



# UNITED NATIONS Geospatial

How to import and use WMS services  
of the UN Clear Map



Here you can find various styles of Clear Map, a guide on how to import and use WMS services in different platforms (ArcGIS Pro, Tableau and web sites) and how to use the Clear Map in Power BI

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# HOW TO USE WMS IN ARCMAP

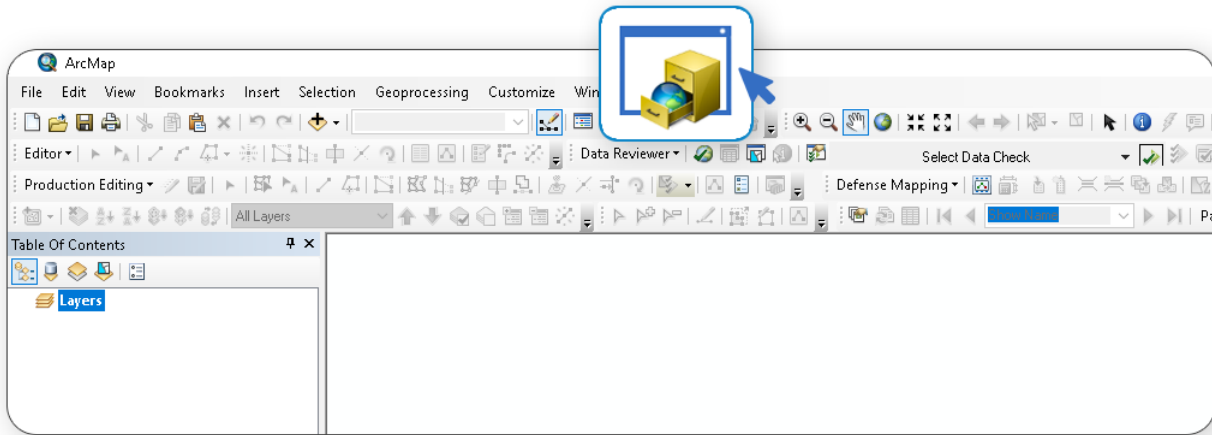


Figure 1 - Open Catalog in ArcMap

1. Open ArcMap:
2. Click Catalog (Figure 1);
3. On the Catalog pane click **Add WMS Server** (Figure 2);

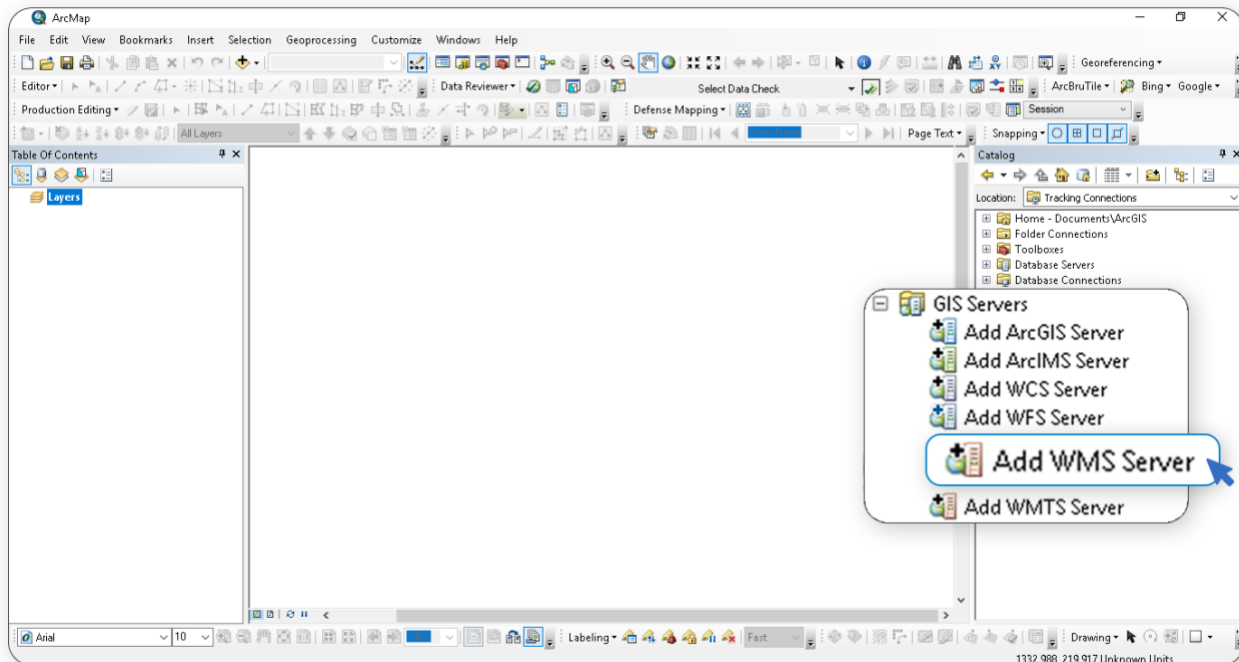


Figure 2 - Add WMS Server

1. Populate **URL** with the link to WMS services then click **Get Layers** and then **OK** (Figure 3);

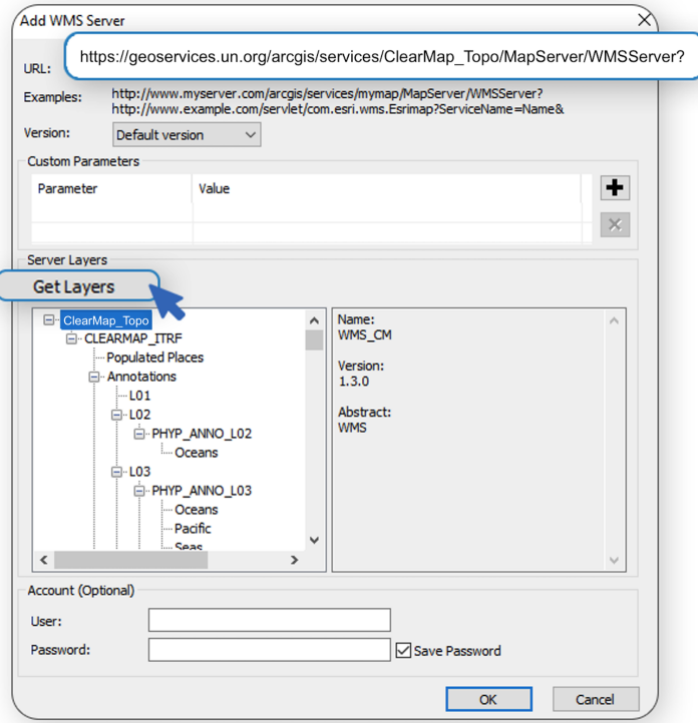


Figure 3 - Add WMS URL

2. Drag and Drop the service into the map frame (Figure 4);

