ORCAVIZ

User Guide

Overview

What can OrcaViz-Pro Custom Visual do?

OrcaViz-Pro Capability

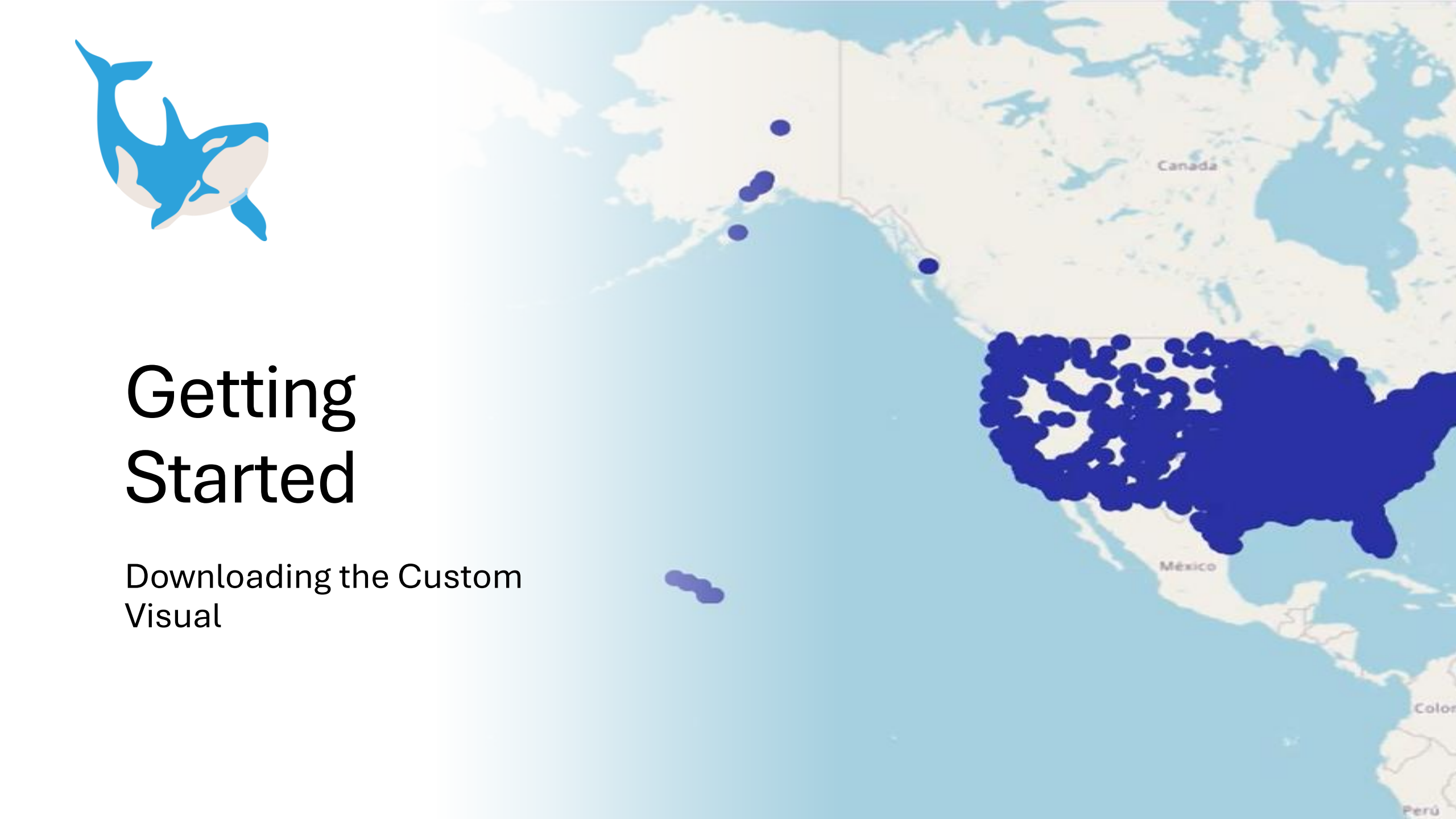
OrcaViz-Pro brings location intelligence into your Power BI reports and dashboards. It enables you to:

- Visualise the data points on a map
- On a choice of base maps
- Use clickable pins to explore the data underneath the points
- Scale the datapoints in relation to a numeric value
- Create and overlay heatmaps and choropleth maps from your data
- Overlay geographic borders (states, territories, countries etc)
- Turn layers on/off and change their order
- Extract data within a geographic border or a hand drawn shape to create a new dataset
- Count or sum data within geographic boundaries or hand drawn shapes
- Add latitude and longitude coordinates to your data
- Overlay a second dataset on the same map loaded from your desktop. (NB: Additional datasets loaded onto the map cannot be stored with the map in the pbix file because Power BI only allows one dataset per map).

It supports standard Power BI cross-select and drill-through functionality in both directions (to the map and from the map).

Pre-Requisites and Limitations

- You will require latitude and longitude coordinates to visualise your data. However, if you do not have them, OrcaViz-Pro provides functionality to add them to your data.
    - OrcaViz provides two geocoders, one is internal to OrcaViz and free of charge but limited in scope.
    - The other is provided by Microsoft Bing Maps. You will require a Bing Maps API key to use this functionality, however this document provides guidance on how to obtain one.
- OrcaViz-Pro is limited to the display of 10,000 data points. If you require more than this, please contact us.



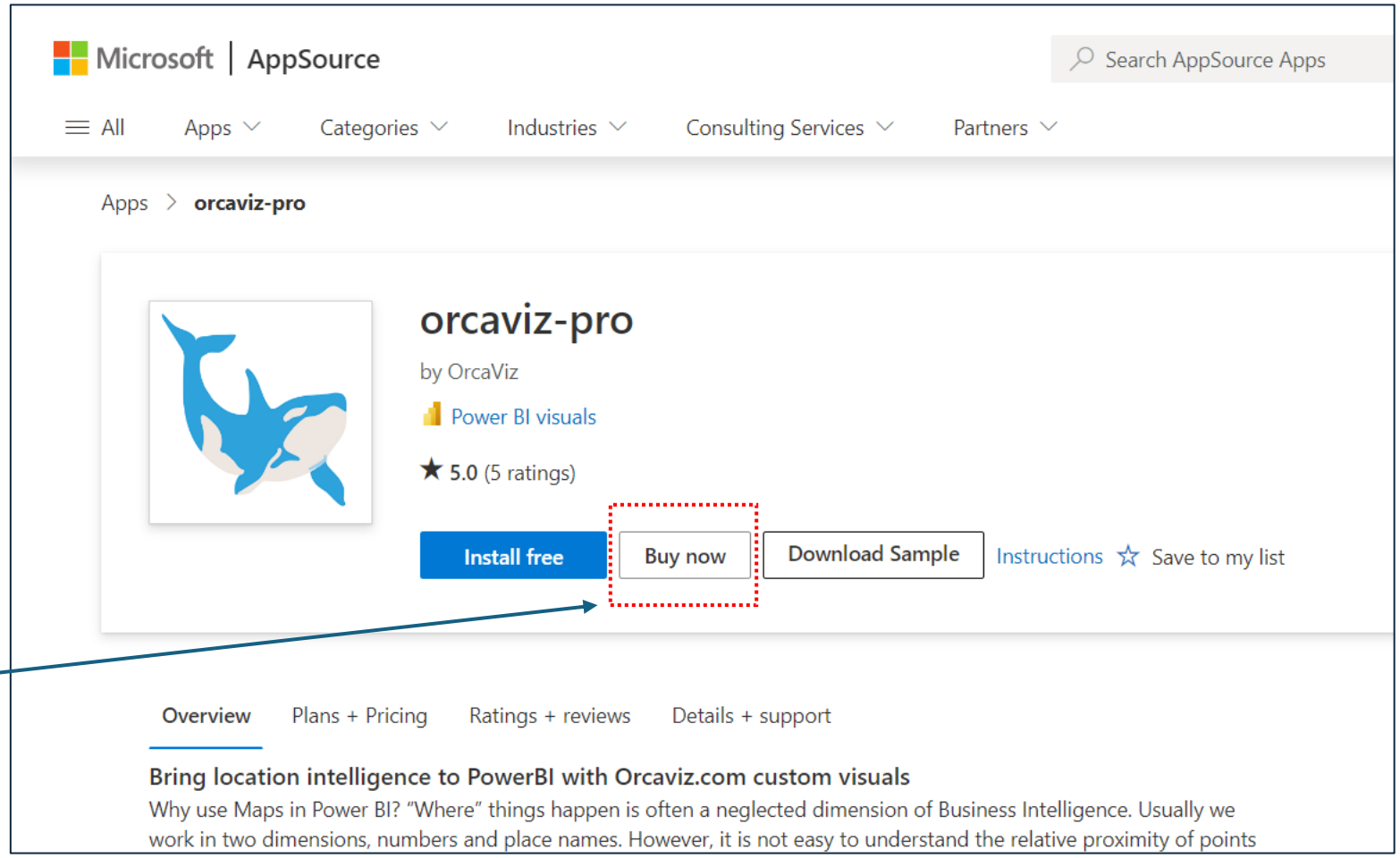
Getting Started

Downloading the Custom Visual

Downloading the Custom Visual

OrcaViz-Pro is available on a one-month free trial from the Microsoft Store.

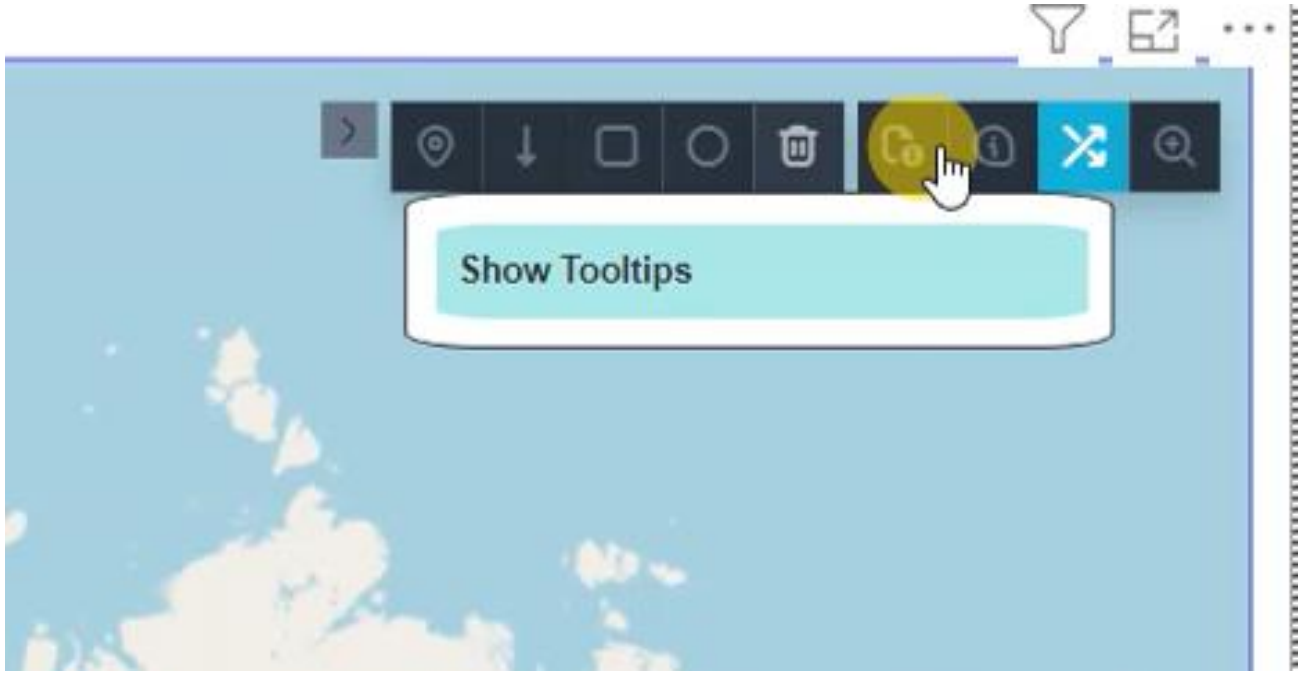
You will need to download it using the “buy now” button because the Microsoft Store manages the trial period and subscriptions.



Help:

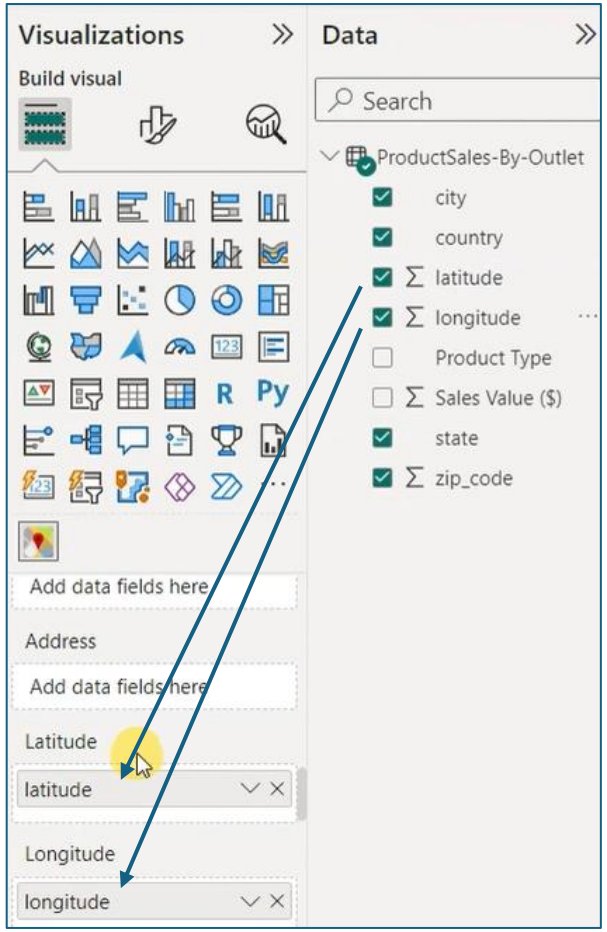
Each menu item has a tool tip, but more detailed tooltips can be switched on using the “Show tool tips” icon above the map.

