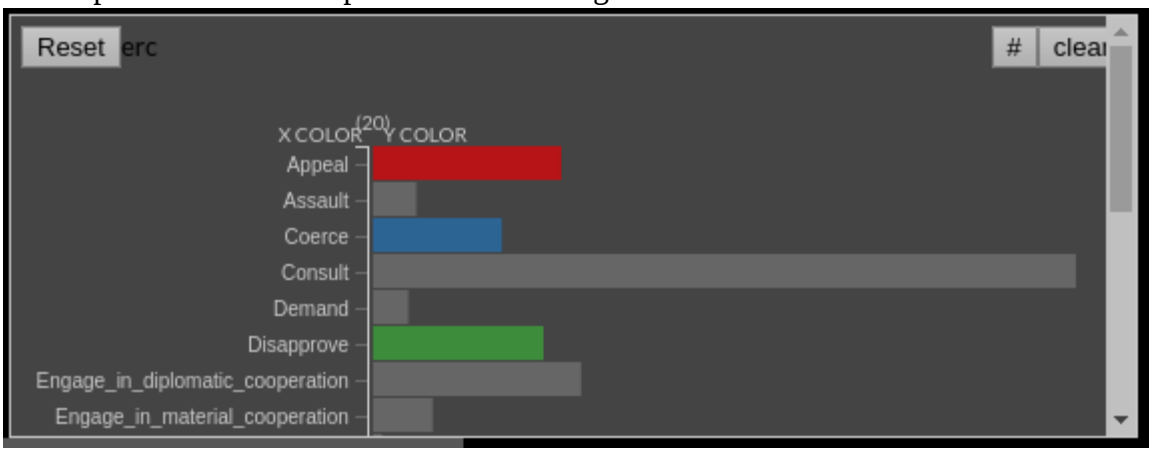
- Spatial Selection
  - Select certain areas of the map using polygon or rectangle draw
  - All polygons start off with a light blue color, but polygon colors can be changed by double clicking on them in editing mode
    - IMPORTANT: Spatial comparison between colors will not display on other widgets unless the Retinal Brush widget is used. Otherwise, data will always be shown as an aggregate sum of all polygon selections regardless of what color they are.
  - Drag and drop geojson/shpfile functionality: If you want to select a specific region that's hard to select using the rectangle or polygon draw, you can drag and drop a geojson file or a shpfile zipfile onto the viewer and it will select that region for you

Barchart

- Categorical Selection
  - Can select to see only certain categories by clicking on the bar corresponding to the category. Also can select multiple categories using shift-click.
- Top right options
  - Clicking the #/A button will sort the categories by value or alphabetically
  - Reset button will deselect all categorical selections
- Compare
  - IMPORTANT: Compare will not start unless Retinal Brush widget is used.
  - Compare categorical selections by first clicking the compare button. Then, 2 buttons will appear:

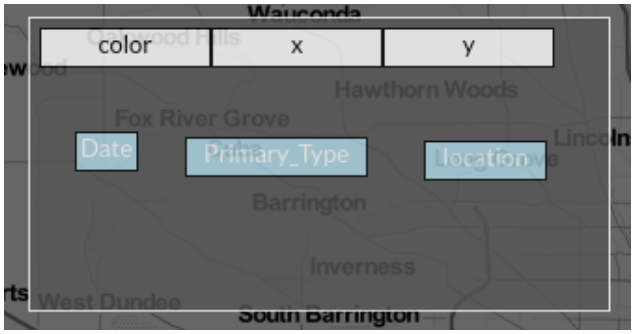


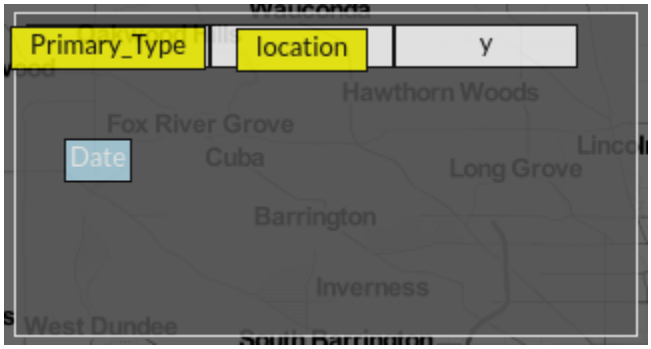
- Make your first selection, then click Selection 1.
- The buttons should then show Selection 2 and Compare!
- Make your second selection, then click Selection 2
- Continue this process until you've made all your selections
- After making your last selection (make sure to click the Selection X button for your last selection before moving on), click the Compare! Button, and the comparison will show on all other widgets.
- Comparison works for up to 5 different categorical selections



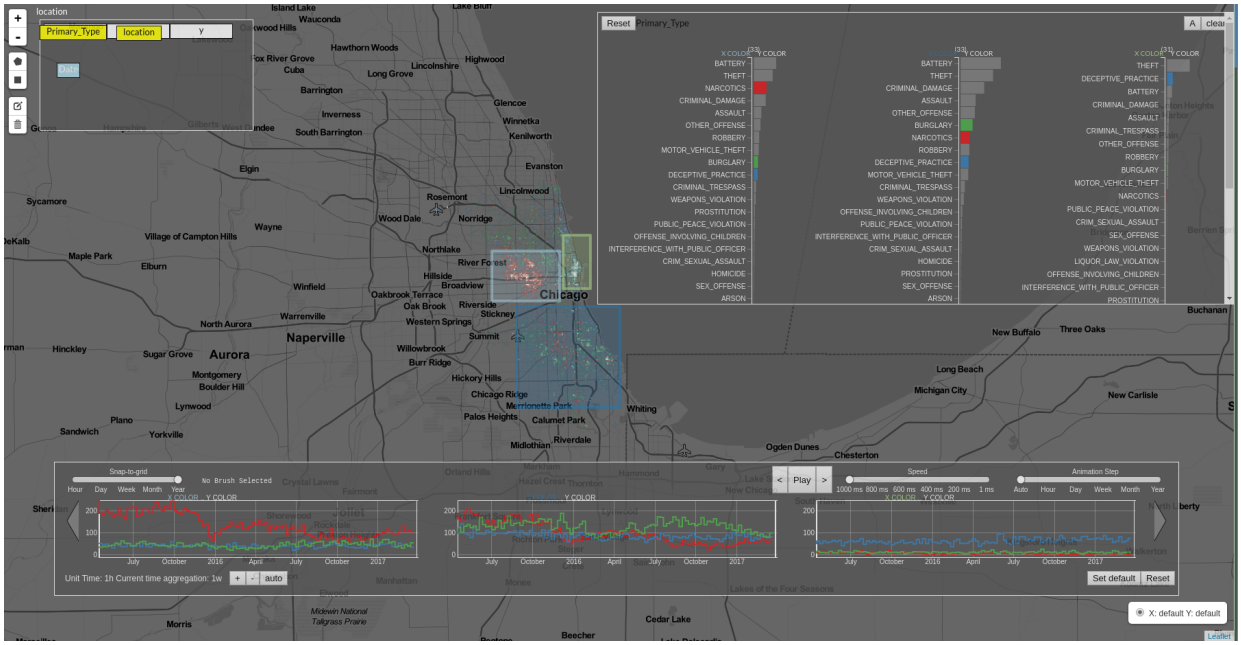
- Click the reset button to reset comparison

