

An Evaluation Model for Automatic Map Generalization

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Abstract : Automatic map generalization is a well-known problem in cartography. The development of map generalization research accompanied the development of cartography. The traditional map is plotted manually by cartographic experts. The paper studies none-scale automation generalization of resident polygons and house marker symbol, proposes methodology to evaluate the result maps based on minimal spanning tree. In this paper, the minimal spanning tree before and after map generalization is compared to evaluate whether the generalization result maintain the geographical distribution of features. The minimal spanning tree in vector format is firstly converted into a raster format and the grid size is 2mm (distance on the map). The statistical number of matching grid before and after map generalization and the ratio of overlapping grid to the total grids is calculated. Evaluation experiments are conduct to verify the results. Experiments show that this methodology can give an objective evaluation for the feature distribution and give specialist an hand while they evaluate result maps of none-scale automation generalization with their eyes.

Keywords : automatic cartography generalization, evaluation model, geographic feature distribution, minimal spanning tree

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