MAPS IN THE STUDIES OVER GLOBAL PHENOMENA AND PROCESSES - CHOICE OF PROJECTION

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The paper presents model features of maps, which take into account the spatial relations which are characteristic of the objects and phenomena studied by people.

The distinguished maps should be treated as precise models, i.a. large-scale, general geographical maps (the whole range of metric features) and thematic maps (only chosen metric features.) The second group are approximate models of spatial relations. It results from minimizing the geometry of the entire system.

The main goal of the paper is presenting the meaning of choice of projections for the small-scale thematic maps. Moreover, indicating the elements which may be helpful in elaborating of the maps with use of GIS application.

The significance of the choice of projections, created in the theory of cartography, is not always taken into account during digital maps designing. It is especially important when the small-scale maps are elaborated because it can decide about their usefulness.

The paper analyzes model features of maps designed using chosen types of projection available in computer programs. The example which allows to evaluate whether the sizes of fields are accurately presented is the area of states in the world maps in chosen mapping systems: Mollweide, Behrmann, sinusoidal, Eckert IV, VI, Mercator, Gall, Müller and Robinson.

The authors' suggestion is to take into account the spatial structure of regions when choosing projection system for small – scale, regional maps, that is - their localization and layout, as well as the hierarchy of importance for users. Recognition of a structure of spatial distribution parts of observed region creating each of distinguished types can be made using the projection with balanced values of all kinds of deformations or the projection chosen according to analytical properties of created map.

Three kinds of regions may be distinguished: administrative, functional and formal. In the last group, sub-areas, which are created by regions, are delimitated based on uniformity of assumed criteria. Mostly, they refer to environment, socio-economic or cultural conditions.

The example of proposed method is optimizing the projection for maps: regions where the environmental conditions are the most advantageous for agriculture, as well as socio- economic regions of the World.

Optimal adjustment of mathematical bases of the maps of regions and their objective is a condition to consider the maps as useful source material and information carrier presenting spatial relations.