

Assignment 2

Task 1 - Scales and Visual Mapping

a)

Ratio has a true value of zero and can not be below zero. interval instead can also have negative values. For intervals the difference between values e.g. 10°C and 20°C is the same as the difference between 110°C and 120°C.

Because ratio have a true zero value it can be used to define e.g. 100K is two times warmer than 50K. The term interval might result from the ability to declare intervals and ratio might result from the ability to declare ratios between all values.

b)

- degree Celsius = interval
- degree Kelvin = ratio
- dates = interval
- durations = ratio
- Cartesian coordinates = interval
- weight = ratio
- account balance = ratio
- length = ratio

c)

- Persons:



We wanted to concretely distinguish between all the names, therefore we used 7 different colors.

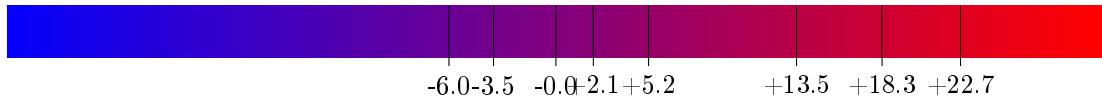
- Grades:



Usually green indicates e.g. eatable or drive (traffic light). Red instead indicates e.g. poisonous or dangerous. Therefore we used green for good things and red for bad things.

- Degree Celsius:

Red usually means hot and blue means cold. therefore value zero is a mixture and in our case purple.



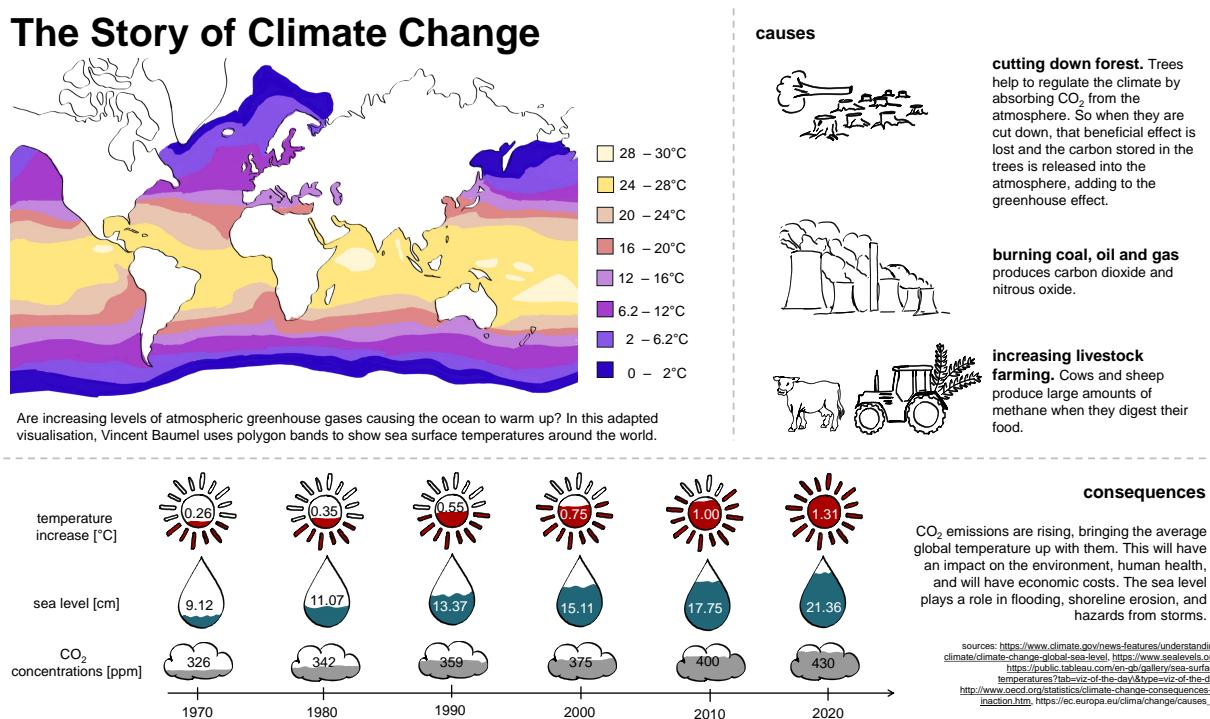
d)

visual variables:

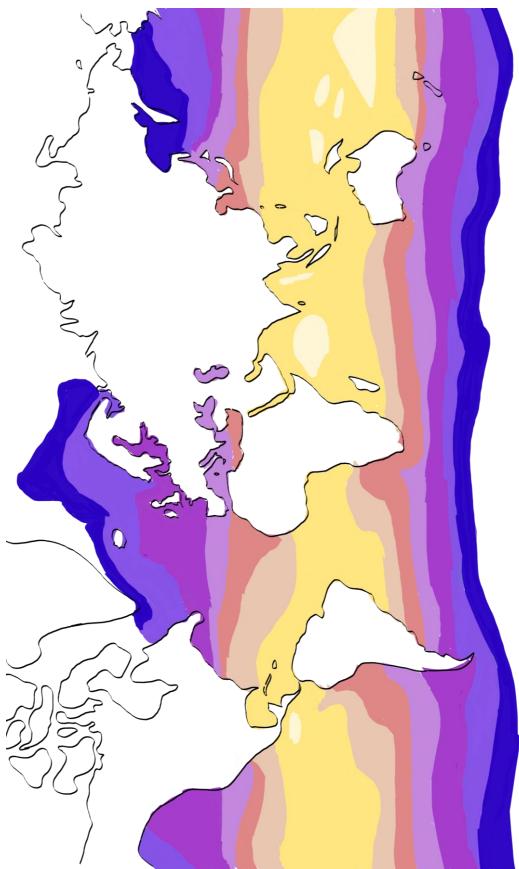
- bar chart:
 - length
 - position
- pie chart:
 - angle
 - area

If we had to sort the values in increasing order, we would choose the bar chart over the pie chart. With respect to the visual variables it is easier to interpret and detect differences in length and position than in angle and area. If something can be expressed in percentage the pie chart provides a better understanding of the data.

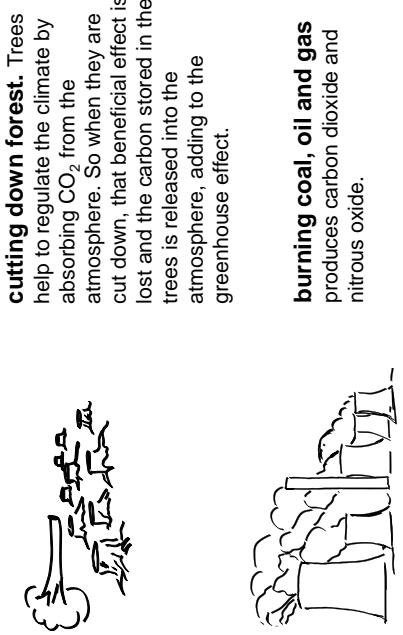
Task 2 - Storytelling



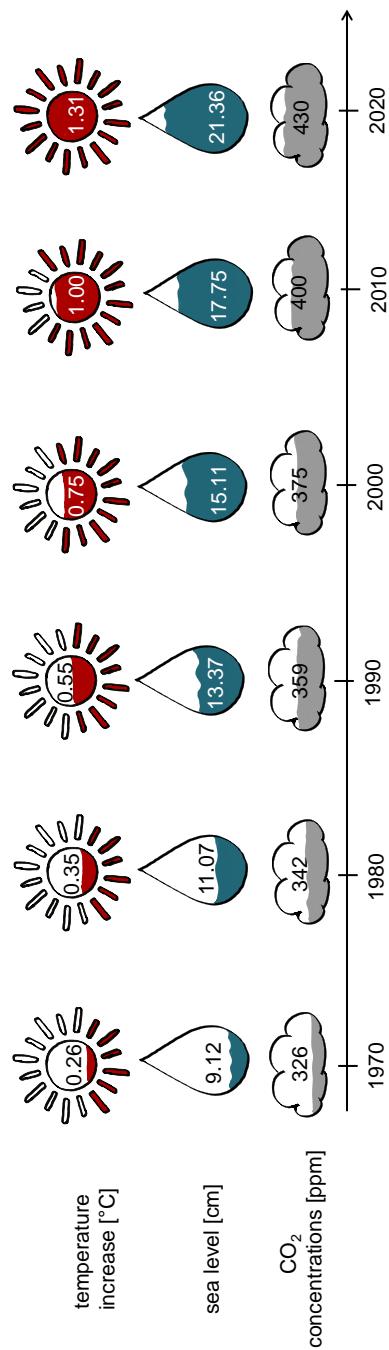
The Story of Climate Change



causes



Are increasing levels of atmospheric greenhouse gases causing the ocean to warm up? In this adapted visualisation, Vincent Baumel uses polygon bands to show sea surface temperatures around the world.



consequences

CO₂ emissions are rising, bringing the average global temperature up with them. This will have an impact on the environment, human health, and will have economic costs. The sea level plays a role in flooding, shoreline erosion, and hazards from storms.

Sources:
<https://www.climate.gov/news-features/understanding-climate/climate-change-global-sea-level>, <https://www.sealevels.org/>,
<https://public.tableau.com/en-us/viz-id/the-day&view=viz-of-the-day-temperature>, <http://ec.europa.eu/eurostat/statistics-in-society/climate-change-consequences-of-inaction.htm>, https://ec.europa.eu/clima/change/causes_en