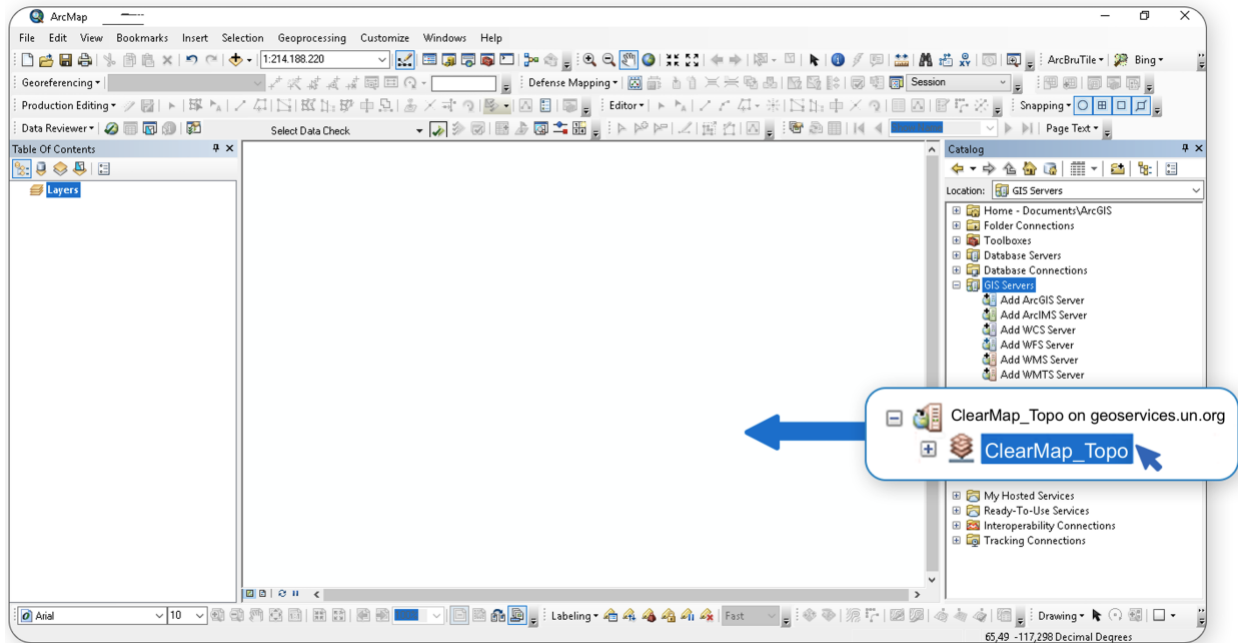


Figure 4 – Drop service into map frame

3. In the table of contents switch on the preferred layers (Figure 5);

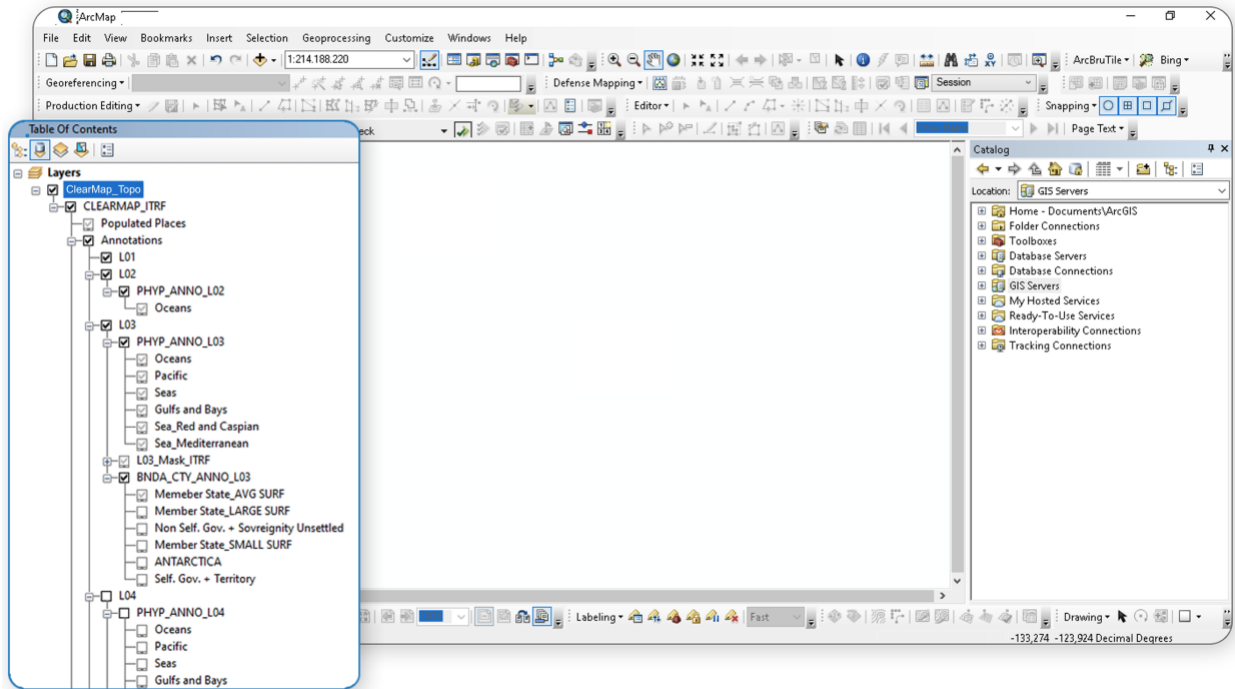


Figure 5 - Switch on preferred layers



## HOW TO USE WMS IN ARCGIS PRO

1. Sign into the **UN GeoPortal**, click **Catalog Pane** and then in Catalog go to Portal Items and search for the WMS (Figure 6);
2. Right click the WMS, then click **Add to New**, then **Map** (Figure 7);

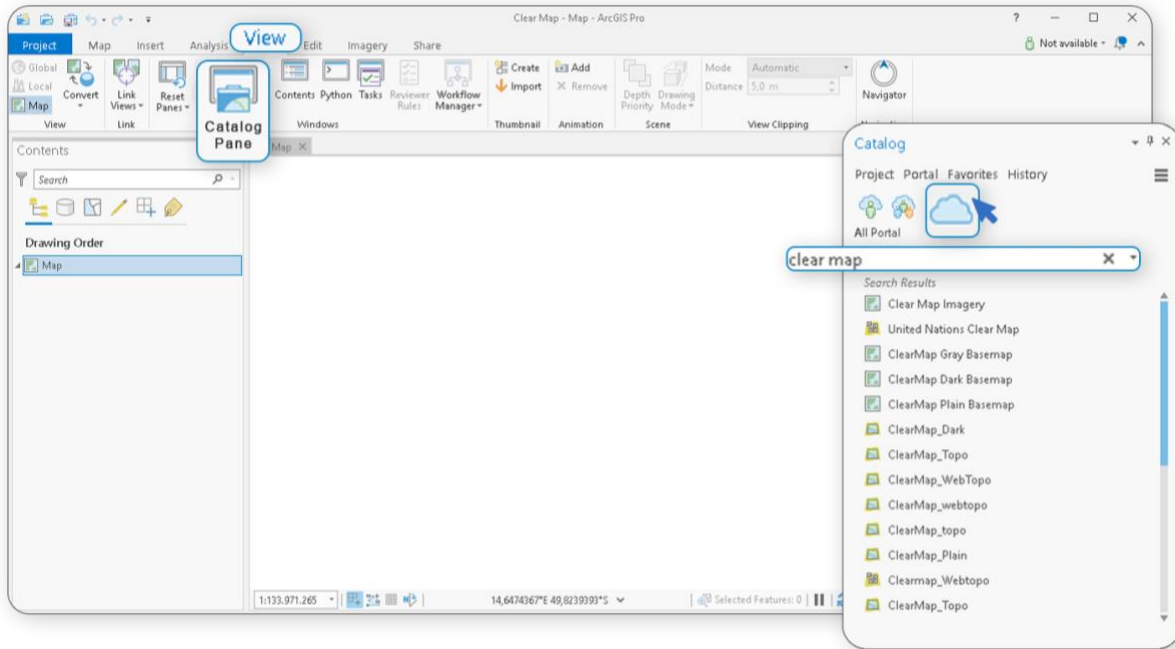


Figure 6 - Search for WMS in Catalog.

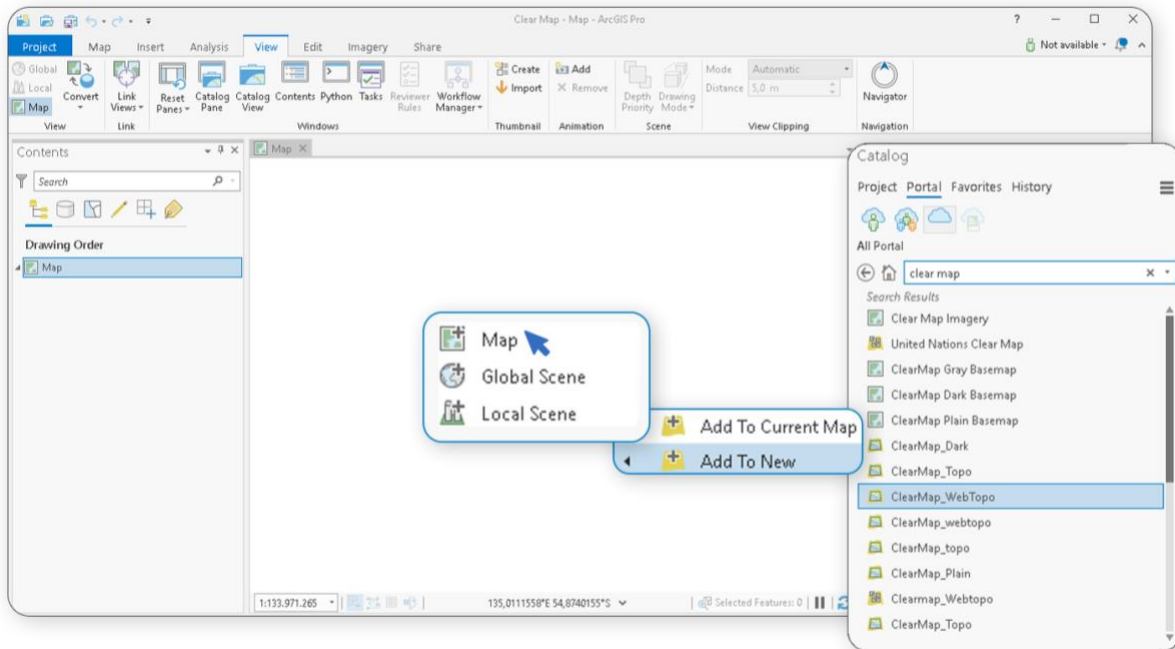


Figure 7 - Add WMS to a Map.



3. In the Content Pane on the left, you can see now the WMS layers (Figure 8).
4. Switch on the needed layers to be visible on the map.

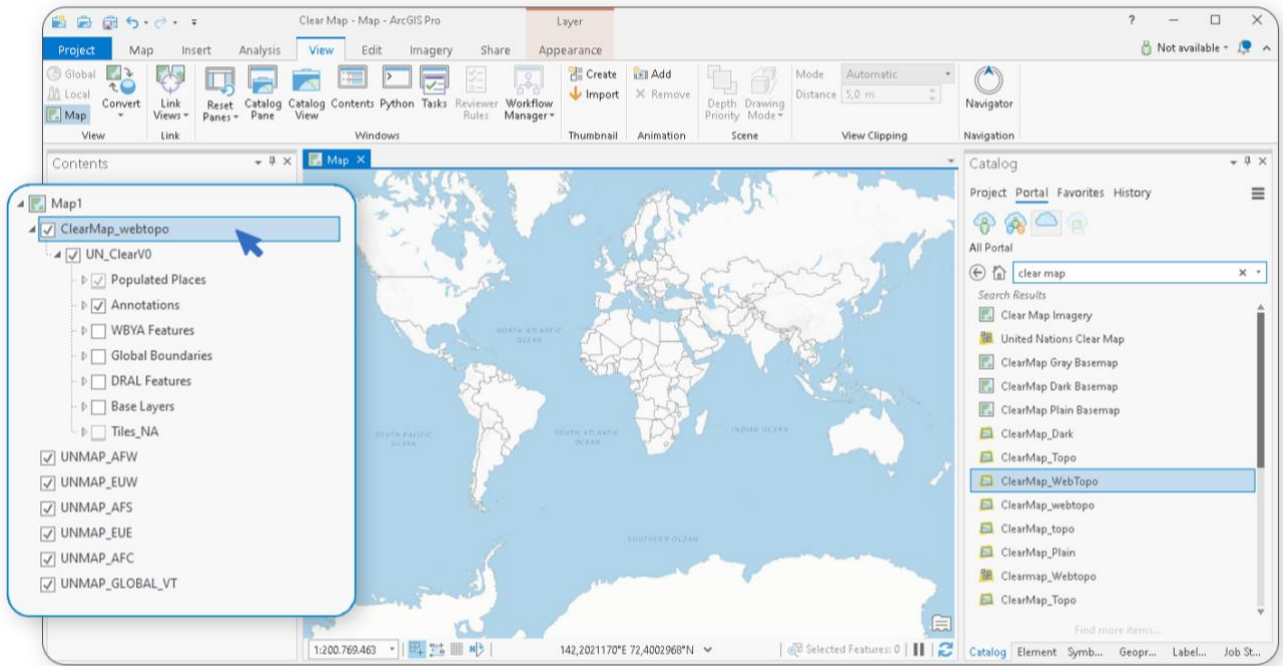


Figure 8 - WMS layers list in the content pane.