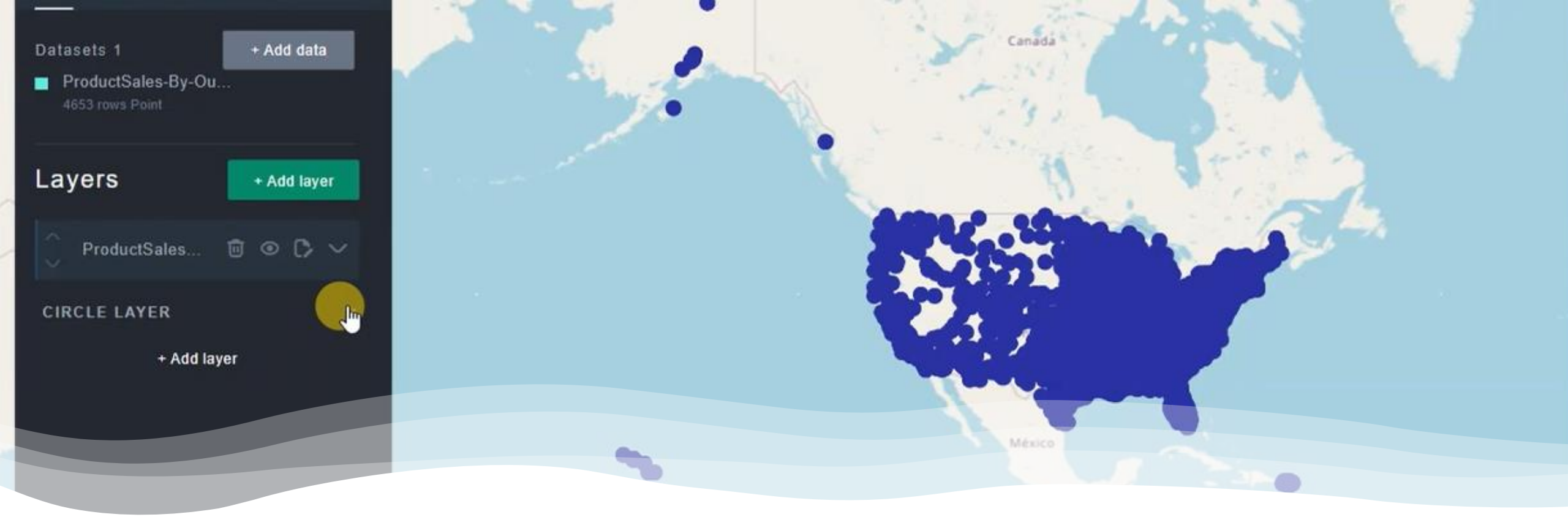
There are also videos of the most common functionality on https://orcaviz.com/support



Putting the data on the Map

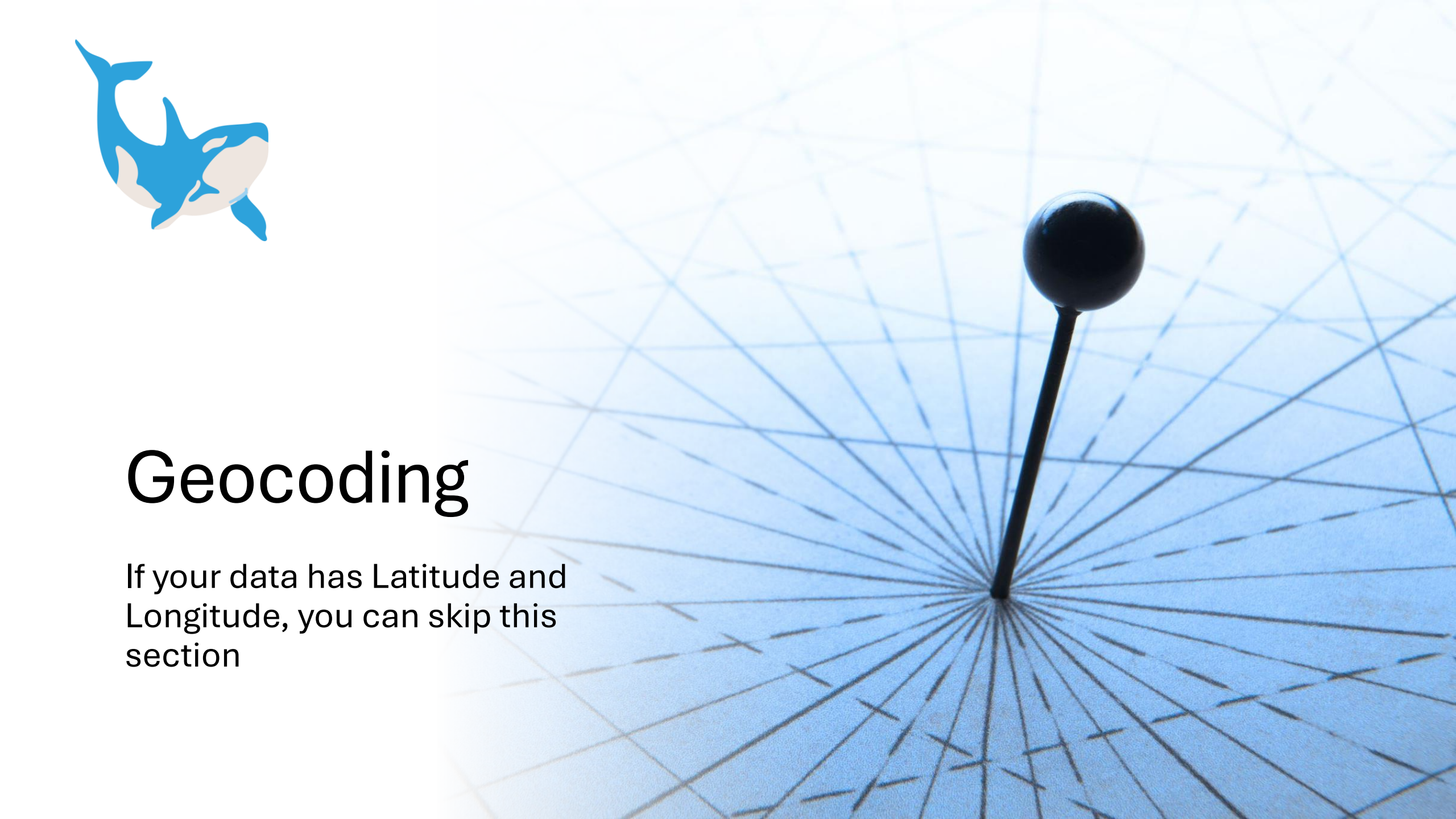
- Use the “Data” tab in Power BI to map the columns in your data to the fields supported by OrcaViz as shown in the “build visual” tab.
- Your data must have latitude and longitude coordinates (in decimal format), and these must be mapped to the Latitude and Longitude fields in the build visual tab.





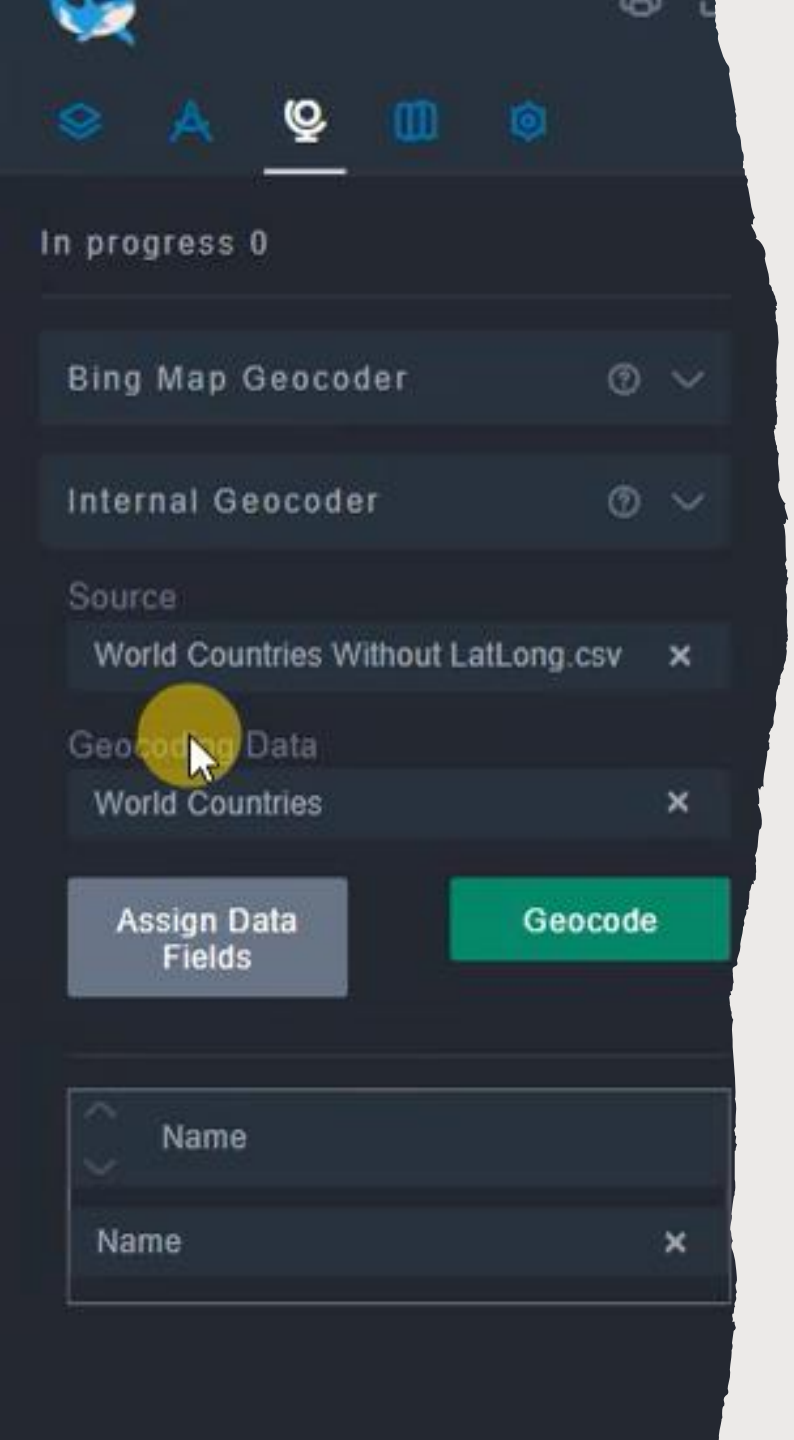
Putting the data on the Map

- Assuming you have completed the above, your data should show on the map as a circle visualization



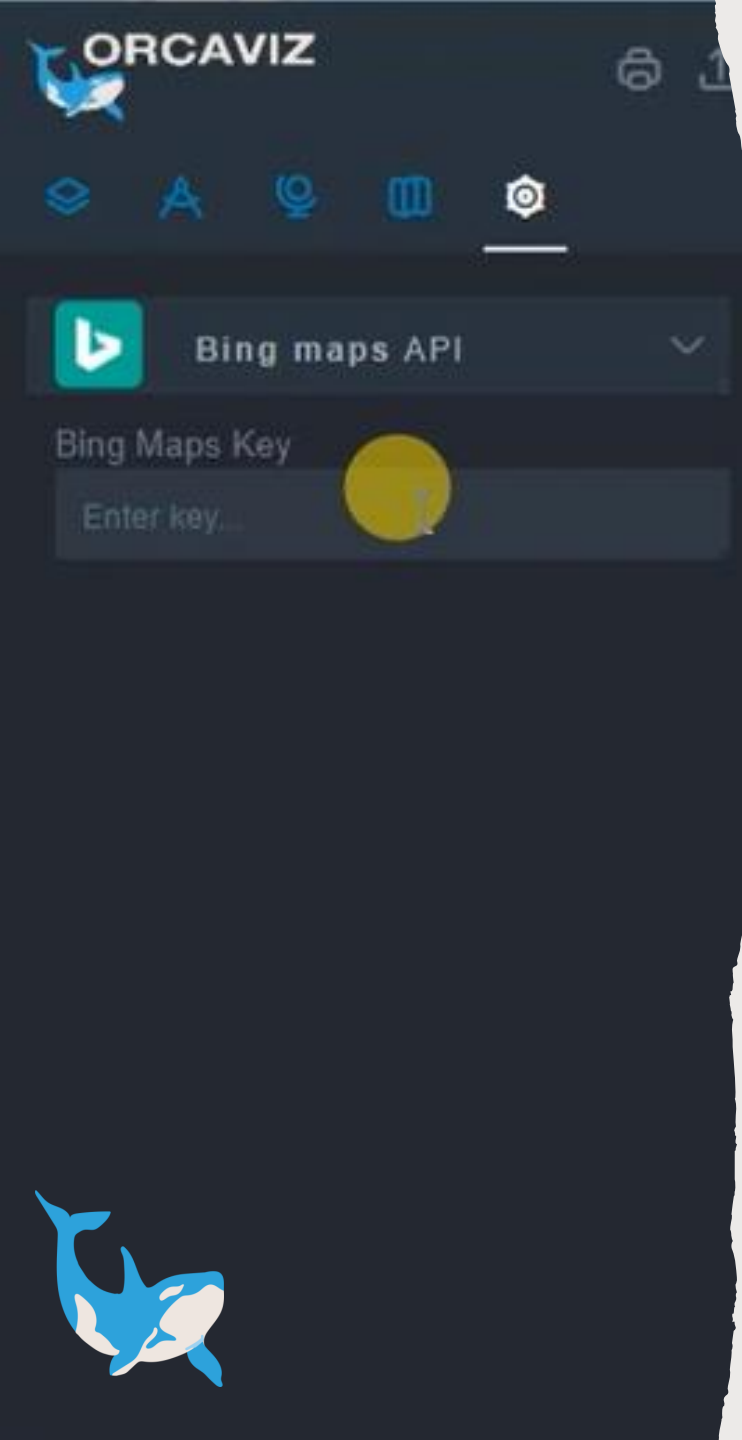
Geocoding

If your data has Latitude and Longitude, you can skip this section



Geocoding your Data (if you do not have latitude and Longitude columns in your data)

- If you do not have latitude and longitude coordinates (in decimal format), you will need to add them using the Geocoder function in OrcaViz
- OrcaViz provides two geocoders:
  - The Bing Maps Geocoder – one of the world's best geocoders but you will need an API key from Microsoft to use it. This will send your address data to Bing Maps, in order to add Latitude and Longitude
  - An internal geocoder – will provide great results but for a limited range of data. This will send your data to our Power BI server to add Latitude and Longitude, however, we do not store your data and do not track your usage.