Retinal Brushes



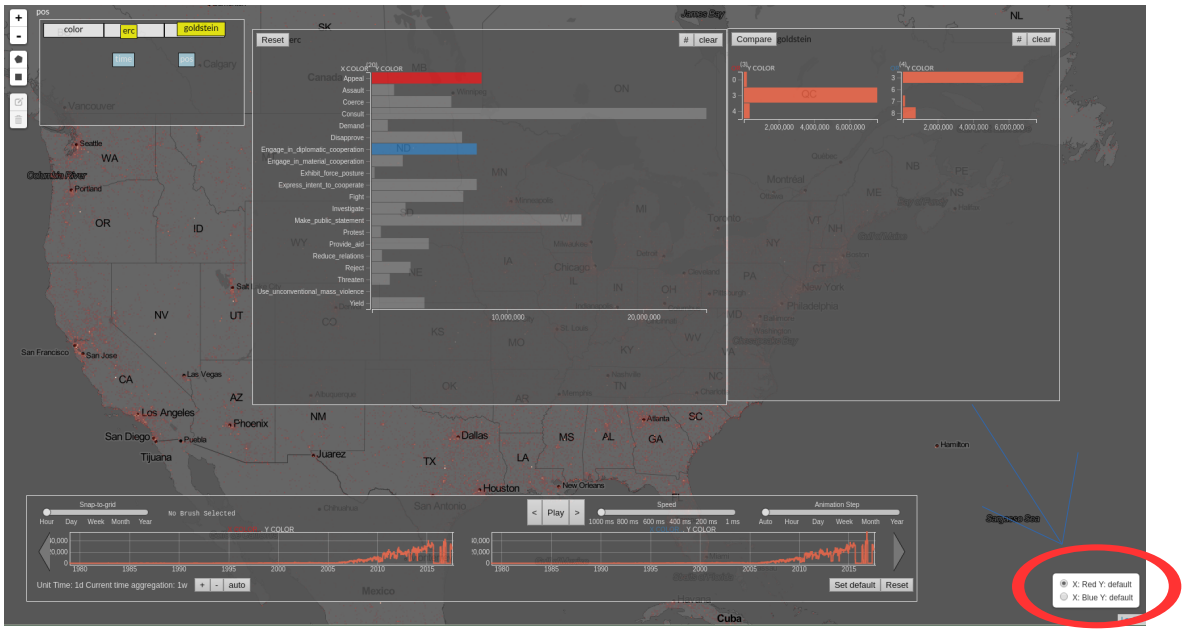


- In the top left corner is the Retinal Brushes widget
- IMPORTANT: Comparison can only be done through the Retinal Brushes widget. It essentially "allows" the widgets to start comparing. Up to three different comparison can be done simultaneously.
- Color, x, and y are drop zones, and there will be a draggable box for each data dimension being used in the nanocube
  - Each drop zone corresponds to a certain type of comparison (color comparison, x comparison, y comparison)
  - Only one dimension box can be placed on a dropzone at a time
- In the example above, Primary_Type is the dimension for categorical crimes (and is displayed in a barchart) and is placed on the color drop zone, and location (displayed on the map) is placed on the X dropzone. This means that comparison done with the Primary_type dimension (on the bar chart) will be sent as data to all other widgets as a color comparison, and that comparison done with the location dimension (on the map) will be sent as data to all other widgets as an X comparison.
- It should look something like this:

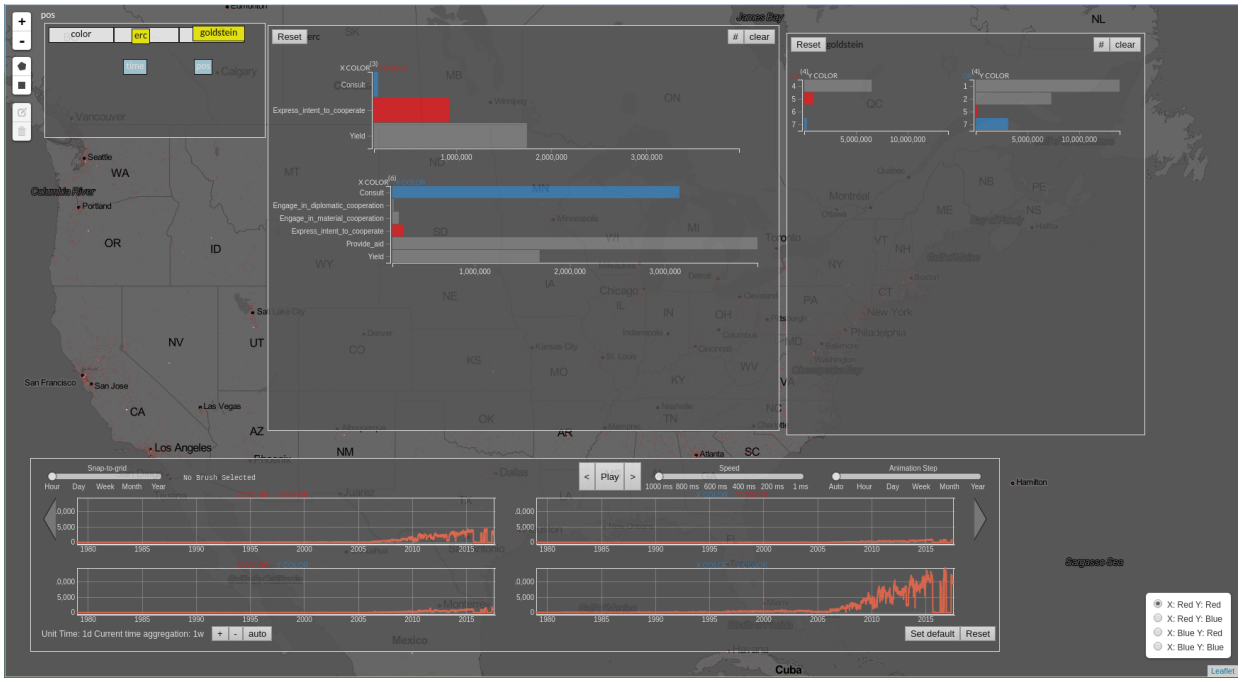


- In this example, 3 spatial selections are being compared, and 3 different categorical crimes are being compared. The spatial selections are being sent as X comparisons to the other widgets, so, for example, the timeseries will split into 3 different timeseries, each one corresponding to a spatial selection on the map. Each colored line in each timeseries is corresponding one of the three crimes selected in the bar chart.
- In order to tell which timeseries corresponds to which spatial selection, there is an X COLOR and YCOLOR on top of each timeseries, and the color of the XCOLOR is corresponding to the specific spatial selection color in the map (because the location dimension is on the X comparison zone in the retinal brush widget so location will send out x comparison data).

- If the map is affected by X comparison or Y comparison data, instead of separating into multiple maps (I originally wanted the map to do this), it will split into multiple layers, and those layers can be selected in the bottom right corner. (note: sometimes the heatmap will disappear. That is because a layer is not selected.)

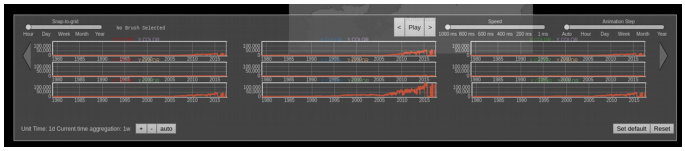


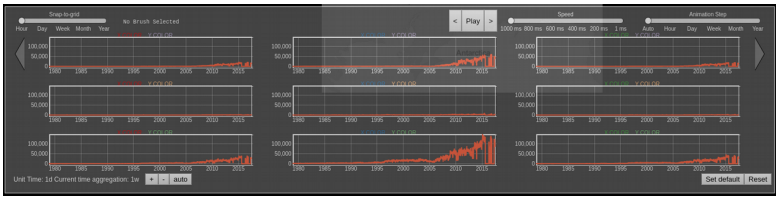
- Note that in this example picture, erc is on the X dropzone, and goldstein is in the Y dropzone. Right now, erc is in comparison mode and is comparing Assault crimes to Diplomatic cooperation. In the goldstein bar chart, the left side corresponds to the categories for assault crimes, and the right side corresponds to the categories for diplomatic cooperation. Note that they only share one category together, which is “3”. **When going into comparison mode and trying to compare with a certain category, every barchart in the widget must contain that category in order for it to be used.** This is currently a bug that is currently being fixed.

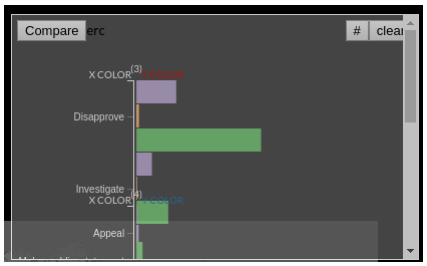


- This is a good example of working double comparison: “Consult” and “Express intent to cooperate” in the erc barchart both share the categories “5” and “7” in the goldstein bar chart. So we can compare consult and express and compare 5 and 7 simultaneously, and the multiple timeseries can be seen in the timeseries widget.

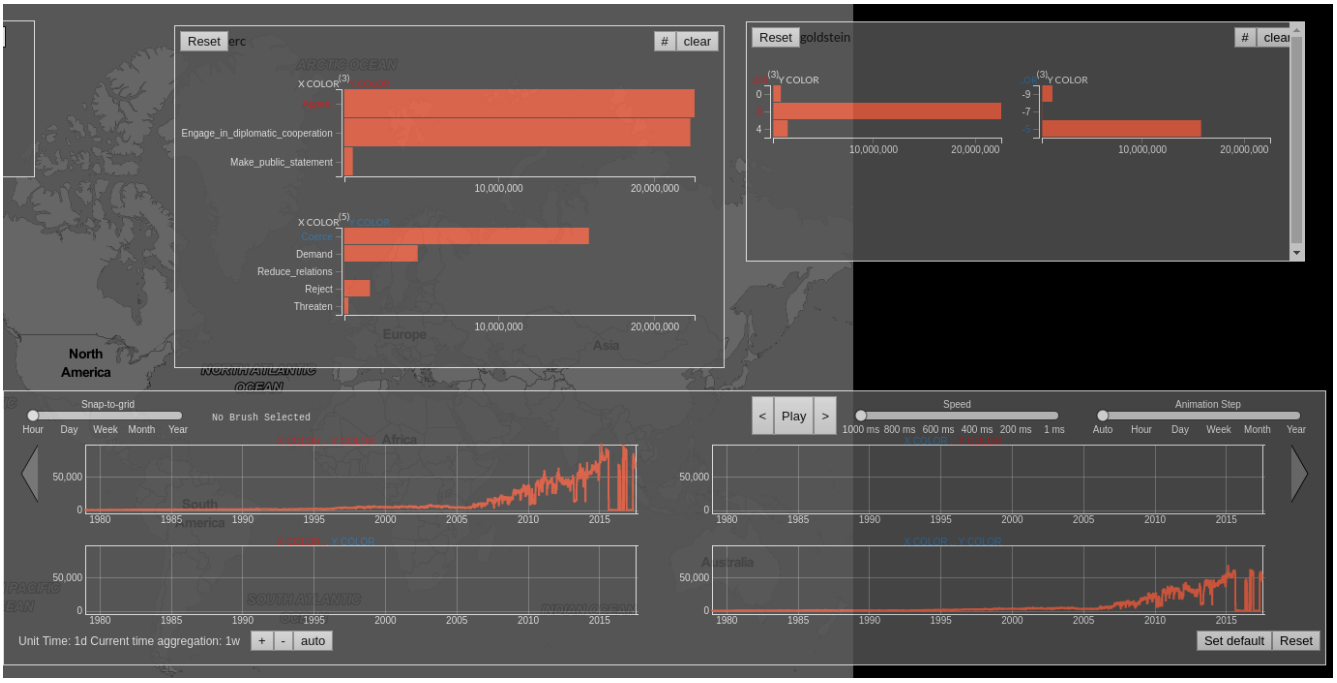
- FINAL NOTE: If there is any formatting issue e.g. the timeseries or barcharts are overlapping in the widget, it can be usually solved by resizing the widget.







UPDATE: Webgui-v2 no longer contains the bug from above about every barchart containing a comparison before use. It will simply not show any data for comparisons not in use. Example:



In the above example, category “3” is not in the 2nd barchart and category “-5” is not in the first barchart. This means that there is no Appeal crime that has a goldstein value of -5 and there is not consult crime that has a goldstein value of 3. Thus, it won’t be shown in the corresponding timeseries. ALSO NOTE: Now when doing categorical comparison, the categories being compares will now have their labels turn into the comparison color rather than the actual bar.