## HOW TO USE WMS IN TABLEAU

To add or import a WMS server.

1. Select Map > Background Maps > WMS Servers. (Figure 9);

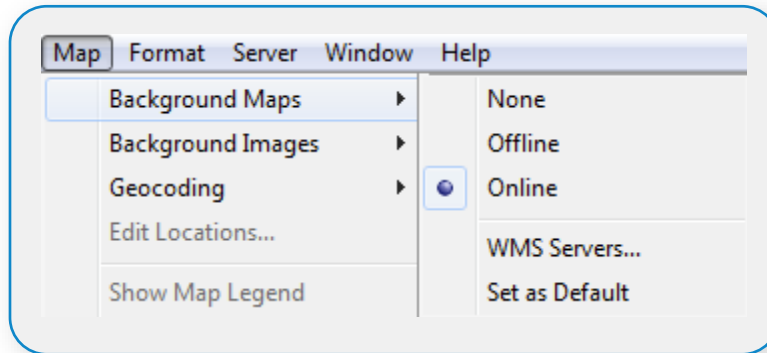


Figure 9 - Import WMS server.

2. In the WMS Server Connections dialog box, click **Add** (Figure 10).

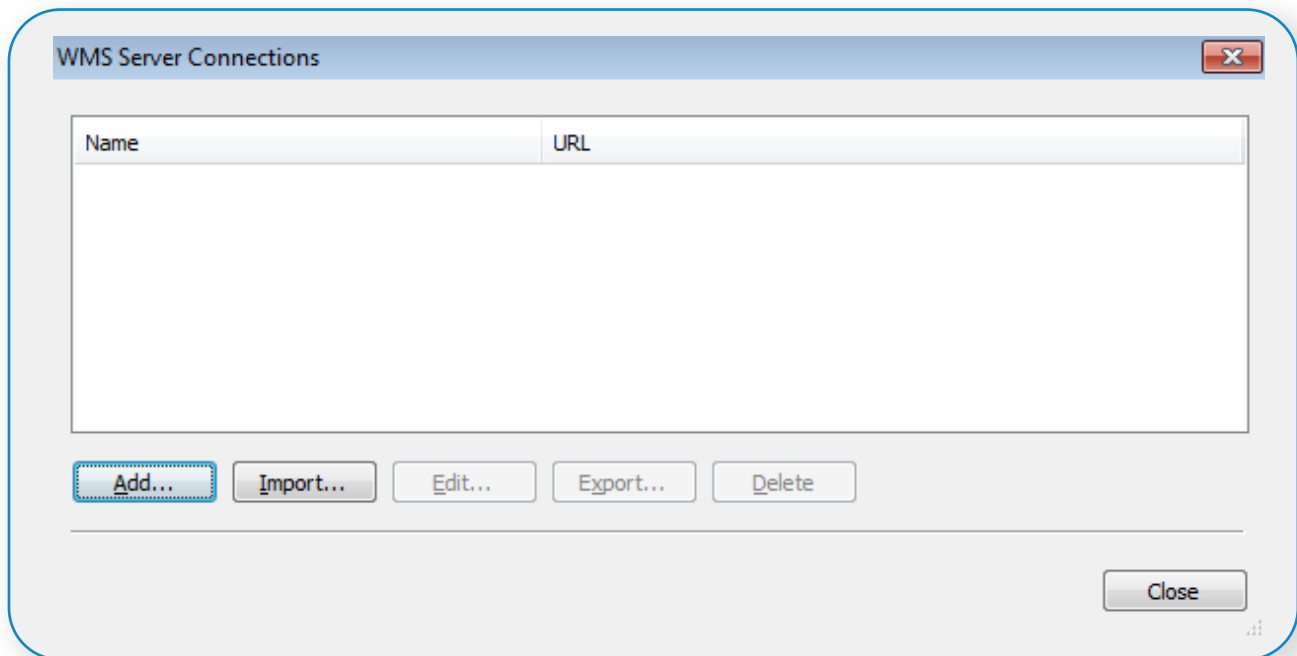


Figure 10 - WMS Server Connection dialog box.

- In the Add WMS Server Connection dialog box, type or paste the URL of the WMS server (Figure 11).

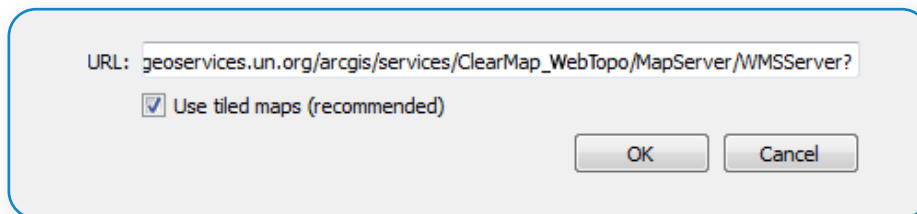


Figure 11 - Add WMS URL.

This is the WMS server link to enter:

[https://geoservices.un.org/arcgis/rest/services/ClearMap\\_WebTopo/MapServer/WMServer?](https://geoservices.un.org/arcgis/rest/services/ClearMap_WebTopo/MapServer/WMServer?)

- When finished, click OK. The URL for the WMS appears in the WMS Server Connections dialog box (Figure 12)

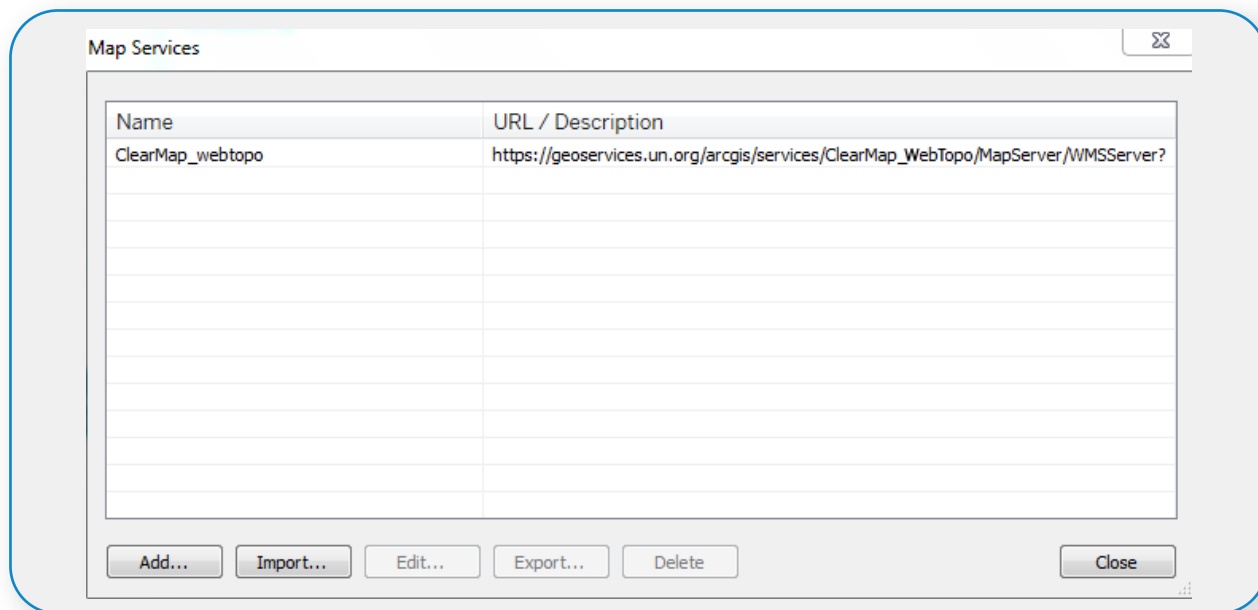


Figure 12 - WMS Server Connection Dialog Box.

- Also, a link to this WMS server is added to the Background Maps sub-menu (Figure 13).

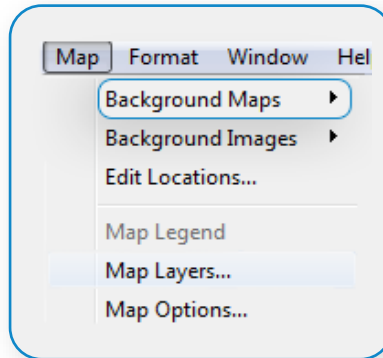


Figure 13 - Background Maps Sub menu.

- Choose the WMS server from the Background Maps sub-menu;
- Select **Map > Map Layers** (Figure 14), and then select the map layers you want to show in the view.

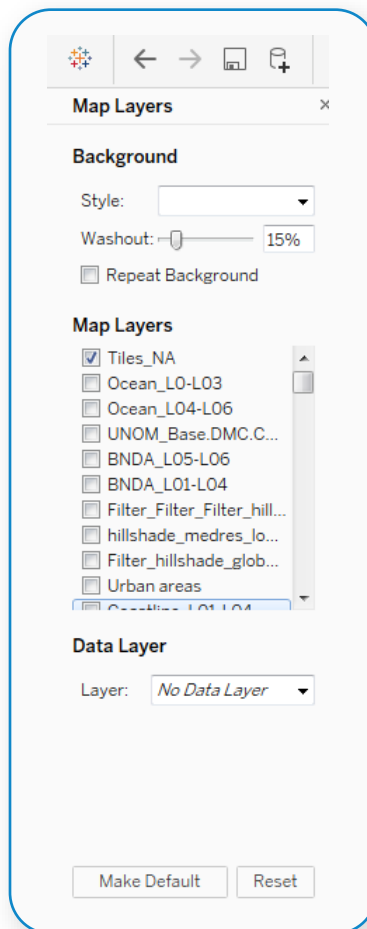


Figure 14 - List of layers.

