

## Step-by-Step Google Map integration

### 1. Code to be added to the script:

```
// Google Maps Key
// get a key here http://code.google.com/apis/maps/signup.html
// gmap_key = 'xx';
max_zoom_level = 17; //maximum value 17

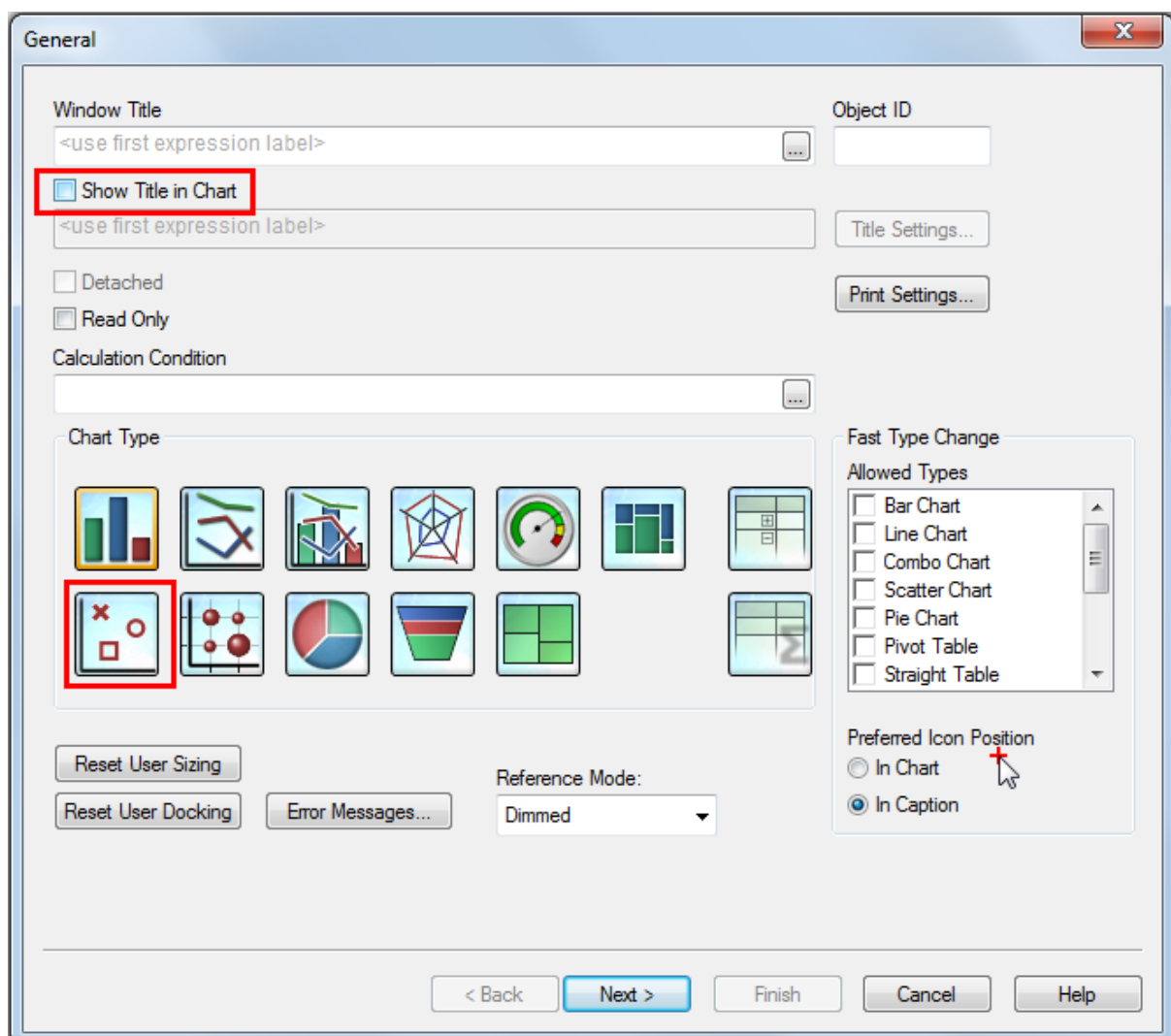
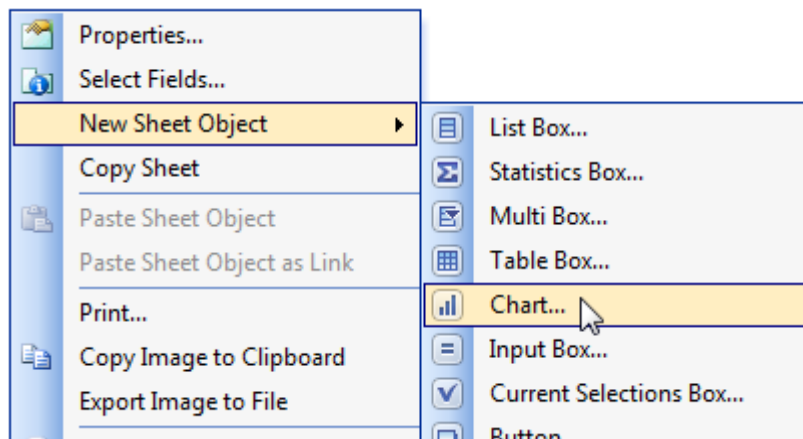
// Variables required for calculating map
// No need to change these
var_pi180= 'pi()/180';
var_lat_offset= '0';
var_mc2= '256*pow(2,$(var_zoom))';
var_mc1= '256*pow(2, ($(var_zoom)-1))';
var_mid_lat= 'min(Latitude)+(1+var_lat_offset)*((max(Latitude)-min(Latitude))/2)';
var_mid_long= 'min(Longitude)+(max(Longitude)-min(Longitude))/2';
var_zoom= 'max(aggr(if(max( round(256*pow(2, (_zoom_level -1)))+(
Longitude *((256*pow(2, _zoom_level ))/360)) )-min( round(256*pow(2, (_zoom_level -
