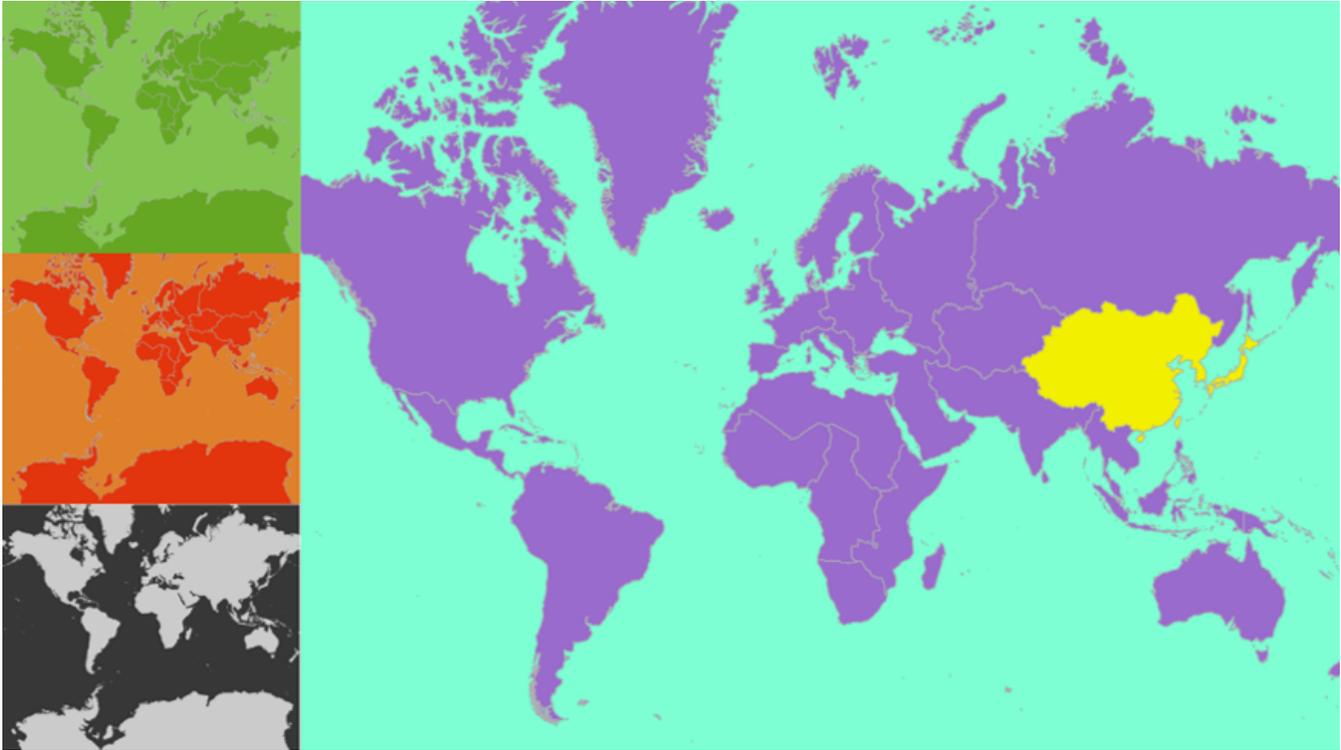# Create a Custom Offline Background Map

Ever wanted to created your very own custom Map Background without a Tile Service?

Ever need offline mapping functionality?

Ever needed to publish your Geo Spatial data but you didn't want to worry about map background copyrights?