8. Switch on the layers that you need. The results will be shown on the map as in Figure 15.

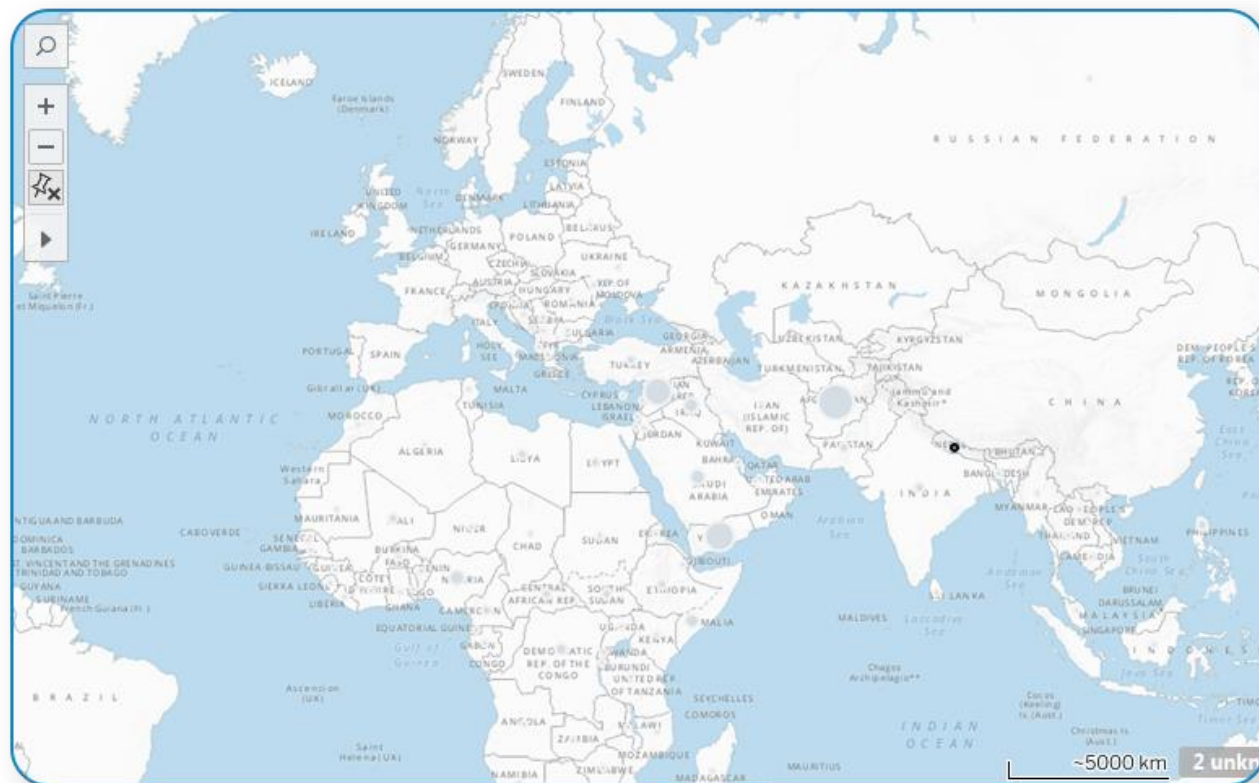


Figure 15 - Results on the map.

## HOW TO USE WMS IN A WEB SITE

One of the ways you can embed UN Clear Map is to include it in a web page such as a blog or your organization's website. The attached HTML files below contain the code you needed.

There are three options:

1. Using OpenLayers
2. Using Leaflet
3. Using ArcGIS Maps SDK for JavaScript

### USING OPENLAYERS ([HTTPS://OPENLAYERS.ORG/](https://openlayers.org/))

Copy the code below in text editor and save it as an html file. The URL string for the service is the one enlightened in red colour.

```
<html>
<head>
  <title>OpenLayers - UN ClearMap</title>
  <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/ol@v9.2.4/ol.css" type="text/css">
  <style>
    .map {height: 100%;width: 100%;}
    .attribution {position: absolute;bottom: 10px;left: 10px;font-size: 12px;
background-color: rgba(255, 255, 255, 0.8);
padding: 5px;border-radius: 5px; max-width: 400px;z-index: 999;}
  </style>
  <script src="https://cdn.jsdelivr.net/npm/ol@v9.2.4/dist/ol.js"></script>
</head>
<body>
  <div id="map" class="map"></div>
  <div id="attribution" class="attribution" >
  <a href="https://openlayers.org/" > OpenLayers </a> | Powered by
  <a href="https://www.esri.com/en-us/home" > Esri </a> | Produced by United Nations Geospatial
  </div>
  <script>
  // Initialize the map
  var arcgisRestSource = new ol.source.TileArcGISRest({url:
"https://geoservices.un.org/arcgis/rest/services/ClearMap_WebGray/MapServer"});
  var map = new ol.Map({target: 'map',layers: [
    new ol.layer.Tile({source: arcgisRestSource}),
    view: new ol.View({center: ol.proj.fromLonLat([10, 0]), zoom: 3, minZoom: 3, maxZoom: 6})
  ]});
  </script>
</body>
</html>
```



Figure 16 - OpenLayers.

## USING LEAFLET ([HTTPS://LEAFLETJS.COM/](https://leafletjs.com/))

Copy the code below in text editor and save it as an html file. The URL string for the service is the one enlightened in red colour.

```
<html>
<head >
  <title>Leaflet - UN ClearMap</title>
  <!-- Load Leaflet from CDN -->
  <link rel="stylesheet" href="https://unpkg.com/leaflet@1.9.4/dist/leaflet.css" integrity="sha256-
p4NxAoJBhIIN+hmNHzRCf9tD/miZyoHS5obTRR9BMY=" crossorigin="" />
  <script src="https://unpkg.com/leaflet@1.9.4/dist/leaflet.js" integrity="sha256-
20nQCcB9co0qIjJZRGuk2/Z9VM+kNiyxNV1lvTlZBo=" crossorigin=""></script>
  <!-- Load Esri Leaflet from CDN -->
  <script src=https://unpkg.com/esri-leaflet@2.1.1/dist/esri-leaflet.js crossorigin=""></script>
</head>
<body id="mainpage">
  <div id="divmap" style="width: 100%; height: 100%; border-color: black;">
  </div>
  <script>
  // Initialize the map
  var map = L.map('divmap').setView([10,0], 3);
  L.esri.tiledMapLayer({
    url: "https://geoservices.un.org/arcgis/rest/services/ClearMap_WebGray/MapServer",
    minZoom: 3,
    maxZoom: 6
```

```

    }).addTo(map);
</script>
</body>
</html>

```



Figure 17 - Leaflet.

**USING ARCGIS MAPS SDK FOR JS ([HTTPS://DEVELOPERS.ARCGIS.COM/JAVASCRIPT/](https://developers.arcgis.com/javascript/))**

Copy the code below in text editor and save it as an html file. The URL string for the service is the one enlightened in red colour.

```

<html>
<head >
  <meta charset="utf-8">
  <meta name="viewport" content="initial-scale=1, maximum-scale=1, user-scalable=no">
  <title>ArcGIS API - UN Clear Map</title>
  <style>
    html, body, #viewDiv {
      padding: 0;
      margin: 0;
      height: 100%;
      width: 100%;
    }
  </style>
  <link rel="stylesheet" href="https://js.arcgis.com/4.31/esri/css/main.css">
  <script src="https://js.arcgis.com/4.31/"></script>

```



```

<script>
require([
  "esri/views/MapView",
  "esri/Map",
  "esri/geometry/Extent",
  "esri/layers/MapImageLayer"],
function(MapView, Map, Extent, MapImageLayer) {
const map = new Map({
  });
// references an ArcGIS Online item pointing to a Map Service Layer
const layer = new MapImageLayer({
  url: "https://geoservices.un.org/arcgis/rest/services/ClearMap_WebGray/MapServer"
});
map.add(layer);
// adds the layer to the map
view = new MapView({
  container: "viewDiv",
  map: map,
  center: [10, 0]
});

view.extent = new Extent({
  // -15900639.094799204, -3053906.335149021, 18807108.475585803, 7304187.080387755
  xmin: -919690.324327,
  ymin: 4250663.142939,
  xmax: 919690.324327,
  ymax: 7366389.289899,
  spatialReference: {
    wkid: 3857
  }
});
});
</script>
</head>
<body>
  <div id="viewDiv"></div>
</body>
</html>

```



Figure 18 - ArcGIS Maps SDK for JavaScript.