1)))+( Longitude *((256*pow(2, _zoom_level ))/360)) ) <map_size_x AND
max((256*pow(2, (_zoom_level-1)))+(0.5*log((1+(sin((Latitude)*pi()/180)))/(1-
(sin((Latitude)*pi()/180)))))*((-256*pow(2, _zoom_level))/(2*pi())))-
min((256*pow(2, (_zoom_level-1)))+(0.5*log((1+(sin((Latitude)*pi()/180)))/(1-
(sin((Latitude)*pi()/180)))))*((-
256*pow(2, _zoom_level))/(2*pi()))))<map_size_y, _zoom_level,1), _zoom_level))';
var_maptype= 'if(isnull(only(maptype)),fieldvalue( '&chr(39)&'maptype'&chr(39)&',
1 ),maptype)';
map_size_x= '640';
map_size_y= '400';

SET HidePrefix='_ ' ;
// Field required for calculating best zoom level
_zoom_level:
LOAD RecNo( ) as _zoom_level autogenerate(max_zoom_level);

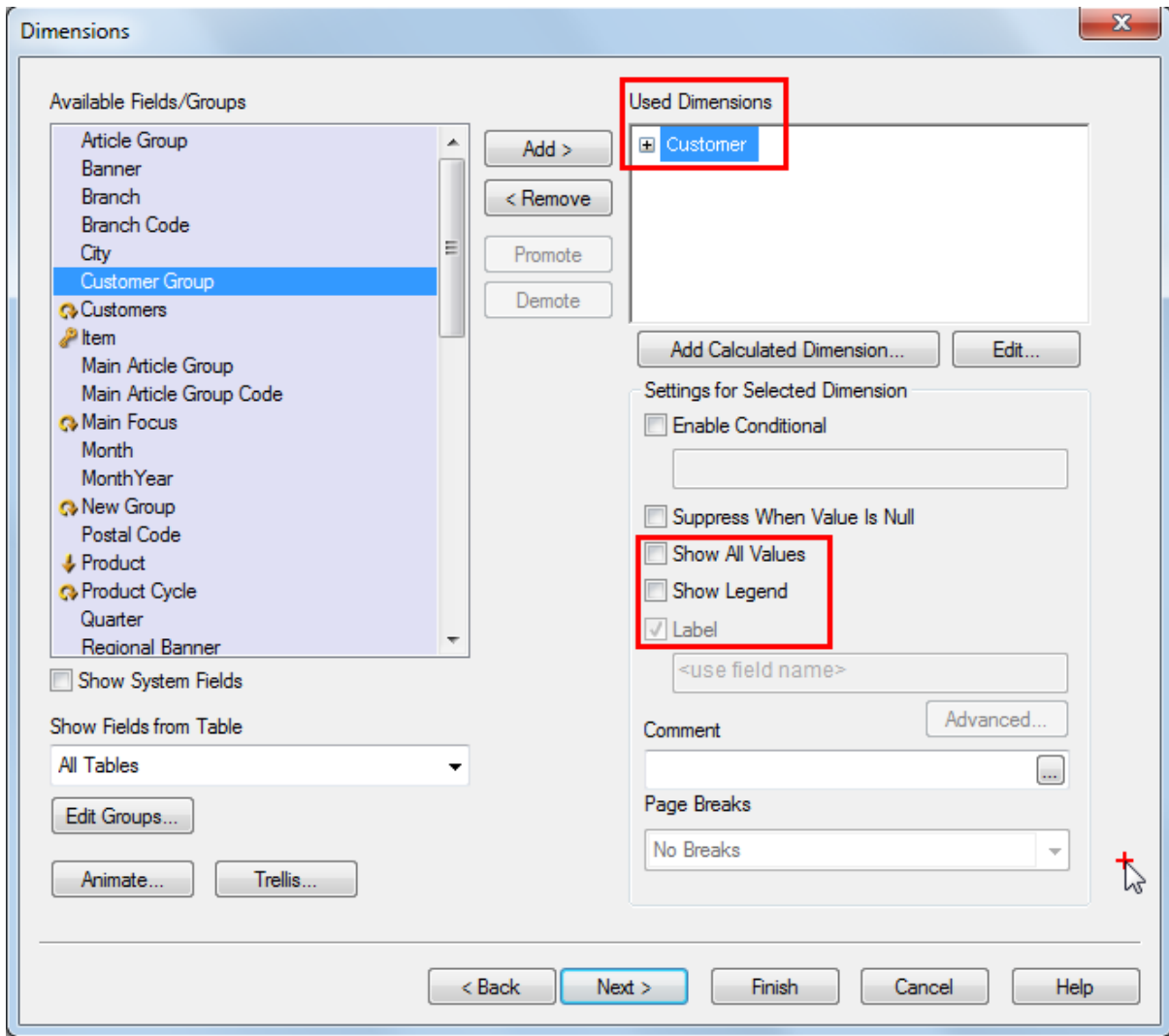
maptype:
LOAD * INLINE [
    maptype
    roadmap
    mobile
    satellite
    terrain
    hybrid
];

set hideprefix = 'maptype';
```