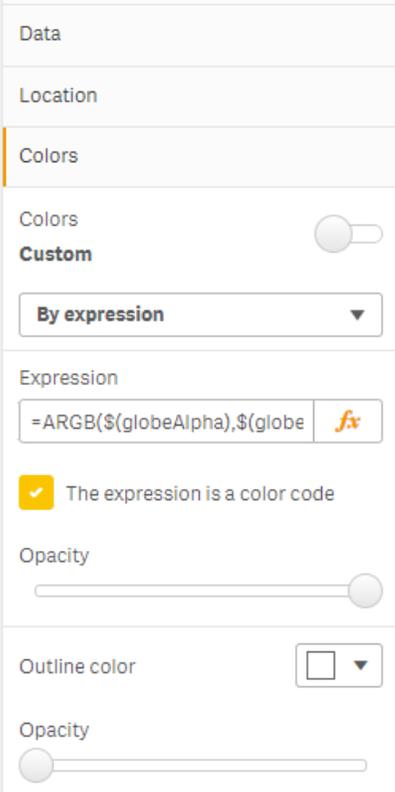## Let's make our own..
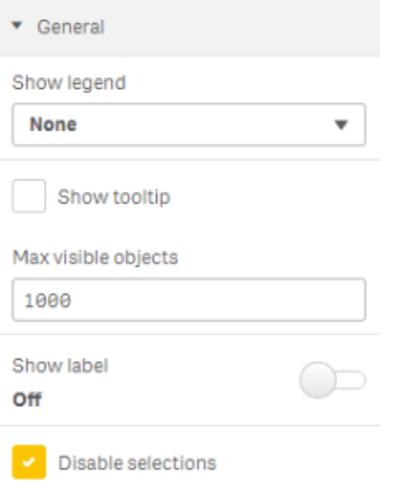
Contents:

Intro
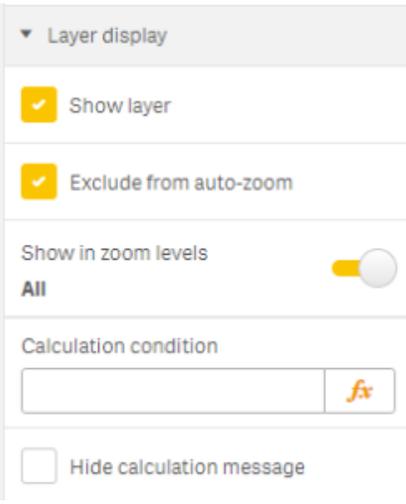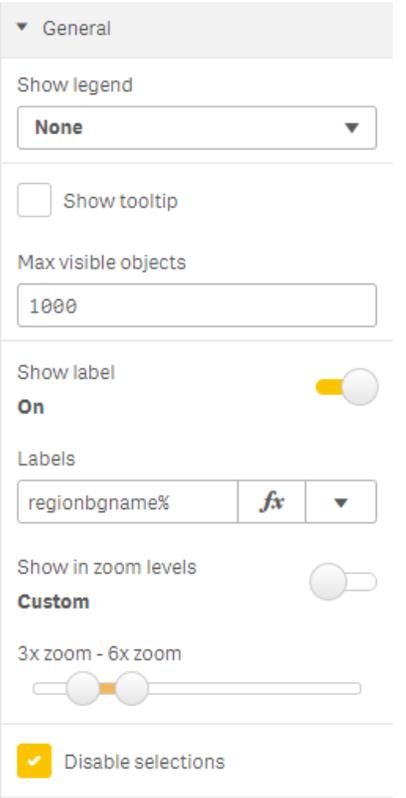
Firstly, what exactly is this?

What we are looking at is a Qlik Sense Basic Map with the base map is removed. We add our own Globe and Countries layers.

These layers are not select-able, so they now form our own colorful background map. Layers of details can be added and controlled with Zoom Level visibility.