## HOW TO USE CLEARMAP IN POWER BI

Open Power BI, go to visualization and click the ArcGIS Maps for Power BI icon in the visualizations pane (Fig. 19)

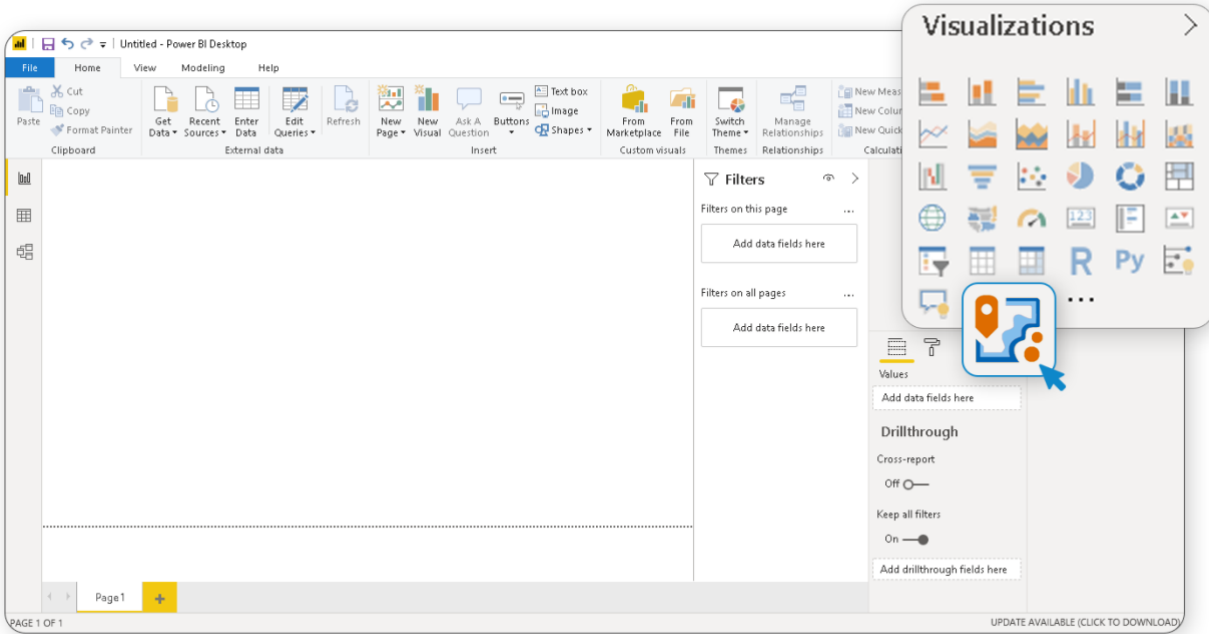


Figure 19 - Open ArcGIS maps for Power BI.

A box will be displayed. Select ArcGIS Enterprise, type the following URL: <https://geoportal.un.org/arcgis> then click the **Sign in** Button (Fig. 20)

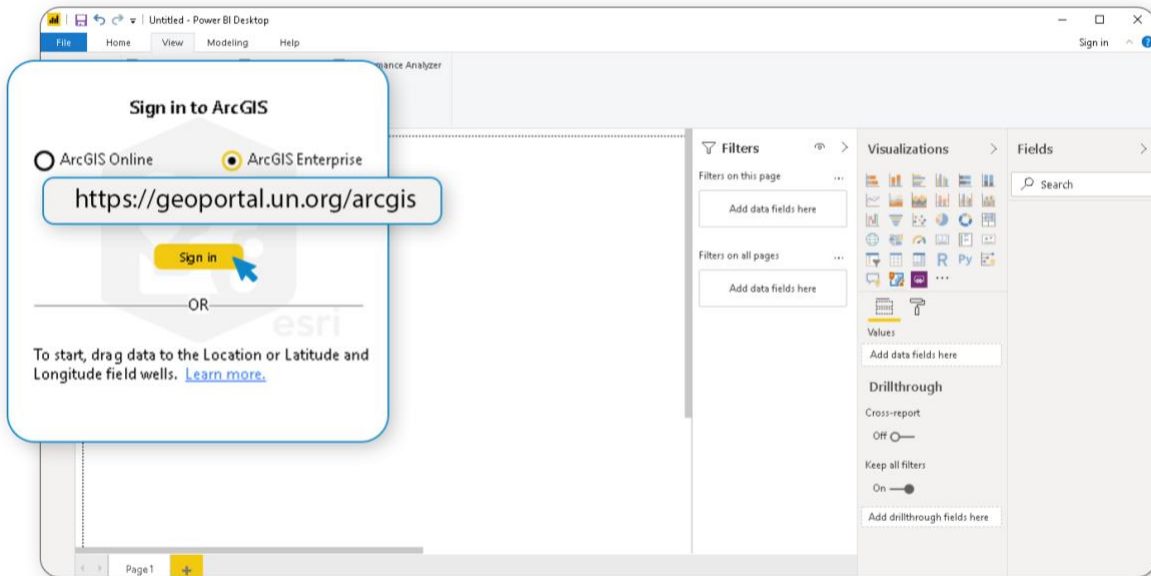


Figure 20 - Connect to UN Geoport.

Once the Sign in button has been pressed you will be requested to authenticate to UN Geoportal. Use your email address and the Unite ID password (Fig. 21):



Figure 21 - Authentication through Unite ID.

After a successful login your name, surname and email will be displayed in the box (Fig. 22)

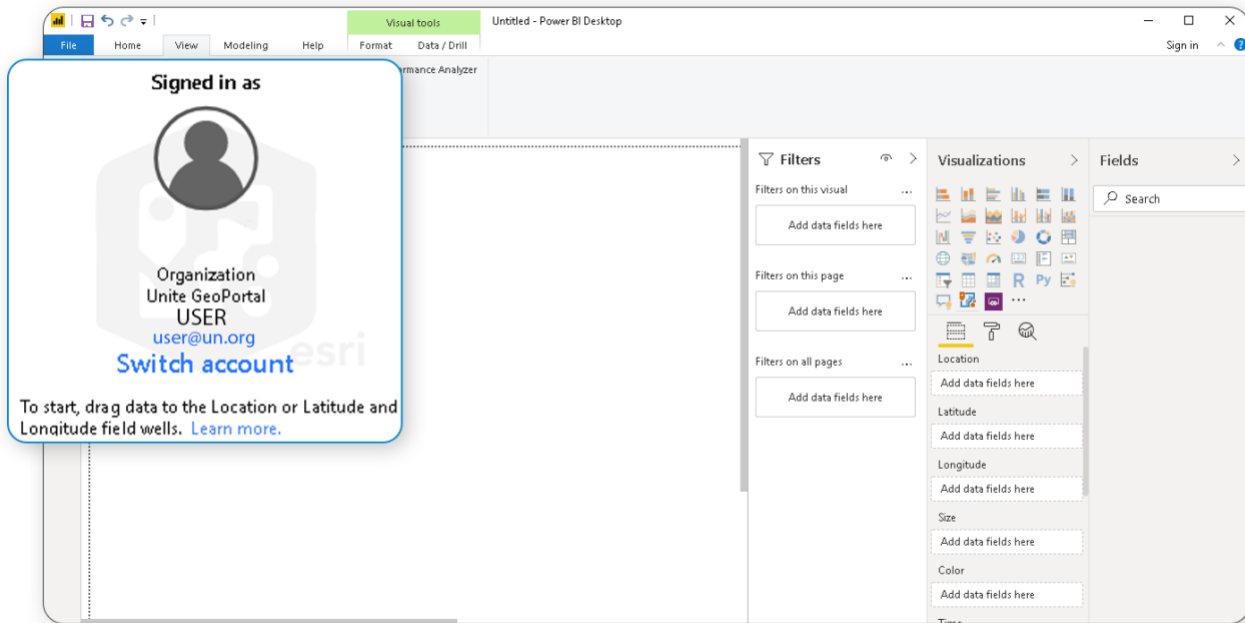


Figure 22 - Power BI is connected to the UN Geoportal.

As a report author, when you first create a map with ArcGIS Maps for Power BI, you must add location data to the map to activate the visual and see the map tools.

Click **Get Data** in the top toolbar and select the type connection to your data source. In our example we will select **excel** since our data are on an excel file (Fig. 23)

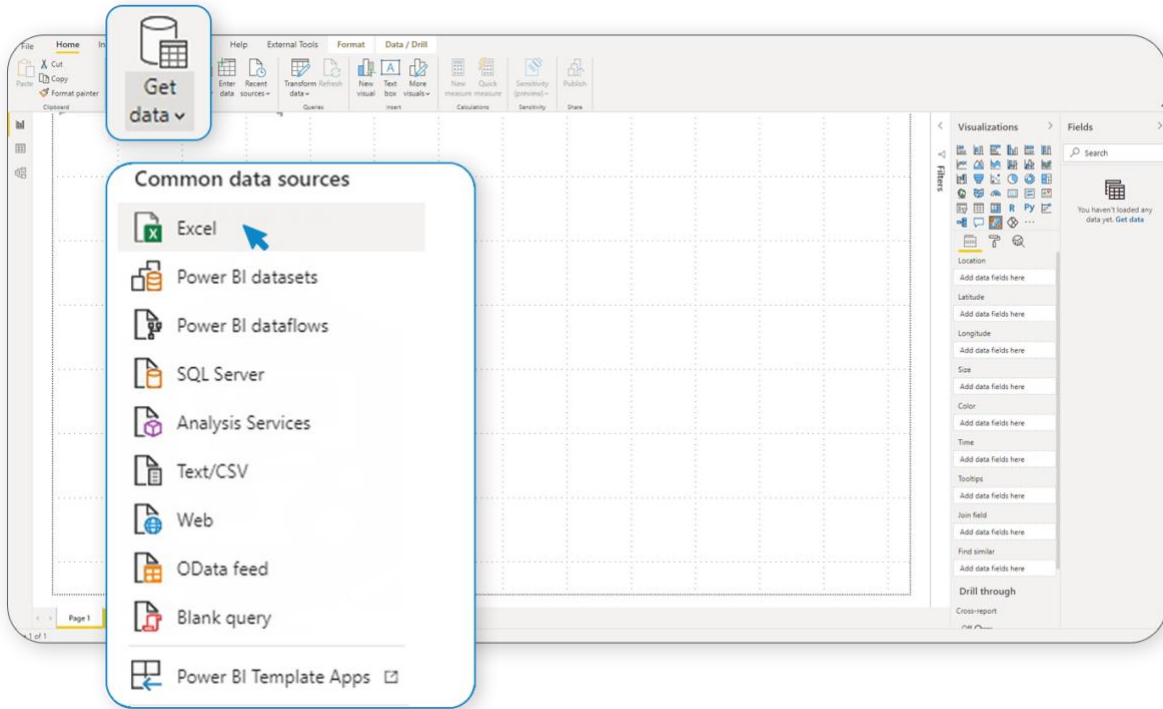


Figure 23 - Get data.