Geocoding your Data using the Bing Maps Geocoder

Geocoding Instructions

To use the Geocoding function, you will need an API key from Microsoft Bing. The two links below will tell you how to obtain a key.

https://learn.microsoft.com/en-us/bingmaps/getting-started/bing-maps-dev-center-help/getting-a-bing-maps-key
https://www.microsoft.com/en-us/maps/bing-maps/create-a-bing-maps-key

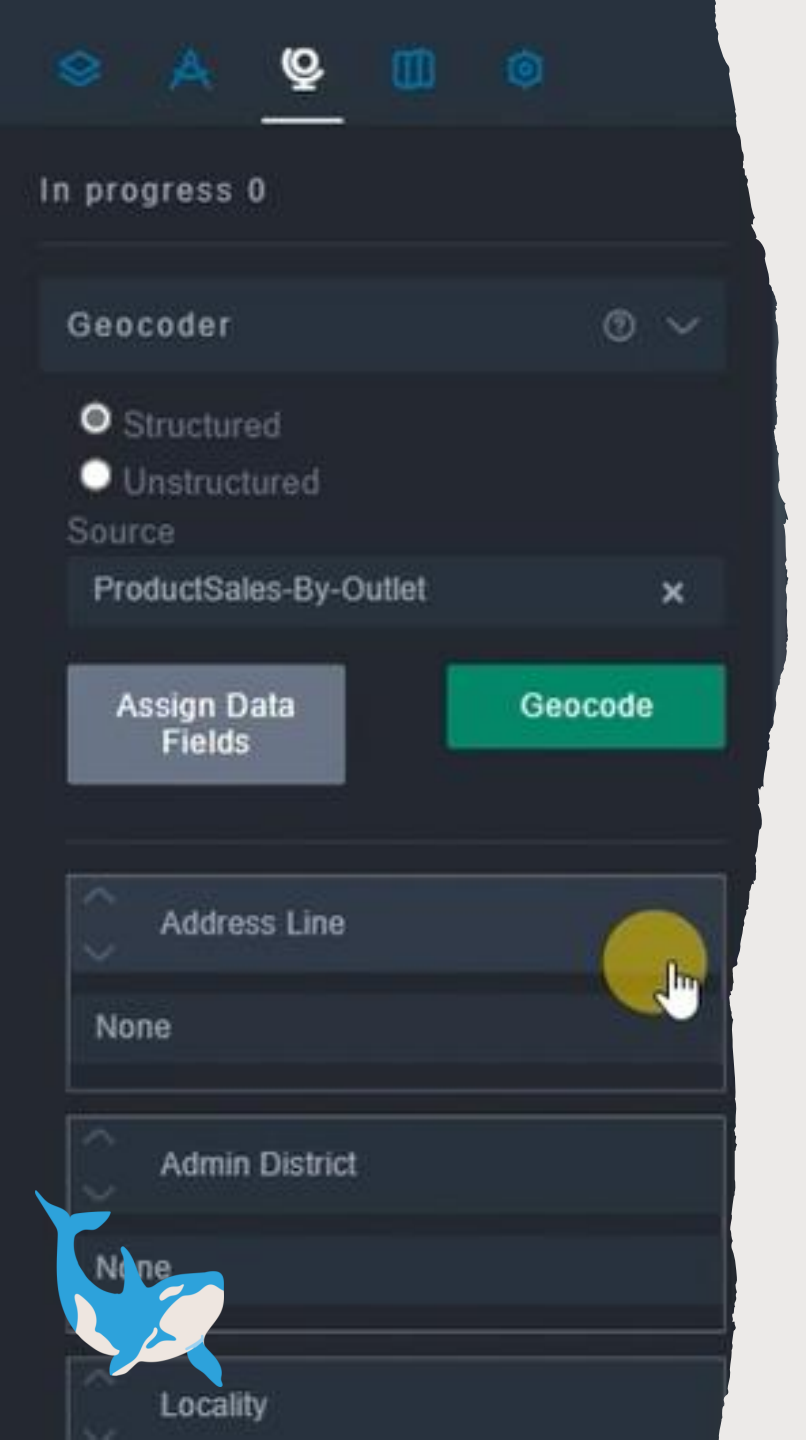
Important - Please be aware:

A) Geocoding will require you to select columns in your data containing the addresses and send this data to Bing Maps external geocoding service. If this data is sensitive, you may prefer not to use the geocoder.
B) The results from any geocoding service are only as good as the data you provide for geocoding, so it is important that you have good and accurate data.
C) Any geocoding service is unlikely to provide results that are accurate in every case. If the results are important, it is essential you check the results are accurate.

Once you have a Bing Maps Geocoding API key, please follow the following steps:

1) Go to "App Settings" tab of the outer-most tab pane of the left panel.
2) Open the "Bing maps API" accordion tab.
3) Paste your Bing maps geocoding API key, in the textbox provided.

You will need to press the “control” and “v” keys simultaneously to paste the data because Power BI does not support paste.



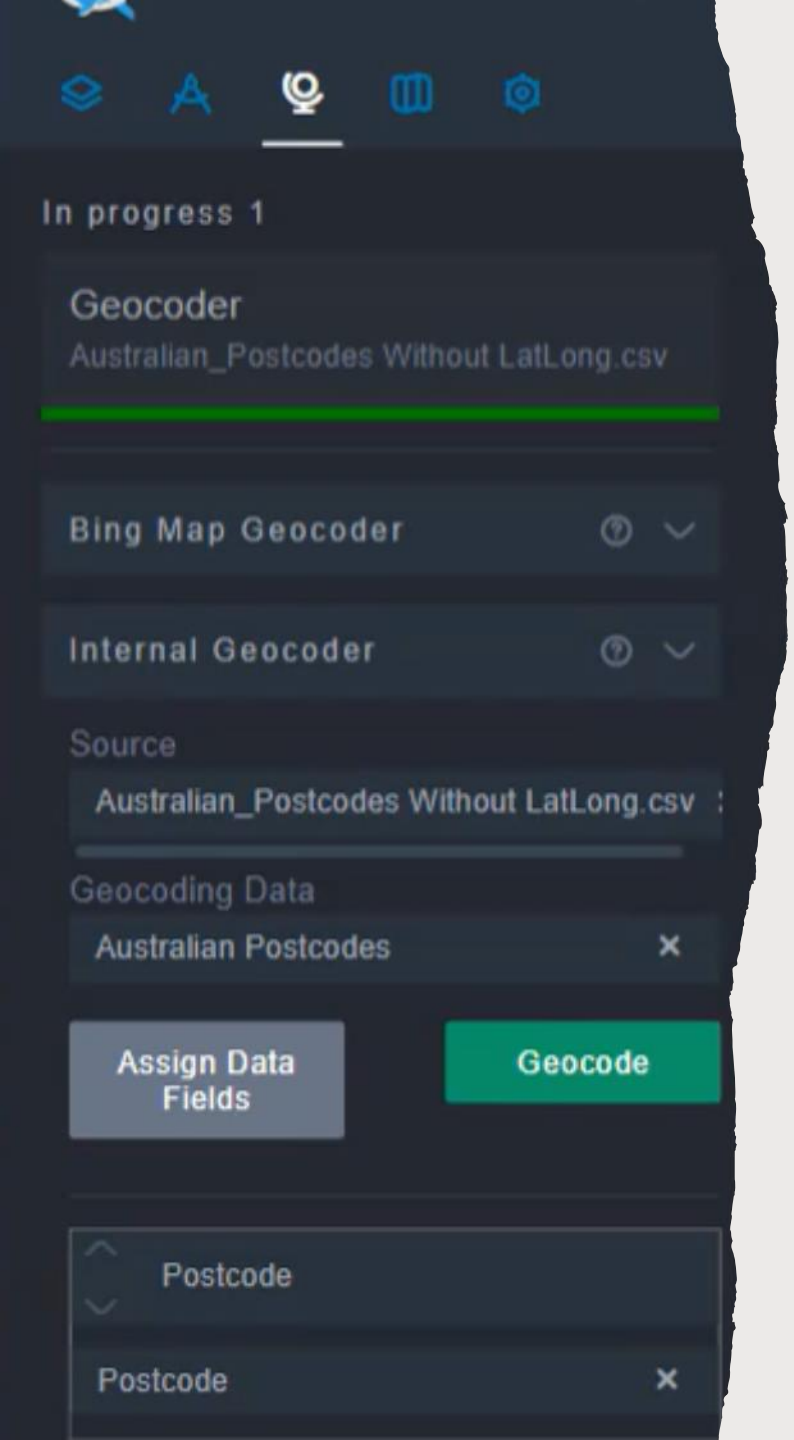
Geocoding Instructions

You are now ready to start geocoding.

4) Go to "Geocoder" tab of the outer-most tab pane of the left panel.
5) Open the "Bing Maps Geocoder" accordion tab.
6) Select either Structured option or Unstructured option. The structured option will provide additional verification of the results.
7) Select your data source (i.e. the dataset which doesn`t have columns Latitude and Longitude).
8) If you selected the Unstructured option, add required columns as the parameter values, for sending to Bing`s geocoding service.
9) If you selected the Structured option, add required parameter names and map columns for each parameter, for sending to Bing`s geocoding service.
10) Click "Geocoder" button. This will perform the geocoding and will show the geocoded dataset with additional columns in an editable table view.

11) Once the geocoding is complete, your data will be shown in a table, along with the data sent back by the geocoding service.This includes the Latitude/Longitude coordinates and the details of the address Bing has found in its database.This will allow you to check the validity of the results.

12) Any rows that appear incorrect will be highlighted and the page numbers for those rows will be shown underneath the datas, next to the word "verify".
13) For each row requiring attention, you will be able to review your input data and the result.
14) If you can see the error, you can double click on the cell value and edit it.
15) Once you have completed all your edits, please click the "Geocode, Save and Apply to Map" button again. This will just geocode the rows that you have edited.
16) If you do not need the edited data to be geocoded again but just wish to save your edits, please click the "Apply Edit to Map" button.
17) In addition to editing the data in this large table, you can also edit the data from the information balloon for an individual pin.



