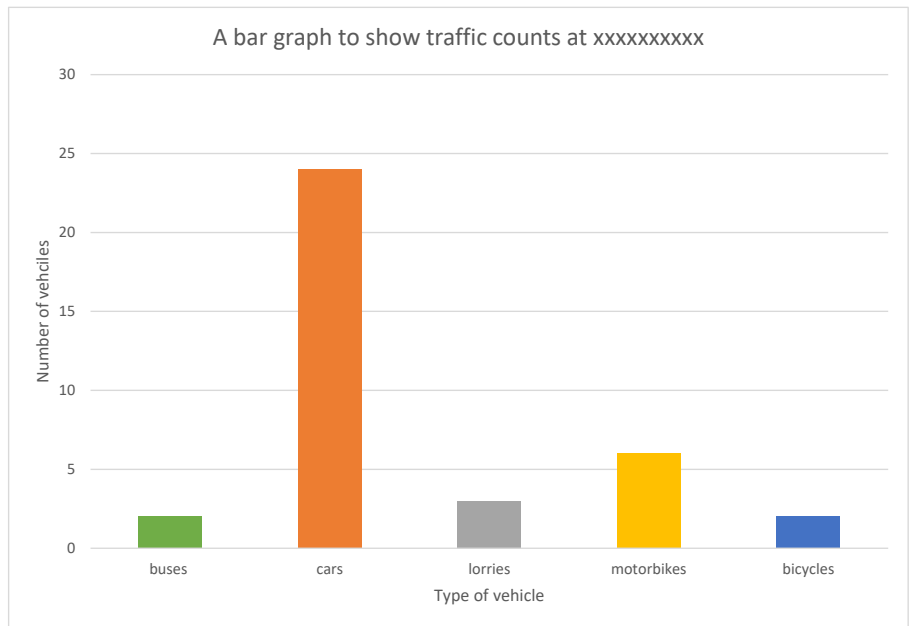


Vehicle	Total
buses	2
cars	24
lorries	3
motorbikes	6
bicycles	2

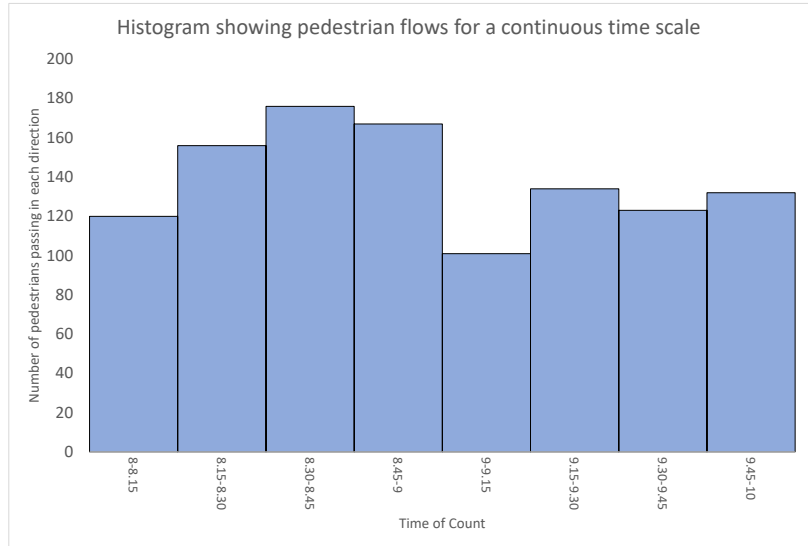
How to: <https://www.internetgeography.net/bar-charts-in-geography/>



Time of count	Frequency
8-8.15	120
8.15-8.30	156
8.30-8.45	176
8.45-9	167
9-9.15	101
9.15-9.30	134
9.30-9.45	123
9.45-10	132