Select your file from folder and Open it (Fig. 24)

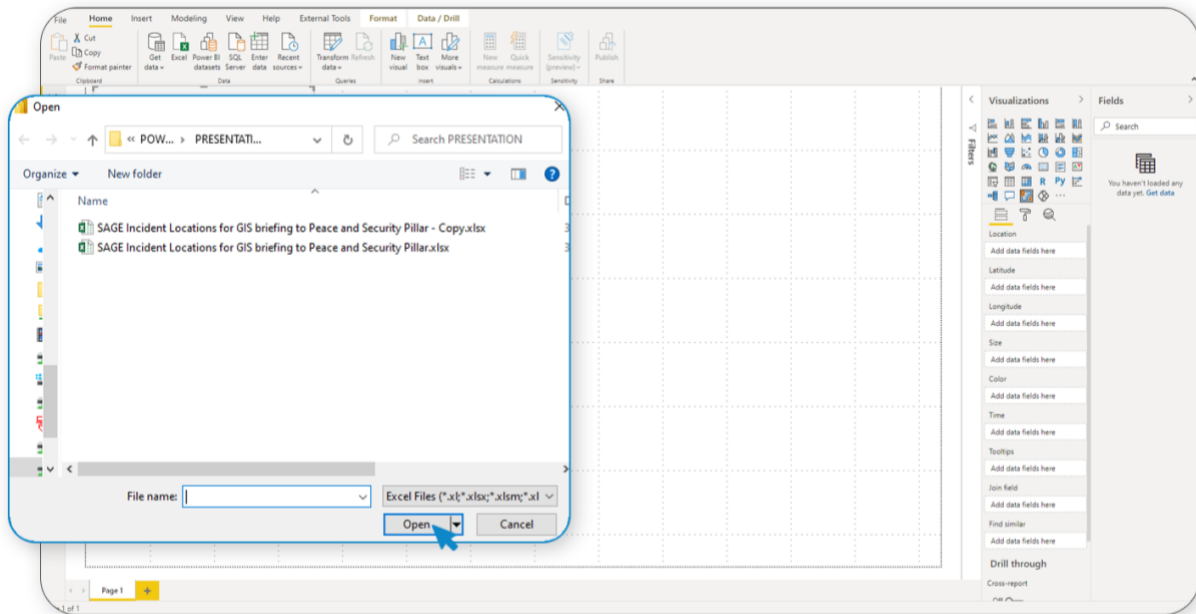


Figure 24 - Open data file.

Select the table you want to import from the file and then click the Load button (Fig. 25)

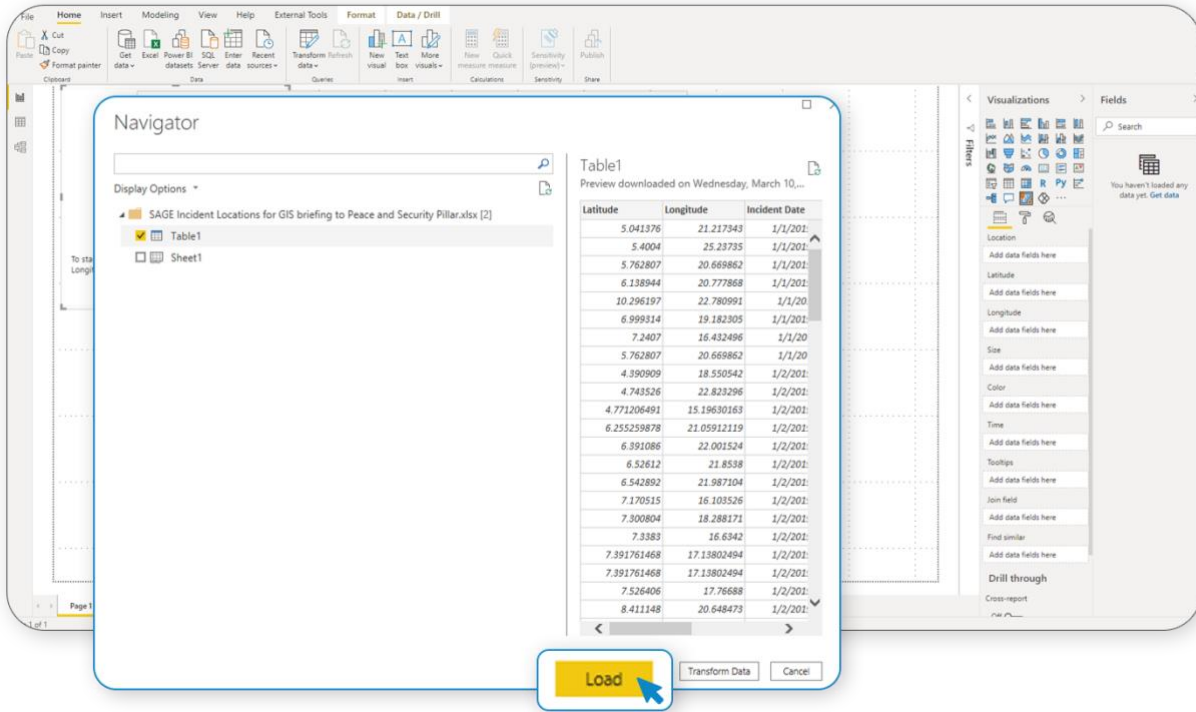


Figure 25 - Load data.

Once the data is loaded, the data structure will be displayed in the Fields right pane (Fig. 26)

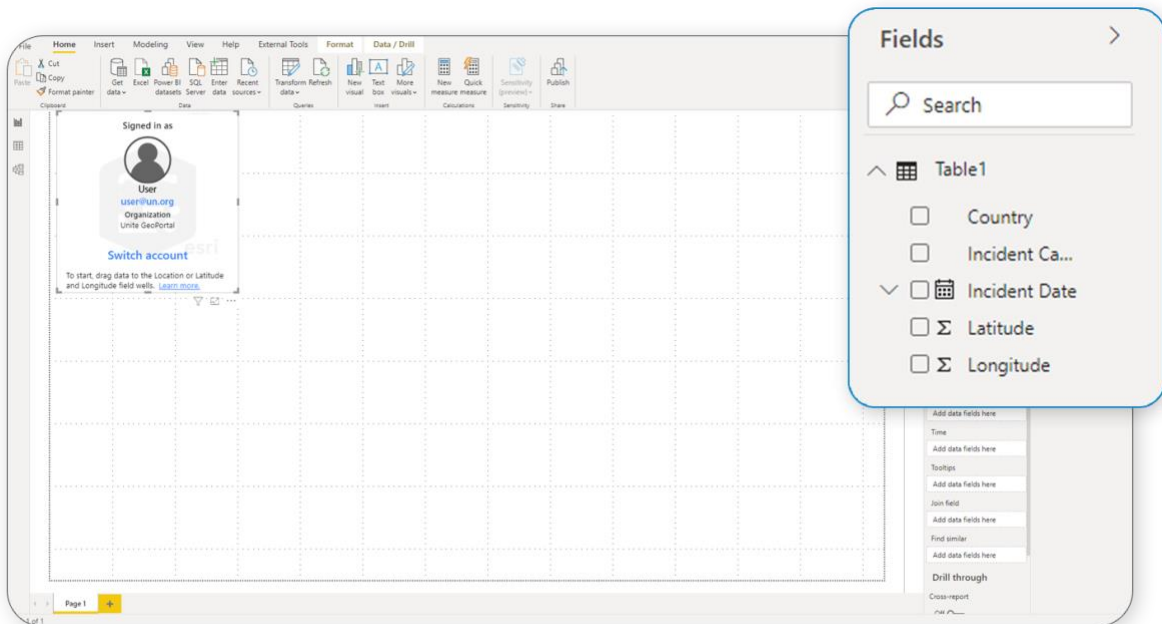


Figure 26 - Data Fields.

Drag latitude and longitude coordinates from **Fields** and drop them into the appropriate **Latitude** and **Longitude** fields in the **Visualizations** pane (Fig. 27) (Alternatively you can drag a location from Data Fields and drop to the Location field in the in the **Visualizations** pane)

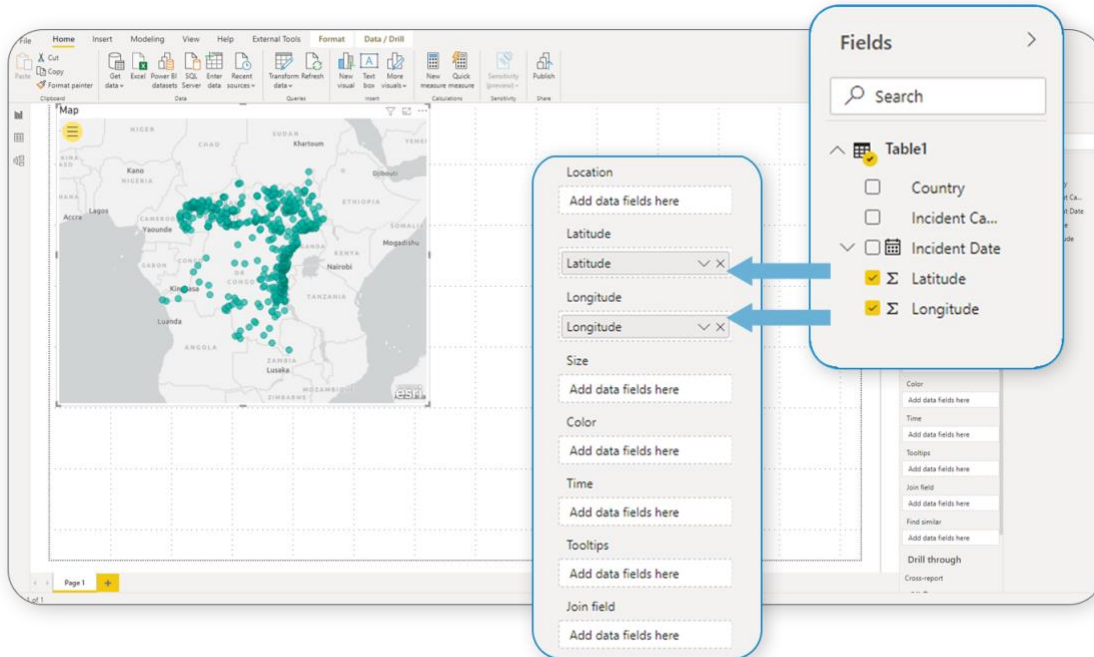


Figure 27 - Drag and drop data in visualization fields.

