

Places and Regions in Human Geography

Map Library Session – March 5th 2020





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What's a map?

- A map is a drawing of the earth's surface, or part of that surface, showing the shape and position of different countries, political borders, natural features such as rivers and mountains, and artificial features such as roads and buildings [Cambridge dictionary]
- A map is a symbolic depiction emphasizing relationships between elements of some space, such as objects, regions, or themes. [Wikipedia]
- A map is a drawing of a particular area such as a city, a country, or a continent, showing its main features as they would appear if you looked at them from above. [Collins dictionary]

A map is a selective, abstract and symbolic interpretation of the landscape and its geographical distributions. [Pau Alegre, geography professor at UAB]

Technical features: Scale

The **scale** of a map is the ratio of a distance on the map to the corresponding distance on the ground.

There are two main forms of representing scales:

Bar scales: 0 1000



Fraction: 1:10 000 (1 cm on the map = 10 000 cm on the ground)

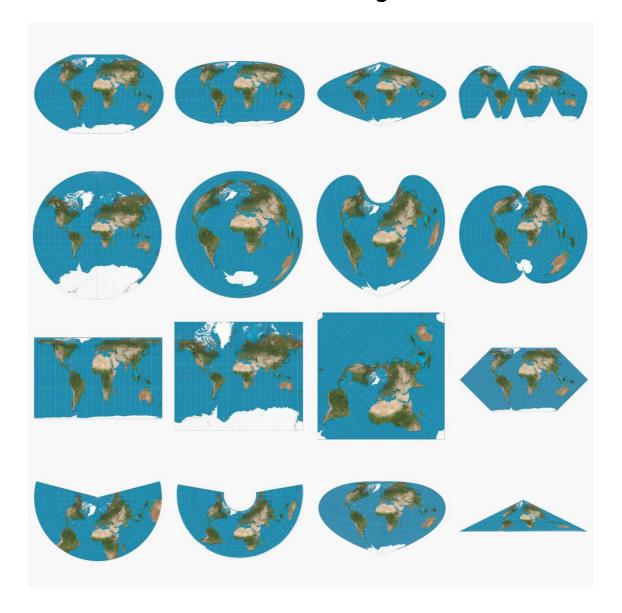
Classification of maps according to scale:

- Large scale maps (smaller area, more detail): larger than 1:25 000
- Medium scale maps: 1:50 000 1:100 000
- Small scale maps (larger area, less detail): less than 1:200 000

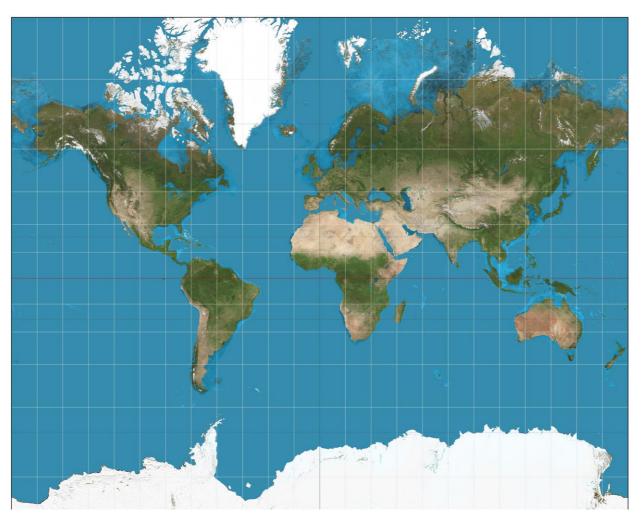
A **map projection** is a way to flatten a globe's surface into a plane in order to make a map. This requires a systematic transformation of the latitudes and longitudes of locations from the surface of the globe into locations on a plane. All projections of a sphere on a plane necessarily distort the surface in some way and to some extent.

Projections by preservation of a metric property:

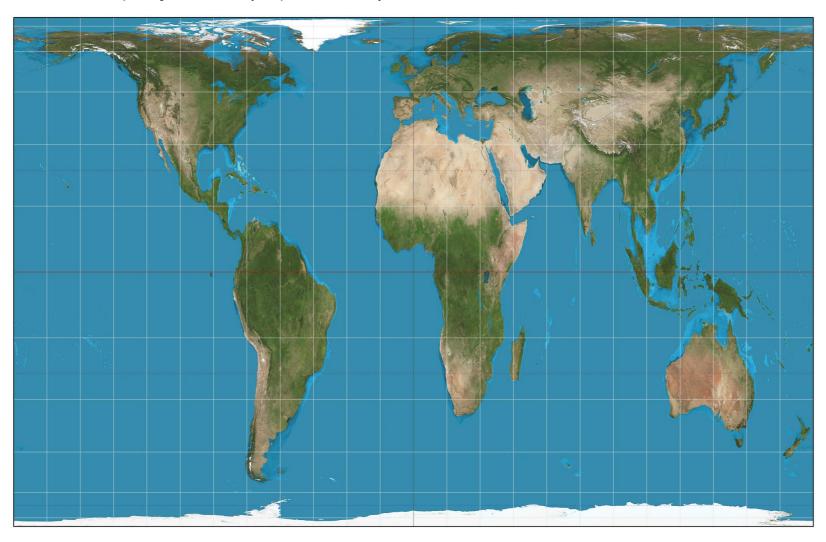
- Conformal: Conformal map projections preserve angles locally.
- Equivalent or Equal-area: Equivalent map projections preserve area measure, generally distorting shapes in order to do that.
- Equidistant: Equidistant map projections preserve distances.



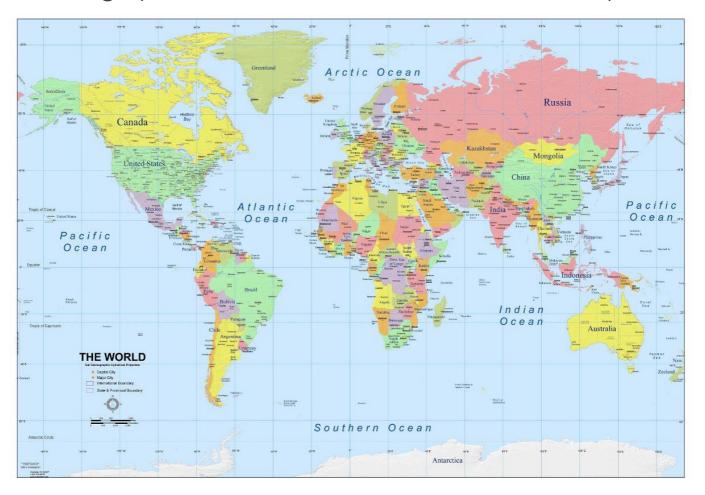
Mercator projection (Conformal)

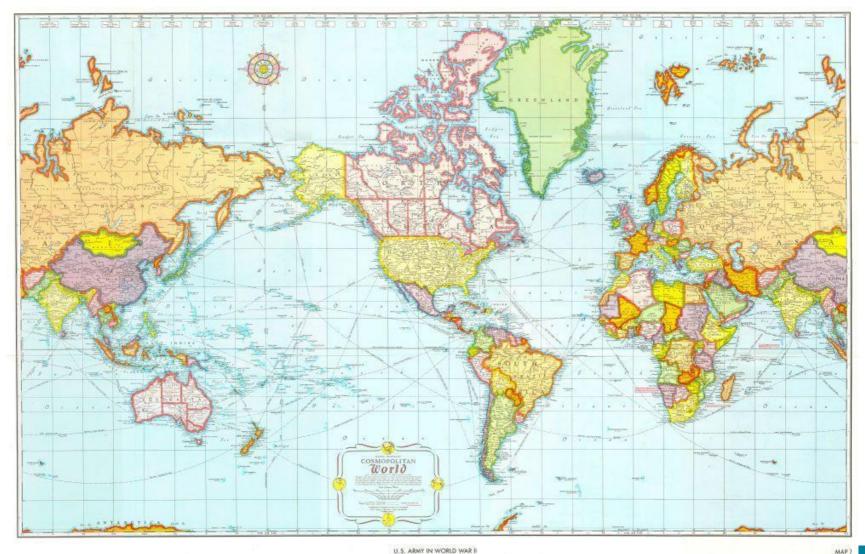


Gall-Peters projection (Equivalent)

