QGIS – Rule Based Labelling

QGIS 2.12.0 was released in November 2015 and one of its many latest updates was the ability to define the type and style of labels by applying rules to label features differently. This is a fantastic enhancement as it allows you to create both, more high impact as well as intelligent maps. Follow the example below to start applying rule based labelling for your data.

Labelling in QGIS:

Labelling can be applied to a layer in order to add context to your map, for example the name of a listed building or Local Nature Reserve.
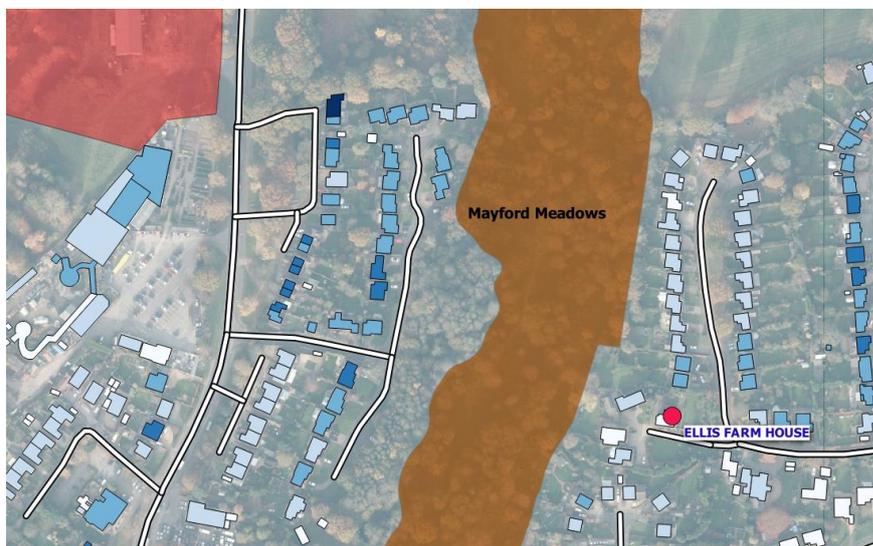
Labels are added using the **'properties'** associated to your layer. In the layer properties you can choose the field to label, the placement of the label and the style. However, all features in this layer have historically had to use the same label style.
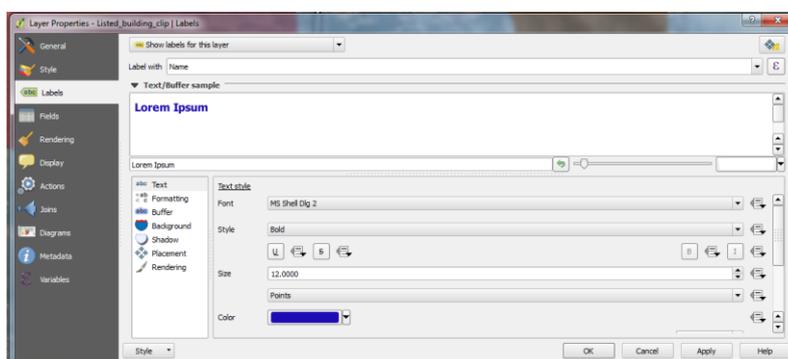
Rule Based Labelling in QGIS:

Now in **QGIS 2.12.0** you can create differently styled labels for features in the same layer. In the example below we will create Rule Based Labels for the OS MasterMap (OSMM) buildings using their **'Height'** field. Currently we have applied a thematic map to change the symbol colour of the OSMM features to represent the height of the buildings, from light to dark blue. In addition we can add a generic black text label to reveal the actual height values.
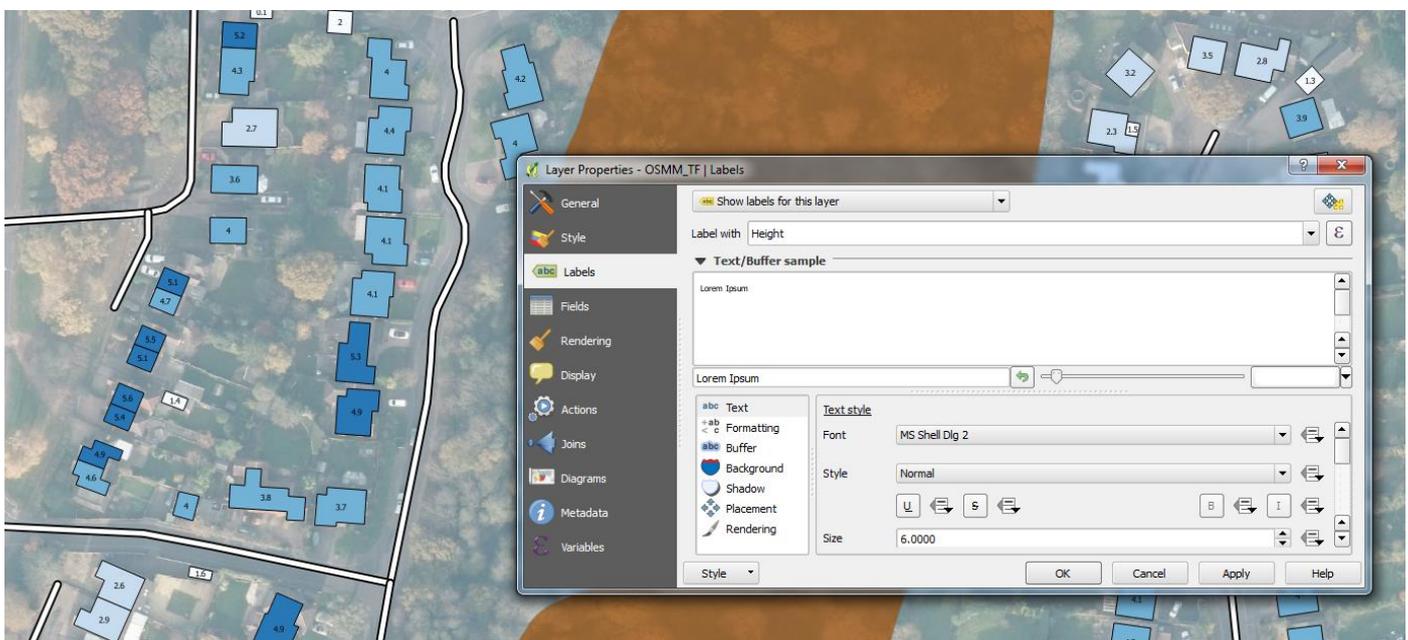
By using Rule Based Labelling we can now define the style of the labels based on an attribute within your data. For example here we will create labels to compliment the thematic map, whereby OSMM buildings with a high height value are styled dark blue and those with low heights are styled light blue.