Instructions

Step	Instructions	Images
1	## Create Globe Layer in the Data Load Editor. This is our first layer and will replace the Water on our Globe. *This will be a non-selectable layer	LET HideSuffix = '%'; WorldBackground: Load '[[-180,90],[180,90],[180,-90],[-180,-90],[-180,90]]' as worldbg% AutoGenerate(1);
2	Create Country/Region Layer. #The file is included in the attachments, alternatively you can create your own. *This will be a non-selectable layer	WorldRegionsBackground: LOAD REGION as regionbgname%, coordinates as regionbg% FROM [lib://DataFiles/combined_0_region.json.txt] (txt, codepage is 28591, embedded labels, delimiter is '\t', msq);
3	Create Location of Interest Layer. If you plan to zoom into a particular area of the world then can create multiple layers to support your use case. *This will be a non-selectable layer	USA: LOAD NAME as usabgname%, coordinates as usabg% FROM [lib://DataFiles/combined_0_tl_2017_us_state.json.txt] (txt, codepage is 28591, embedded labels, delimiter is '\t', msq);
4	Load any Geo Spatial data (Polygons, Points) required for your application. *These will be Selectable layers	//Selectable Layers Countries: LOAD CNTRY_NAME as Country, coordinates as CountryCoordinates FROM [lib://DataFiles/combined_0_WorldCountryPolygon.json.txt] (txt, codepage is 28591, embedded labels, delimiter is '\t', msq); Regions: LOAD REGION as Region, coordinates as RegionCoordinates FROM [lib://DataFiles/combined_0_region.json.txt] (txt, codepage is 28591, embedded labels, delimiter is '\t', msq);
5	Load your data into your Application.	
6	Create a Standard Map and remove the Base map (Select the map and change to white)	

| 7 | **Create a Globe layer.**

Data = worldbg%

Location Field = worldbg%

Color = <Choose>

*Set a solid color, or allow user to choose using variables) | Data

Location

Colors

Colors
Custom

By expression ▼

Expression
=ARGB($(globeAlpha),$(globe *fx*

☑ The expression is a color code

Opacity

Outline color ☐ ▼

Opacity |
| 8 | Other Settings:

General - Show Legend = None

General - Show tooltip = False

General - Show label = False

General - Disable selections = True | ▼ General

Show legend
None ▼

☐ Show tooltip

Max visible objects
1000

Show label
Off

☑ Disable selections |

|		
	Layer display - Show layer = True Layer display - Exclude from auto-zoom = True Layer display - Show in zoom levels = On	**▼ Layer display** ☑ Show layer ☑ Exclude from auto-zoom Show in zoom levels **All** Calculation condition [ ] *fx* ☐ Hide calculation message
	Tooltip - tooltop = Off	**▼ Tooltip** Tooltip **Off** ▼
9	**Create a Region layer** Data = regionbgname% Location Field = regionbg% Color = <Choose> General - Show Legend = None General - Show tooltip = False General - Show label = True General - Labels = regionbgname% General - show in zoom level = Off General - Custom = 3x zoom - 6x zoom General - Disable selections = True Layer display - Show layer = True Layer display - Exclude from auto-zoom = True Layer display - Show in zoom levels = On Tooltip - tooltop = Off	**▼ General** Show legend **None** ▼ ☐ Show tooltip Max visible objects 1000 Show label **On** Labels regionbgname% *fx* ▼ Show in zoom levels **Custom** 3x zoom - 6x zoom ☑ Disable selections

10	Create Location of Interest layer (Optional)	
	Data = usabgname%	
	Location Field = usabg%	
	Color = <Choose>	
	General - Show Legend = None	
	General - Show tooltip = False	
	General - Show label = True	
	General - Labels = usabgname%	
	General - show in zoom level = Off	
	General - Custom = 6x zoom - 11x zoom	
	General - Disable selections = True	
	Layer display - Show layer = True	
	Layer display - Exclude from auto-zoom = True	
	Layer display - Show in zoom levels = Off	
	Layer display - Custom = 5x zoom - Max zoom	
	Tooltip - tooltop = Off	
11	Create Data Layers	
	Add any Polygon,Point,Line,Density or Chart Layer to supports your Application.	
	These layers will be on top of the previous layers and will interact with your data selections.	

That's It! You now have your own custom offline map.