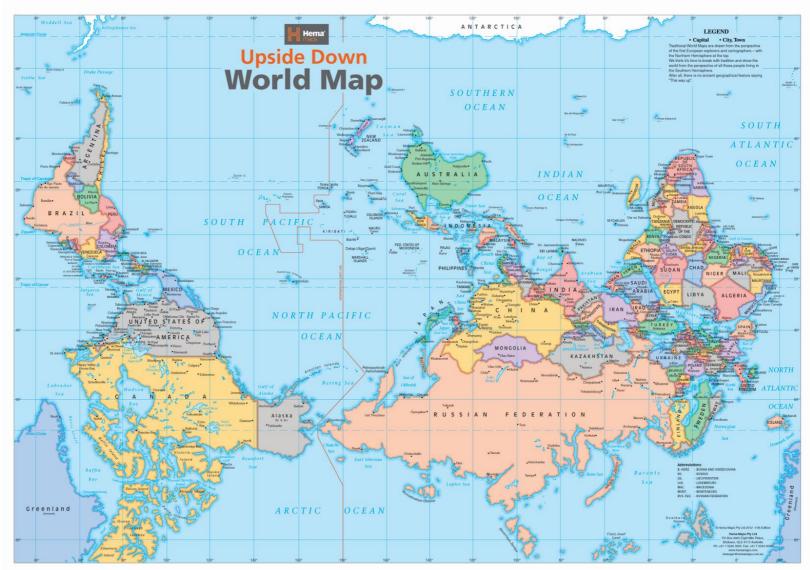


The **orientation** of a map is the relationship between the directions on the map and the corresponding compass directions in reality. The most common cartographic convention, is that north is at the top of a map.





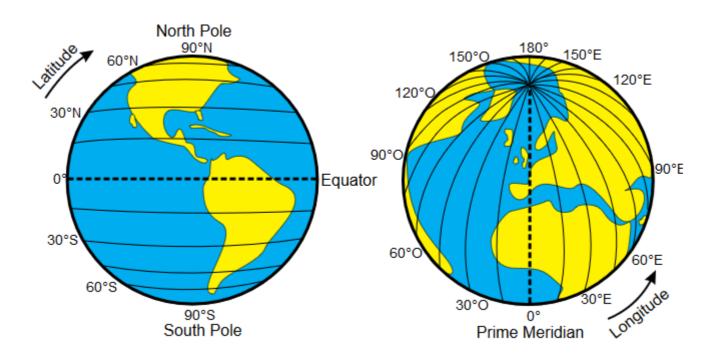




Technical features: Coordinates

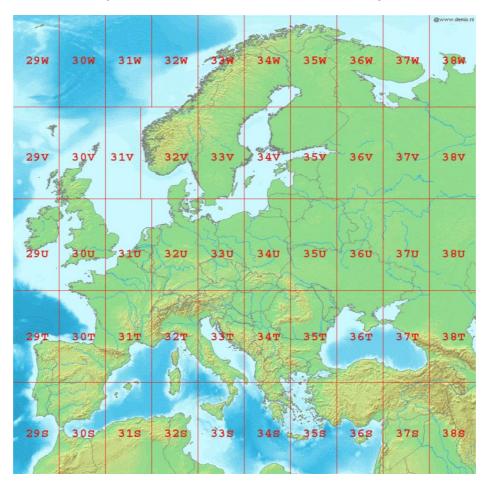
A geographic coordinate system enables every location on Earth to be specified by a set of numbers, letters or symbols. The coordinates are often chosen such that one of the numbers represents a vertical position and two or three of the numbers represent a horizontal position.

A common choice of coordinates is latitude and longitude (expressed in degrees)



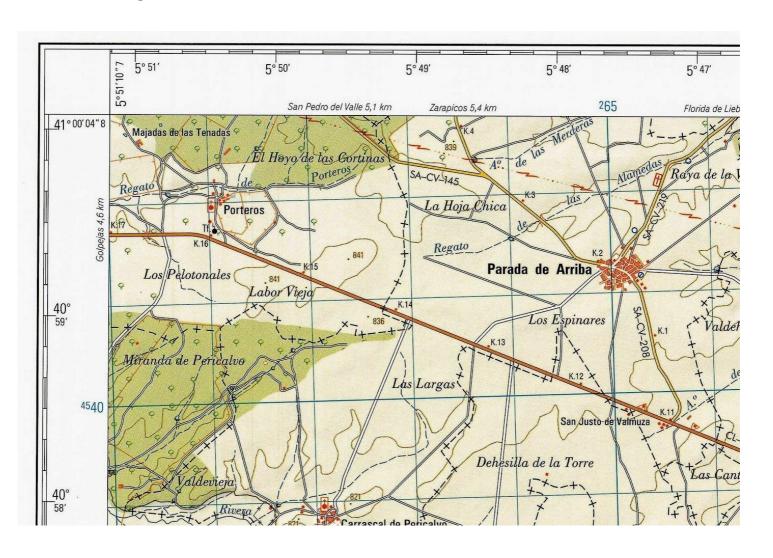
Technical features: Coordinates

Another common choice is UTM coordinate system. It divides Earth into 60 zones. Specifying a location means specifying the zone and the x, y coordinate inside the zone (expressed in kilometers).