On the left-hand side of the map, click the 3 horizontal line yellow (hamburger) button. This will open the ribbon containing the available map tools (Fig. 28)

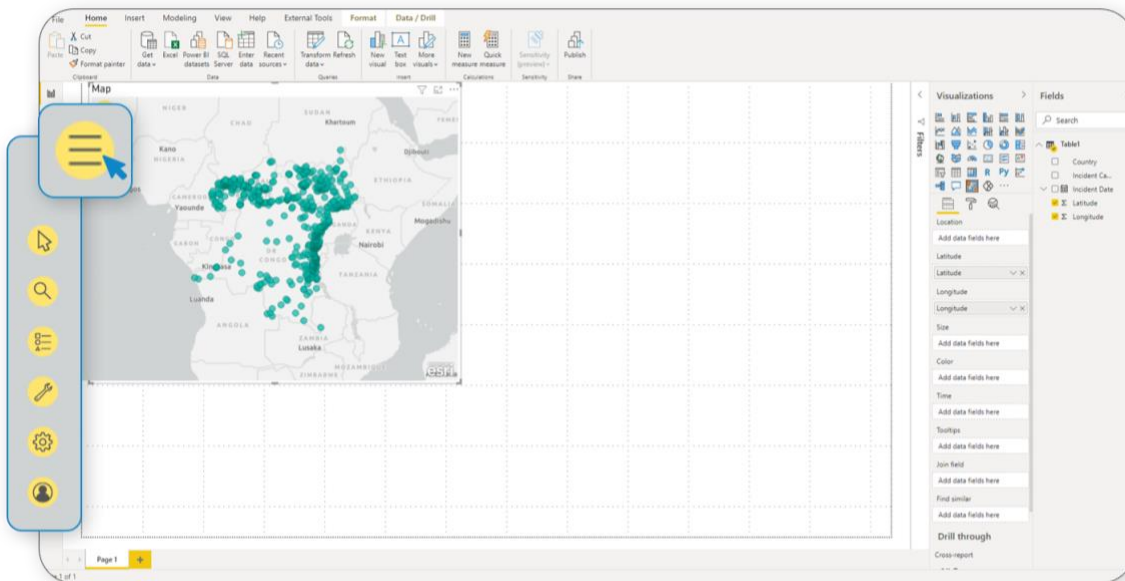


Figure 28 - Map tools.



To add a clear map, click the basemaps icon. If the icon is not available you have to enable it. Click the Paint Roller icon in the Visualizations pane and then switch on **Basemaps**. It be now displayed in the ribbon (fig. 29).

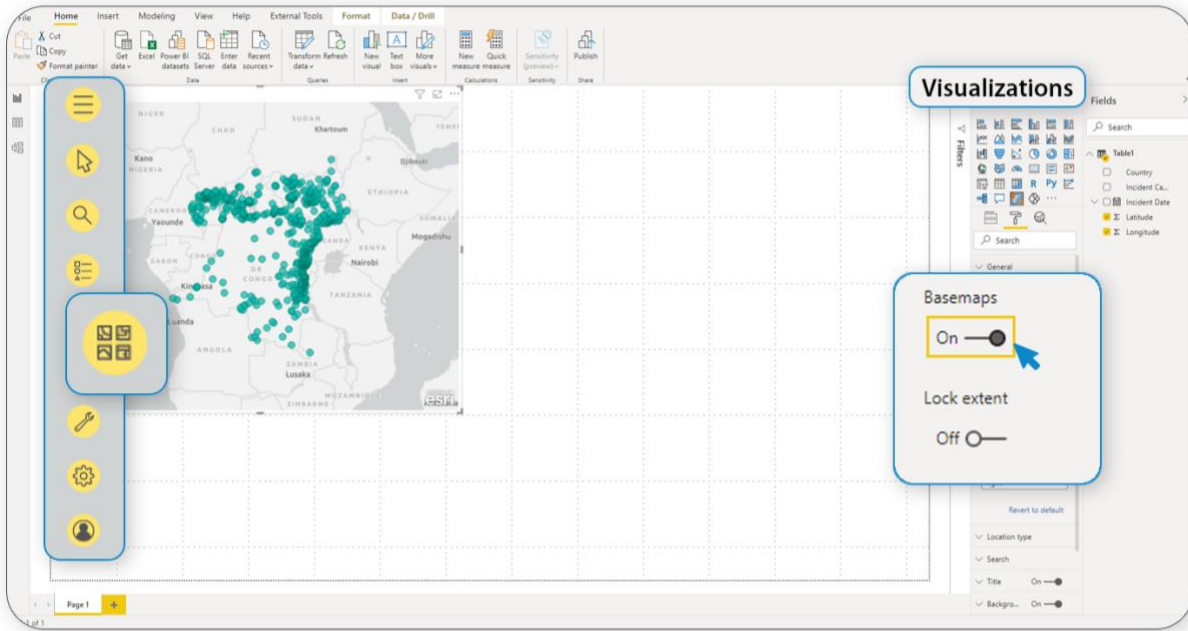


Figure 29 - Basemaps tool.

Click the Basemaps icon, a popup including all available maps will be displayed (Fig. 30)

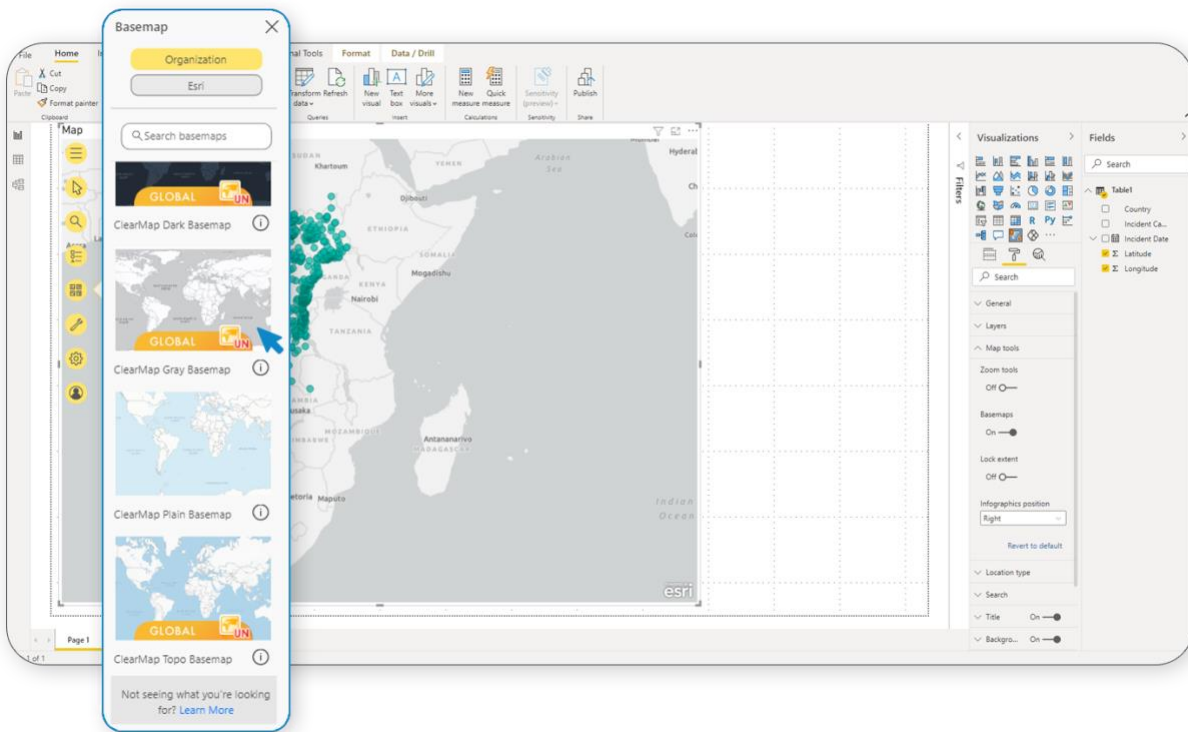


Figure 30 - Select ClearMaps.



Choose your favorite ClearMap style (Fig. 31-34)

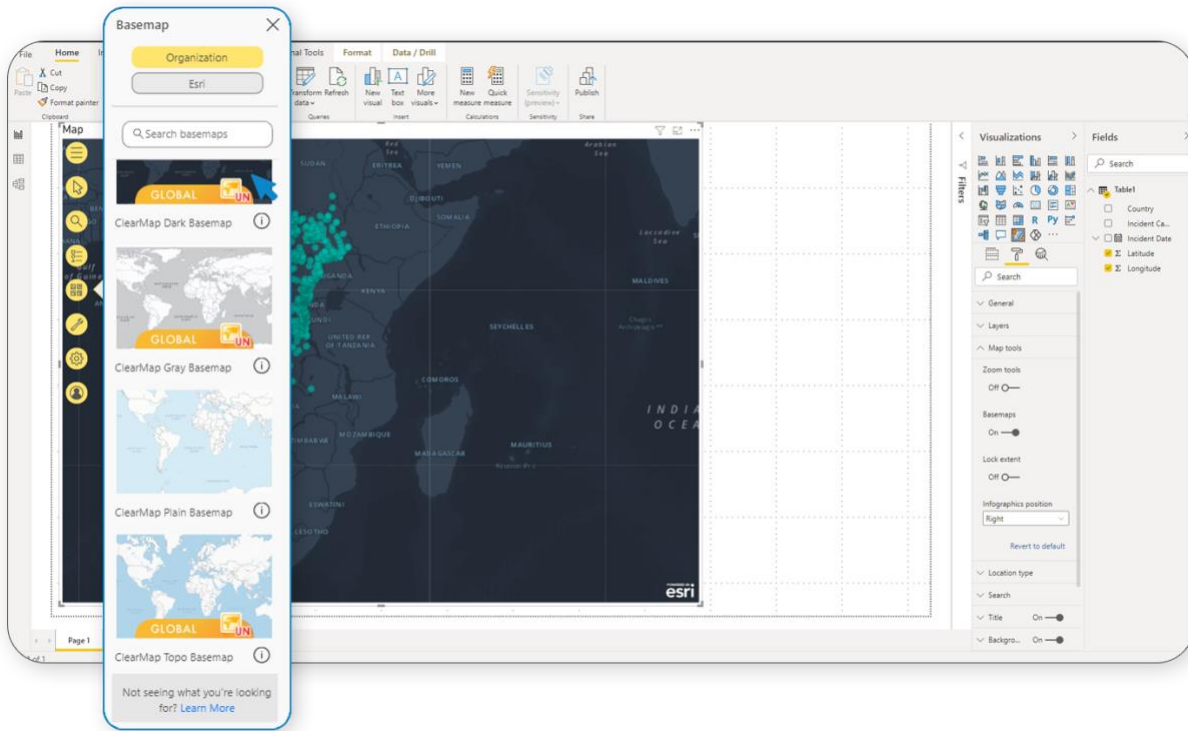


Figure 31 - ClearMap Dark Basemap.