Attachments - working example and data files

App_Data.zip

Gallery

| Colour Burst	Global Warming
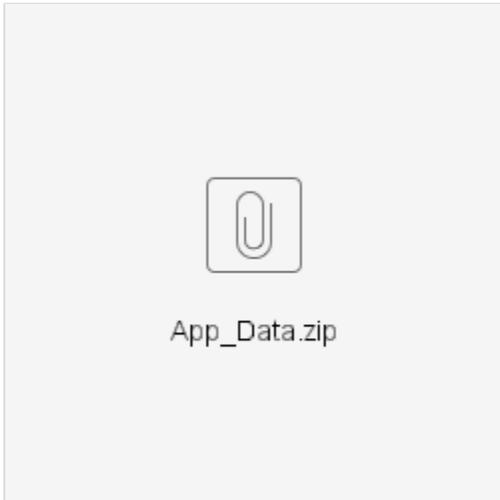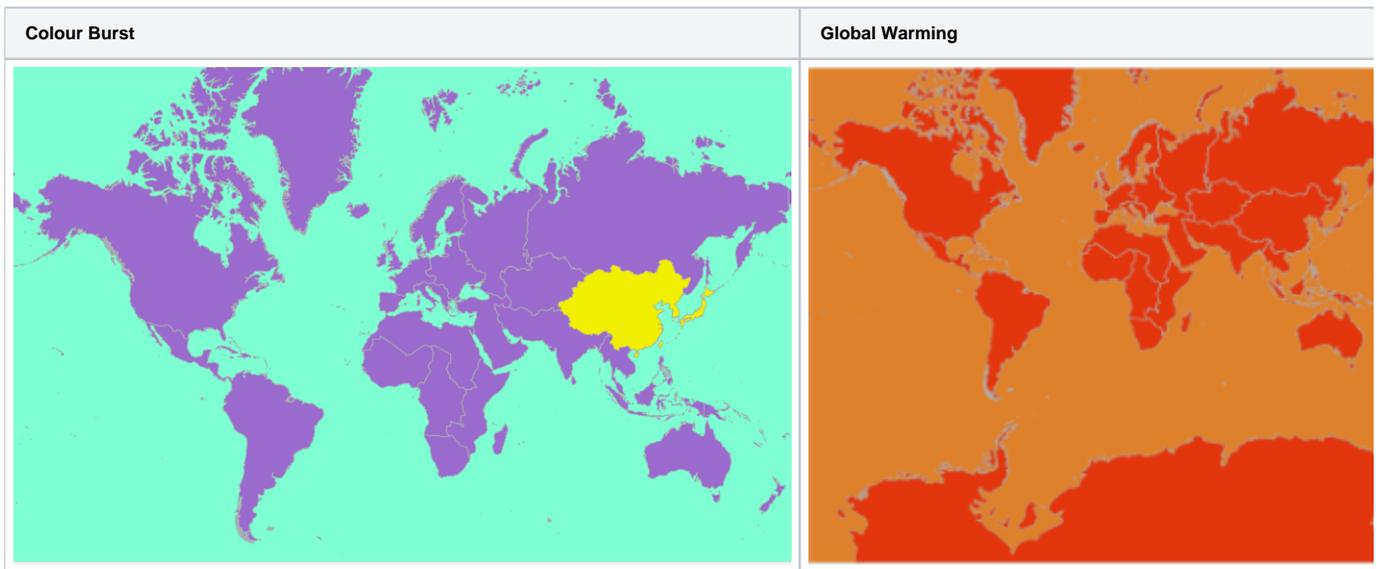
Extras

How to make your Globe/Region/Country Data File

I have provided some text-based Geo Spatial datasets for World Regions, Countries, USA States and Australian States, but how do you create these files?

There are numerous ways to create these data files, however I chose a method that did not require Commercial Geo-Spatial software or Qlik Geo Analytics.

1) Find (Google) Geo Spatial Datasets for every country or region and other regions of interest . Most likely you will find ESRI Shape files or GeoJSON files.

