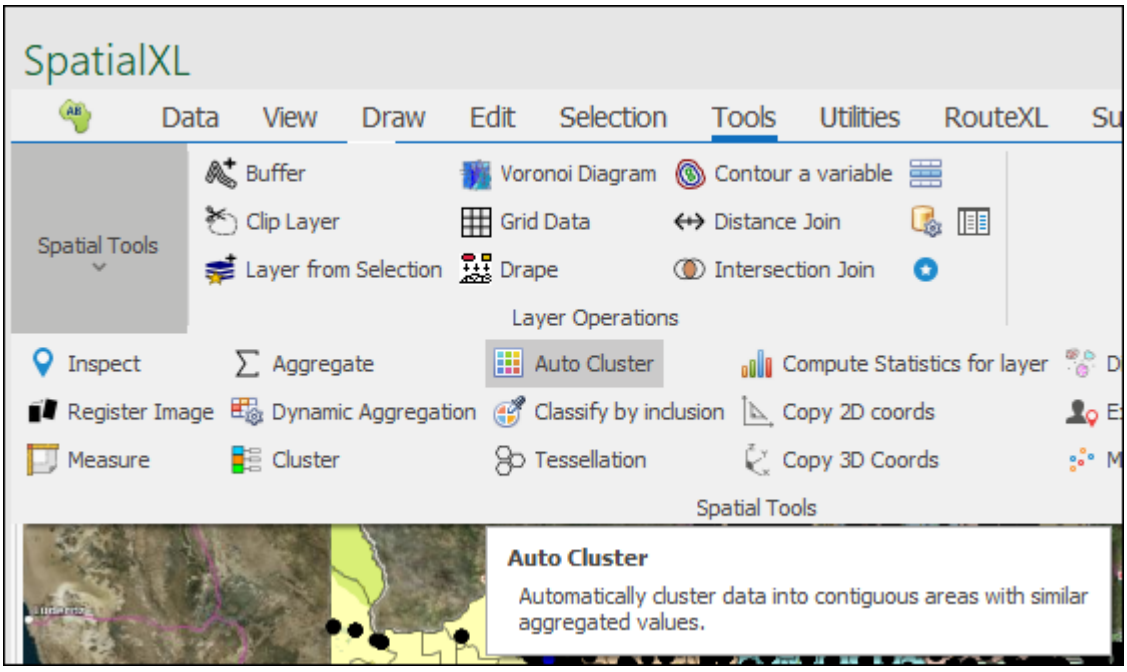
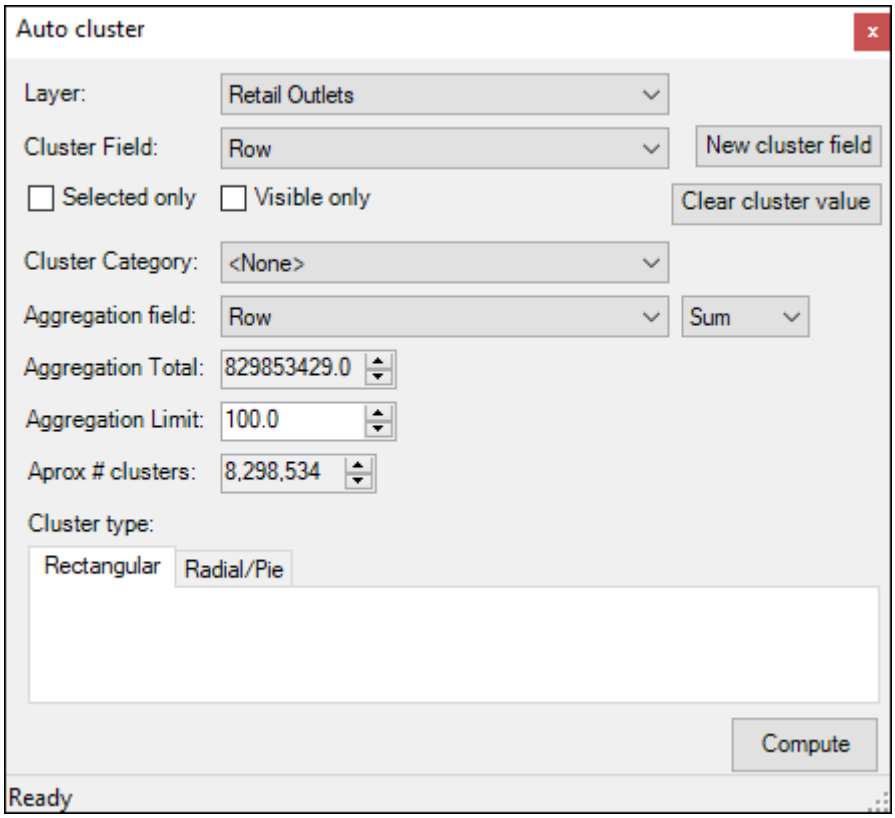
PrimeThought Software Solutions

