

AN ANALYSIS OF VOLUMETRIC
MAPPING TECHNIQUES

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ABSTRACT

This study evaluates alternative map designs that can be used by a cartographer to relay information about a particular distribution. The information that the map maker wishes to transmit can be either quantitative or qualitative. The approach taken in this research to assess this information transfer was to create specific task oriented problems which subjects were asked to complete.

From test results and statistical analysis performed on the results, indications are that significant differences exist among several maps in terms of their ability to transfer quantitative information. The choropleth and circle maps were the most effective; the fishnet least effective. From these results it can be concluded that if a person views a distribution mapped in one graphic type, he/she may not always be able to make accurate comparisons with another distribution mapped differently. The results also indicate that there are differences from graphic to graphic of the perceived spatial arrangement (qualitative information) of the values within the distribution. Subjects were least able to identify the desired qualitative information when using the circle map and had the most difficulty when using the variations of isarithmic maps.