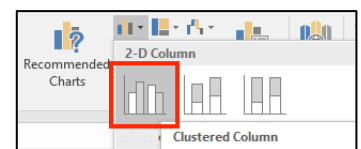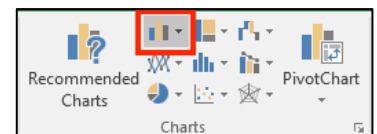# Producing a Climate Graph in Excel 2016

Save a copy of the **Barcelona Climate Data Spreadsheet** (find it at the web address in the header – go into the Geography section) and use this to work through your chart production.

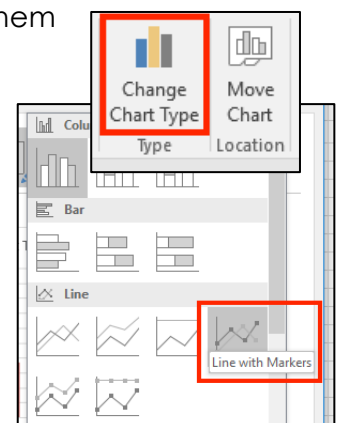**Step 1 – Basic column chart**

1. <u>**Highlight**</u> cells A4 to C16 - the area shown on the screenshot

2. Click **Insert** and choose **Column** from the Charts section on the ribbon.

3. Choose a normal **2D Clustered Column** chart from the selection of charts (you really don't want to be using 3D charts…)
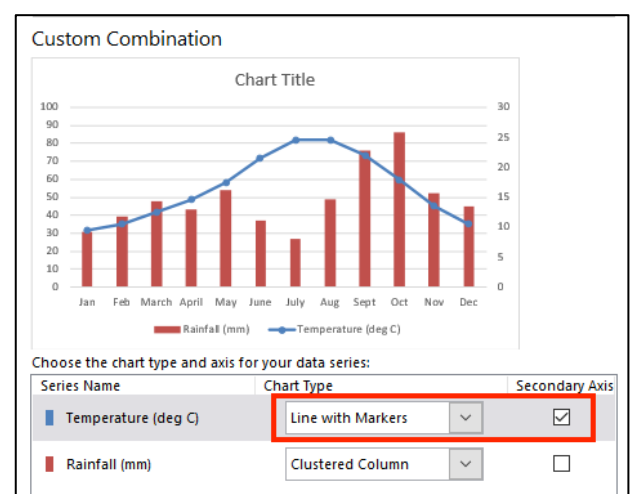
This will produce a set of bar charts. Now let's get a line for the temperatures.

4. Click one of the **temperature** columns to select them. You'll see them get selected.

5. Click **Change Chart Type** on the **Design** tab of the ribbon (on the right)

6. Use the drop down menus at the bottom to change the **Temperature chart** type to **Line with Markers**

7. Tick the **Secondary axis box** next to the Temperature chart drop down.

8. Click **OK**

The temperatures will now be shown as a line.

To get a **smooth line** instead see the note at the end of page 3 of this document!
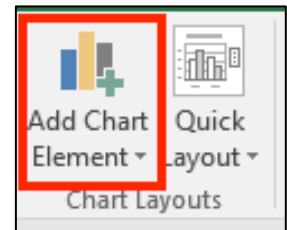
Step 2 – Titles and Labels

The chart title will be a placeholder. Click to change this to something like **Climate Graph for Barcelona**.

Click the **Design** tab and find the **Add Chart Element** button on the left.

Using this you can add labels and so on to the chart.

I'd suggest adding:

- Axis titles > Primary Horizontal: Months
- Axis Titles > Primary Vertical: Precipitation (mm) (or Rainfall)
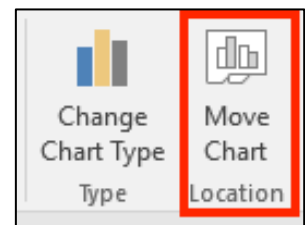- Axis Titles > Secondary Vertical: Temperature (deg C)

Step 3 – Put the chart on its own page

You don't **have** to do this, but personally I prefer it.

1. Click the **Design** tab

2. Choose **Move Chart** on the right and select a **New Sheet > OK**

If you don't want the chart on it's own page then you might need to resize it at some point.

Step 4 – Showing the data table

You might need to show the actual climate data underneath the chart. This is easy to do.

1. Click the **Design** tab

2. Choose **Add Chart Element** (on the left) **> Data Table**

You probably don't want to choose the Show Data Table with Legend Keys option.

You might find the data is a little tricky to read. This is where a full page chart becomes much easier to cope with.
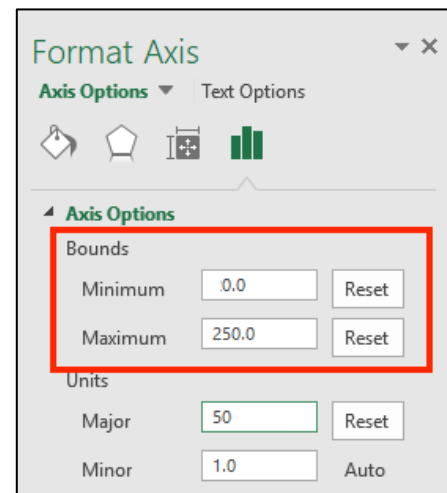
Step 5 – Formatting Axes

You may need to change the maximum and minimum values on the axes of the graphs. This is particularly useful if you need to compare two climate graphs with very different values.

To do this:

1. **Right click** on the axis you want to change (it's easiest to click on one of the numbers)

2. Choose **Format Axis** – a sidebar pops up on the right

3. In the **Bounds** section, change the values you need as the maximum or minimum. You can also deal with the major and minor units at this point - these determine where gridlines appear.

You can do this on both vertical axes – you may need to do it on the temperature axis to get the line in the right sort of place.

Step 6 – Remove Gridlines

On the **Designs** tab click the **Add Chart Element** button on left of the ribbon

Choose **Gridlines** and remove (or add) any gridlines you want.

To get a smooth line:

When you choose the line type in step 1, rather than selecting **Line** choose **X Y (Scatter)** and then select the **Scatter with Smooth Lines and Markers** option

Sometimes a random axis appears at the top of the graph. To get rid of this (and you really don't want it there!) go to the **Design** tab > **Add Chart Element > Axes >** and **remove** the **Secondary Horizontal Axis**

On the plus side you don't need to deal with the secondary vertical axis as Excel will do it by itself.