## 2. Add and configure a scatter chart:

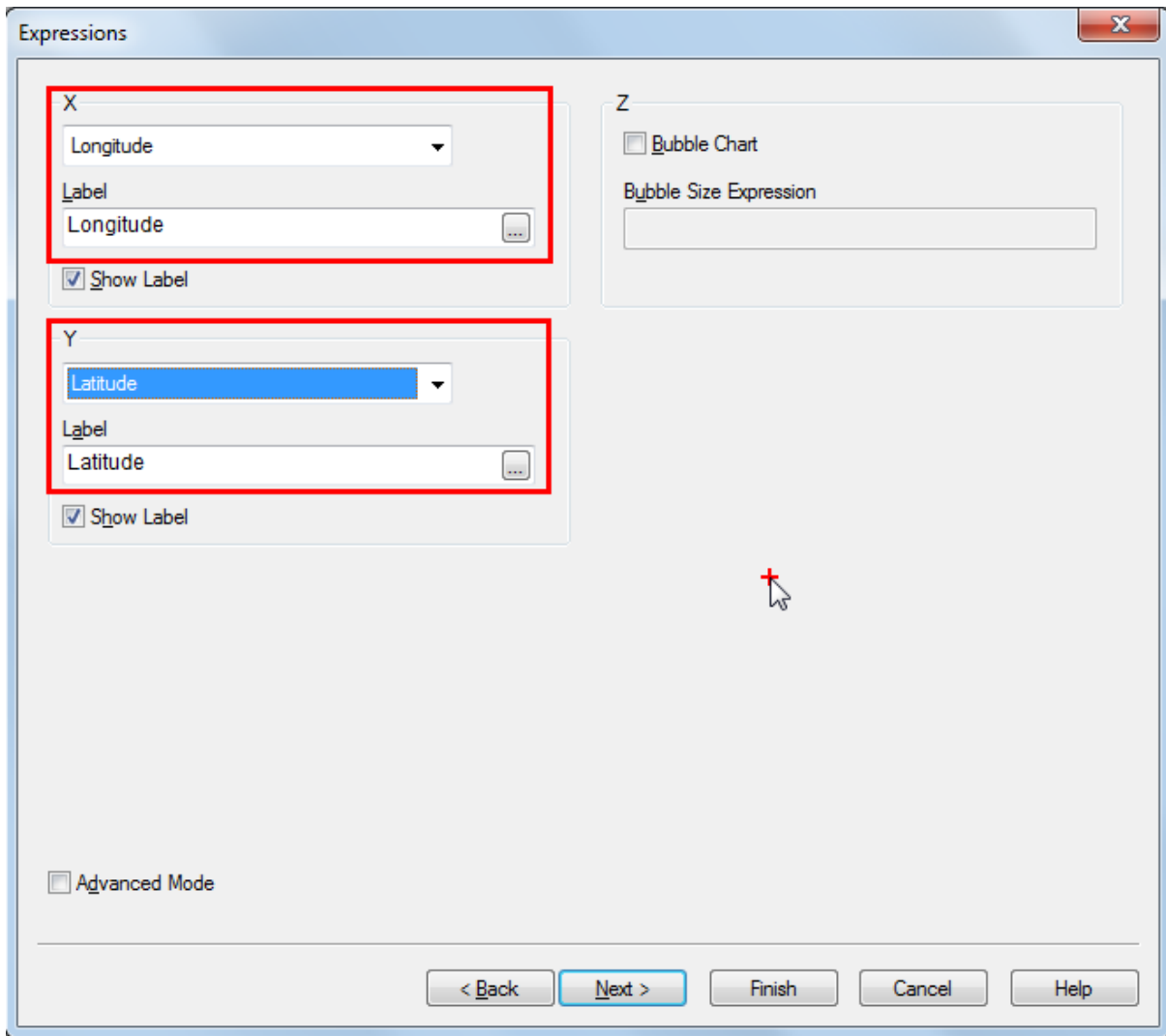


=> NEXT

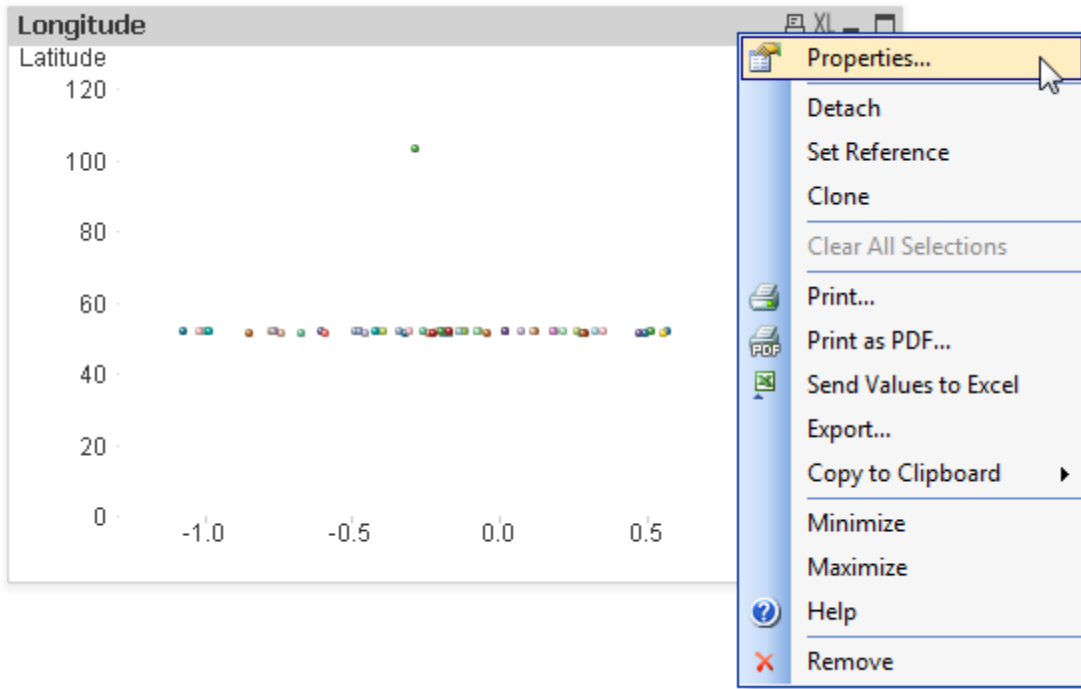


This defines the dots which will be plotted (Customers in that example).

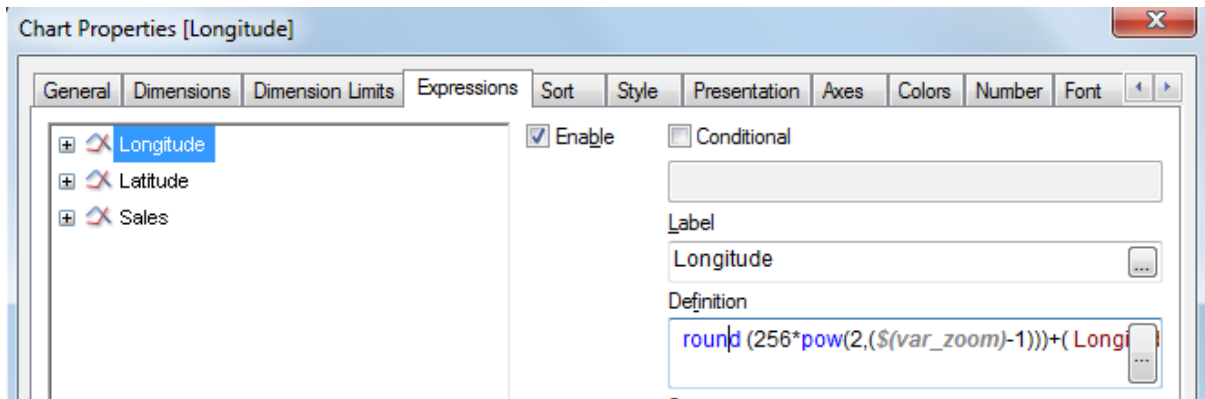
=> NEXT



Click on Finish and exit the wizard.