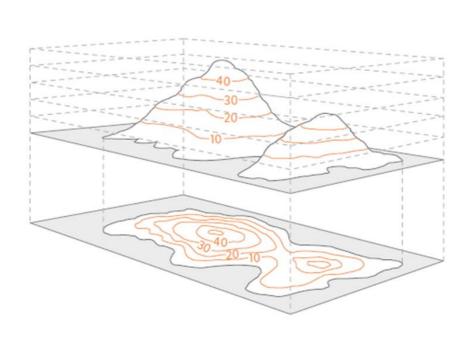
Technical features: Coordinates

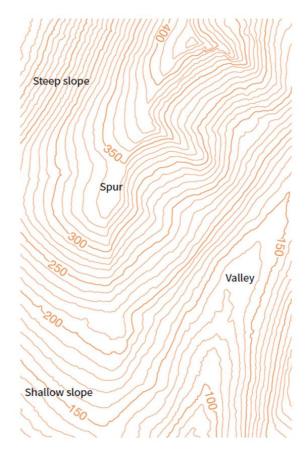
Latitude / longitude coordinates and UTM coordinates



Relief representation: Contour lines

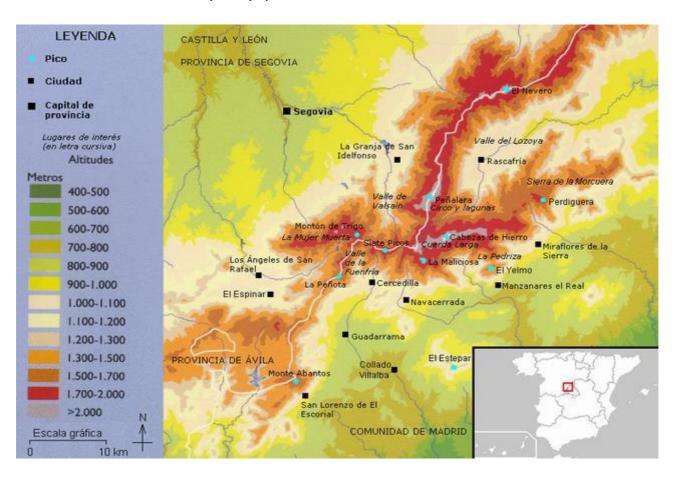
The height and shape of the land is shown on a map using 'contour lines'. These lines appear as thin orange or brown lines with numbers on them. The number tells you the height above sea level of that line.





Relief representation: Hypsometric tints

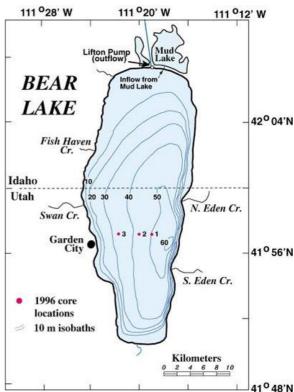
Hypsometric tints are colors placed between contour lines to indicate elevation. These tints are shown as bands of color in a graduated scheme or as a color ramp applied to contour lines themselves.



Relief representation: Bathymetry

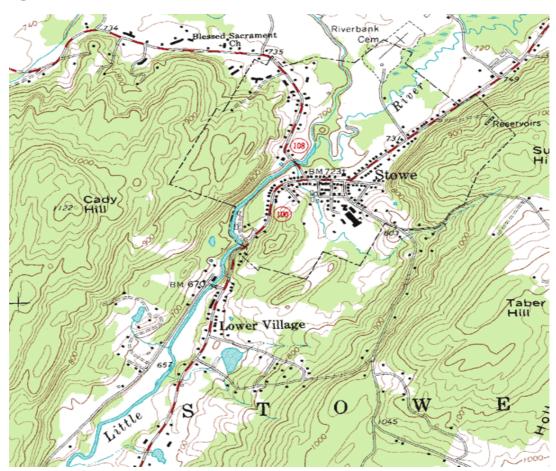
Bathymetric maps show underwater depth of lake or ocean floors. In other words, bathymetry is the underwater equivalent to hypsometry or contours.