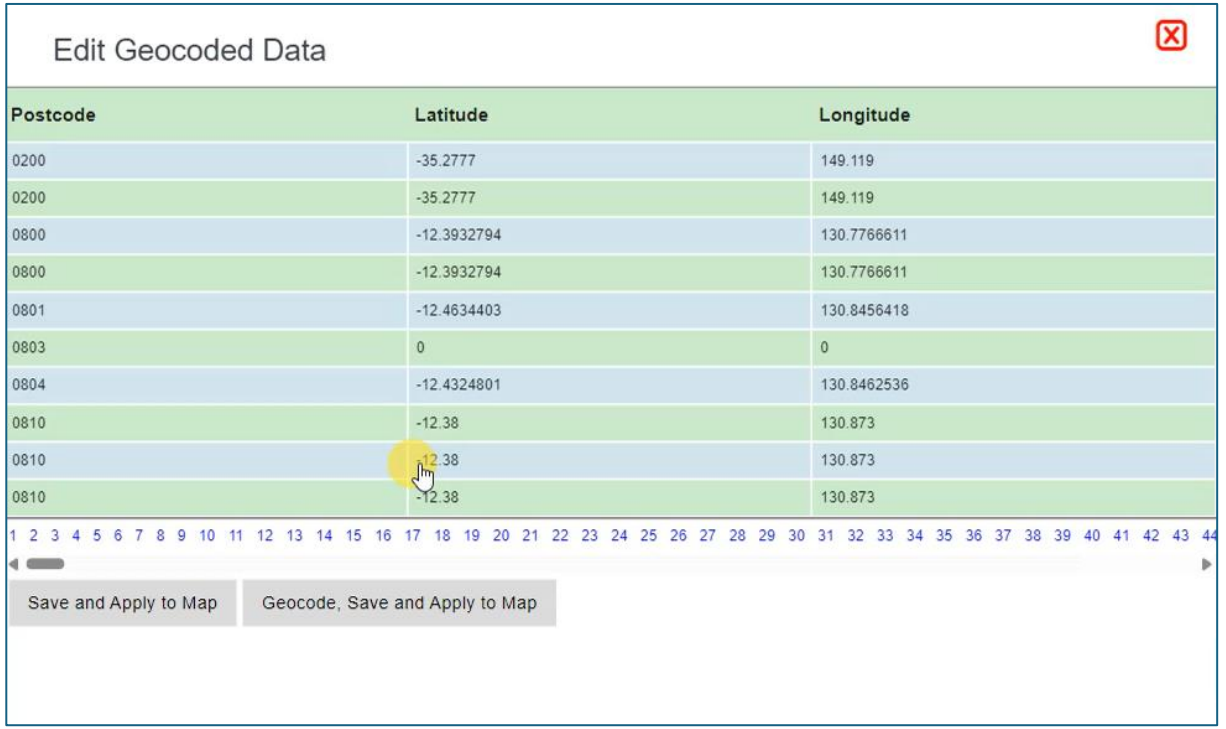
Geocoding your Data using the Internal Geocoder

- Select the Internal Geocoder
- Select the dataset you wish to geocode
- Select the dataset from our server that contains similar data to your location data (i.e., Countries, cities, zip codes)
- Map the columns in your data to the ones required by the geocoder
- Press the Geocode button
- The Progress bar will indicate progress through the geocoding process

Reviewing the Geocoded Results

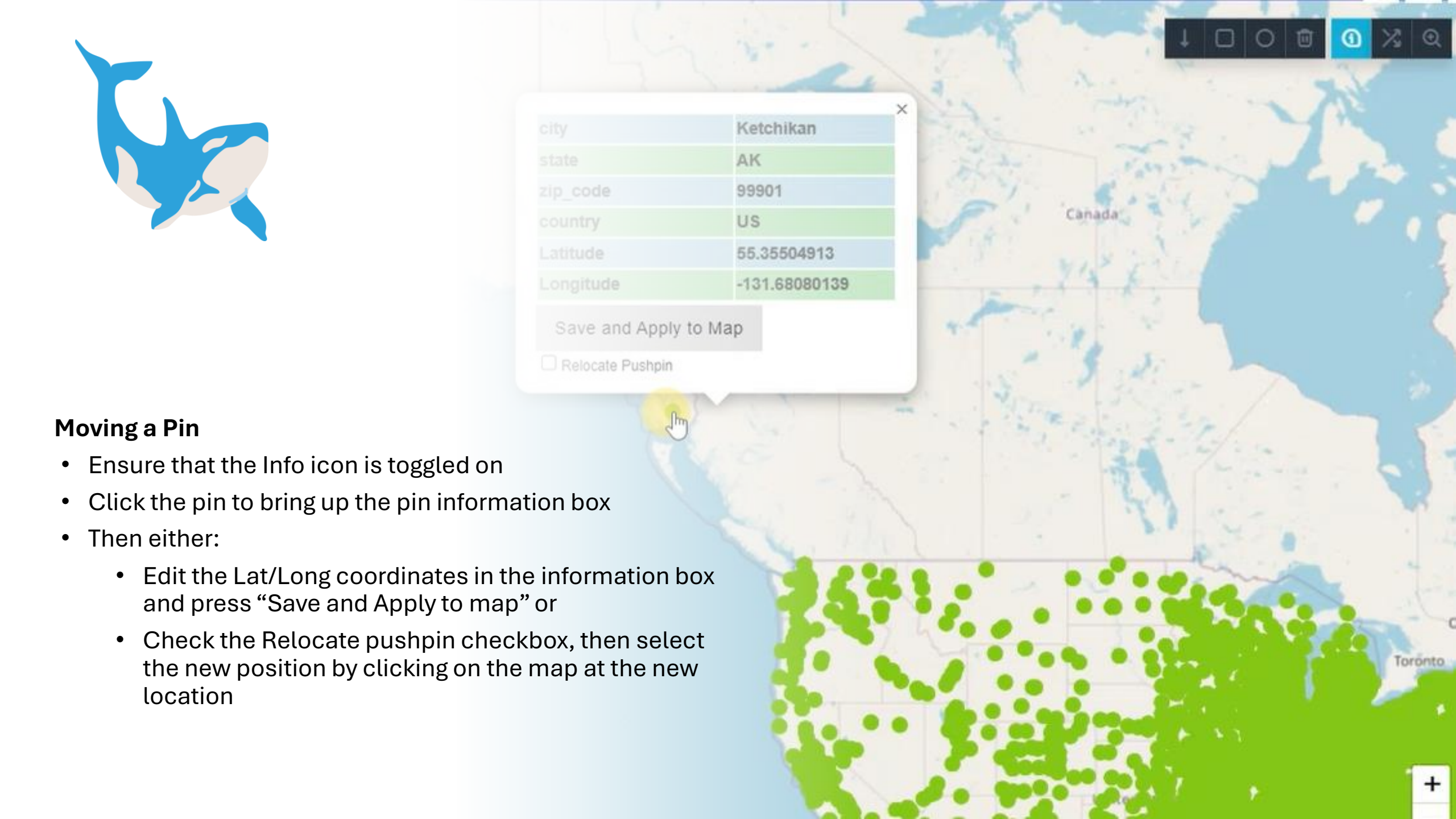
- On completion of the geocoding, your data will be shown with the added latitude and longitude data, in a table comprising multiple pages
- Links are provided to any pages containing entries that are likely to be incorrect or were unknown
- You can ignore the bad rows or review and edit them and re-process the edited rows.
- When complete, select Save and apply to map.

If you decide a pin is in an incorrect location, you can also move it on the map (see the next section).



Moving a Pin

If a pin is not in the correct location, you can move it.

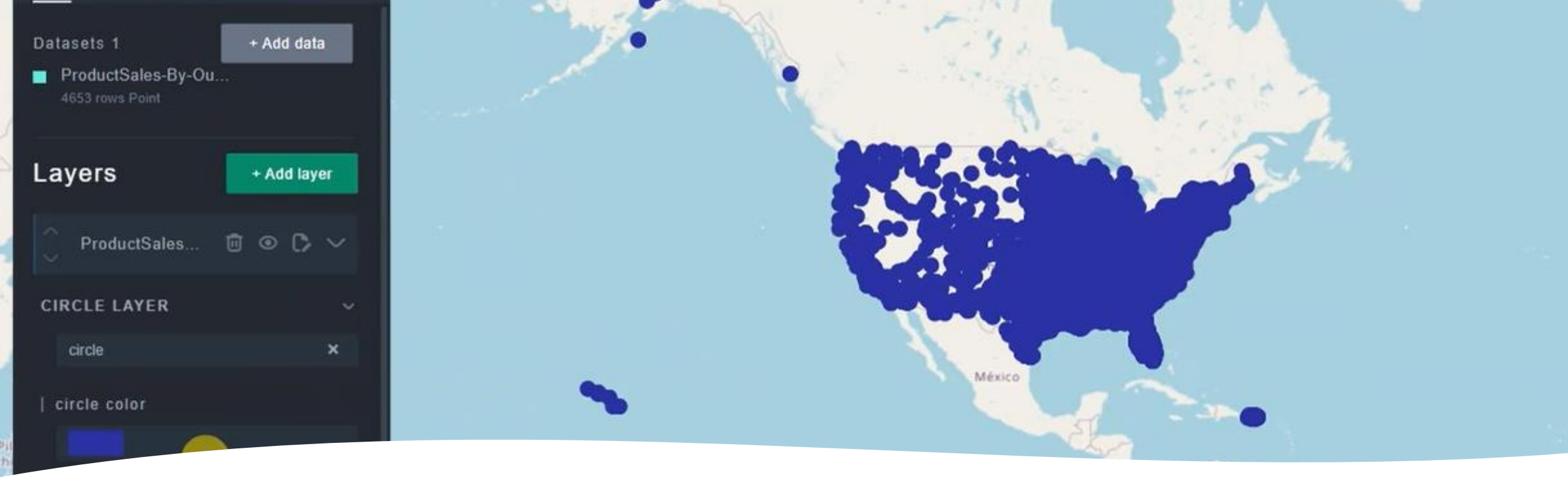


Moving a Pin

- Ensure that the Info icon is toggled on
- Click the pin to bring up the pin information box
- Then either:
  - Edit the Lat/Long coordinates in the information box and press “Save and Apply to map” or
  - Check the Relocate pushpin checkbox, then select the new position by clicking on the map at the new location

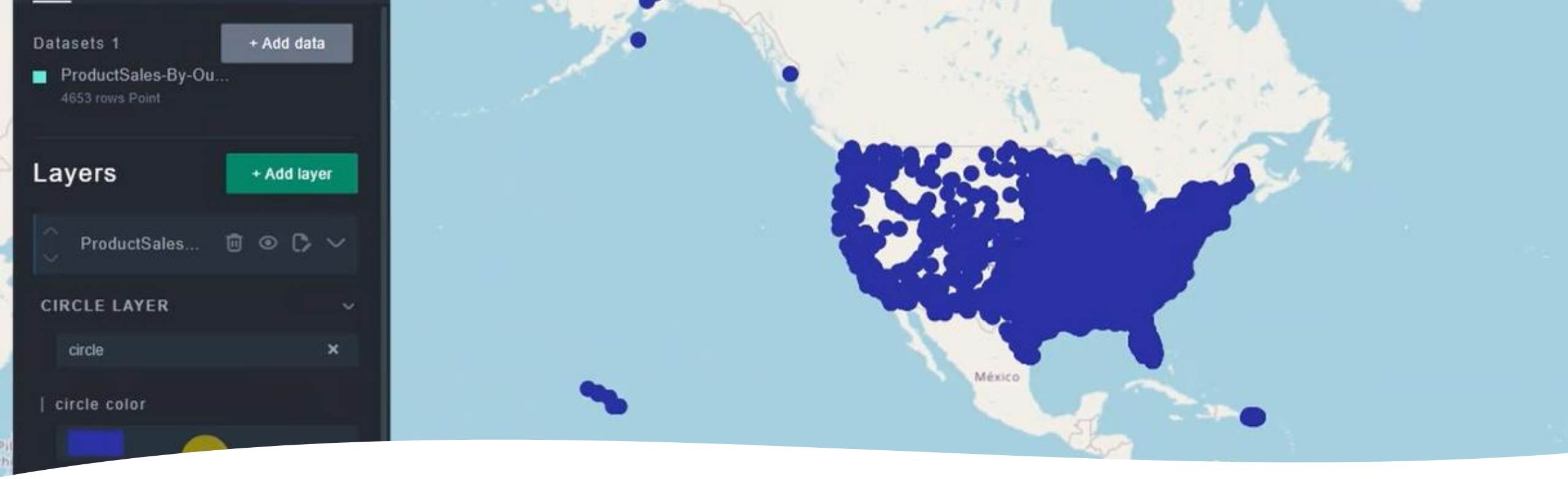
Visualising Your Data

How to change the way your data is displayed



Changing the Visualisation

- A Dataset can have multiple visualisations (e.g., as circles, pins or a heatmap)
- Each visualization has a “layer”
- The layer menu allows you to control the choice of icon, colour and sizing of the circle icons
- Circle icons can be coloured or sized based on a value in your data
- There are multiple colour palettes to choose from



Adding a Heatmap

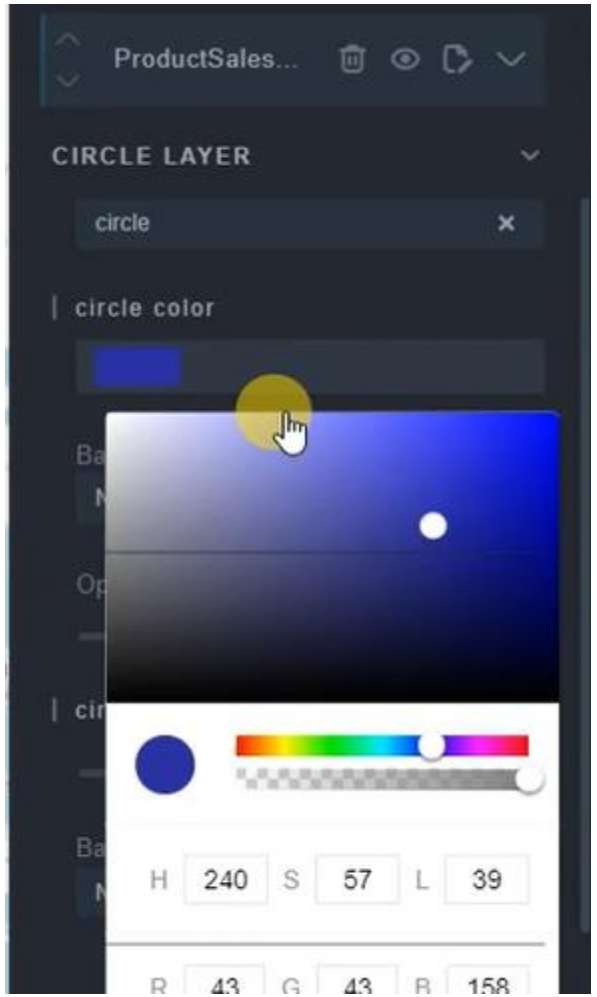
- Select Add Layer and select heatmap
- In the layer controls
  - choose the colour palette you wish to use
  - If you wish the heatmap to be driven by the number of pins only, do not choose a numeric value
  - If you wish the heatmap to be driven by a numeric value, select the field containing the value

