Section: 3. Symbology
Module: 3.11. 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?

<table>
<thead>
<tr>
<th>Name</th>
<th>Expectation</th>
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<tbody>
<tr>
<td>Render</td>
<td>Heat map</td>
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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/hAHJMOUqEko

**Further reading:**

- Plugins_heatmap: http://docs.qgis.org/2.14/en/docs/user_manual/plugins/plugins_heatmap.html