Auto Cluster User Guide

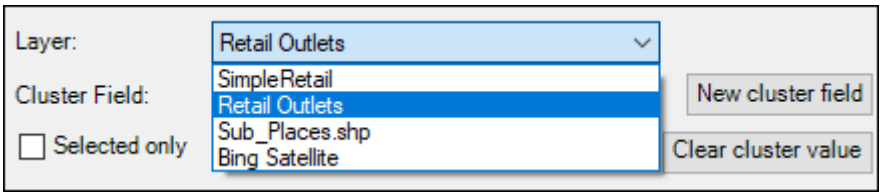
The Auto Cluster Tool is a tool that allows you to automatically cluster data into contiguous areas with similar aggregated values. It is found in the following location in SpatialXL:



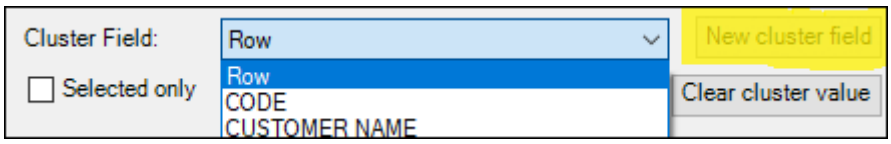
Once you have selected this tool the following dialogue box will come up:



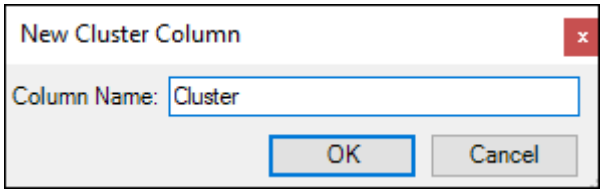
In the **Layer** field choose the layer that you would like to do the auto clustering on:



The **Cluster Field** is the field in your layer data within which the cluster values will be populated, you can choose an existing field in your data or select to create a **New cluster field** in your data where the values will be populated:



Once you have selected to create a **New cluster field** the following box comes up and here you enter the name of the new field:



Click **OK** when done.

In the **Cluster Category** field is where you can choose a field in your data with values that you would like to cluster within; it ensures that all clusters created have the same category. For instance you might choose the Province field in your data so that each cluster is composed only of points from that province and that the clusters do not cross over in this respect, in my example I will not choose any cluster category:

The **Aggregation field** is the field within your data that you would like to aggregate on in creating your clusters; the aggregation can be a **Sum** or **Count**:

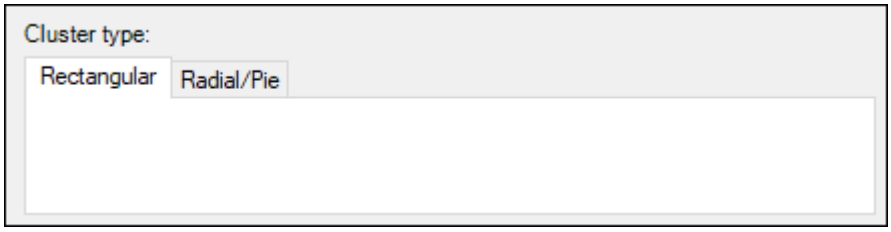
The Aggregation Total field is the total resulting number of the aggregation of whatever field it was you chose to aggregate on:

The **Aggregation Limit** field is the number limit at which the tool will be then forced to make another cluster, e.g. if you are clustering on total revenue from