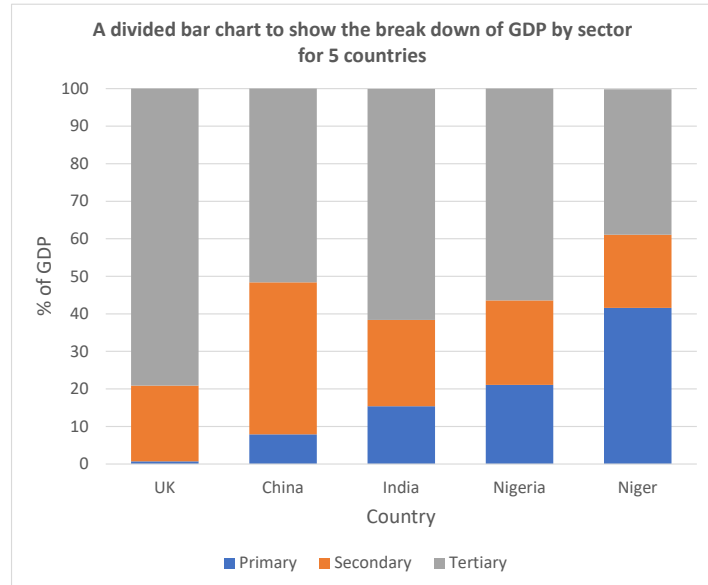
120
156
176
167
101
134
123
132

How to: <https://www.internetgeography.net/histograms-in-geography/>



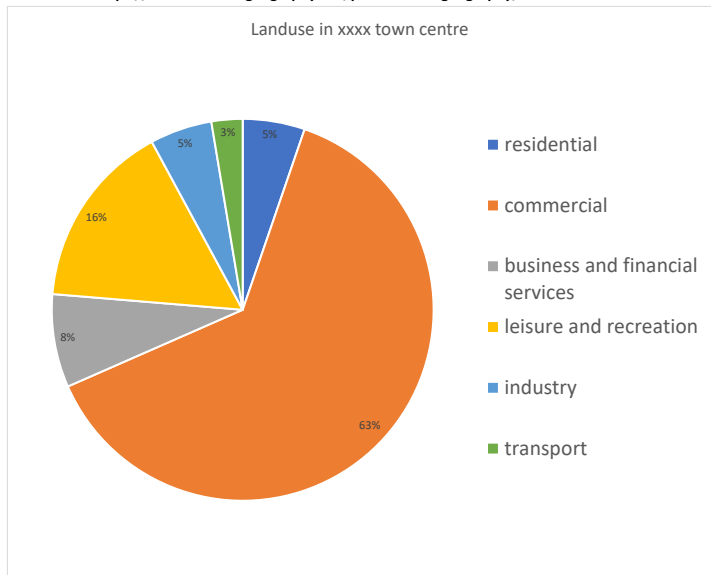
	Primary	Secondary	Tertiary
UK	0.7	20.2	79.2
China	7.9	40.5	51.6
India	15.4	23	61.5
Nigeria	21.1	22.5	56.4
Niger	41.6	19.5	38.7

