### **Problem & background**

A heat map, otherwise known as a [choropleth map](https://www.espatial.com/mapping-software/heat-maps), displays data over a geographic area using different colours and shades to represent datasets. More than just a coloured map, a geographical heat map can cover a small, specific area, or a large area, and helps visualize data points in each included region of the map based on colour.

A commonly cited example of a heat map is a simple population data visualization. You will have seen a map like this for a particular country, region, or entire globe. Darker shades of colour represent areas of higher population density, and cooler or lighter colours are used for less-populated parts.

### **Solution**

Bring the heat by creating a geographical heat map to visualize data variation by region. A geographical heat map uses colour shading to display how values differ based on location. Excel recognizes geographic locations including countries, states, counties, and postal codes.

### **Methodology & Project scope**

A step-by-step process that helps to make this Geographical Heat map more visual and fun by locating different countries in maps.

* I have collected the data of the top 20 Millionaires of the world and plotted them on a 3D- World Map by using colour coding which is more attractive to look at.
* It displays the rank, city, country, and number of millionaires in a specific country/region.
* To show the latitude and longitude of USA Airports, I have created a colourful map that is plotted with colour coding and displays the latitude and longitude measuring.
* To locate the data on the population and density of states, regions, and countries.
* I have taken a huge amount of data on the population of different countries, by using the pivot table I have selected specific data which I want to plot on the maps.
* To plot the area, population, and density of India, I have linked the sheet with a website called WIKIPEDIA of India.
* Using power query, I have plotted the population, density and area of specific states using 2D maps.
* As I have linked with the website, if there are any changes or updates in WIKIPEDIA, by refreshing the excel sheet, the changes occur in the data, and it updates in the map.

|  |
| --- |
| **Note: I have created 3D maps for the data which are available on this sheet** |
| **Go to Customise ribbon >Insert > 3D maps> Open >Launch 3D maps** |

### 

### **Goals & KPIs**

### How will you measure the success of your project?

* **Goal 1:** To plot the top 20 Millionaires on a 3D Map.
* **Goal 2:** To plot the latitude and longitude of USA Airports in a 3D Map
* **Gain 3:** To display the density of different countries, regions and states 3D Map.
* **Gain 4:** To display the population, area and density of specific states, unions and territories of India in a 2D Map.

### **Concepts Used**

Concepts used in the project From Module 1

* **Concept 1:** Colour coding
* **Concept 2:** 3D Maps, 2D Maps
* **Concept 3:** Data Validation
* **Concept 4:** Conditional Formatting
* **Concept 5:** Power Query
* **Concept 6:** Pivot table
* **Concept 7:** Import data from Online Webpage / Link with the webpage

### 

### **Conclusion**

A Geographic Heat Map is an interactive visualization that displays your data points on a real map and signifies areas of low and high density. Making your Geographical heat map is a fun way to visualize longitude and latitude data. Data you can visualize using geographical heat maps.

### **Project owner**

Name: Ravuala Poojitha

Date: 06-03-2023

[GEOGRAPHICAL HEAT MAPS.xlsx](https://1drv.ms/x/s!AplAhv83raCkiQzNafJbW3OOne3i?e=uWzPgc)

### 