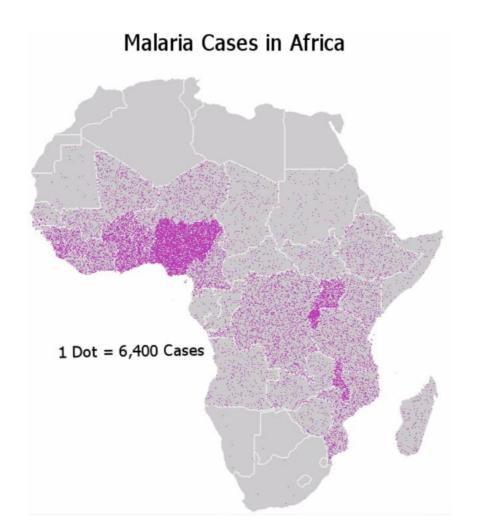


Map types: Topographic maps

A topographic is a type of map characterized by large-scale detail and a representation of relief, usually using contour lines. Traditional definitions require a topographic map to show both natural and man-made features.



A thematic map is a type of map specifically designed to show a particular theme connected with a specific geographic area.

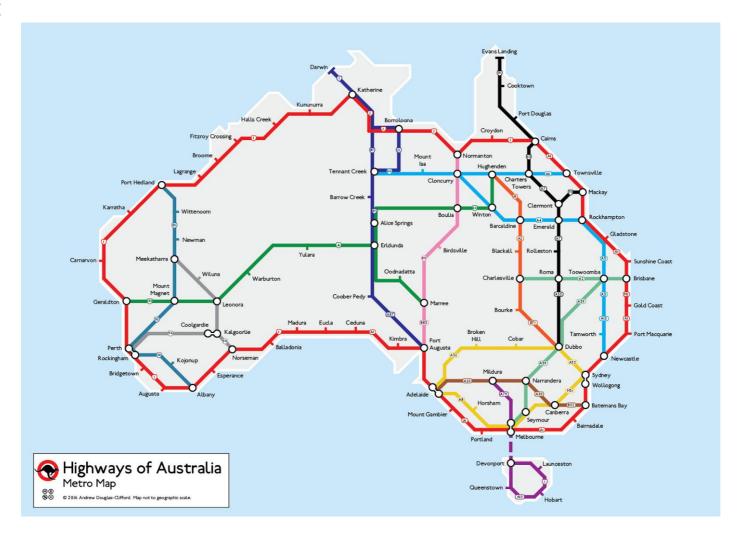


Thematic maps usually categorize information using three types of representation: points, lines and areas.

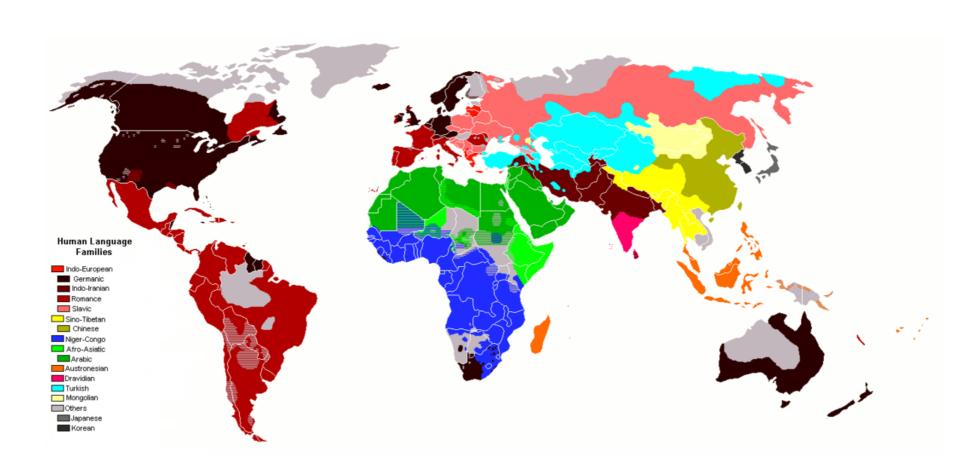
Points:



Lines:

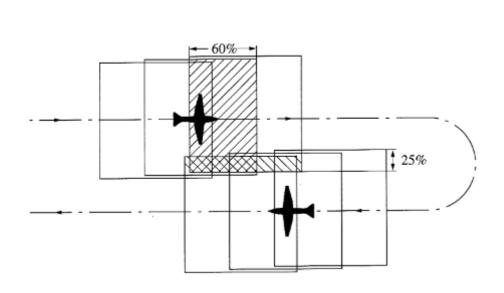


Areas:



Map types: Cartographic images

Aerial photography: image taken from an aircraft or other flying object.





Map types: Cartographic images

Orthophoto: An orthophoto is an aerial photograph or satellite imagery geometrically corrected ("orthorectified") such that the scale is uniform: the photo or image follows a given map projection.



