A Color Segmentation Method
and Its Use in the Electronic Map

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ABSTRACT

Modern GIS (geographic information system) have been widely used in various departments of national economy. More and more electronic maps are utilized. But the problem of data input is still a serious bottleneck in the widespread use of GIS. Almost all GIS in present use employ electronic digitizers as the input device to convert paper map information into digitized and vectorized data for computers. Those methods are expensive,time-consuming,and tedious.

Recent years image scanners are widely used for image inputing. There are color scanners as well as black-white ones. Man know that mordern scanning technology holds the promise for automating the conversion process, and has studied it in theory and in practice. But almost all the methed are based on grayscale or black-white image. It is effective for the map of single feature. You can't really put it into practical usage when you want to get a high quality electronic map automatically and fast.

Ignoring the color information result in a graceful degradation in performance, a desirable property and one that is consistent with human perceptual experience.

This paper presents a color map classification method. the color originals topographic maps scanned in automatically from a color scanner. As a bit map , it represented as P (R.G.B.) . R , G and B are the color parameters of P . It is difficult to classify colors by directly adjusting the R. G. B components. So we must choose another color characteristic space. This paper discussed which color space is best and how to cluster the color pixels using the space, and gave a very efficient aglorithem ,which is fast and adaptive.

Experimental results indicate that color information can be useful in map feature segmentation system . All the figure in this paper show that the classification methed is very effective.It is useful in obtaining a fine electronic map . Base on the electronic map, It is further to be processed to vectorize and recognize.