Firstly, you will need to change the label options from 'Show Labels for this layer' to **'Rule-based labelling'**. Next choose to **Add a rule** using the Add button.

In the Rule Properties box you can provide a name for the rule e.g. 'Low Height' and then generate a filter which will act as the rule details:

By using SQL you can choose the field to select from and the operator and value to use, for example select where the 'Height' < (is less than) 3.
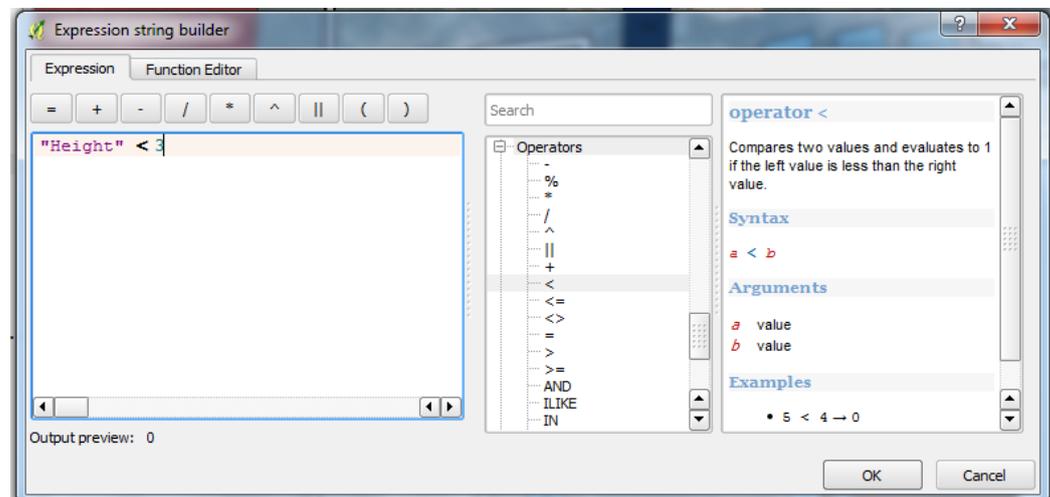
Having created the rule, you can now define which field to use for the label and then the style of the labels for any features that meet the filter. For the OSMM buildings with a low height we will apply a small font size (8) and a light colour (light blue).
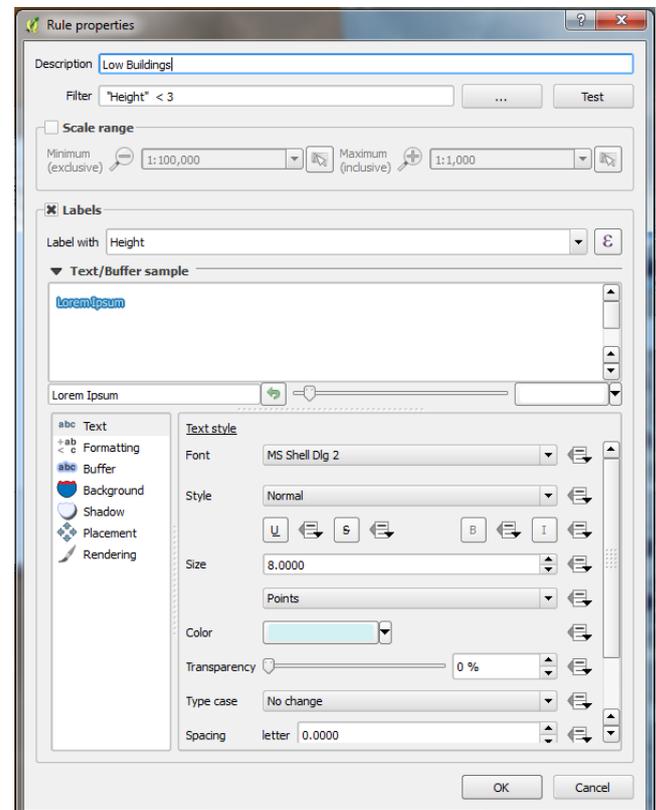
Once the new rule is created it will appear in the Labels rule window.