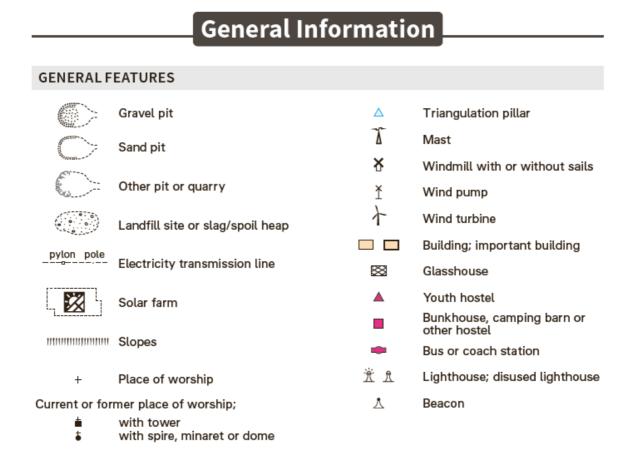
Map types: Cartographic images

Satellite images



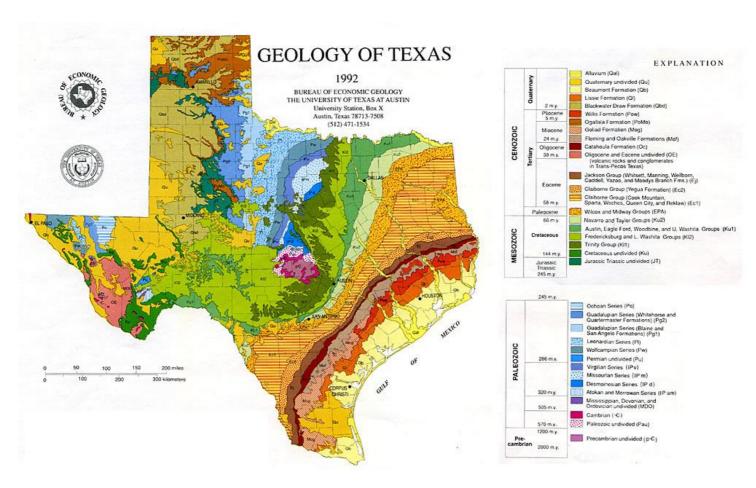
Cartographic expression and symbols

A map has different symbols and text. The symbols are used for describing some part of the reality, while the text is used for a more detailed description of the object that are depicted in the map.



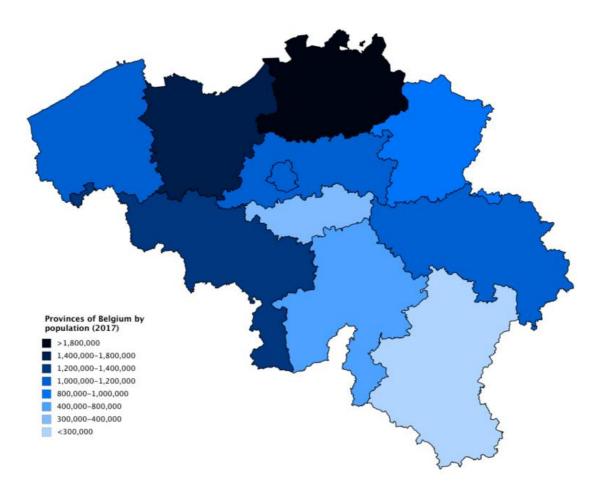
Cartographic expression and symbols

Color is a very useful attribute to depict different features on a map. Displaying the data in different hues can greatly affect the understanding or feel of the map. In many cultures, certain colors have connotations.



Cartographic expression and symbols

A choropleth map is a thematic map in which areas are colored differently to show the measurement of a statistical variable being displayed on the map.



