

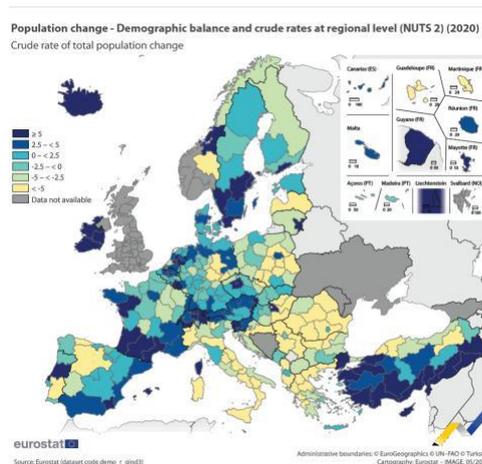
Exercise 8 –When to use diverging colours?

Input Data: Exercise8\input\Exercise8_input.xls

Expected Outcome: This exercise will show the benefit of using a diverging colour scheme to let the map tell a clearer story.

Visualizing of data usually follows a gradient or sequential colour; in previous exercise, we used this method to show specific themes in varying colour schemes.

A Diverging colour scheme is best used when there is a central value around which you want to contrast the other values in your data, for example deviations above or below zero, or a median value. Normally you will use this option with an even number of classes. In the example we will look at changes in population.



Tasks:

- 1) Start Image at <https://gisco-services.ec.europa.eu/image/> in your Browser.

If IMAGE is already open, **Reset the map by pushing F5 or the  icon**

- 2)  Load the configuration file **Exercise8_data.xlsx** in IMAGE as an existing map. The data here shows positive and negative population change

- 3) The map configuration has the colour scheme for default sequential colour scheme defined. Save the file as a pdf and a configuration file with a meaningful name in the output folder.

Does the colour chosen tell the story of which regions are growing and shrinking in population? A diverging colour scheme may be better. Let us experiment with that.

- 4) Go back to the select colour scheme

 and choose a diverging colour scheme. Choose one of the diverging schemes you think look best. The map shows the data below and above 0 with two different colour hues.

- 5) Save the map as pdf and Configuration file with a meaningful name.

- 6) Compare the gradient and sequential output pdfs, which map tells the clearest story?

Select colour scheme

Here you can choose the colour scheme for your map. For help with choosing colour schemes please read the [ColorBrewer guidelines](#)

Select scheme type: Sequential **Diverging** Number of classes: 6

Diverging scheme settings

When using diverging colour schemes, please make sure that the value at which the scheme diverges is meaningful, for example to differentiate between positive values and negative values, or to distinguish between increase and decrease. If this is not the case then please use a sequential colour scheme. For more information see the [color brewer guidelines](#). Please note: an average is not always a meaningful point of divergence.

Point of divergence: 3

Stretch:

Reverse colour scheme:

Select scheme

- OestclClimate (Eurostat)
- OestclESTAT (Eurostat)
- OestclCA (Eurostat)
- OestclCA (Eurostat)
- OestclBC (Eurostat)
- OestclBA (Eurostat)
- OestclDiverging1 (Eurostat)
- Balance (moocean)
- Ourl (moocean)
- Delta (moocean)
- BRBG (colorbrewer)