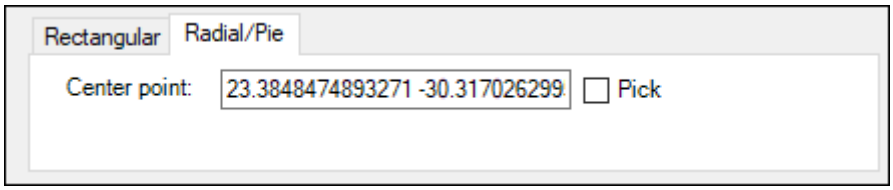
each outlet in your data then you can choose that 100,000 is the aggregation limit meaning once any number of stores clustered together reach more than 100,000(of total revenue) then a new cluster will have to be made after that:

Aprox # clusters is the approximate number of clusters that the tool has worked out can be created from your data, you can of course change this like you can change everything else:

You can then select whether you want your clusters arranged in a **Rectangular** way:



Or if you want them arranged in a **Radial/Pie** manner:



You can type in the coordinates of the point in your scene that you want as the center point or you can check the **Pick** box and then just select the point on your scene.

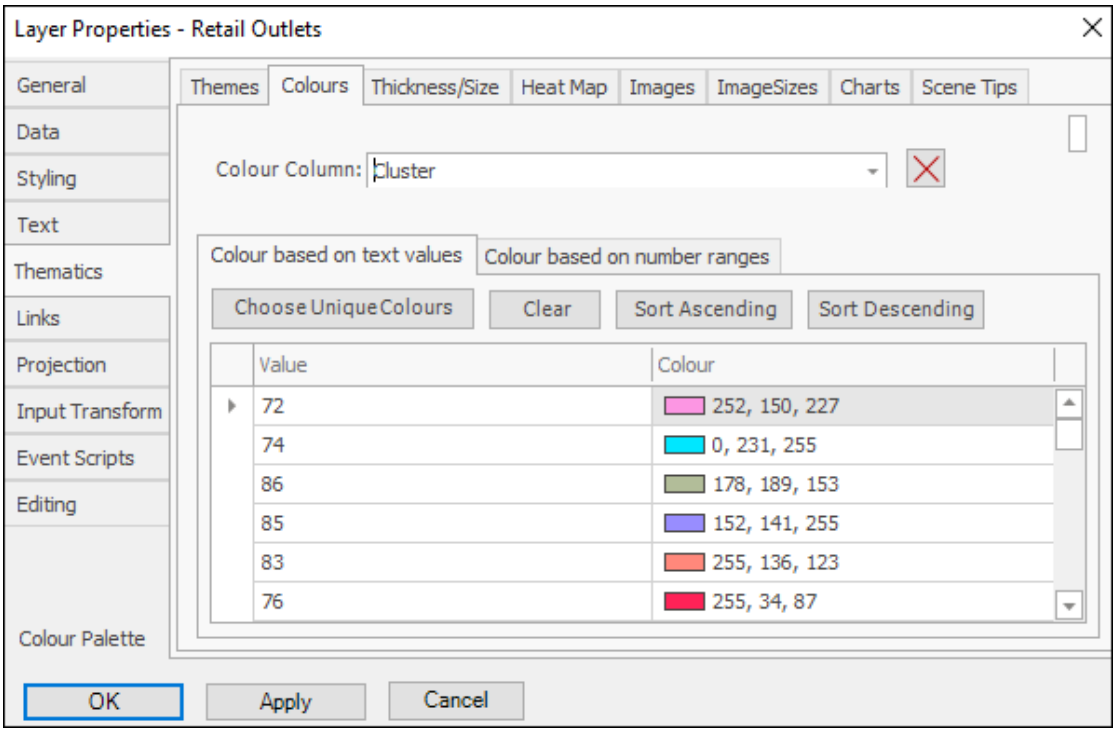
Now click **Compute**:

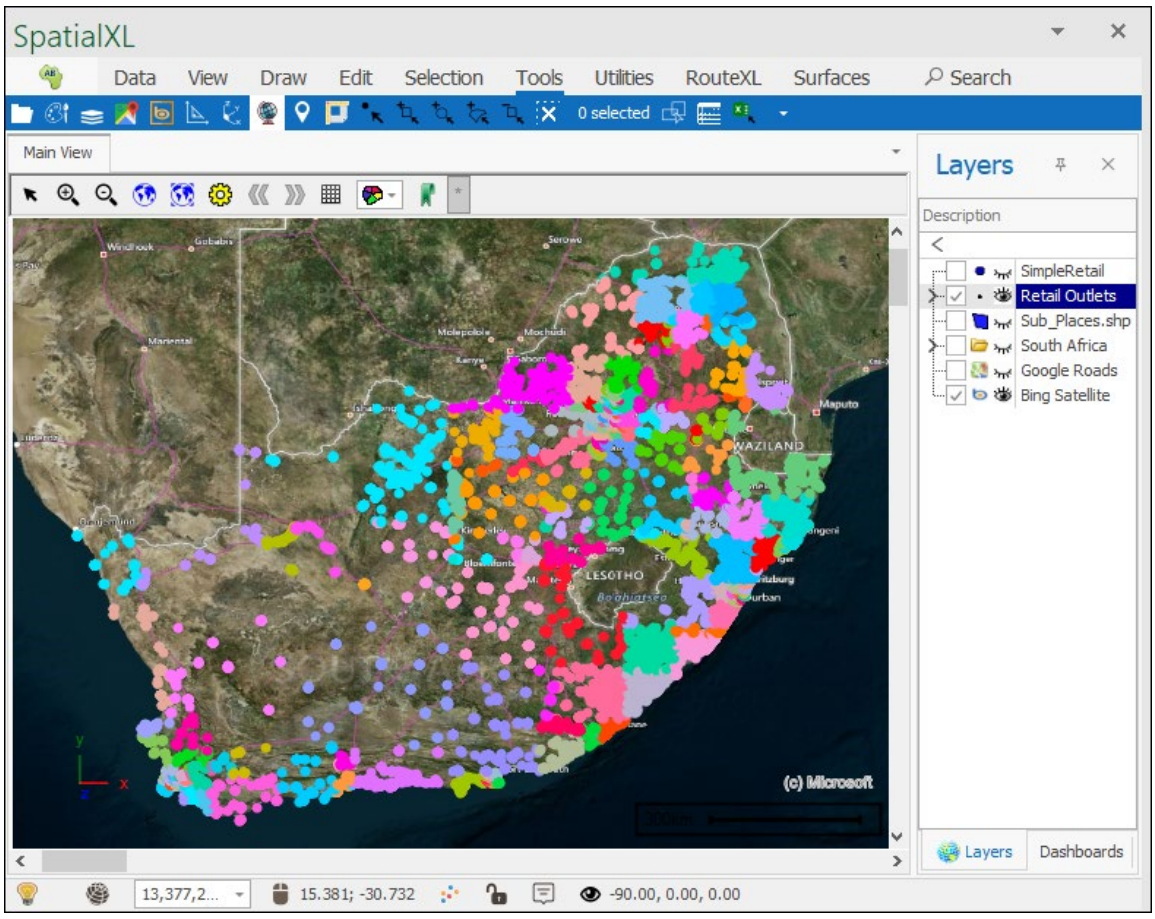
Your clusters have now been created and can be viewed in the layer data grid for the layer:

Drag a column header here to group by that column

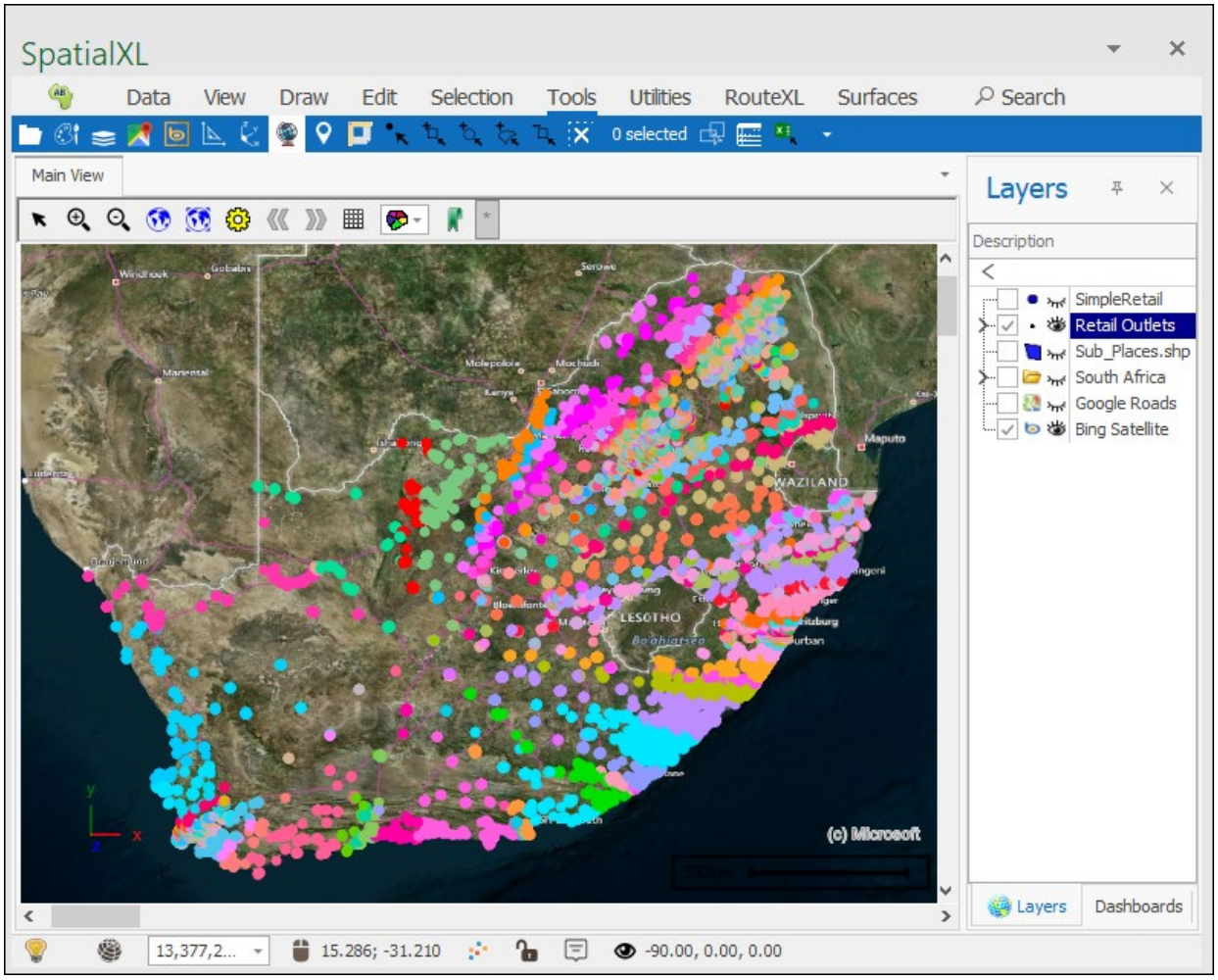
	SUB TRADE CH...	DRINKING ES...	ACCOU...	TOTAL...	AREA ...	REP...	CAL...	SP ...	SP NAME	MP ...	MP NAME	MAIN P...	DOMI...	DOMIN...	Cluster
	INDEP SUPERE...	OTHER	OTHER	162000	MEIRI...	RE...	TH...	27...	South End	27...	Port Elizabeth	City	10	WHITE	72
	INDEP SUPERE...	OTHER	OTHER	364800	MEIRI...	RE...	WE...	20...	Bathurst SP	20...	Bathurst	Town	9	WHITE	74
	INDEP SUPERE...	OTHER	OTHER	200640	MEIRI...	RE...	MO...	20...	Bathurst SP	20...	Bathurst	Town	9	WHITE	86
	INDEP SUPERE...	OTHER	OTHER	211200	MEIRI...	RE...	TU...	20...	Grahamstow...	20...	Grahamstown	Town	6	COLOU...	85
	INDEP SUPERE...	OTHER	OTHER	288000	MEIRI...	RE...	TU...	20...	Xolani	20...	Rhini	Township	5	BLACK	86
	BOTTLE STORE	OTHER	OTHER	336000	MEIRI...	RE...	WE...	20...	Port Alfred SP	20...	Port Alfred	Town	10	WHITE	86
...	HOUSE SHOP/...	OTHER	OTHER	14400	MEIRI...	RE...	MO...	27...	Missionvale	27...	Bethelsdorp	Town	6	BLACK	83
	INDEP SUPERE...	OTHER	OTHER	0	MEIRI...	RE...	MO...	27...	Parsons Vlei	27...	Port Elizabeth	City	9	BLACK	76
.	SPECIALISED	OTHER	OTHER	156000	MEIRI...	RE...	TH...	27...	Port Elizabet...	27...	Port Elizabeth	City	6	BLACK	80
.	FAST FOOD/T...	OTHER	OTHER	124800	MEIRI...	RE...	WE...	27...	Korsten	27...	Port Elizabeth	City	6	COLOU...	283
.	FAST FOOD/T...	OTHER	OTHER	156000	MEIRI...	RE...	MO...	27...	Kensington	27...	Port Elizabeth	City	10	WHITE	80
.	FAST FOOD/T...	OTHER	OTHER	156000	MEIRI...	RE...	TH...	27...	Sydenham	27...	Port Elizabeth	City	10	BLACK	80
...	HOUSE SHOP/...	OTHER	OTHER	156000	MEIRI...	RE...	FRI...	27...	Holland Park	27...	Port Elizabeth	City	7	COLOU...	74
...	HOUSE SHOP/...	OTHER	OTHER	135200	MEIRI...	RE...	WE...	27...	Sydenham	27...	Port Elizabeth	City	10	BLACK	80
	INDUSTRY CA...	OTHER	OTHER	166400	MEIRI...	RE...	WE...	27...	Ferguson	27...	Port Elizabeth	City	10	WHITE	79
	INDEP SUPERE...	OTHER	OTHER	156000	MEIRI...	RE...	FRI...	27...	Port Elizabet...	27...	Port Elizabeth	City	6	BLACK	283
	INDEP SUPERE...	OTHER	OTHER	156000	MEIRI...	RE...	TU...	27...	Port Elizabet...	27...	Port Elizabeth	City	6	BLACK	283

