

## ASSIGNMENT 03a - COLOUR SCHEMES, DATA CLASSIFICATION

### TASK:

Make a series of simple choropleth maps using two types of colour schemes – sequential (Map 1) and diverging (Map 2).

### DATA SOURCES:

- spatial data: polygon layer of Census divisions (available [here](#))
- non-spatial (tabular) data: *CensusDivision\_Quebec\_Statistics.csv*

[Statistics Canada – 2021 Census of Population](#)

### SUBMISSION FORM:

- technical report
- 2 maps in PDF format
- ppx

### INSTRUCTIONS:

#### Part 1a – Simple Choropleth with Sequential Colour Scheme (Map 1)

- Add a layer *lcd\_000b21f\_e* to Map.
- Use *Definition Query* to filter the features to work only with your area of interest (*Quebec, province, PRUID = 24*)
- Use *Dissolve* tool to aggregate features (census divisions) to provinces/territories (*Dissolve Fields → PRUID*)
- Join the table *CensusDivision\_Quebec\_Statistics.csv* to *lcd\_000b21f\_e*, use *CDUID\_num\** as Input Join Field and *ALT\_GEO\_CODE\_1* as Join Table Field
- Export the joined table as a new feature class *CensusDivision\_Quebec\_Statistics* or similar (*Data-Export Features*)
- For layer *CensusDivision\_Quebec\_Statistics* set parameters in the *Symbology* as follows:
  - Symbolization Method: Graduated Colours
  - Field: set an expression\*\* →

$\$feature.LFS\_15y\_over\_In\_Unemployed/\$feature.LFS\_15y\_over\_In*100$

- Normalization: None
- Classification Method\*\*\*: *select the most appropriate one*
- Classes: 5
- Colour Scheme\*\*\*\*: *select the most appropriate one*
- In *New Layout* (A4 Landscape) insert the Map Title, North Arrow, Legend, Scale and Credits
- Export *Layout* in PDF Format

\* Before using Join (learn more on Join [here](#)), you need to convert the original text field “CDUID” to numeric field by calculating new field “CDUID\_num” with proper numeric field type. Learn more on converting text data to numeric data [here](#).

\*\*You can calculate new field “UnemploymentRate” in attribute table in advance using the same expression

\*\*\*Try at least 4 different classification methods that are available in the list. Describe and compare them and explain which of them is the best for this map. Learn more on data classification methods [here](#).

\*\*\*\*Explain/justify your choice. Learn more on colour schemes [here](#), or in other recommended sources:

- <https://blog.datawrapper.de/diverging-vs-sequential-colour-scales/>
- [https://web.natur.cuni.cz/~langhamr/lectures/vtfq1/mapinfo\\_2/barvy/colours.html](https://web.natur.cuni.cz/~langhamr/lectures/vtfq1/mapinfo_2/barvy/colours.html)

### Part 1b – Simple Choropleth with Diverging Colour Scheme (Map 2)

- In *Catalog Pane-Maps* copy and paste the previous *Map* and rename it
- In *Attribute Table* of *CensusDivision\_Quebec\_Statistics* layer show the *Statistics* of selected variable and find the mean value
- Use *Definition Query* to show the values above the mean value
- Copy the layer in *Table of Contents*
- Rename the original layer to *CensusDivision\_Quebec\_Statistics\_aboveMean* or similar and the duplicate layer to *CensusDivision\_Quebec\_Statistics\_belowMean* or similar
- For the duplicate layer change part of *Definition Query* to show the values below the mean value
- For the layer *CensusDivision\_Quebec\_Statistics\_aboveMean* in *Symbology* set following parameters:
  - Symbolization Method: Graduated Colours
  - Field: set an expression (see above) or select “UnemploymentRate” field
  - Normalization: None
  - Classification Method: Natural Breaks (Jenks)
  - Classes: 4
  - Colour Scheme: Yellow-Orange-Red
- For the layer *CensusDivision\_Quebec\_Statistics\_belowMean* in *Symbology* set following parameters:
  - Symbolization Method: Graduated Colours
  - Field: set an expression (see above) or select “UnemploymentRate” field
  - Normalization: None
  - Classification Method: Natural Breaks (Jenks)
  - Classes: 4
  - Colour Scheme: Yellow-Green\*

\*in *Format colour scheme* change the yellow colour to same values as the yellow in previous colour scheme (these colour represent the same data class)

- In *New Layout* (A4 Landscape) insert the Map Title, North Arrow, Legend, Scale and Credits
- Export *Layout* in PDF Format