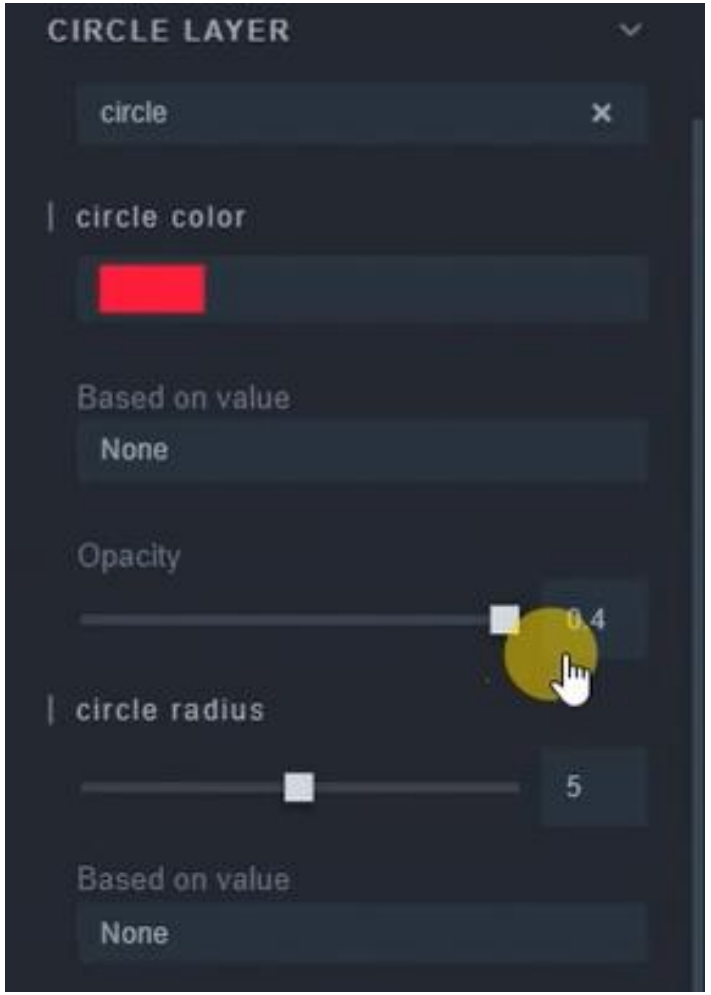
Changing the size and colour of a Circle Layer

- Select the layer
- Select the circle colour field and choose from the palette
- Choose the radius and opacity to suit your needs

You can also select:

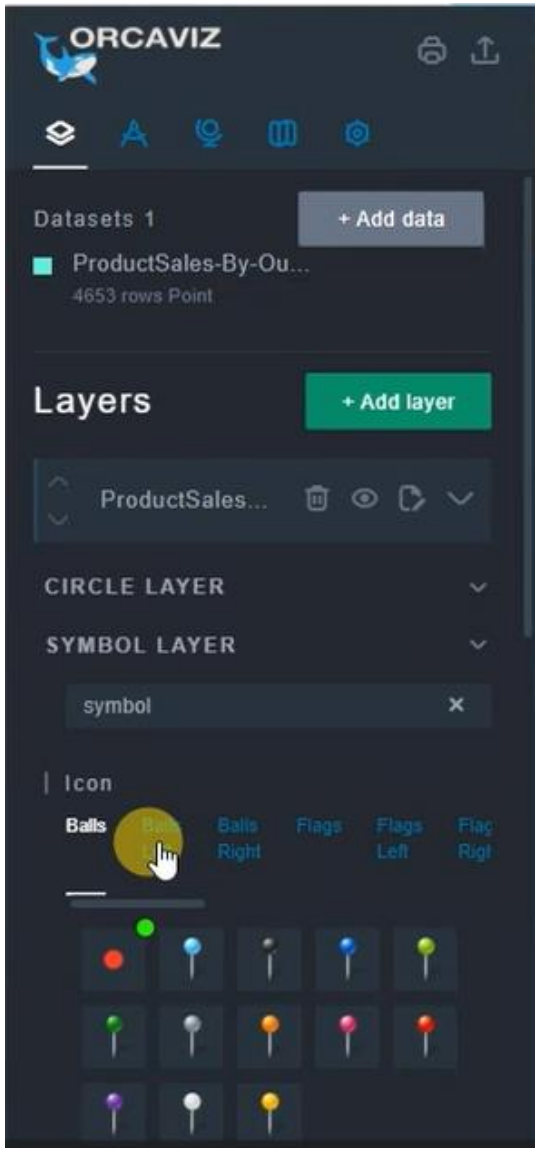
- Colour based on value
- Size based on value





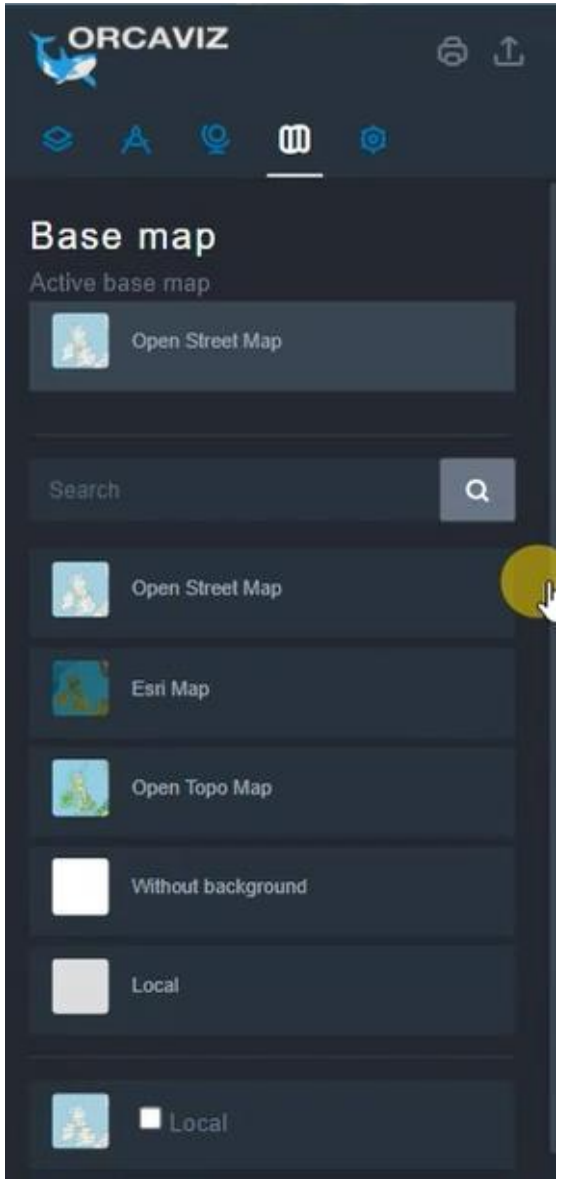
Adding a Pin Layer

- In the Layer menu, under the dataset you wish to use, add a New Layer and choose the symbol type
- Select the pin icon from the icon gallery



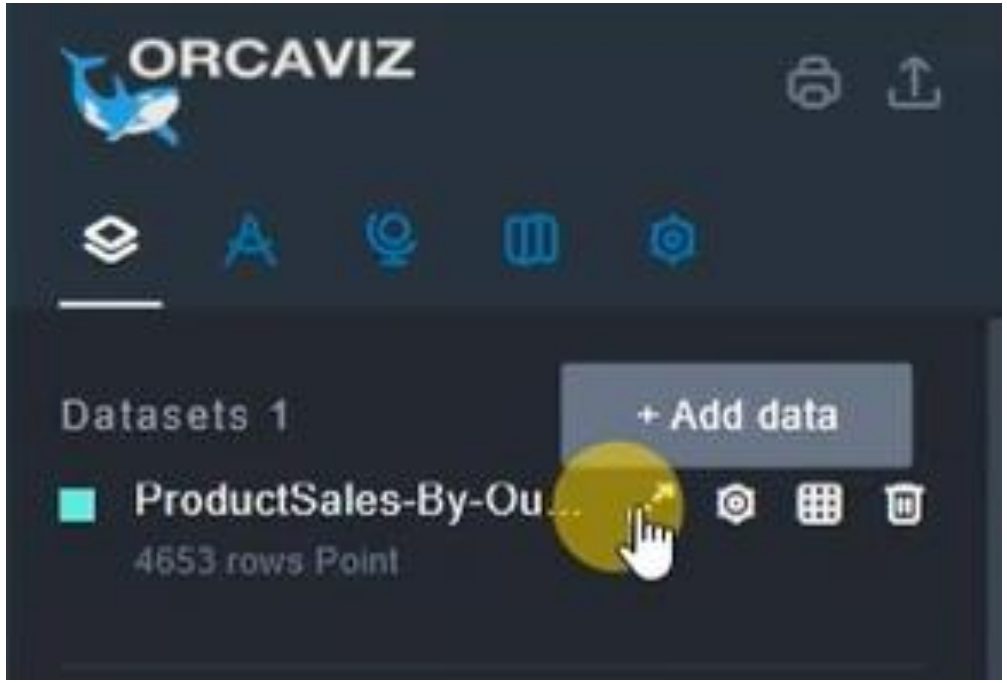
Choosing a different Base Map

- OrcaViz uses Open Street Maps as the default base map
- Select the Base Map icon
- Click the search icon and a list of base maps is shown
- Click to choose your selected base map



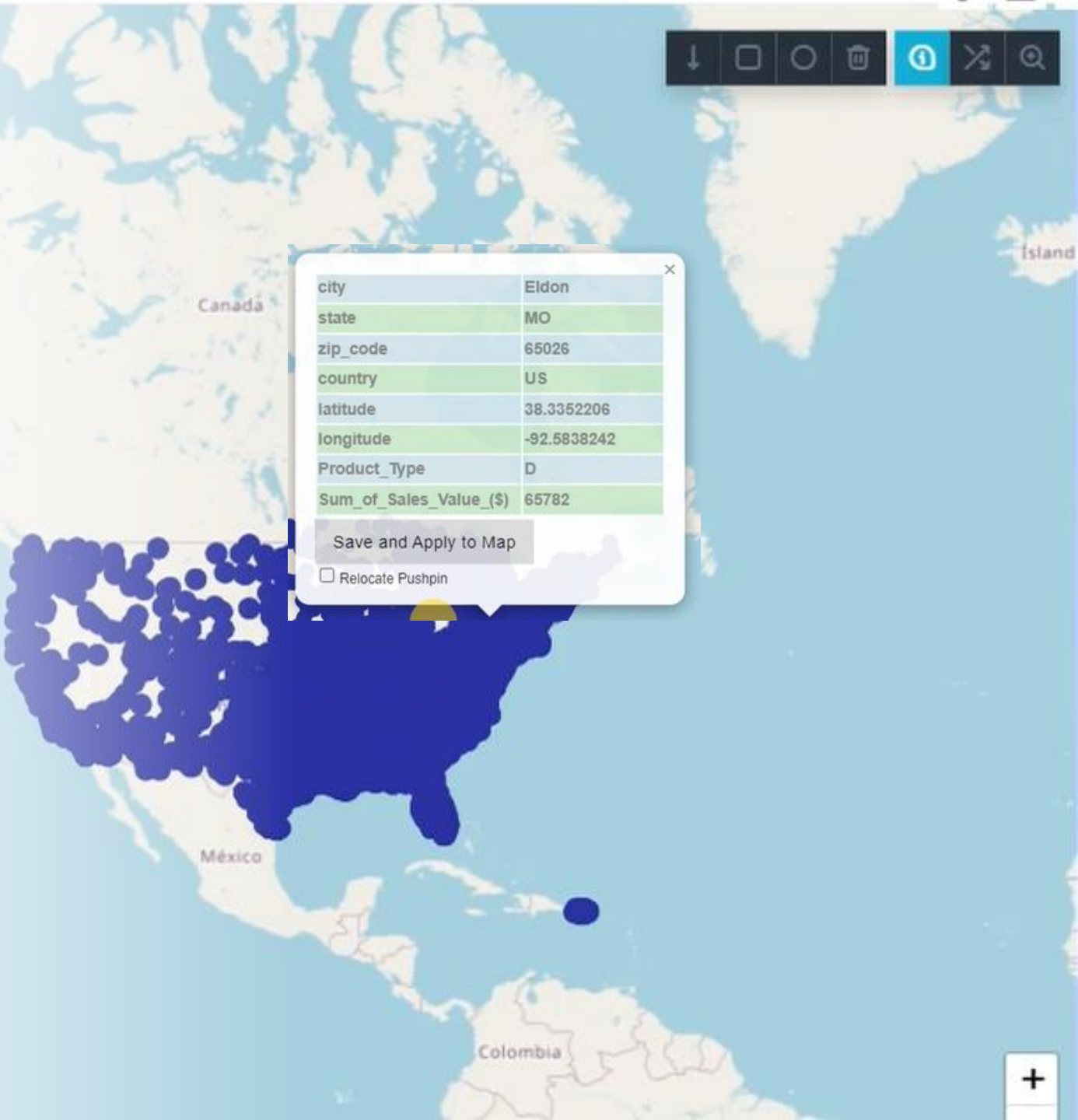
Setting the map view to reflect the full extent of your data

- Select the “extent” icon adjacent to the dataset of your choice
- This will zoom the map to ensure all your data is visible



Viewing information about a pin

- Select the “information” icon above the map
- Click the marker on the map to show the information about the pin



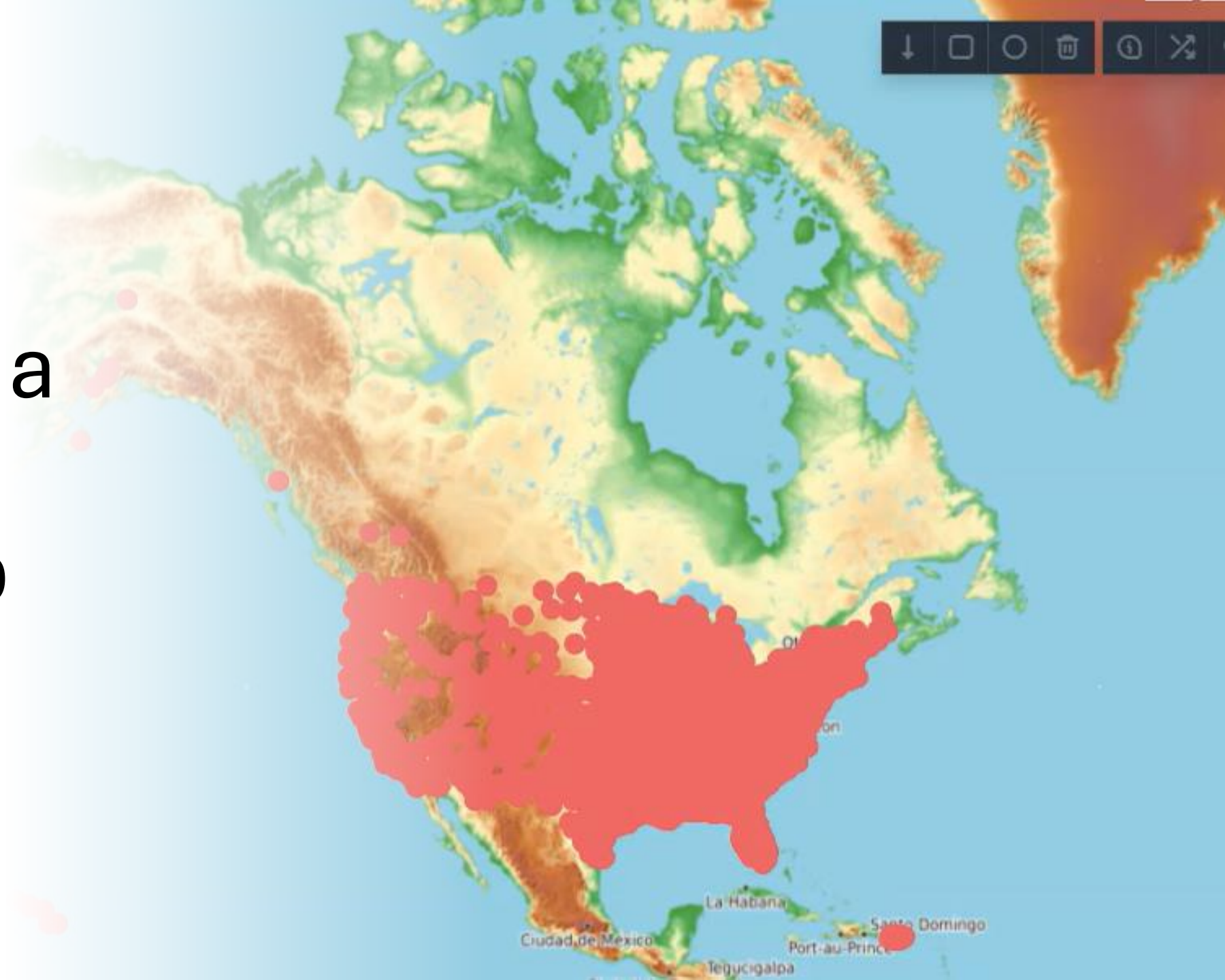
Configuring Information to be shown about a pin

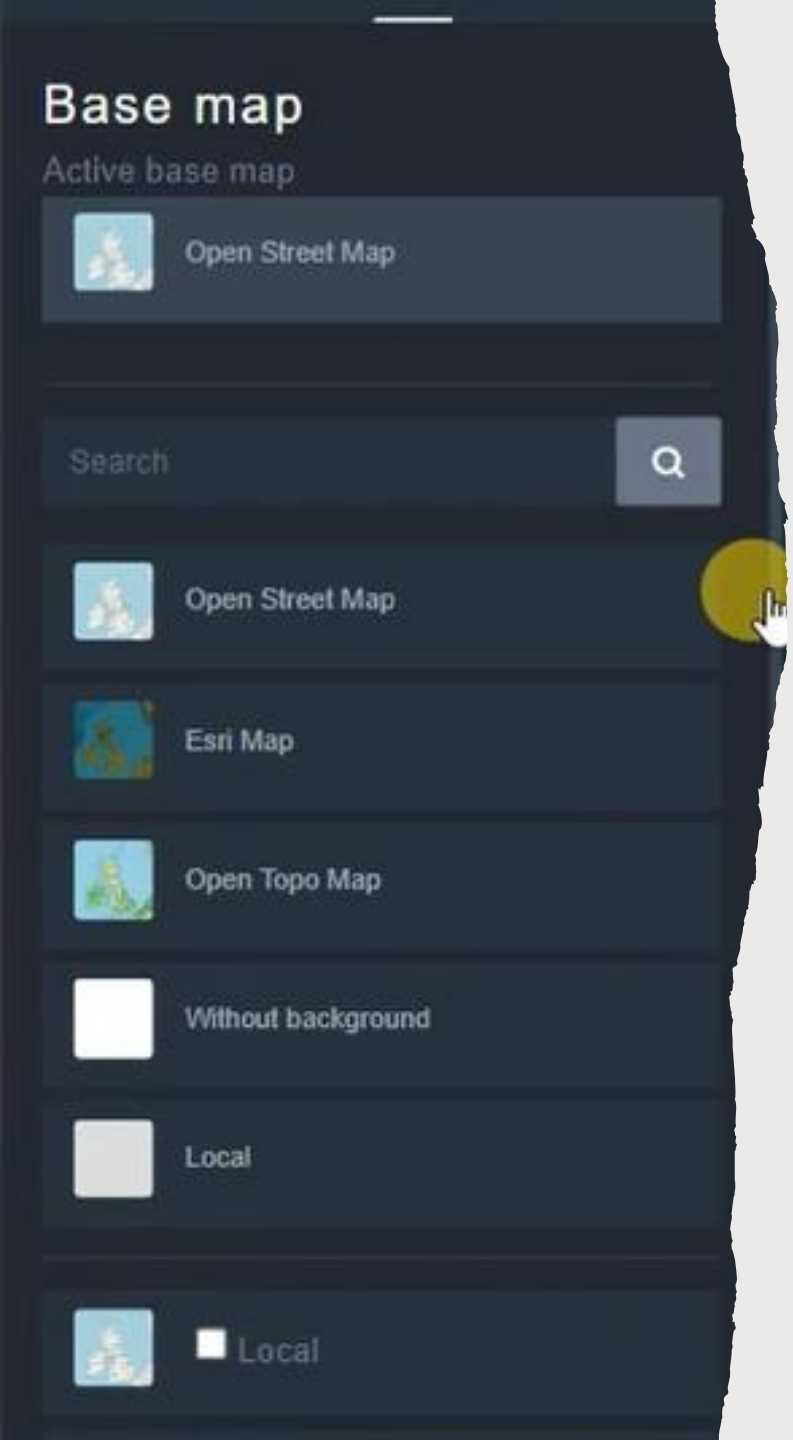
- Select the Settings icon for your dataset under the Add Data button
- Click inside the dataset field and select all the fields from your data that you wish to be visible when you click a pin.

Clustered Data View

- Select the Gear icon adjacent to the chosen dataset
- Turn Clustering On
- Adjust the Clusters radius to suit your visualization

Choosing a Different Base Map





Choosing a different Base Map

OrcaViz provides Open Street Map as the default Base Layer, however there are other layers available.

- Select the Map Layer Icon
- Select the Search Icon and see the list of map layers available
- Alternatively enter the name of the layer and select search.
- Select your chosen map layer with your mouse

Adding Boundary Layers

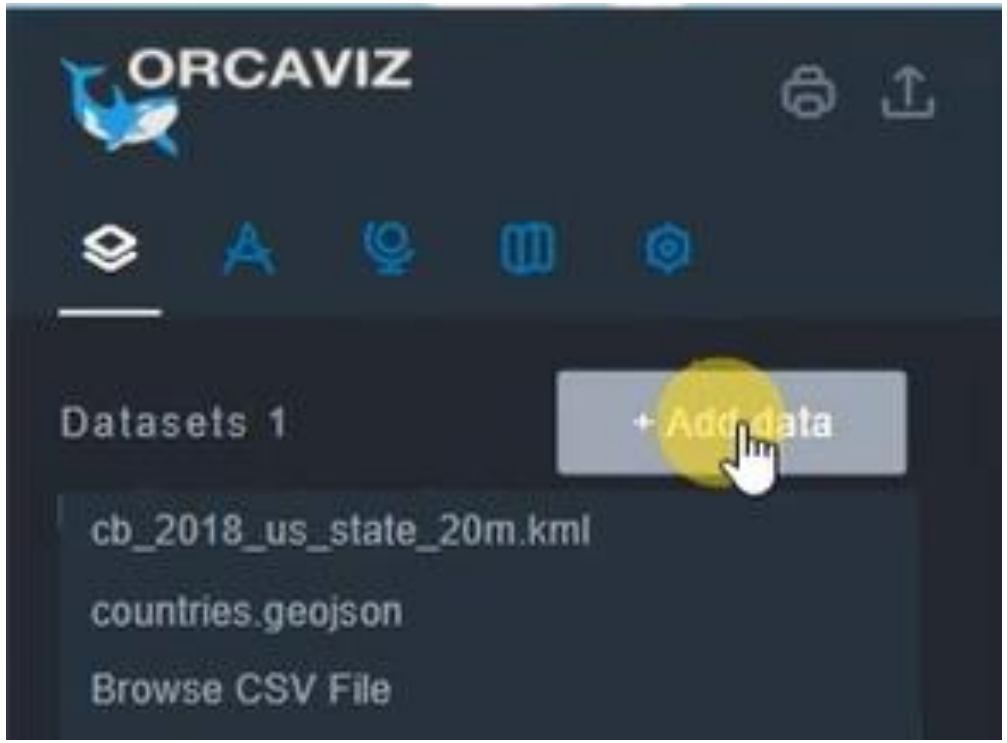
Add Boundary Layer

Select Add Data and choose a boundary set from the list on our server. Orcaviz Pro includes two boundary sets:

- US State boundaries
- Country Boundaries

Once loaded, the layer controls enable you to change the colour of boundaries based on a choice of criteria.

If you have any specific requirements, please email us at support@orcaviz.com and we will try and provide it.