By then going into **Properties** for that layer you can set some **Thematics** on the clusters and so be able to view them in your scene:

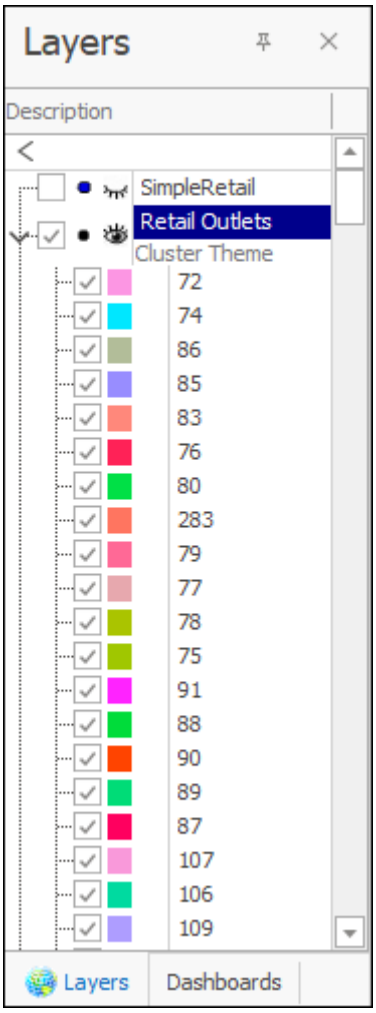

Layer Properties - Retail Outlets
General
Data
Styling
Text
Thematics
Links
Projection
Input Transform
Event Scripts
Editing
Colour Palette
Themes
Colours
Thickness/Size
Heat Map
Images
ImageSizes
Charts
Scene Tips
Colour Column:
Cluster
Colour based on text values
Colour based on number ranges
Choose Unique Colours
Clear
Sort Ascending
Sort Descending
Value
Colour
72
252, 150, 227
74
0, 231, 255
86
178, 189, 153
85
152, 141, 255
83
255, 136, 123
76
255, 34, 87
OK
Apply
Cancel


SpatialXL
Data
View
Draw
Edit
Selection
Tools
Utilities
RouteXL
Surfaces
Search
0 selected
Main View
Layers
Description
SimpleRetail
Retail Outlets
Sub_Places.shp
South Africa
Google Roads
Bing Satellite
LESOTHO
(c) Microsoft
Layers
Dashboards
15.381; -30.732
-90.00, 0.00, 0.00