2) Use a tool to Simply the shapes (reduce complexity, therefore reduce size). Try MapShaper which is free, online and handles many file types.
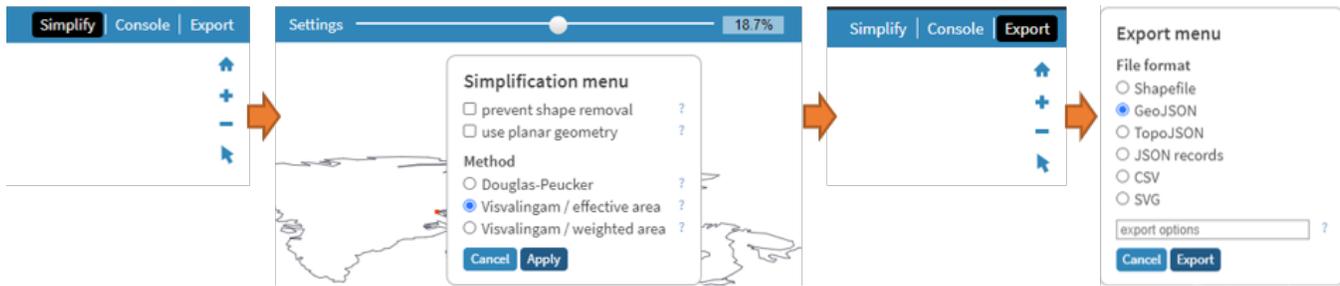
3) Convert the simplified Geo Spatial file to a Geo Tab format. This is not a standard Geo File but it is easily imported into Qlik.

a) I built a Javascript Application that converts GeoJSON files to GEOTAB. Github - GEOTAB Build the app from source or just download dist/geotab.exe

b) Run GeoTab.exe or node index.js (from source)

c) Follow the screenshot # *GeoTab only handles Polygons and Multi-polygon formats, it will not import line-based geometries.*

GeoJSON Filter Splitter Tool

Use this tool to help troubleshoot your GeoJSON files. You can export small subsets of data when working with large files to understand the attributes. You can export subsets of data based on certain filters. You can export GeoJSON as a flattened Tab text file and you can host your exported file to make them available to other webservices. Exported files are available as Physical: /public/exports/filename URL: host/exports/filename

File Selection

Choose file region.json **1**

Upload **2**

Filter

Keyname (optional)

Key Value (optional)

Sample Records

10

Filter

Export

Limit Export

0

☐ Export as Separate Files

☑ Export as Geo Tab File **3**

Export

4

Messages

Export Successful. First Export is export/combined_0_region.json.txt [1 files] **5**
File upload Successful. [25 records]
Uploading...region.json

1) Select File
2) Import
3) Select Export as Geo Tab File
4) Export
5) Copy file from export location

Sample Results

REGION	SQMI	SQKM	Shape_Leng	Shape_Area	type	coordinates
Antarctica	4754809.4571	12314949.24	1587.22769761	6034.46189871	MultiPolygon	51.80305528576548,-46.45667689628749,51.86041214644126,-46.40139003042577,51.73083127574807,-46.32764403442542,51.65083724 8,-90,1.0000001951120794,-90,2.0000001387670636,-90,3.000000250060225,-90,4.000000193715039,-90,5.00000013737008,-90,6.0000002
Asiatic Russia	4987737.42459	12918232.32	1089.9343275	2297.06857879	MultiPolygon	131.87329230043713,42.956938189779635,131.83649121916642,43.062760052941485,131.7533313400454,42.98721412704816,131.873292
Australia/New Zealand	3077218.8749	7969992.19159	332.497571855	724.714158171	MultiPolygon	158.8821752612364,-54.711394940027844,158.96037623878692,-54.47637794135818,158.8338633123027,-54.66888796197355,158.88217
Caribbean	89193.60714	231011.30645	118.152224554	19.918903497	MultiPolygon	-60.92305194887399,10.797220145156928,-61.02541795334679,10.84027613787083,-61.19639989378618,10.789444085921275,-61.60278

d) The export file will GeoJSON encoded data in a Tab Delimited Text file which can easily be imported into any Qlik Application.

Finish.