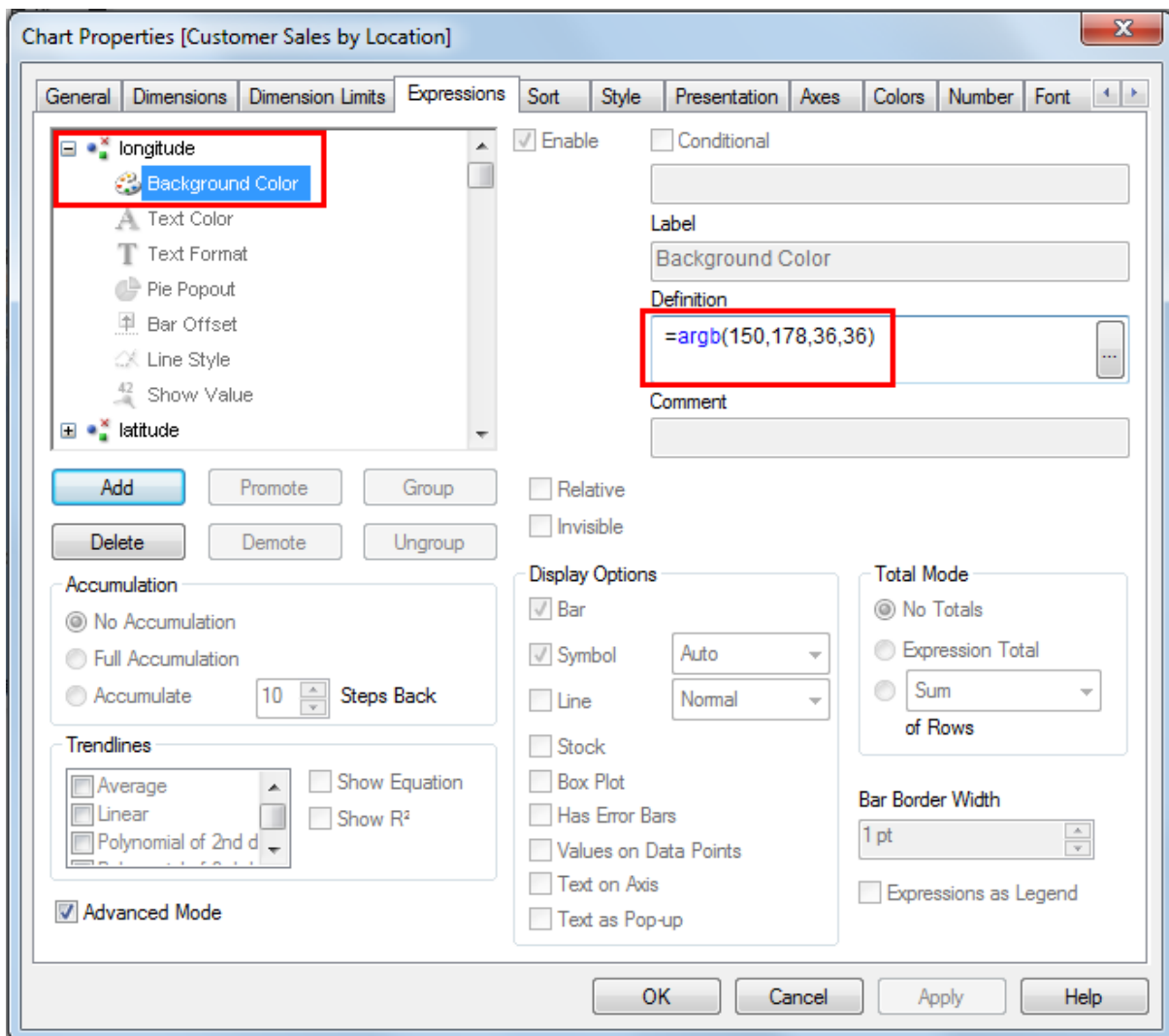


The screenshot shows the "Chart Properties [Longitude]" dialog box. It has several tabs: "General", "Dimensions", "Dimension Limits", "Expressions", "Sort", "Style", "Presentation", "Axes", "Colors", "Number", and "Font". The "Expressions" tab is active. On the left, the "X" axis is set to "Longitude" and the "Y" axis is set to "Latitude". Both axes have "Show Label" checked. On the right, under the "Z" section, "Bubble Chart" is checked, and there is a field for "Bubble Size Expression". At the bottom left, the "Advanced Mode" checkbox is checked and highlighted with a red box. At the bottom right, there are "OK", "Cancel", "Apply", and "Help" buttons.



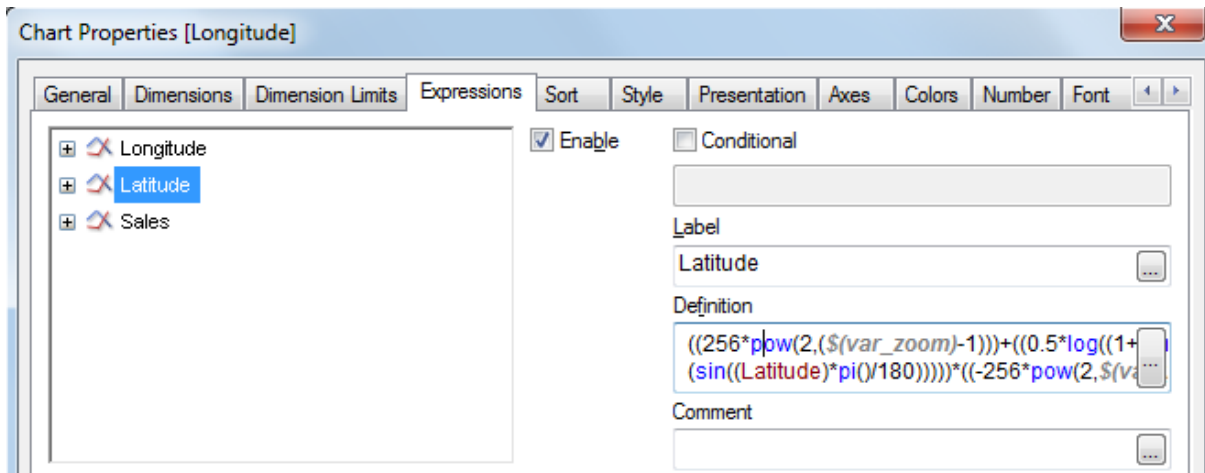
Longitude:

=sum( round (256\*pow(2,(\$var\_zoom)-1))+( Longitude \*((256\*pow(2,\$var\_zoom))/360)))



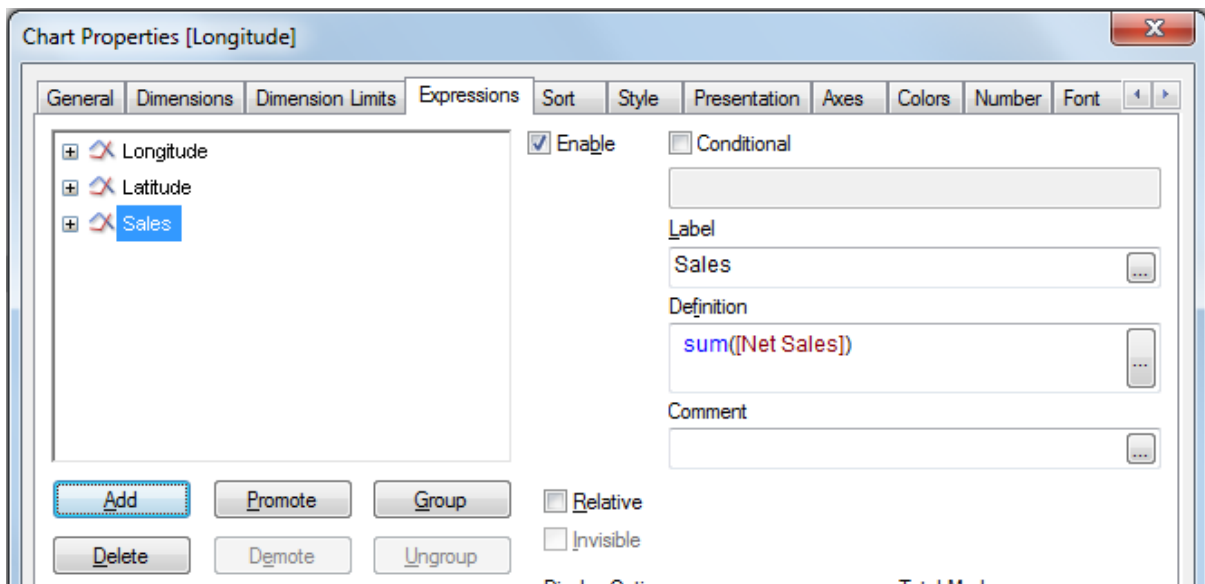
Background color:

=argb(150,178,36,36)

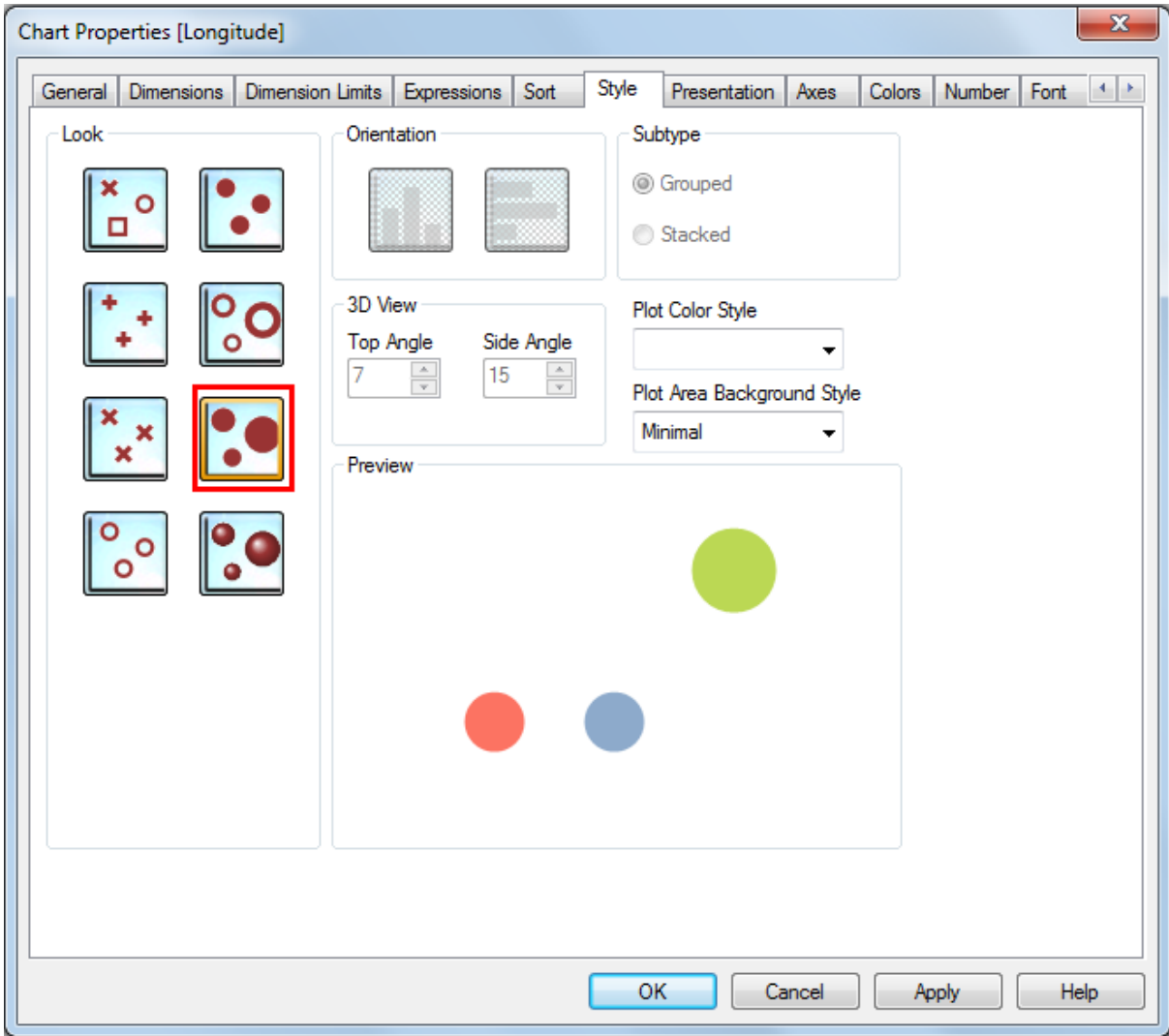


Latitude:

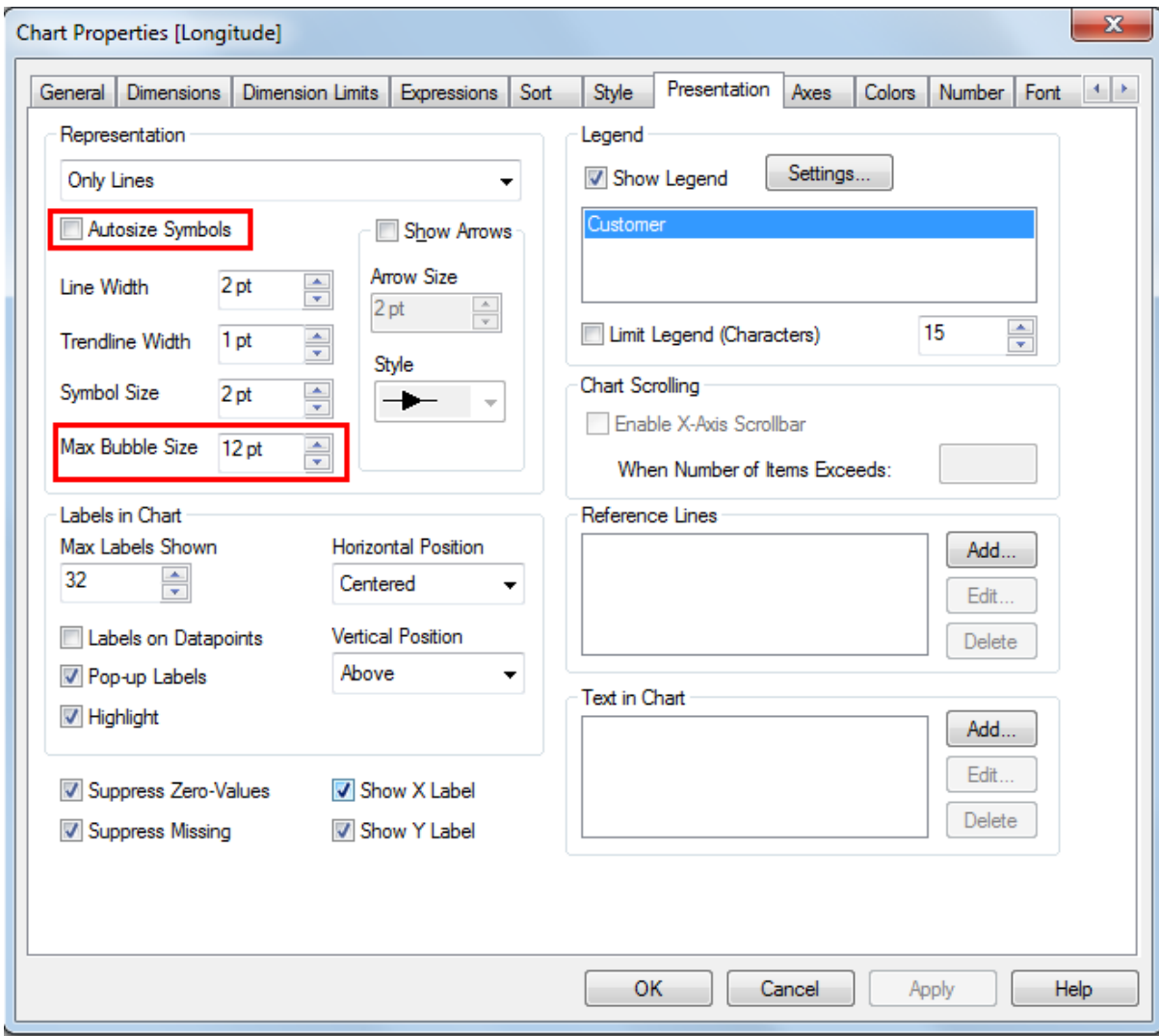
$= \text{sum}(((256 * \text{pow}(2, (\text{var\_zoom} - 1))) + (0.5 * \log((1 + (\sin((\text{Latitude}) * \pi / 180)))))) / (1 - (\sin((\text{Latitude}) * \pi / 180)))) * (-256 * \text{pow}(2, (\text{var\_zoom}))) / (2 * \pi))$