How to: <https://www.internetgeography.net/divided-bar-charts-in-geography/>

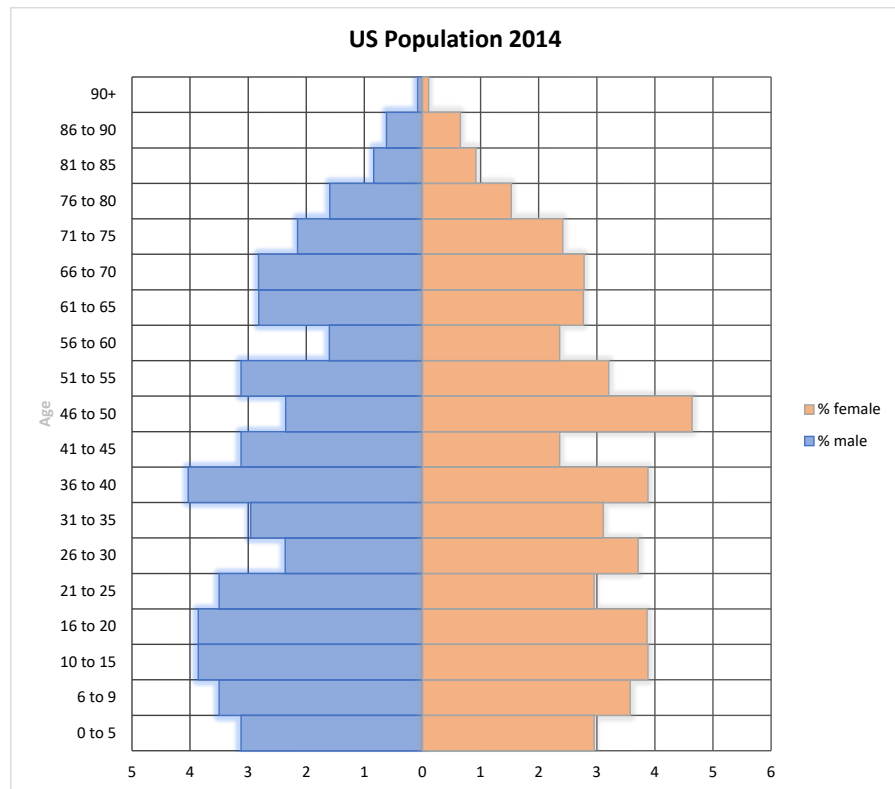


Landuse	Total
residential	2
commercial	24
business and financial services	3
leisure and recreation	6
industry	2
transport	1

How to: <https://www.internetgeography.net/pie-charts-in-geography/>

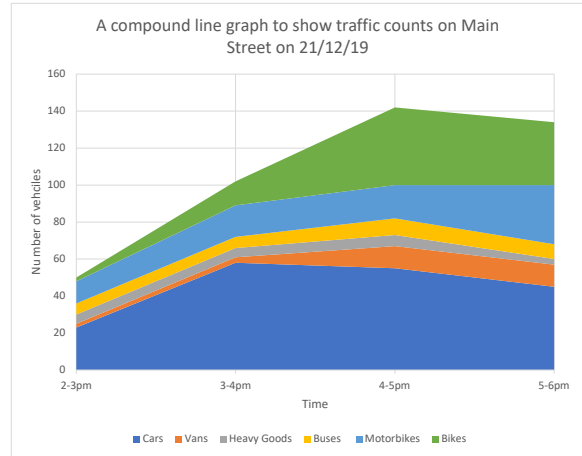


Age	% female	% male	
0 to 5	3.0	-3.1	
6 to 9	3.6	-3.5	
10 to 15	3.9	-3.9	
16 to 20	3.9	-3.9	
21 to 25	3.0	-3.5	
26 to 30	3.7	-2.4	
31 to 35	3.1	-3.0	
36 to 40	3.9	-4.0	
41 to 45	2.4	-3.1	
46 to 50	4.6	-2.4	
51 to 55	3.2	-3.1	
56 to 60	2.4	-1.6	
61 to 65	2.8	-2.8	
66 to 70	2.8	-2.8	
71 to 75	2.4	-2.2	
76 to 80	1.5	-1.6	
81 to 85	0.9	-0.8	
86 to 90	0.7	-0.6	
90+	0.1	-0.1	
Total	51.7	-48.3	51.6836
	48.3164	51.6836	100



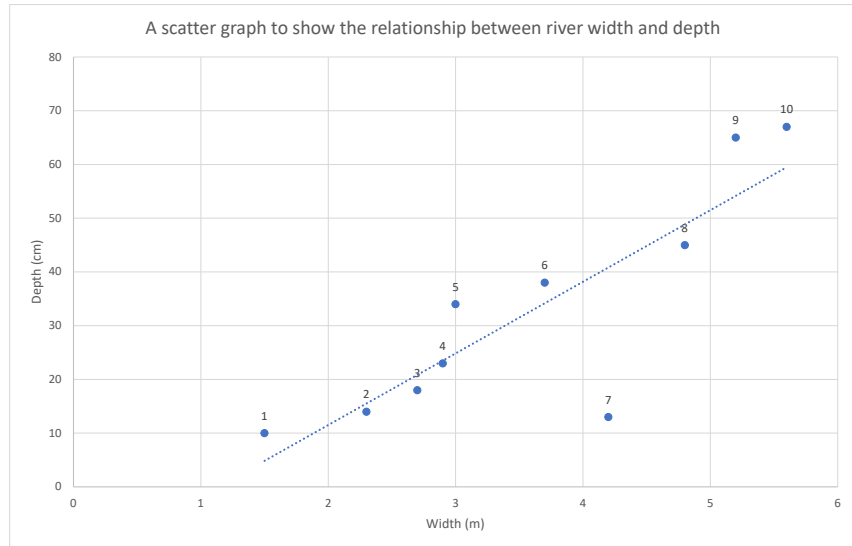
Time	Cars	Vans	Heavy Goods	Buses	Motorbikes	Bikes
2-3pm	23	2	5	6	12	2
3-4pm	58	3	5	6	17	13
4-5pm	55	12	6	9	18	42
5-6pm	45	12	3	8	32	34

