

What is a map?

Notes for our Information Visualization & Design workshop...
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According to the International Cartographic Association, a map is a representation, normally to scale and on a flat medium, of a selection of material or abstract features on, or in relation to, the surface of the Earth [1].

The production of a map requires:

1. Selection of the features of the real world that will be included.
2. Classification of the selected features into groups (i.e. roads, railway lines, cities, etc)
3. Simplification of geographical landmarks.
4. Exaggeration of features to be included which may be too small to show at the scale of the map
5. Symbolization to represent the different classes of features chosen

In practice we normally think of two types of map:

- Topographic map that shows the outlines of selected natural and man-made features of the Earth
- Thematic map that is used as a tool for communication of geographical concepts such as the distribution of population densities, climate, movement of goods, land use etc.

Basic elements in a map, including an Affective Map
Title – is used to label or name the contents (or invariant) being mapped.
Area – comprises the “territory” being depicted and may be represented using iconographic or diagrammatic components, or a combination of both.
Orientation – shows us how to read the map.
Legend – disambiguates the meaning of the elements.
Scale – gives a sense of proportion, ratio, distance.
Projection – 2D or 3D. (See list below.)
Cartouche – Can provide an additional narrative to the map.

“A map is not the territory.” Thus says everybody that Gregory Bateson said...

A concept map is “a diagram showing the relationships between concepts” [2].

From this point of view, a map can be seen as a representation of “the correspondence of elements in one set to elements in the same set or another set” [3].

An Affective Map is a representation that seeks to **graph** affective states such as emotions, and which makes use of rhetorical elements appropriated from the activity of mapmaking. An affective map is more related to the category of Thematic than to the category of Concept maps.

Some examples of thematic maps:

- Choropleth map that uses arbitrary reporting zones such as counties or census tracts to show data such as average incomes, percent female, or rates of mortality.
- Area class map that shows zones of constant attributes, such as vegetation, soil type, or forest species.
- Isopleth map that shows imaginary surfaces by means of lines joining points of equal value, “isolines” (e.g. contours on a topographic map) [4].

Sources:

1. National Center for Geographic Information Analysis, Core Curriculum 1990 Version, Section 2: Maps and Map Analysis
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2. Wikipedia: http://en.wikipedia.org/wiki/Concept_map (Accessed Nov. 18, 2006).
3. Free Online Dictionary: <http://www.thefreedictionary.com/map>
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4. Wikipedia:
http://en.wikipedia.org/wiki/Contour_line (Accessed Nov. 16, 2006).