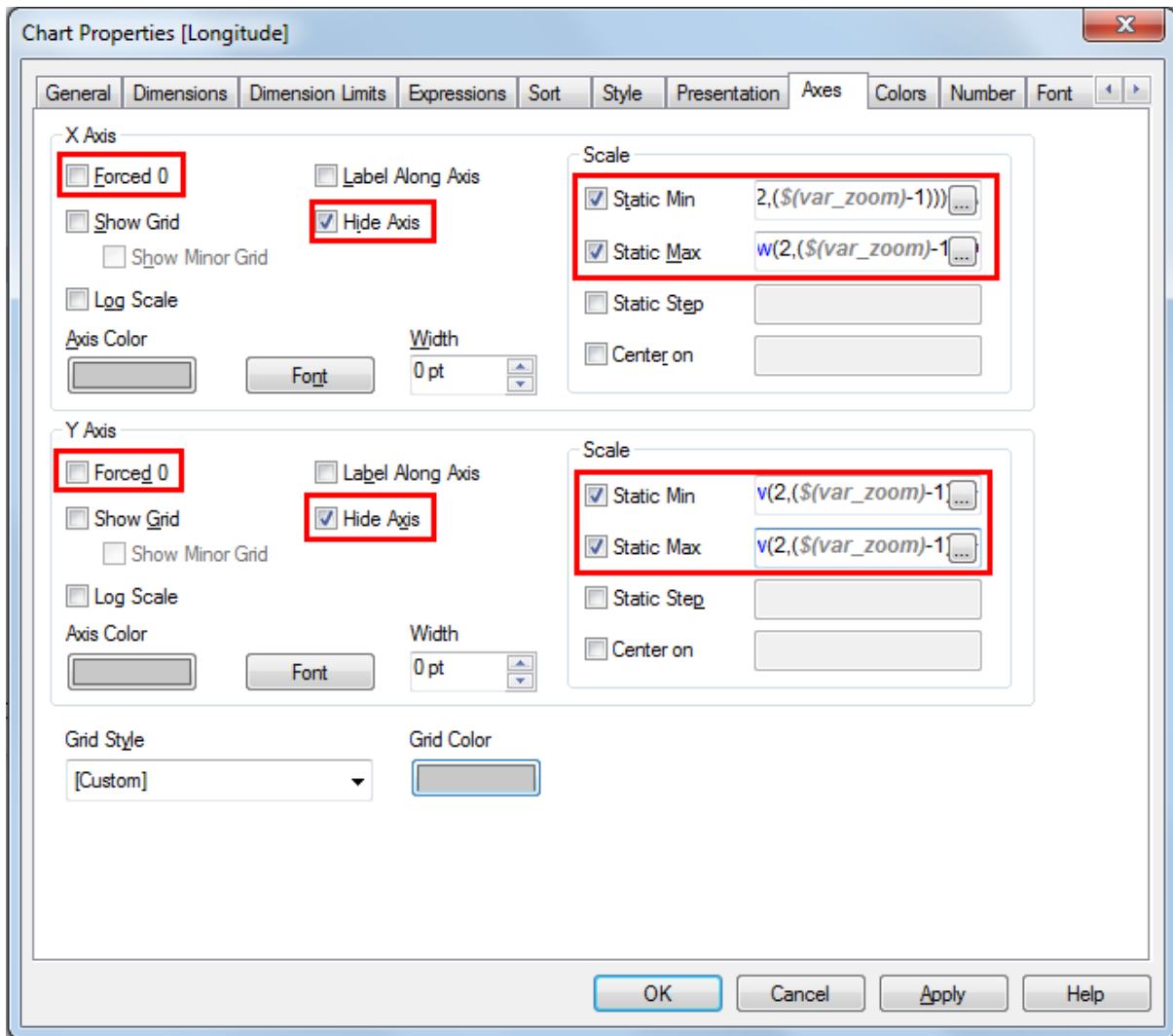


That value can be anything; it will control the size of the dots (Net Sales in that example).









**X axis:**

Static Min:

$= (256 * \text{pow}(2, (\$var\_zoom) - 1)) + (\text{var\_mid\_long} * ((256 * \text{pow}(2, \$var\_zoom)) / 360)) - \text{round}(\text{map\_size\_x} / 2)$

Static Max:

$= (256 * \text{pow}(2, (\$var\_zoom) - 1)) + (\text{var\_mid\_long} * ((256 * \text{pow}(2, \$var\_zoom)) / 360)) + \text{round}(\text{map\_size\_x} / 2)$