How to: <https://www.internetgeography.net/compound-line-graphs-in-geography/>



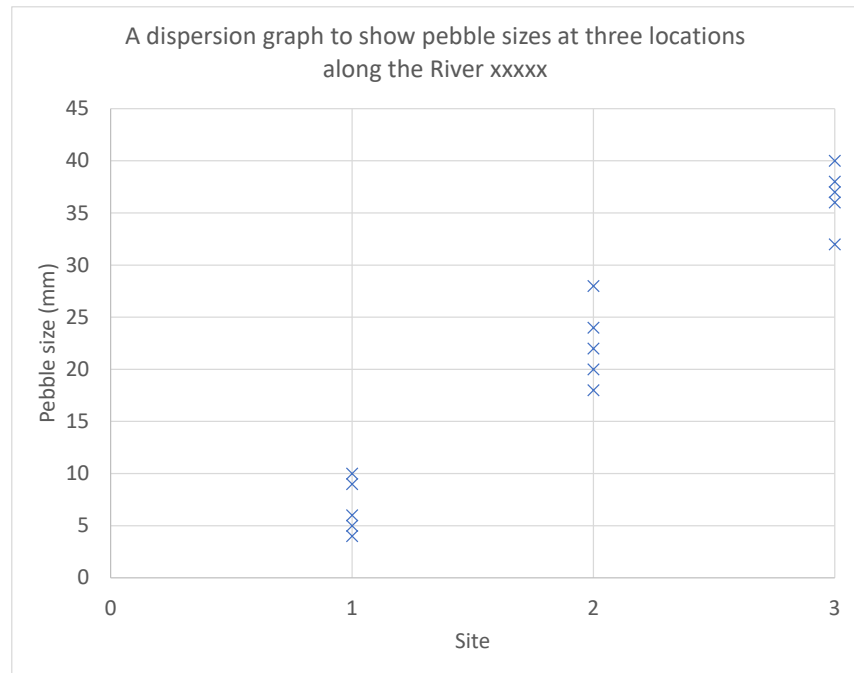
Site	Width (m)	Depth (cm)
1	1.5	10
2	2.3	14
3	2.7	18
4	2.9	23
5	3	34
6	3.7	38
7	4.2	13
8	4.8	45
9	5.2	65
10	5.6	67

How to: <https://www.internetgeography.net/scatter-graphs-in-geography/>



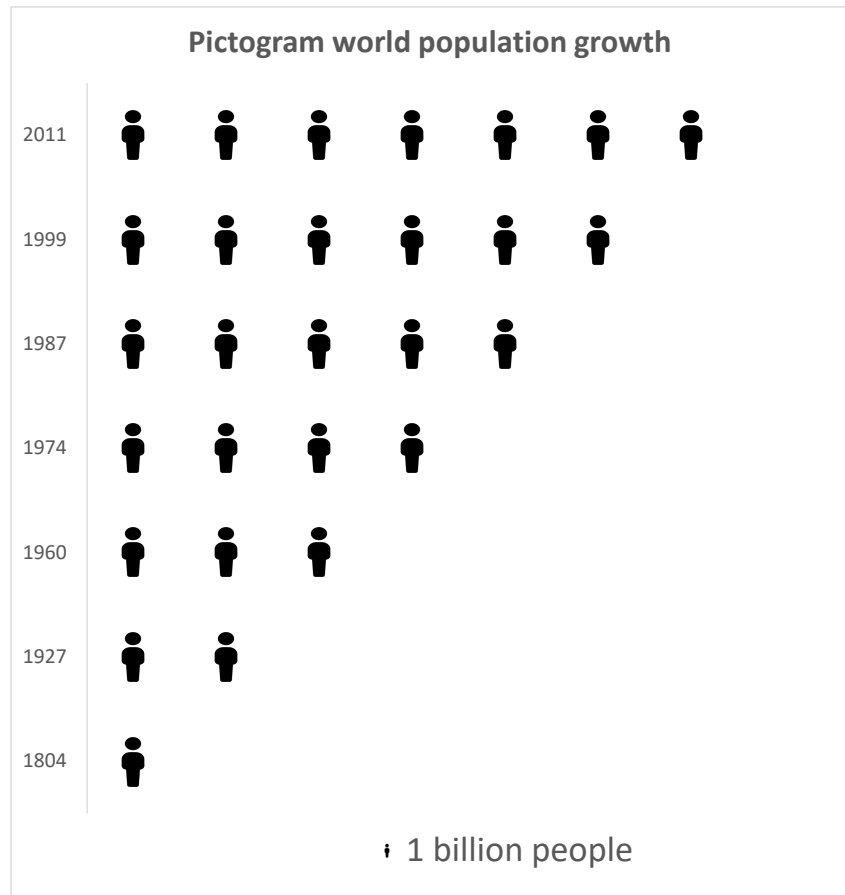
Site	Pebble size (mm)
1	5
1	9
1	6
1	10
1	4
Site	
2	18
2	20
2	24
2	22
2	28
Site	
3	32
3	37
3	36
3	38
3	40

How to: <https://www.internetgeography.net/dispersion-graphs-in-geography/>



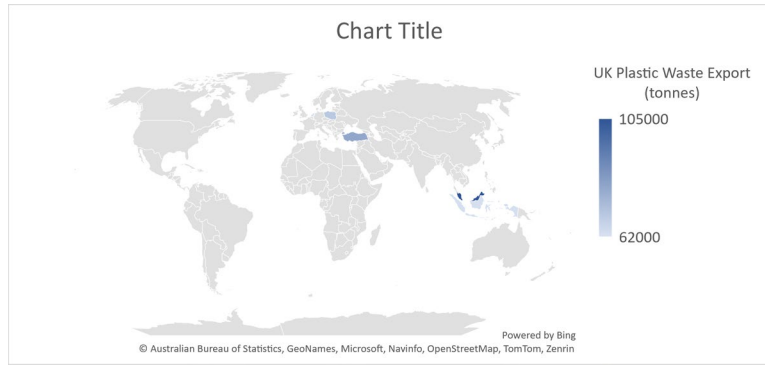
Year	1 billion people
1804	5
1927	2
1960	3
1974	4
1987	5
1999	6
2011	7

How to: <https://www.internetgeography.net/pictograms-in-geography/>



Country Waste Export (tonnes)

- United Arab Emirates
- Afghanistan
- Albania
- Armenia
- Angola
- Argentina
- Austria
- Australia
- Azerbaijan
- Bosnia and Herzegovina
- Bangladesh
- Belgium
- Burkina Faso
- Bulgaria
- Burundi
- Benin
- Brunei
- Bolivia
- Brazil
- Bahamas
- Bhutan
- Botswana
- Belarus
- Belize
- Canada
- DEMOCRATIC REPUBLIC OF THE CONGO
- Central African Republic
- Congo
- Switzerland
- Côte d'Ivoire
- Chile
- Cameroon
- China
- Colombia
- Costa Rica
- Cuba
- Cyprus
- Czech Republic
- Germany
- Djibouti
- Denmark
- Dominican Republic
- Algeria
- Ecuador
- Estonia
- Egypt
- Western Sahara
- Eritrea
- Spain
- Ethiopia
- Finland
- Fiji
- Falkland Islands
- France
- Gabon
- United Kingdom
- Georgia



Ghana	
Greenland	
Gambia	
Guinea	
Eq. Guinea	
Greece	
Guatemala	
Guinea-Bissau	
Guyana	
Honduras	
Croatia	
Haiti	
Hungary	
Indonesia	63000
Ireland	
Israel	
India	
Iraq	
Iran	
Iceland	
Italy	
Jamaica	
Jordan	
Japan	
Kenya	
Kyrgyzstan	
Cambodia	
North Korea	
South Korea	
Kuwait	
Kazakhstan	
Lao PDR	
Lebanon	
Sri Lanka	
Liberia	
Lesotho	
Lithuania	
Luxembourg	
Latvia	
Libya	
Morocco	
Moldova	
Montenegro	
o	
Madagascar	
Macedonia	
Mali	
Myanmar	
Mongolia	
Mauritania	
Malawi	
Mexico	
Malaysia	105000
Mozambique	
e	
Namibia	
New Caledonia	
Niger	
Nigeria	
Nicaragua	
Netherlands	62000
Norway	
Nepal	
New Zealand	
Oman	

Panama
Peru
Papua New Guinea
Philippines
Pakistan
Poland 70000
Puerto Rico
Palestine
Portugal
Paraguay
Qatar
Romania
Serbia
Russia
Rwanda

Saudi Arabia

Solomon Islands
Sudan
Sweden
Slovenia
Slovakia

Sierra Leone

Senegal
Somalia
Suriname
S. Sudan
El Salvador
Syria
Swaziland
Chad
Fr. S.
Antarctic Lands
Togo
Thailand
Tajikistan
Timor-Leste
Turkmenistan
Tunisia
Turkey 80000
Trinidad and Tobago
Taiwan
Tanzania
Ukraine
Uganda
United States
Uruguay
Uzbekistan
Venezuela
Vietnam
Vanuatu
North Cyprus
Kosovo
Somaliland
Yemen

South Africa
Zambia
Zimbabwe

Beach Profile Calculator - horizontal version

Use this version if you held your measuring tape horizontally

Point	Angle	Dist along beach	Distance from shore	Actual Vertical Change
1 (Sea)	0	0	0	0
2	15	4.1	4.10	1.10
3	-4	4.5	8.60	0.78
4	15	4.7	13.30	2.04
5	1	7.9	21.20	2.18
6	5	8.1	29.30	2.89
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

For more information and help guides on drawing profiles, go to [That Blue Square Thing](#)

Enter data in columns C and D.

The sheet will calculate the cumulative distance along the beach and the actual vertical change from the base level.

Then draw a scatter graph (with joined points) of the data in columns J and K (include row 6 down to the end of your data).

Then save the sheet and redo it for each profile. Do not change the figures or delete them - the graph will disappear!

Instructions for drawing the graphs are available at www.bluesquarething.co.uk/geography/beac

Creating Beach Profiles in Excel 2019

Note: you need to be using the **desktop version** of Excel to do this. The online version that you access through your web browser isn't good enough.

Save a copy of the **Beach Profile Spreadsheet** (find it at the web address in the header - go to the Geography section) and use this to work through the instructions.

I recommend turning **Autosave off** (top left). That way, if you make a mistake you can start again.

Enter the data you have for angles and distances in **columns C and D**. It's easiest to start from the shoreline and work up the beach.

You should end up with something like the spreadsheet on the right. Just ignore any blank rows underneath - they're there in case you have a really wide beach.

Point	Angle	Dist along beach	Distance from shore	Actual Vertical Change
1 (Sea)	0	0	0	0
2	15	4.1	4.10	1.10
3	-4	4.5	8.60	0.78
4	15	4.7	13.30	2.04
5	1	7.9	21.20	2.18
6	5	8.1	29.30	2.89
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

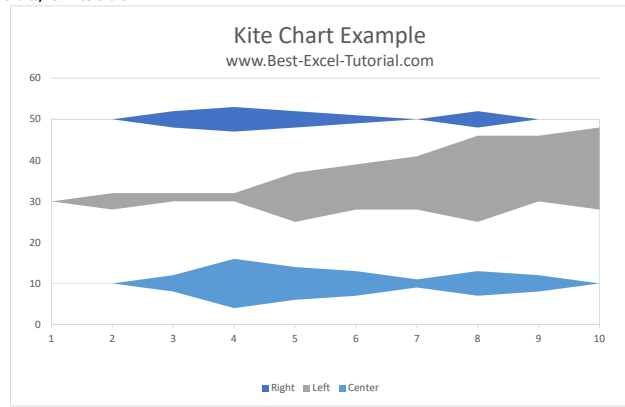
Now, draw the beach profile:

- Highlight** the cells in **columns J and K** with numbers in. Don't forget the zeros in **row 6**. In the screenshot I highlighted from J6 to K11.
- Click **Insert** on the ribbon > and from the chart section at the top choose the **Scatter graph** type shown **on the right**. This will draw a basic profile, but it looks a bit odd.
- Right click** on one of the vertical (up/down) axis numbers > choose **Format Axis**. A sidebar pops up on the right.
- In the **Bounds** section, set the **Maximum** value to something like 15 and press **Enter**. Make sure the **Minimum** value is 0.
- Move** the chart to a new sheet. **Unlock** the sheet first.
- Review** tab on the ribbon and press the **Unprotect Sheet** button) then click the **Chart Design** tab at the top > choose **Move Chart** on the right and select **New Sheet > OK**.
- Add **axis titles** - click **Chart Design > Add Chart Element** (on the left) > **Axis Titles**:
 - Vertical axis: Height of beach (metres)
 - Horizontal axis: Distance from shoreline (metres)
 - Don't forget to change the chart title as well.

You can now add labels (using text boxes) or photos to the chart. You may want to adjust gridlines (**Chart Design > Add Chart Element** again) - try adding minor gridlines to the vertical axis.

Right	Left	Center	50	10	30	10	10	10
10	10	10	50	50	30	30	10	10
10	12	10	50	50	32	28	10	10
12	10	12	52	48	32	30	12	8
13	10	16	53	47	32	30	16	4
12	15	14	52	48	37	25	14	6
11	12	13	51	49	39	28	13	7
10	12	11	50	50	41	28	11	9
12	15	13	52	48	46	25	13	7
10	10	12	50	50	46	30	12	8
10	12	10	50	50	48	28	10	10

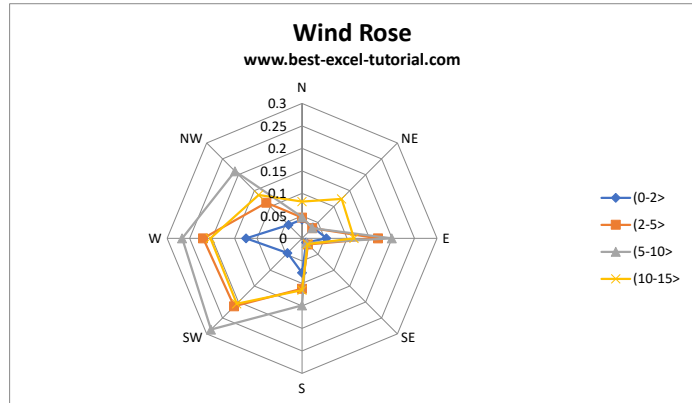
www.Best-Excel-Tutorial.com



	(0-2>	(2-5>	(5-10>	(10-15>
N	4.21%	4.65%	4.77%	8.20%
NE	3.45%	3.23%	3.21%	12.43%
E	5.43%	16.88%	19.97%	11.54%
SE	1.27%	1.88%	1.43%	1.76%
S	7.65%	11.18%	14.88%	11.51%
SW	4.59%	21.34%	28.65%	20.54%
W	12.44%	21.99%	26.65%	20.37%
NW	4.22%	11.23%	21.11%	13.65%

www.Best-Excel-Tutorial.com

How to:



Boscastle Hydrograph Data

16-Aug-04

Time	Rainfall (mm)	Discharge (Cumecs)
12:00	0	1
12:30	4	1
13:00	3	2
13:30	10	2
14:00	4	6
14:30	6	10
15:00	13	20
15:30	15	50
16:00	9	52
16:30	3	55
17:00	0	90
17:30	0	98
18:00	0	100
18:30	0	90
19:00	0	55
19:30	0	22
20:00	0	10

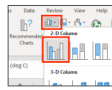
Instructions part 1

Producing a Hydrograph in Excel 2019

Note: you need to be using the **desktop version** of Excel to do this.
 Save a copy of the **Boscastle Flood Data Spreadsheet** (find it at the web address in the header – in the Geography section) and use this to work through producing the chart.
 I recommend turning **Autosave off** (top left), if you make a mistake you can start again.

Step 1 – Basic column chart

1. **Highlight** cells **A5 to C22** (do include the times and headers)
2. Click **Insert** and choose **Column** from the **Charts** section on the ribbon and choose a normal **3-D Column** chart as shown on the right



Now let's get a line for the discharge

3. Click one of the **discharge** columns (the ones on the right of each part – they're probably red) to select them all
4. Click **Change Chart Type** on the **Design** tab of the ribbon (on the right)



5. Use the drop down menus of the bottom to change the **Discharge** chart type to **Line with Markers**
6. **IMPORTANT:** tick the **Secondary axis** box on the right of the drop down



7. Click OK

The discharge will now be shown as a line.

Note: you don't seem to be able to get a **smooth** line – it won't work with the time on the X axis as far as I can tell.

To join up the rainfall bars (like you usually see on a flood hydrograph):

1. **Click** on one of the rainfall bars to select them all
2. **Right click** > **Format Data Series** – a sidebar appears on the right
3. Set the **Gap Width** to **0%** and close down the sidebar

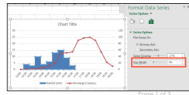


Figure 1 of 2

Instructions part 2 of 3

Step 2 – Titles and Labels

The chart title will be a placeholder. Click to change this to something like **Flood Hydrograph for Boscastle, 16 August 2004**.

Click the **Chart 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: Time
- Axis Titles > Primary Vertical: Precipitation (mm) (or Rainfall)
- Axis Titles > Secondary Vertical: Discharge (Cumecs)
- Legend > None

Remember: a Cumec is 1 cubic metre per second of water flowing through a point in the river. Sometimes it's shown as m³/sec.

Step 3 – Put the chart on its own page

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

1. Click the **Chart Design** tab
2. Choose **Move Chart** on the right and select **New Sheet > OK**



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

You probably want to choose the Data Table with **No 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.

Instructions part 3 of 3

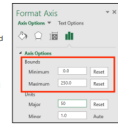
Step 5 – Formatting Axes

You may need to change the maximum and minimum values on the axes of the graphs. It is particularly useful to change the axes for the rainfall.

In this case I set the maximum value (bound) for the rainfall to 40mm with a major unit of 5mm. I didn't want the rainfall bars to be too massive and the gridlines seemed to match up nicely as well.

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

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

Climate Data for Barcelona

Barcelona

	Temperature (deg C)	Rainfall (mm)
Jan	9.5	31
Feb	10.5	39
March	12.5	48
April	14.5	43
May	17.5	54
June	21.5	37
July	24.5	27
Aug	24.5	49
Sept	22	76
Oct	18	86
Nov	13.5	52
Dec	10.5	45

Producing a Climate Graph in Excel 2019

Note: you need to be using the **desktop version** of Excel to do this. The online version that you access through your web browser isn't good enough.

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 as a base to work from - you can change the data.

Step 1 - Basic column chart

1. **Highlight** cells **A4 to C14** - the area shown on the screenshot (make sure to include the months and the headings)
2. Click **Insert** and choose **Column** from the Charts section on the ribbon - choose the standard **2-D Column Chart** shown on the right.

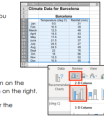
This will produce a set of bar charts. Now let's get a line for the temperatures.

3. Click one of the **temperature** columns (the left column in each set - they are probably blue) to select them all
4. Click **Change Chart Type** on the **Chart Design** tab of the ribbon (on the right)

5. Use the drop-down menu at the bottom to change the **Temperature** chart type to **Line with Markers**
6. **IMPORTANT:** Tick the **Secondary axis box** on the right of the drop-down.
7. 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 **Chart 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)
- Legend > None (we know boxes are precipitation and lines are temperature)

Step 3 - Put the chart on its own page

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

1. Click the **Chart Design** tab
2. Choose **Move Chart** on the right and select **New Sheet > OK**

If you don't want the chart on its 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 **Chart Design** tab
2. Choose **Add Chart Element** (on the left) > **Data Table**

You probably want to choose the Data Table with **No Legend Keys**.

You might find the data is a little fussy to read. This is where a full-page chart becomes much easier to cope with.



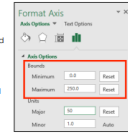
Step 5 - Formatting Axes

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 **Chart Design** tab click the **Add Chart Element** button on the 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 part 5, rather than selecting **Line** choose **X Y (Scatter)** and then select the **Scatter with Smooth Lines and Markers** option