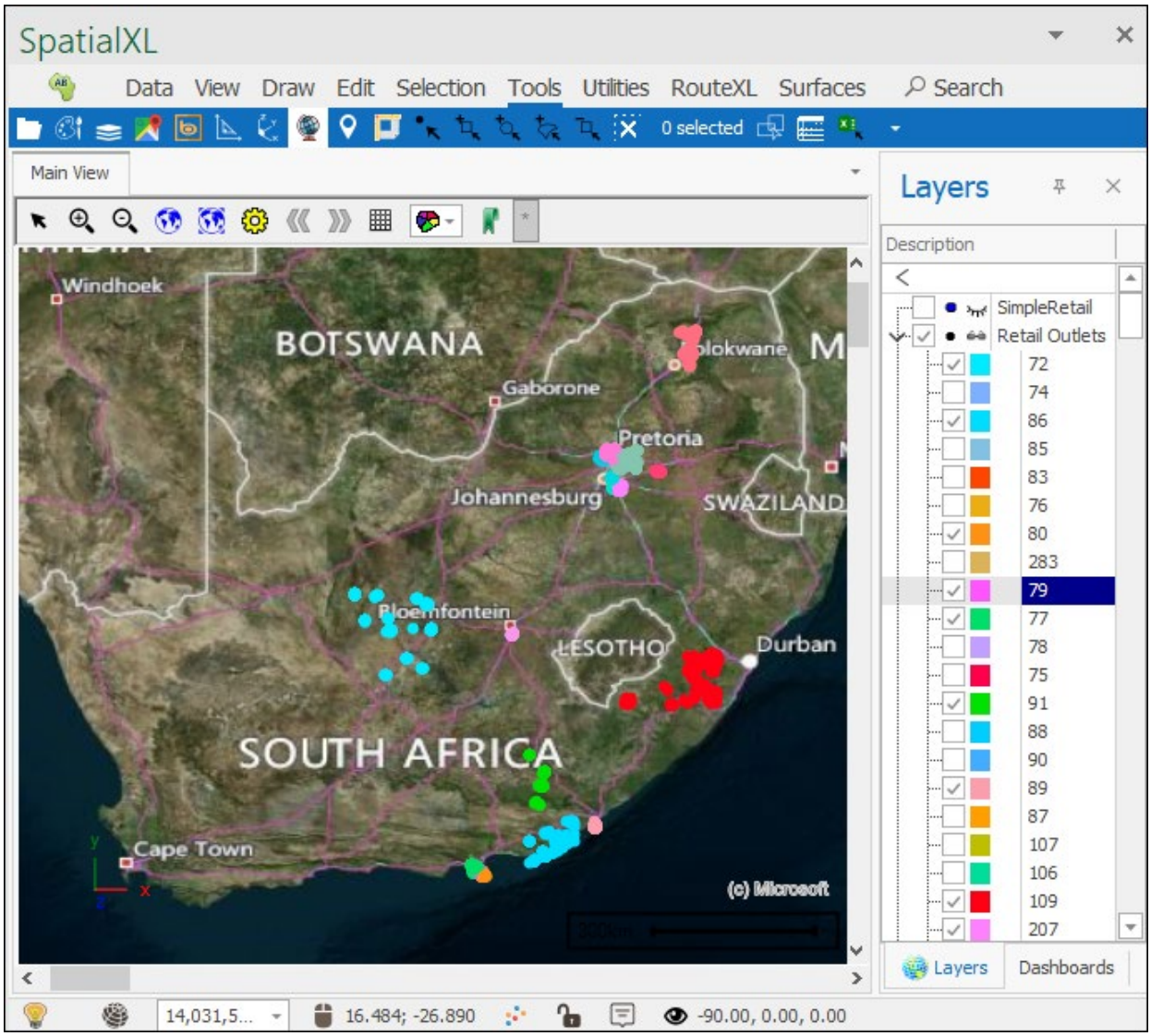
Just for illustration here is how the clusters would've looked like if I chose to arrange them in a radial/pie manner:



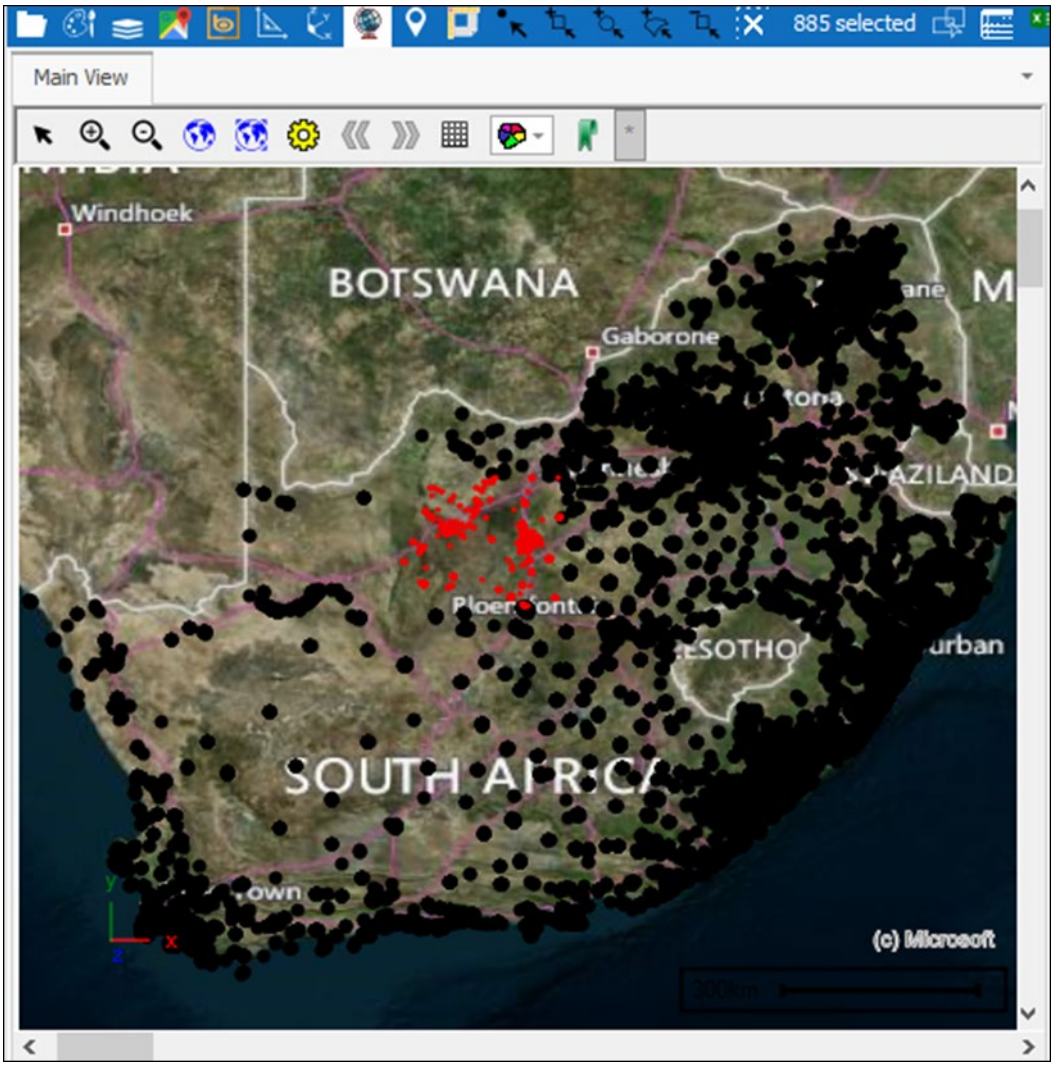
Your clusters can be seen in the **Layers Description** box by clicking the little arrow next to the layer on the left:



They can then be ticked on or off on your scene:



If you would like to auto cluster selected points only then you would first select these points on the scene using one of the selection tools:



Then you would have the **Selected only** box ticked on in your **Auto Cluster** tool:

If any of your points are set as hidden and you would like to auto cluster the visible points only then you would have the **Visible only** box ticked on:

The **Clear cluster value** button will set all the cluster values in your data to null; this would be used after you had already auto clustered:

MP ...	MP NAME	MAIN P...	DOMI...	DOMIN...	Cluster
=	ABC	ABC	=	ABC	ABC
27...	Port Elizabeth	City	10	WHITE	
20...	Bathurst	Town	9	WHITE	
20...	Bathurst	Town	9	WHITE	
20...	Grahamstown	Town	6	COLOU...	
20...	Rhini	Township	5	BLACK	
20...	Port Alfred	Town	10	WHITE	
27...	Bethelsdorp	Town	6	BLACK	
27...	Port Elizabeth	City	9	BLACK	
27...	Port Elizabeth	City	6	BLACK	
27...	Port Elizabeth	City	6	COLOU...	
27...	Port Elizabeth	City	10	WHITE	
27...	Port Elizabeth	City	10	BLACK	
27...	Port Elizabeth	City	7	COLOU...	
27...	Port Elizabeth	City	10	BLACK	
27...	Port Elizabeth	City	10	WHITE	

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