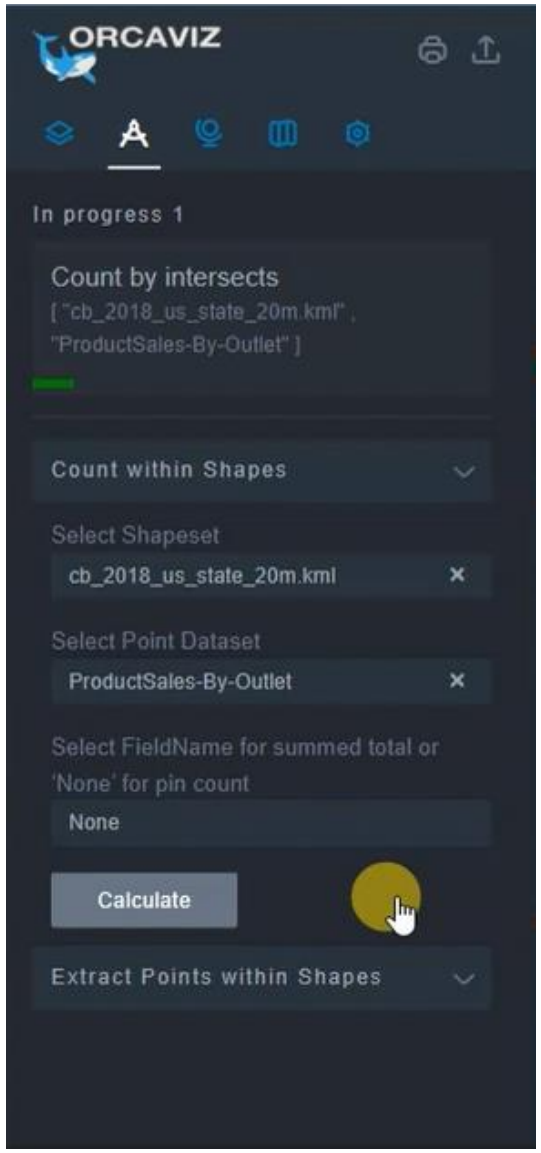


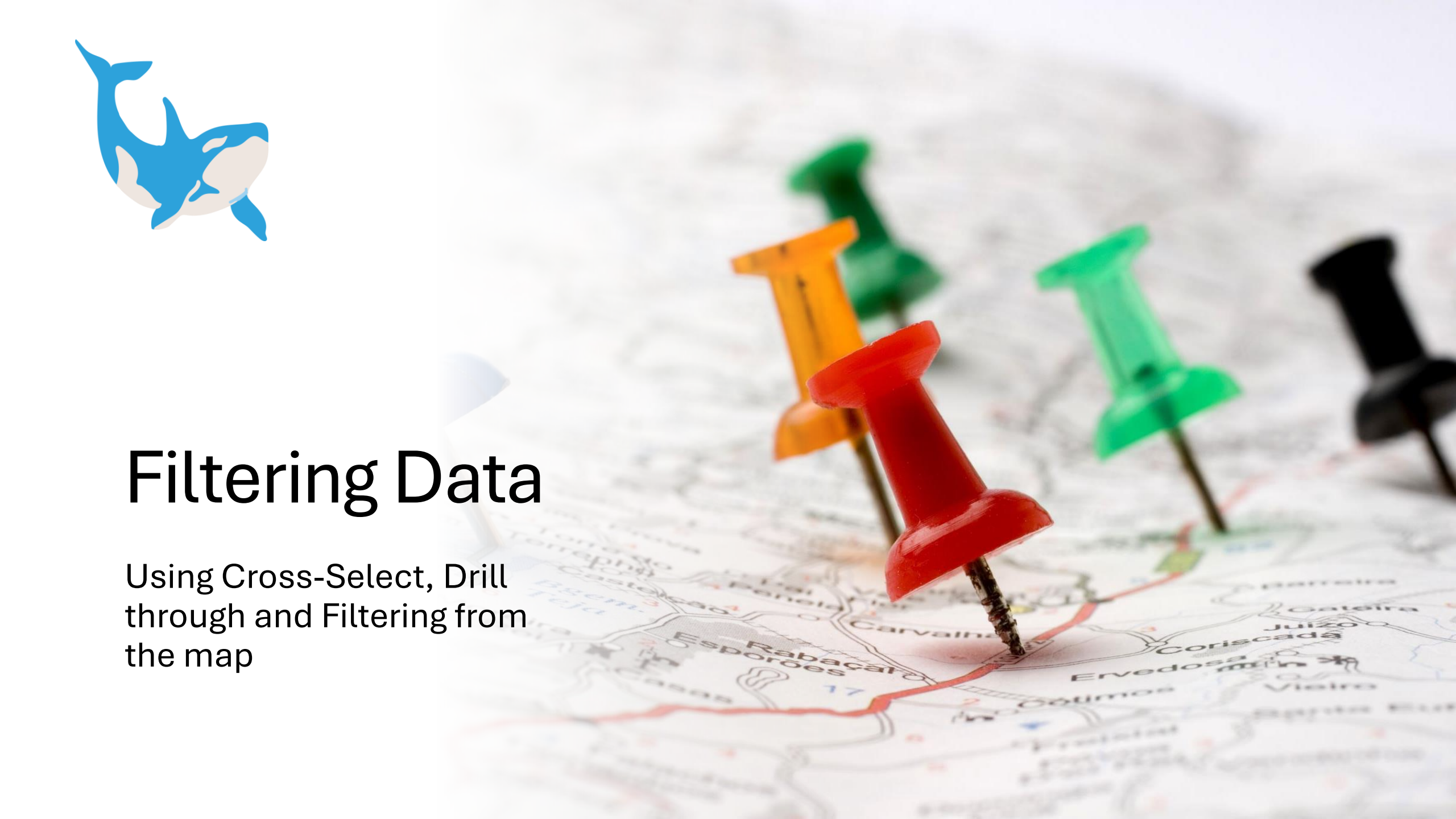
Creating a Choropleth Map

Choropleth maps allow you to colour shapes based upon the number of pins in the shape or the sum of a numeric value held against the points inside the shape.

Choropleth Maps

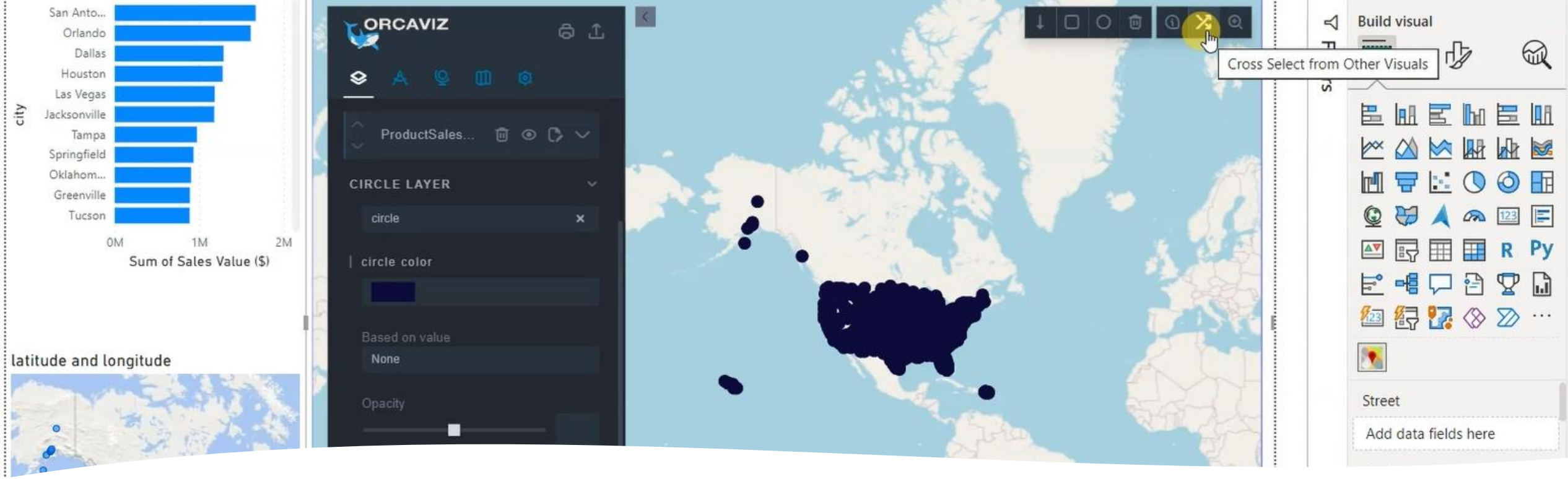
- Select the Analytics Tab in the left-hand menu
  - Select Count within Shapes
  - Select the Shape set you wish to use
  - Select the Point data set you wish to use
  - Select the numeric field you wish to be summed or leave as “None” if you wish to use the total count of pins.
  - Select “Calculate” to start the process
  - Progress is shown by a green bar.
  - The calculated value is added to a new field against the shape set.
- Once complete go back to the Data Layer tab
  - Choose the Shape set
  - Select Colour by Value
  - Select the field containing the calculated value





Filtering Data

Using Cross-Select, Drill through and Filtering from the map

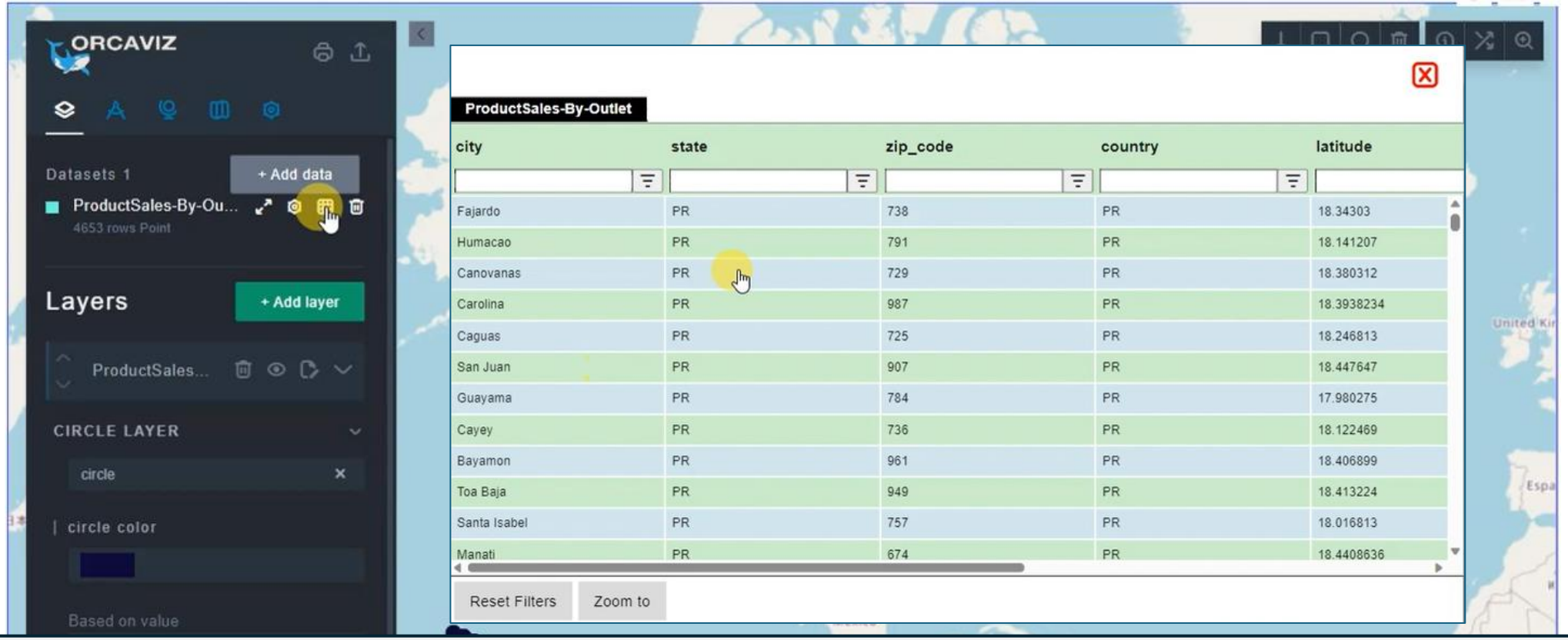


Cross Select from Power BI and Other Visuals

- You can turn Cross-Select from other visuals on/off by toggling the cross-select icon on the top right of the map
- When highlighted, the pins on the map visualization will reflect the filter choices made in other visuals (provided those filters are included in the data mapping for OrcaViz)
- This linkage is bi-directional, so choosing pins on the map should filter the other visualizations (assuming the filters are in the data mapping for the other visuals)

Drill Through

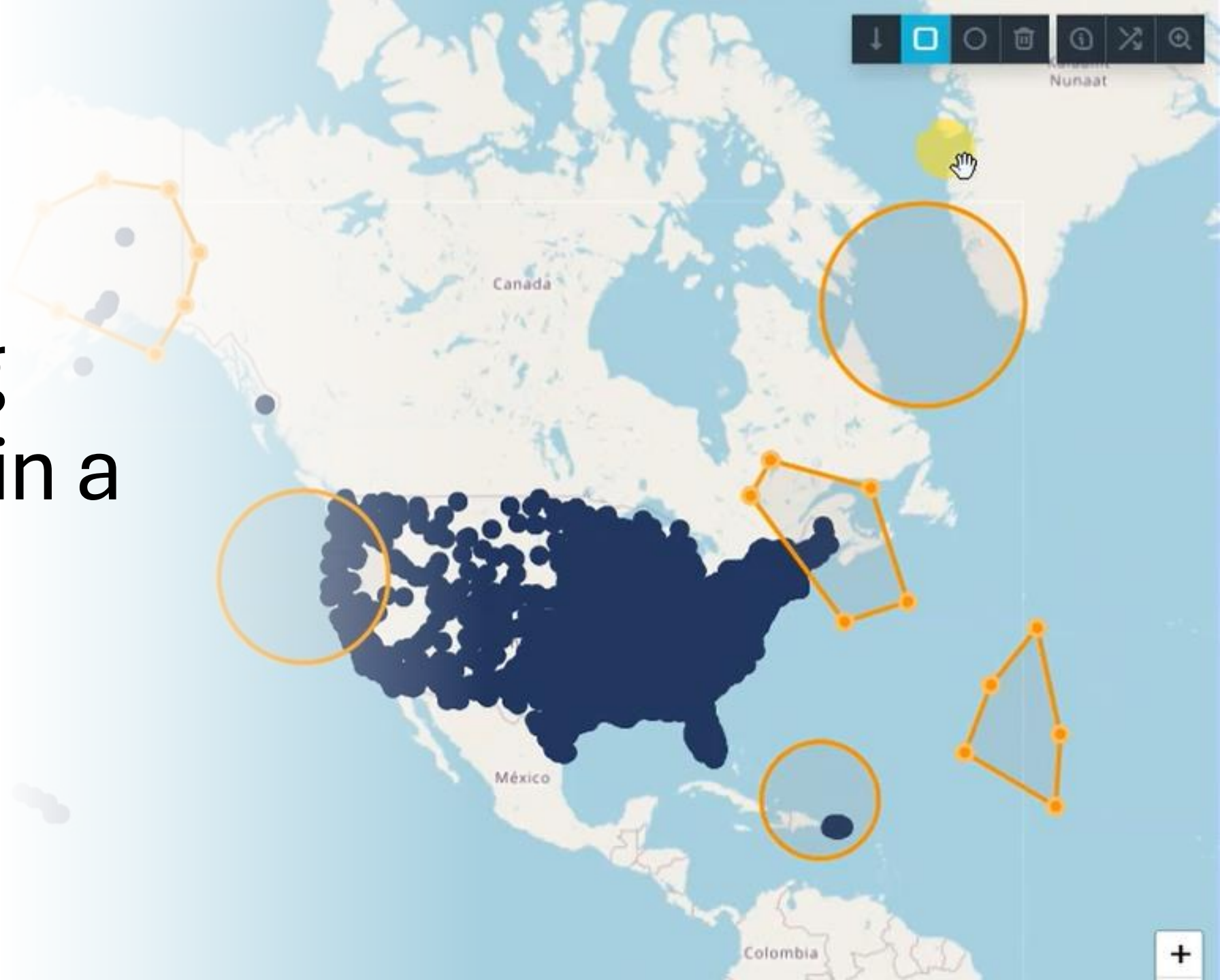
OrcaViz supports Drill Through



Filtering Data From The Map

- Select the grid icon next to the chosen dataset to display a column view of the data
- Filters are provided at the top of each column
- The filter choices depend on whether the data is text or numeric
- The filter choices should filter the other visualizations (assuming the filters are in the data mapping for the other visuals)