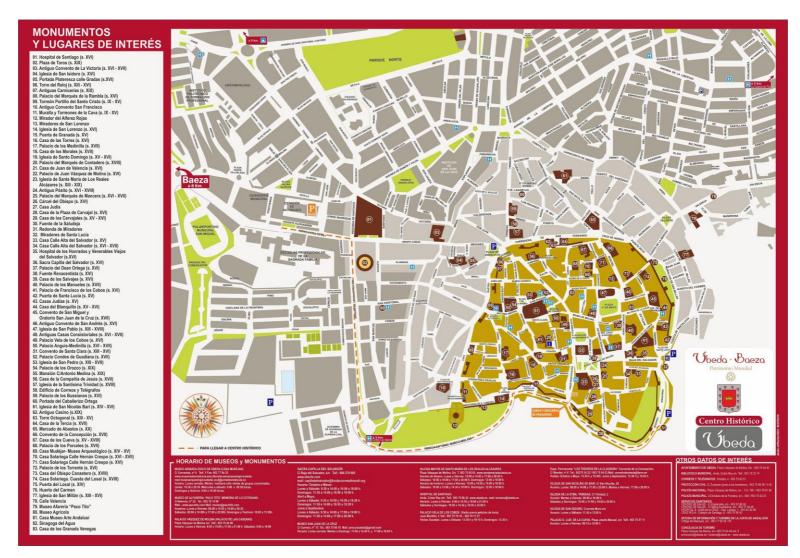
Use of centrality



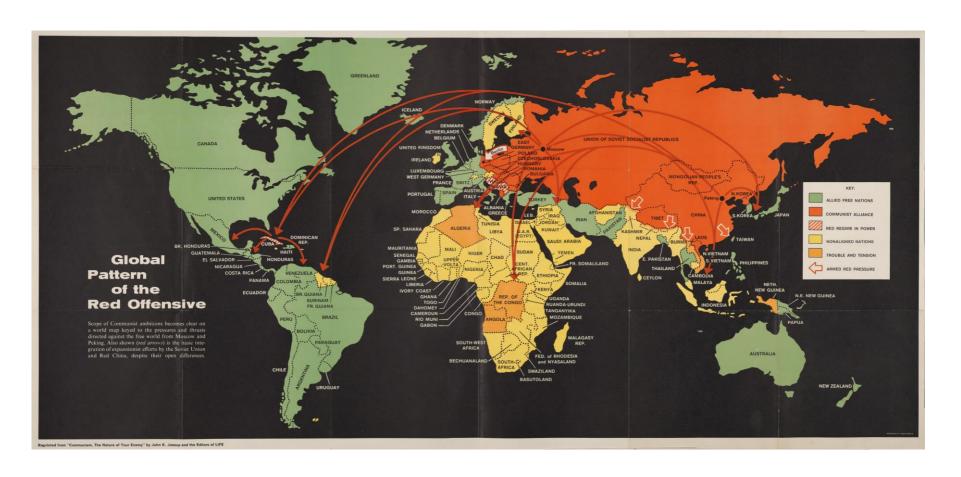
Use of centrality



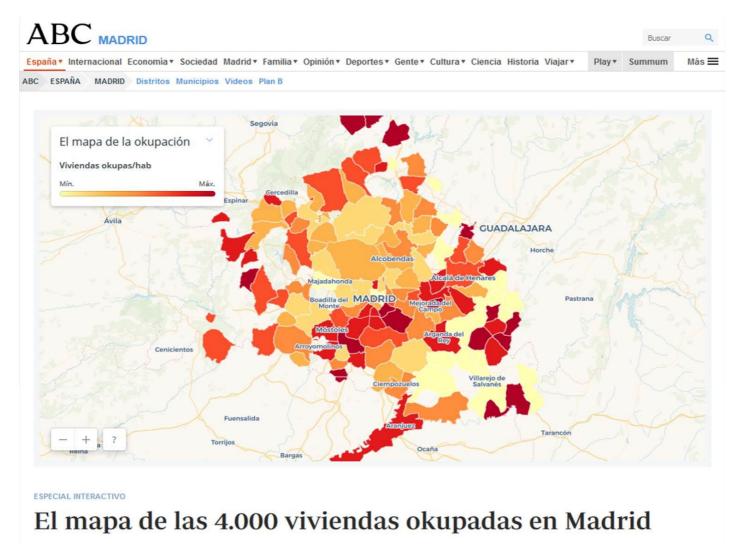
Use of symbols and colors



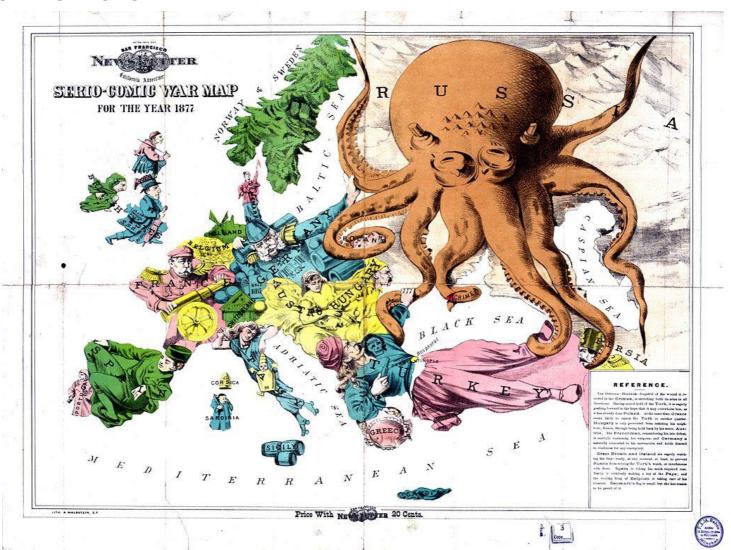
Use of symbols and colors



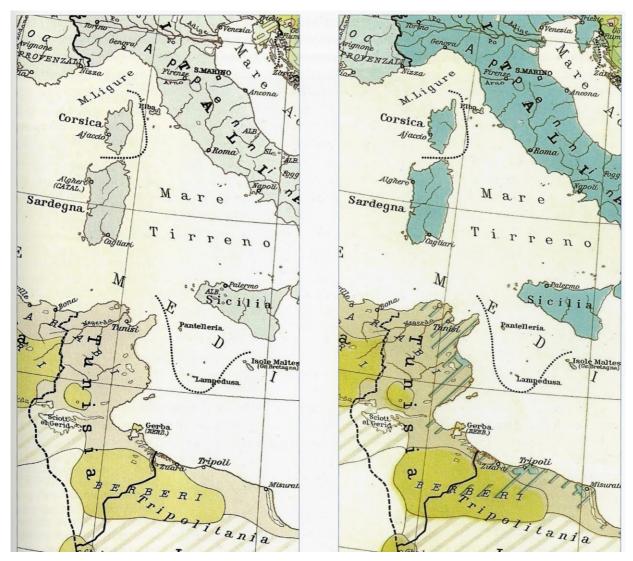
Use of symbols and colors



Use of information



Use of information



Credits

- Slide 6: Projections image retrieved from: Wikipedia. "Proyección de cartográfica". https://es.wikipedia.org/wiki/Proyecci%C3%B3n_cartogr%C3%A1fica
- Slide 7: World map Mercator projection retrieved from: Wikipedia. "Proyección de Mercator".
 https://es.wikipedia.org/wiki/Proyecci%C3%B3n de Mercator
- Slide 8: Mapamundi projecció Gall-Peters extret de: Wikipedia. "Proyección de Peters".
 https://es.wikipedia.org/wiki/Proyecci%C3%B3n_de_Peters
- Slides 10, 11 i 12: World maps published in U.S.A., Japan and Australia retrieved from:
 Geografía infinita. "El mapa del mundo es distinto para cada país".
 https://www.geografiainfinita.com/2014/08/visiones-del-mundo-el-mapamundi-segun-cada-cultura/
- Slides 13 and 14: Images of geographical coordinates and UTM coordinates retrieved from Wkipedia https://commons.wikimedia.org/wiki/Category:Geographic coordinate system
 and https://en.wikipedia.org/wiki/Universal Transverse Mercator coordinate system