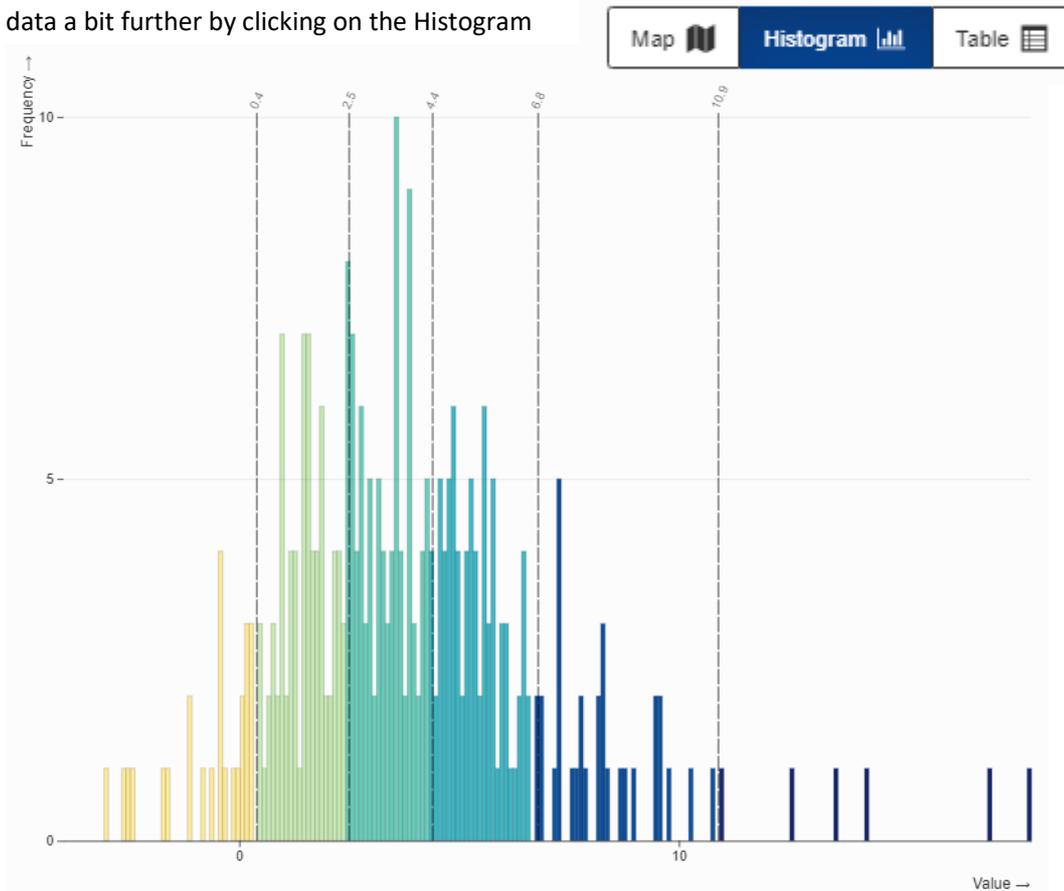
Part 2

- 1) Start Image at <https://gisco-services.ec.europa.eu/image/> in your Browser.

If IMAGE is already open, **Reset the map by pushing F5 or the  icon**

- 2)  Load the configuration file **Exercise8_part2.xlsx** in IMAGE as an existing map. You will see that the map is in the default sequential scheme, but this data shows change in GDP i.e. where is GDP going up, where is it contracting. So a diverging scheme with the point of divergence at 0 is needed.

- 3) Before we make that change, lets examine the data a bit further by clicking on the Histogram

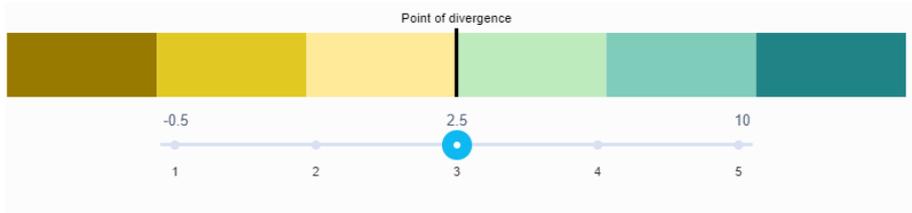


Looking at the data, we see that the data is skewed towards positive values and there are very few regions where GDP is contracting. Therefore having a map where there are an equal number of classes above and below zero can be a bit misleading. Lets make something a bit better

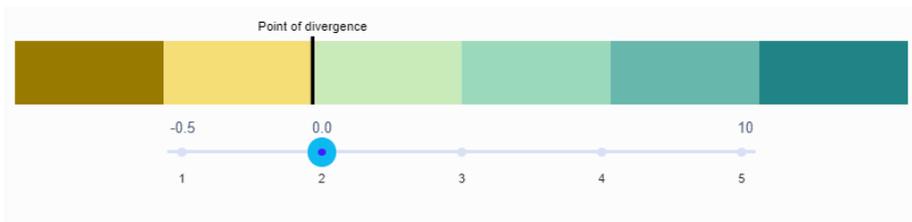
- 4) Let us first edit the class breaks to the below

<input type="checkbox"/>	10	<input type="checkbox"/>	≥ 10
<input type="checkbox"/>	5	<input type="checkbox"/>	$5 - < 10$
<input type="checkbox"/>	2.5	<input type="checkbox"/>	$2.5 - < 5$
<input type="checkbox"/>	0.0	<input type="checkbox"/>	$0.0 - < 2.5$
<input type="checkbox"/>	-0.5	<input type="checkbox"/>	$-0.5 - < 0.0$
<input type="checkbox"/>		<input type="checkbox"/>	< -0.5

5) Now, go back to  and choose a diverging scheme.



We see that the point of divergence is currently at value 2.5, which is the top value of the 3rd class. But we want it to be zero which is the top value of the 2nd class. We can change that by simply selecting the blue down to number 2



If we want a less start contrast in the colours we can also select the “stretched” option



6) Save the map as pdf and Configuration file with a meaningful name.

The important message with this exercise is that you ONLY choose the diverging colour scheme when you have a meaningful central value!