Extracting Data within a Shape

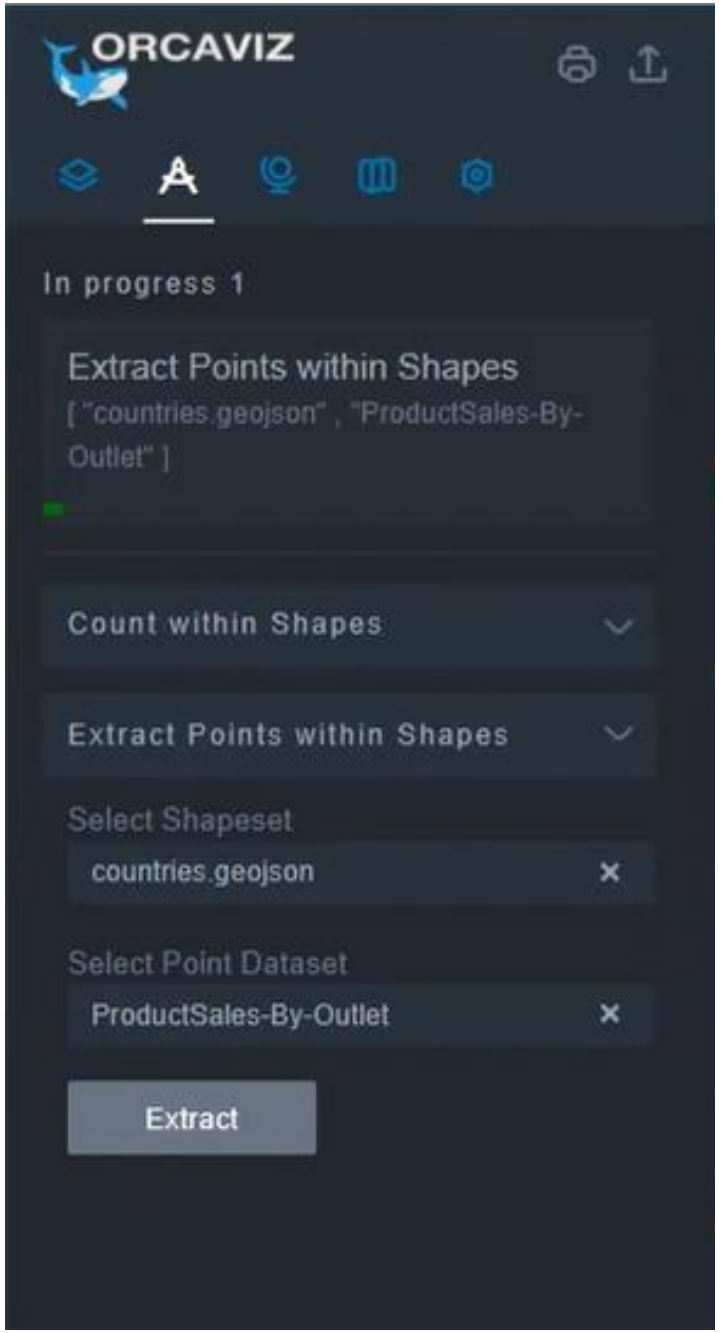


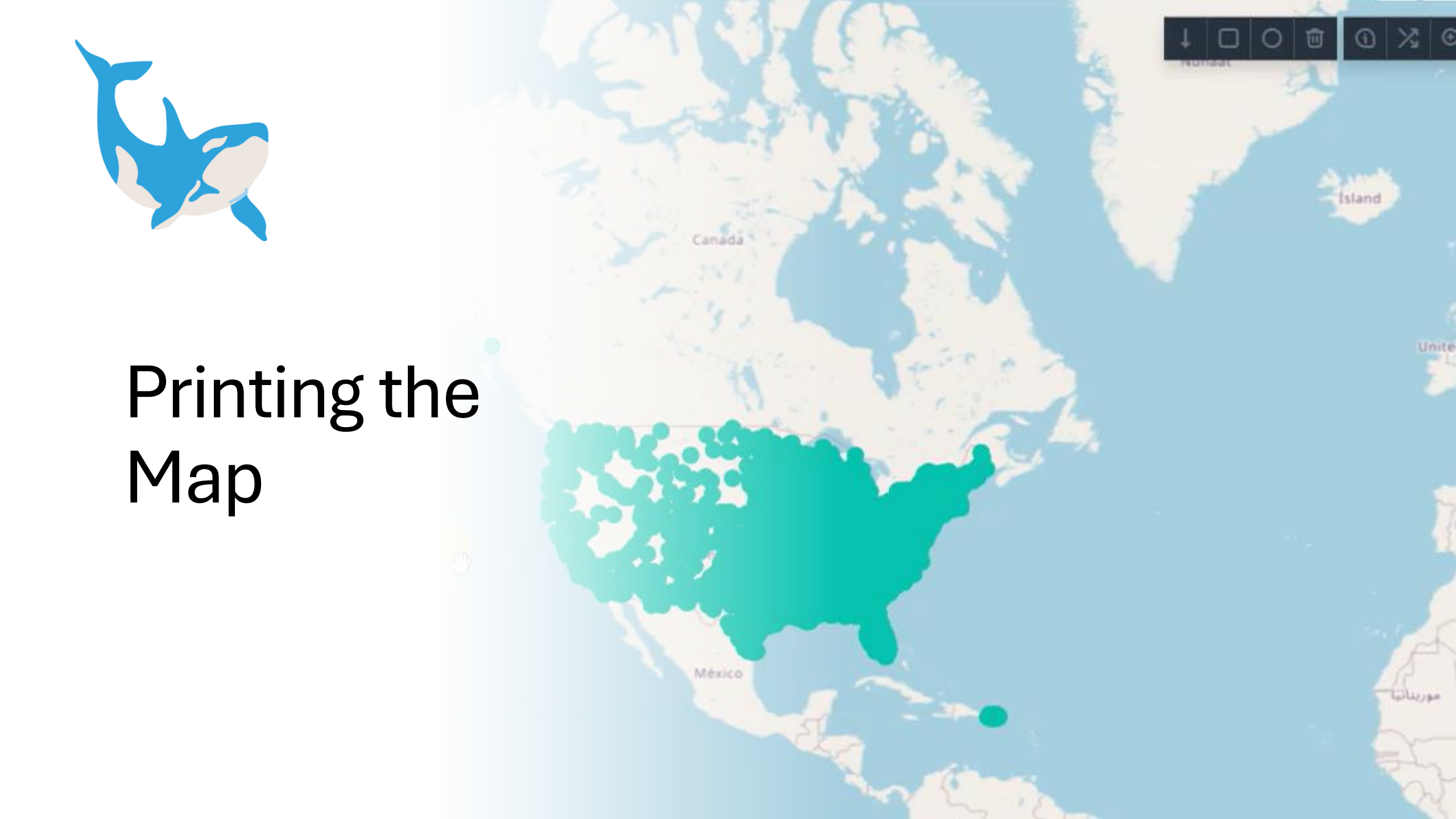
Drawing Shapes

- Use the circle or polygon icon on the top right of the map to initiate drawing on the map
- Use your mouse to create the chosen shape
- Select a node if you wish to edit the shape
- Create multiple shapes as required
- Select the down arrow to export the data contained within the shapes
- The extracted data forms a new dataset and new layer in the layer menu.

Extracting Data within Boundary Shapes

- Select the Analytics Tab in the left-hand menu
  - Select Extract Points within Shapes
  - Select the Shape set you wish to use
  - Select the Point data set you wish to use
  - Select “Extract” to start the process
  - Progress is shown by a green bar.
  - The extracted data becomes a new Data Set in the Data Layer tab.





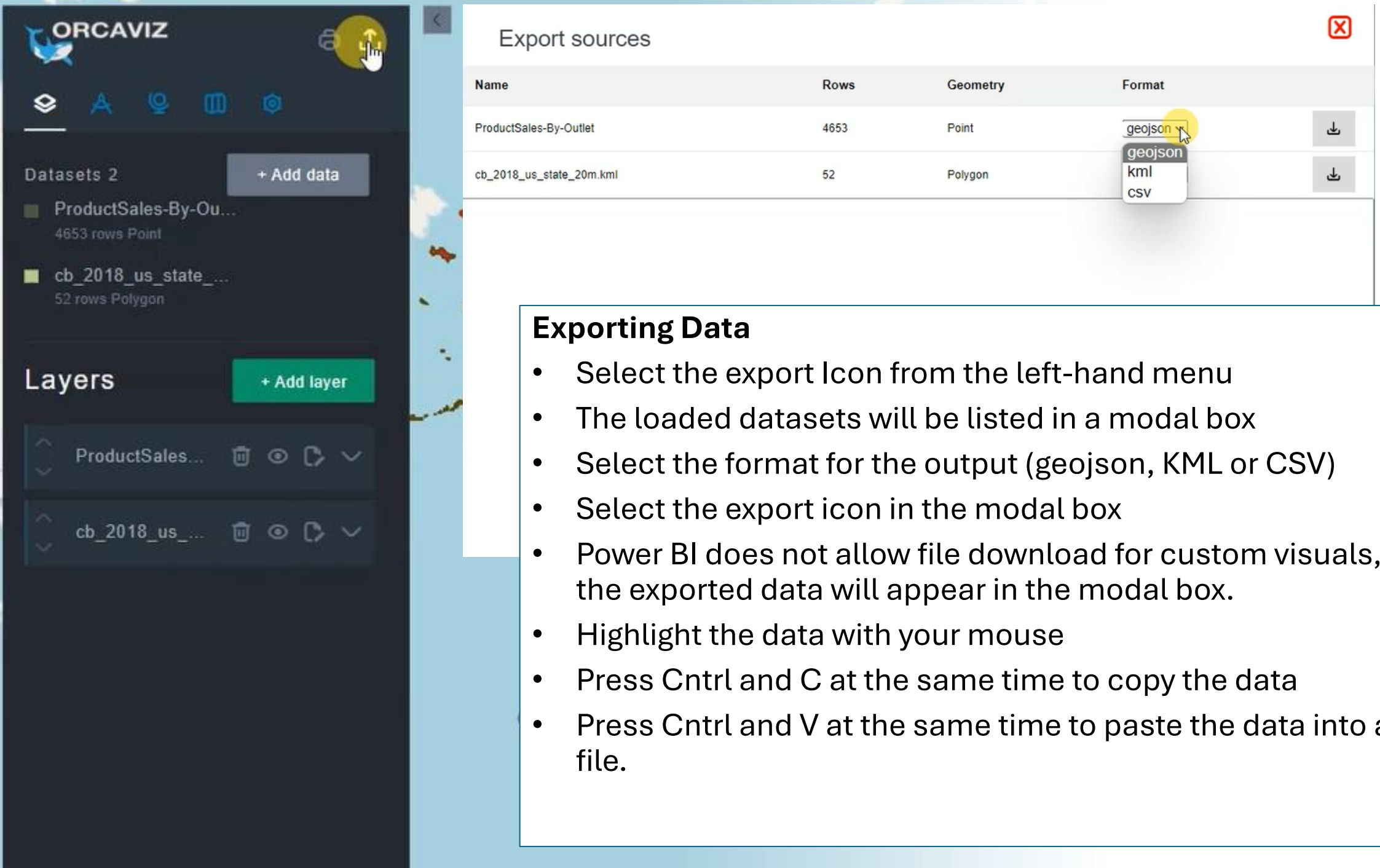
Printing the Map

Printing the Map

Power BI restricts this capability. So, there are three options:

- Take a screenshot using your keyboard and browser
- Use a clipping tool (e.g., Snip and Sketch in Windows)
- Use the Print icon in OrcaViz which will create a JPG image of the map that you can right click and copy with your mouse for saving on your machine.

Exporting the data



Exporting Data

- Select the export Icon from the left-hand menu
- The loaded datasets will be listed in a modal box
- Select the format for the output (geojson, KML or CSV)
- Select the export icon in the modal box
- Power BI does not allow file download for custom visuals, so the exported data will appear in the modal box.
- Highlight the data with your mouse
- Press Cntrl and C at the same time to copy the data
- Press Cntrl and V at the same time to paste the data into a file.