On-Demand Training: Polygon Maps Transcript

Welcome to the Polygon Maps video. You can download the exercise workbook to follow along in your own copy of Tableau.

Filled Maps

Tableau's filled map feature creates polygon maps quickly and easily. We simply double click on the geographic field of interest, Country. This defaults to a symbol map. If we add a measure, like profit, to color, Tableau automatically makes it a filled map. However, if we switch and put a dimension, say Market, on color we have a symbol map again. We can force this to be a filled map by changing the mark type.

Custom Polygon Maps

What if the analysis we want to do requires non-standard geographic areas that Tableau doesn't automatically generate? To map those areas, we need coordinate data and information on how to connect the coordinates.

Required Data for Polygon Maps

Certain fields are required to create a polygon map. I like to think of it like a series of connect-the-dot drawings where each polygon area is a separate drawing. The data set has to contain specific information for Tableau to know what lines to draw and where.

- Latitude and Longitude are the coordinates of each point in the polygon, or each dot in the connect-the-dot
- The point order field tells Tableau which dots to connect and in what order, like the numbers on a connect-the-dot
- The polygon ID field will identify each individual enclosed area, letting Tableau know which points make up each drawing. Essentially, when to lift the pencil.
    - This can be as simple as the name of each area – the key point is that each polygon needs a unique identifier
    - Depending on the complexity of the polygons, it might be helpful to have sub polygon IDs as well,
        - Multiple enclosed areas can roll up to a larger area, such as country. For example, Greece has many islands, but on a world map we'd want to know all those islands roll up, together with the mainland, into a single country.

http://tableaumapping.bi/ is a great resource for polygon data, the data set used in this video is from their UK repository.

Building a Polygon Map

Now that we know what the data needs to looks like we can start building that map. Here we're connected to polygon data for the National Parks of the UK.

- If the ID fields are showing up as measures, simply drag them into the Dimensions area of the data pane
    - This is a key point – this forces Tableau to treat each these numbers as a discrete, instead of values to be aggregated (as a Measure would be)
- Next, change the mark type to be a polygon.

- Bring Point ID to the Path shelf, this connects the dots in the dot-to-dot we're drawing
- Place the Polygon ID field on the level of detail shelf to break up each set of points into individual polygons.
- We'll do the same thing with Sub Polygon ID – not all data sets will have this field
- Next, we'll plot the latitude and longitude coordinates by double clicking on them
- Finally, drag the field that represents the polygons to the color field
    - In this case, that's the Park Name

And there we see the UK National Parks

Analysis with Custom Polygon Maps

Let's take the concept of custom shaded boundaries a step further by combining polygon data with other types of data to do analysis on a polygon map.

Here we have two tables. The Polygon table contains similar data to the last data source – the connect-the-dot information for drawing our boundaries. The Orders table contains sales data about each of these areas.

- First step – double click the latitude and longitude coordinates from the data source – note, not the generated fields in italics.
- We also want to drag Point Order and Polygon Number to the Dimensions pane.
- We'll change the mark type to be a polygon.
- Put point order on the path shelf – this tells Tableau which order to connect the dots in
- Bring polygon number to level of detail – this separates which coordinates belong to which area.
- Place State on Color – this groups the polygons into their states.
- Now that we have our map, let's see how each state is doing for sales
    - Change State to Detail so we don't lose that information
    - And Drag Sales to color.

That's all there is to it.

Conclusion

Thank you for watching the Polygon Maps training video. We invite you to continue with the On Demand Training videos to learn more about using Tableau