

Geographic roles and maps - Practice 10

8 January 2020

Objectives

1. Identify the geographic role of a field
2. Create visualizations with a map

Tool

- Tableau Desktop

Exercise 1

A dataset about global water stress provided by [AQUASTAT](http://www.fao.org/nr/water/aquastat/data/query/index.html?lang=en) (<http://www.fao.org/nr/water/aquastat/data/query/index.html?lang=en>) is available in the file *aquastat.csv*.

- After having cleaned the dataset file, import it in Tableau.
- Set the geographical role of the column *Area*.
- The *Value* column needs to be normalized: create a calculated field that contains 100 if *Value* is higher than 100 and the actual value otherwise.
- Create a map showing the normalized water stress per Country. Each Country should be associated with a color according to its water stress. Low values should be represented in blue, high values in red. Consider the average value of the years available in the dataset.

Exercise 2

A dataset about Italian earthquakes provided by [INGV](https://emidius.mi.ingv.it/CPTI15-DBMI15/index_en.htm) (https://emidius.mi.ingv.it/CPTI15-DBMI15/index_en.htm) is available in the file *earthquakes.csv*.

- Import the dataset in Tableau and hide all columns except *N*, *Year*, *Mo*, *Da*, *EpicentralArea*, *LatDef*, *LonDef*, *MwDef*.
- Set the geographical roles of the columns *LatDef* and *LonDef*.
- Create a calculated field containing only the year if the month is not available, the year and the month if the day is not available, the whole date otherwise. Why does the dataset contain the date 1400-02-29? What calendar is Tableau using?
- Create a map showing the magnitude of the earthquakes (*MwDef*) using a red color palette. In the tooltips, show the area, date, and magnitude.
- Add a filter per date range and another one per magnitude value. Consider only earthquakes after the year 1980 and with a magnitude higher than 4.
- Create a line plot showing the number of earthquakes per year. Apply the previous filters to all the worksheets using the same data source.
- Create a dashboard with the map and the line plot. Also, include the previous filters in the dashboard.