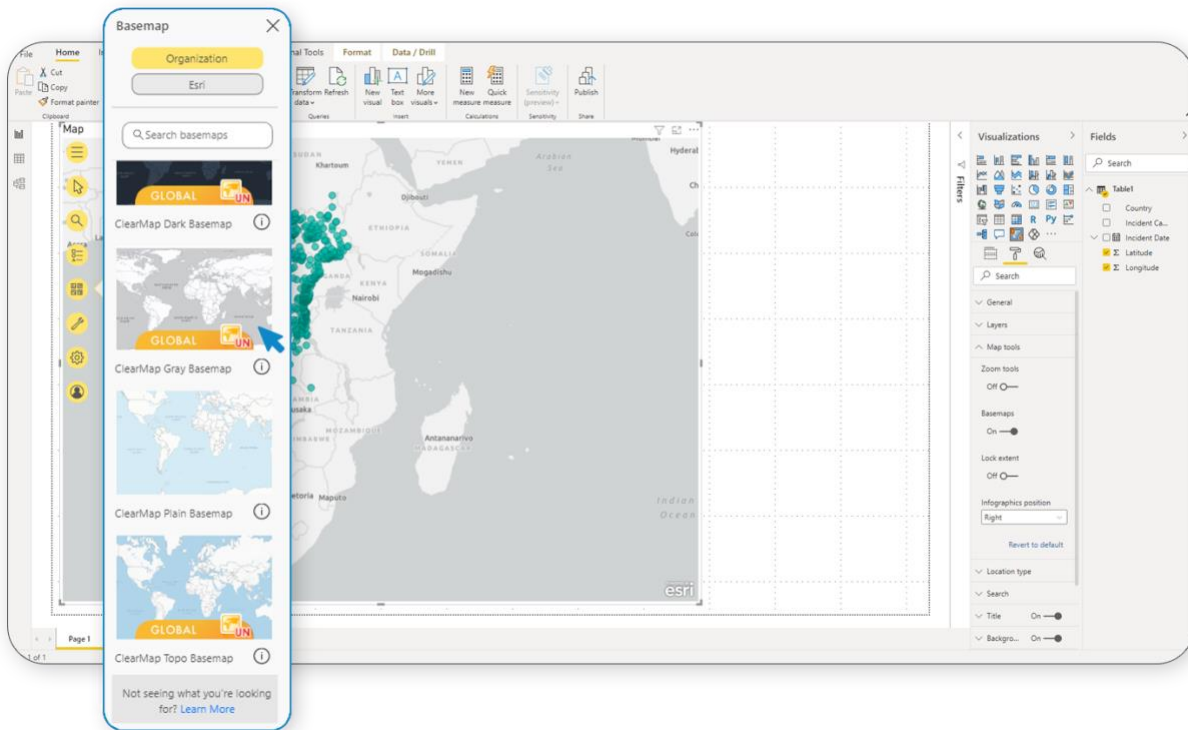


Figure 32 - ClearMap Gray Basemap.

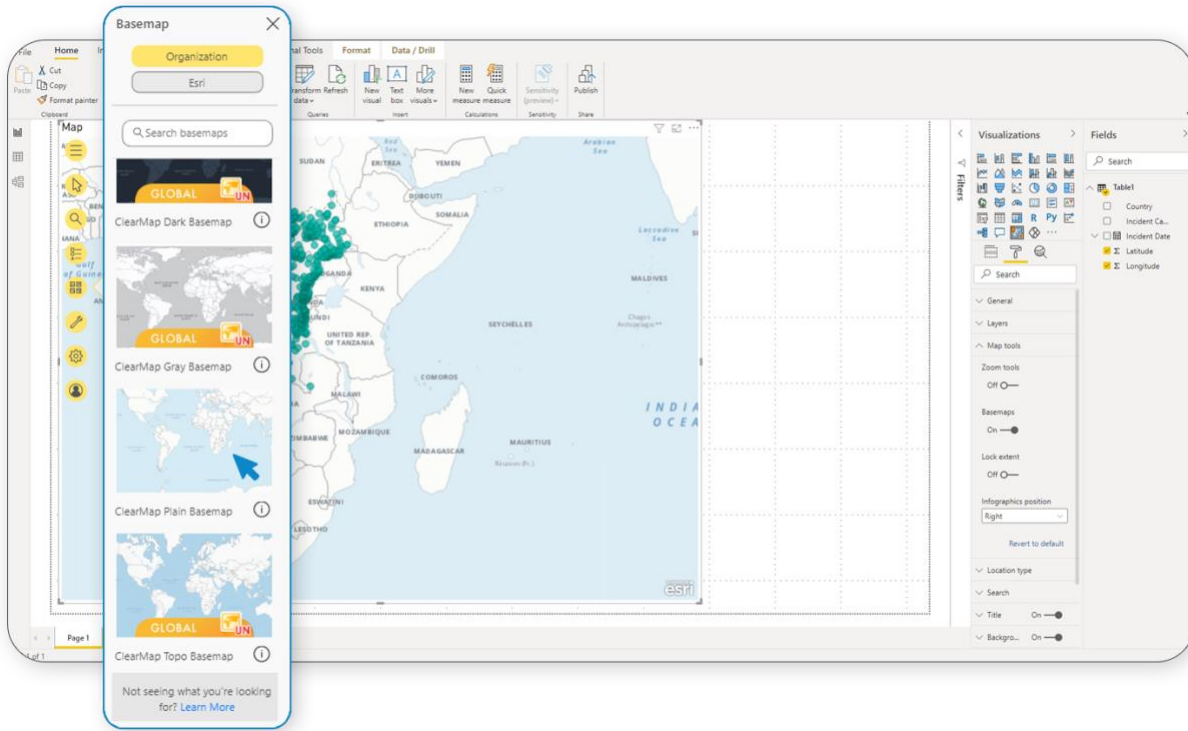


Figure 33 - ClearMap Plain Basemap.

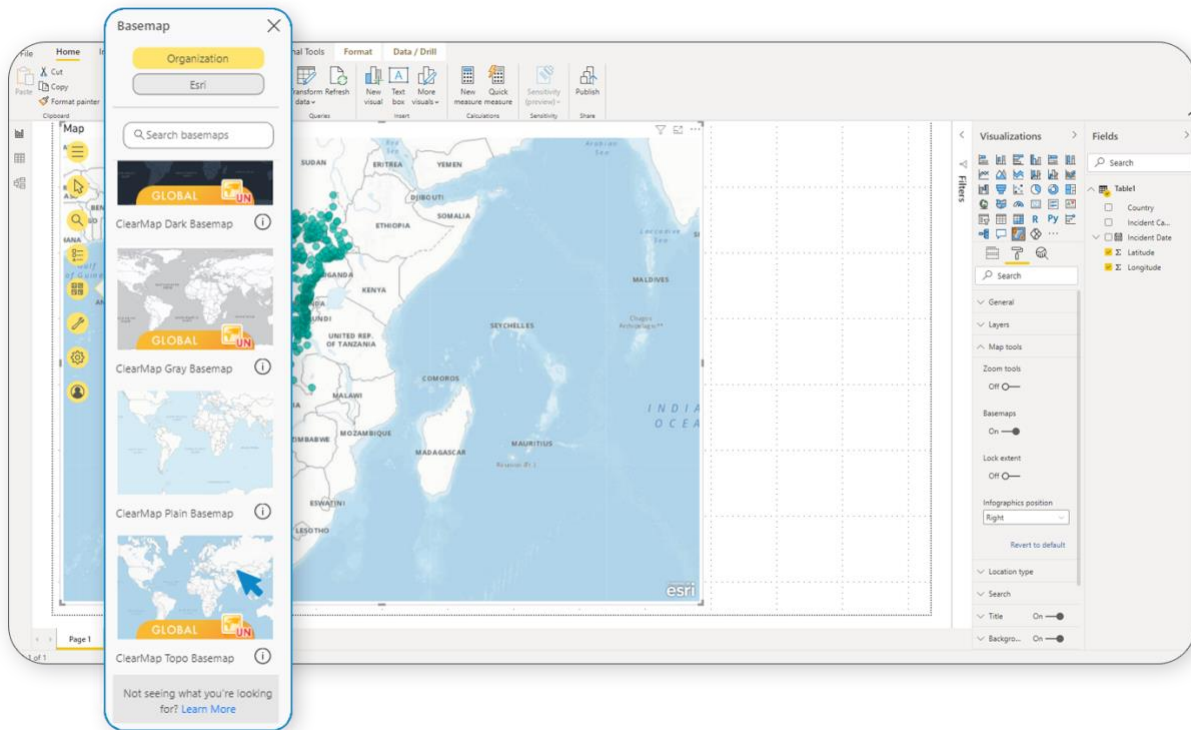


Figure 34 - ClearMap Topo Basemap.