- Slide 16 and 27: Images of countours and symbols retrieved from Map Reading brochure by Ordnance Survey. https://www.ordnancesurvey.co.uk/documents/resources/map-reading.pdf
- Slide 24: Aerial photography retrieved from Fototeca IGN. https://fototeca.cnig.es/

Credits

- Slide 31: Verticalmap of China retrieved from China.org.cn
 http://www.china.org.cn/china/2013-01/12/content_27665192.htm
- Slide 32: Touristic map of Úbeda retrieved from: http://ubedaybaezaturismo.com/lugares-de-interes/descargar-planos-centro-historico-de-ubeda-y-baeza/
- Slide 33: Global pattern of the red offensive retrieved from "Persuasive Cartography: The PJ Mode Collection". Cornell University Library. https://persuasivemaps.library.cornell.edu/
- Slide 34: "El mapa de las 4.000 viviendas okupadas en Madrid" retrieved from ABC Madrid, 21/09/2018. https://www.abc.es/espana/madrid/abci-mapa-4000-viviendas-okupadas-madrid-201710290205 noticia.html [Consultat el 2-11-2018]
- Slide 35: Satirical map of Europe(1877). Frederick Rose. Retrieved from "Rusia, la (más) mala de la película en los mapas satíricos". Blog Geografia Infinita https://www.geografiainfinita.com/2016/07/rusia-la-mas-mala-de-la-pelicula-en-los-mapas-satiricos/
- Slide 36: Etnographic maps of Italy from Touring Club Italiano retrieved from Cartografia, ideologia i poder (catalog record) https://cataleg.uab.cat/iii/encore/record/C Rb1944907)

Thanks!

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