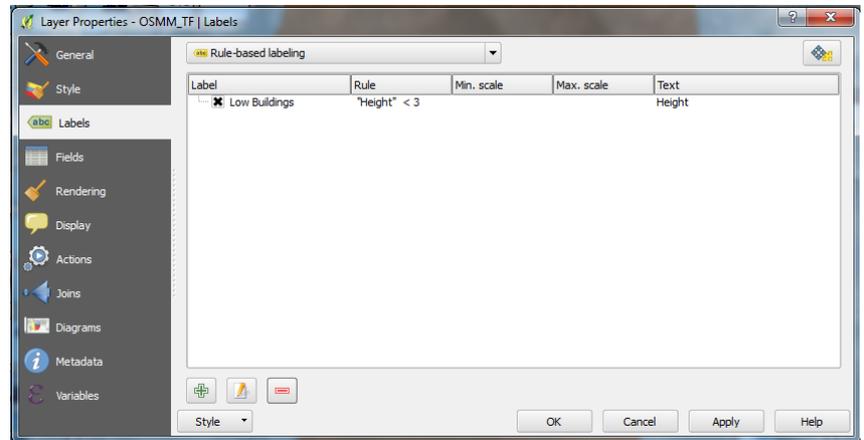
You can now choose to create additional rules for the other features in your layer. In this example we will add one more rule, which will label any OSMM buildings where the height value is greater than 3 to be large and dark blue.
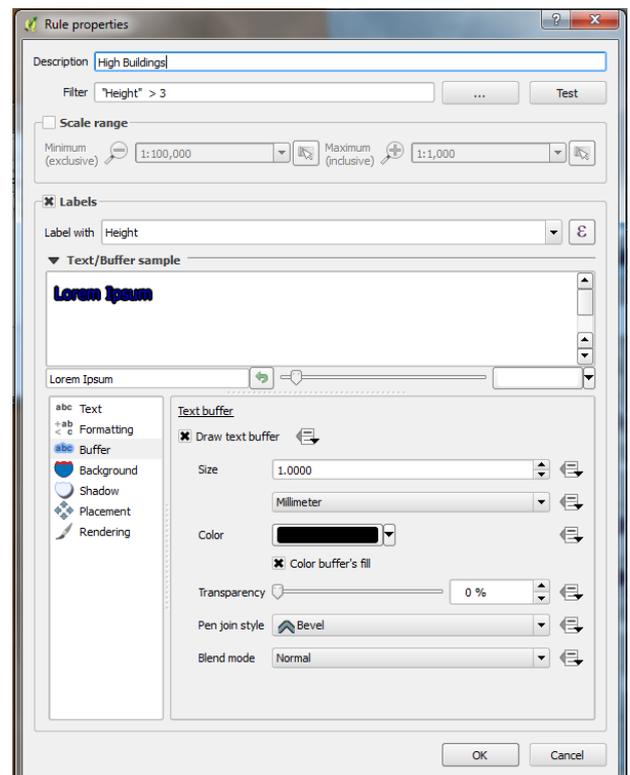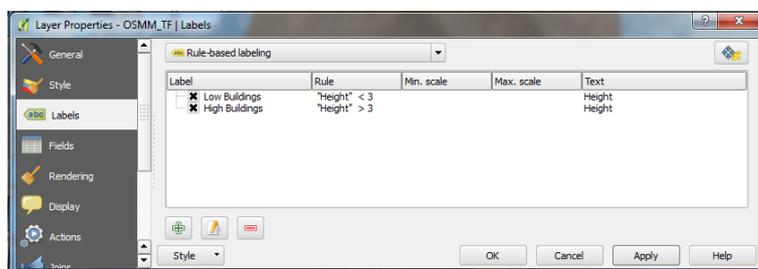
Now that we have created two labelling rules, the OSMM buildings have different styled labels based on whether their height is below or above 3 metres. This means that your maps are easier to interpret and will have a higher visual impact!

Rules can be applied using a number of field types, including; textual, numerical, date and geometric values. Now it's your turn! Have a go at using Rule Based Labelling within your maps.

NB: Applicable to QGIS 2.12.0 onwards.