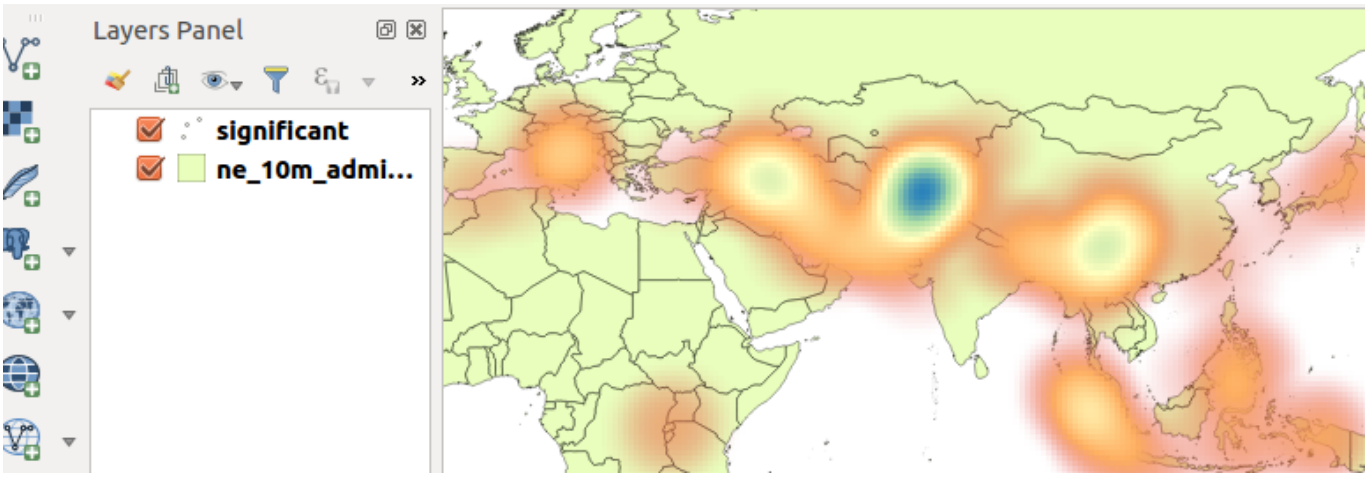
# Section : . Symbology

***Module : . Heatmaps***

## Heat maps in Context

*"Heat map visualizes hotspots in the distribution of features on the map i.e. dense areas will be highlighted in a heat map, based on the parameters you use for processing it"*

In this module, we explore heat maps as a point symbolisation technique.




## You try:

***Goal: To learn creating heat maps as a symbolisation technique***

**Data**: heatmaps/earthquake.csv and *ne_10m_admin_0_countries* from heatmaps/ne.sqlite.

- Load the earthquake layer as a spatial layer.
- Load the ne_10m_admin layer
- Change the country layer transparency as specified
- Change the layer order to put the point layer on top
- Open the properties of the point layer and click the style tab.
- Change to the specified render type
- Choose the specified colour ramp
- Apply the changes and observer the map
- Why does the whole map colour change?
- Edit the colour ramp. Make colour 1 transparent.
- Apply the changes and observer.
- Open the properties of the point layer and change rendering quality to fastest. Observe the changes.
- Change the weight points by option to use the specified attribute.

NB: What can you infer about the intensity of the heat map in relation to deaths?

| Name | Expectation |
|---|---|
| Render | Heat map |

| | |
|---|---|
| Country transparency | 70 |
| Colour ramps | Spectral |
| Attribute | Deaths |

### More about

Heat maps use colour to communicate relationships between data values that would be difficult to understand if presented numerically in a spreadsheet or attribute table. A colour ramp helps to visualise a heat map with low values having colours at the bottom of the colour ramp and high intensity values corresponding to darker values on the colour ramp.

### Check your knowledge:

1. When would it be useful to use a colour ramp:
   a. *To depict how a player was behaving during a soccer match.*
   b. *To show that the layer being represented is a vector layer.*
   c. *Heat maps can also be applied to raster data.*
2. Which statement is false:
   a. *A colour ramp is used to show variation in a phenomena of interest*
   b. *Heat maps are extensively used by scientist*
   c. *Heat map points can be weighted by a discrete column*
3. A colour ramp is a type of vector analysis:
   a. *True*
   b. *False*

### Module video tutorial:

- https://youtu.be/hAHJMOUgEko

### Further reading:

- Heat-map-using-qgis: http://grindgis.com/software/heat-map-using-qgis
- Plugins_heatmap: http://docs.qgis.org/2.14/en/docs/user_manual/plugins/plugins_heatmap.html

Download the sample data for the lesson from http://changelog.qgis.org/media/images/lesson/worksheet/external_data/f25dbca4d158b19fe50a2ea59e76fe07490aadc6.zip.