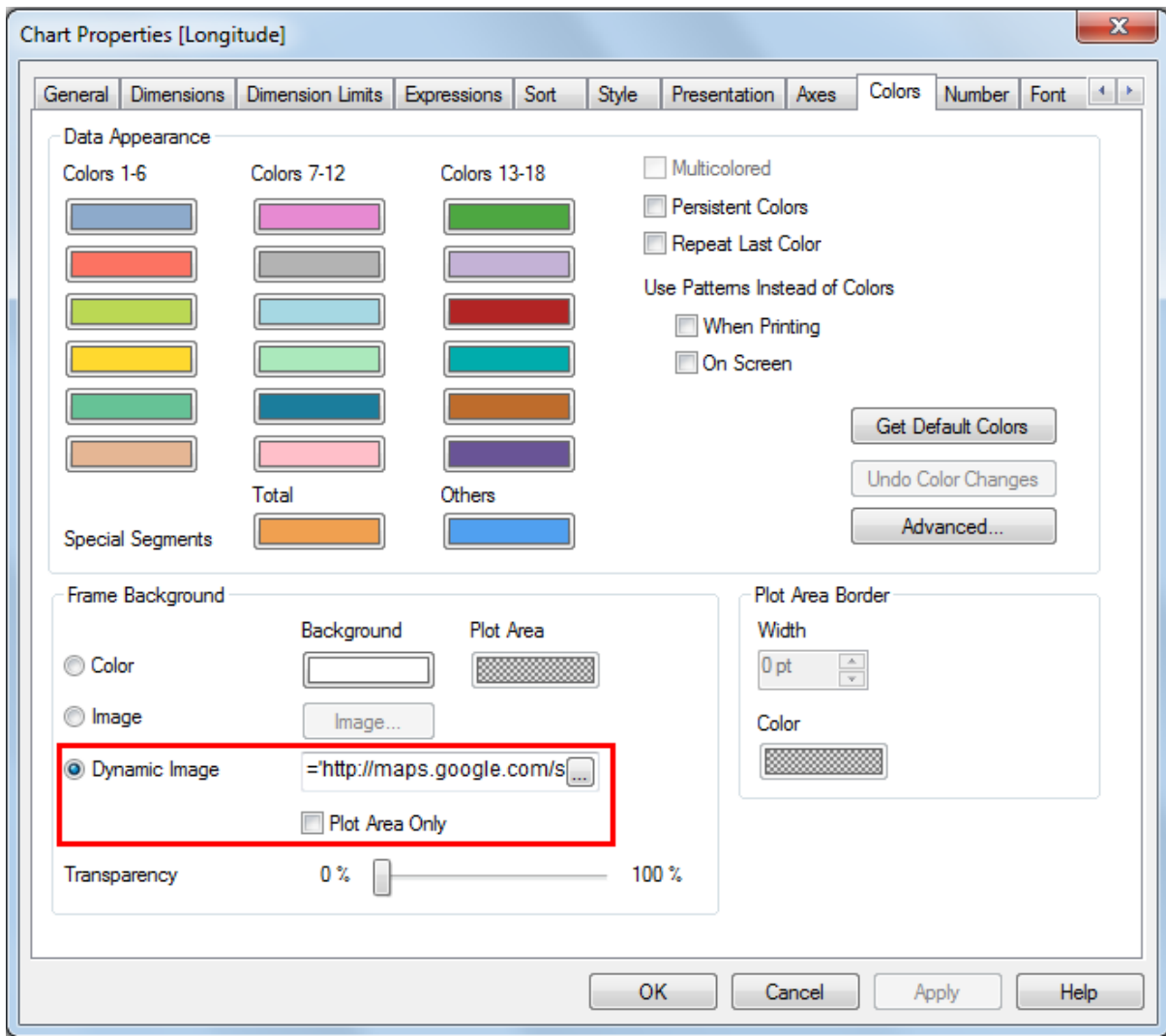
**Y axis:**

Static Min:

$= ((256 * \text{pow}(2, (\$var\_zoom) - 1)) + ((0.5 * \log((1 + (\sin(\text{var\_mid\_lat} * \pi / 180))) / (1 - (\sin(\text{var\_mid\_lat} * \pi / 180)))) * ((-256 * \text{pow}(2, \$var\_zoom)) / (2 * \pi)))) + \text{round}(\text{map\_size\_y} / 2))$

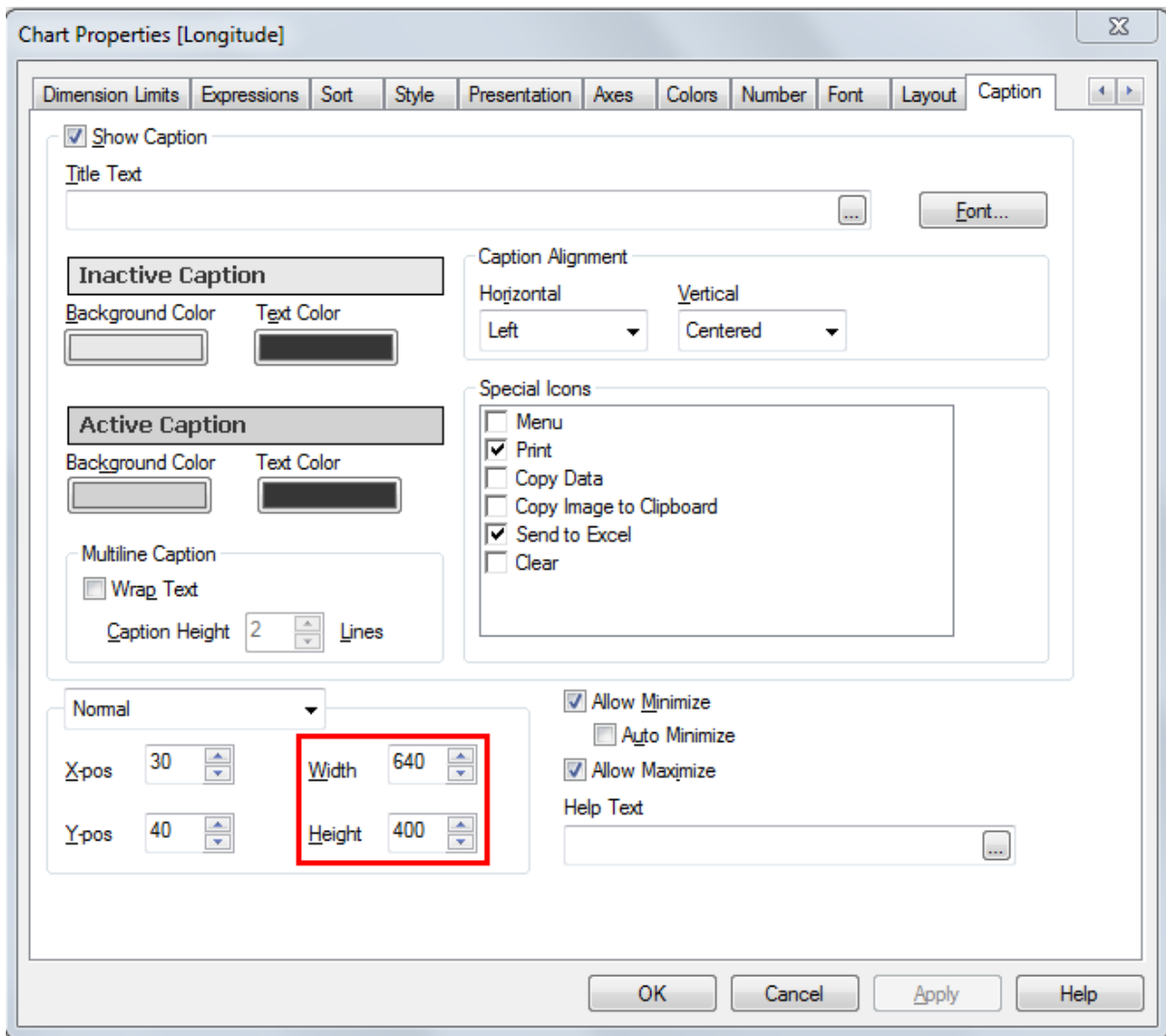
Static Max:

$= ((256 * \text{pow}(2, (\$var\_zoom) - 1)) + ((0.5 * \log((1 + (\sin(\text{var\_mid\_lat} * \pi / 180))) / (1 - (\sin(\text{var\_mid\_lat} * \pi / 180)))) * ((-256 * \text{pow}(2, \$var\_zoom)) / (2 * \pi)))) - \text{round}(\text{map\_size\_y} / 2))$



Dynamic Image:

```
= 'http://maps.googleapis.com/maps/api/staticmap?center='
&num(var_mid_lat, '#####', '.', ',')
&', '
&num(var_mid_long, '#####', '.', ',')
&'&zoom=${var_zoom}'
&'&maptype=${var_maptype}'
&'&size=${map_size_x}x${map_size_y}'
&'&sensor=false'
```



Size of the chart, according to `map_size_x` and `map_size_y` (defined in the script).

Result:

