

6) Add $Reg\{\}$ to an interim layer feature class $Aclass$ and extract Label point in $Aclass$, put these points into $Pnt\{PntA/PntB/PntC/... PntR\}$.

7) Delete the set of curve section $Arc\{Arc1/Arc2...\}$, and add the central axis and extended line $LinT\{\}$ into $Aclass$.

8) A new feature layer $Bclass$ can be got after you cut off all the curve sections of $Aclass$ and then rebuild them.(figure 6)

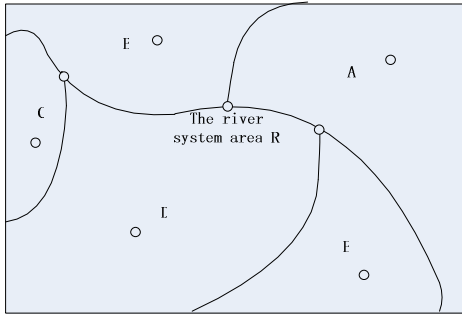


Figure 6

After merging the river system area good effects have been achieved, the example picture is as follows.



Figure7. Before merging the river system area



Figure8. After merging the river system area

After experiment, The central axis of river system area R have been successfully extracted, and the river system area have been merged into its surrounding area.

CONCLUSION

The cartographic generalization is a tough subject in the GIS field. It is related to the development level of the national GIS technology and cartography, so it has a very important practical significance for the research of the cartographic generalization. The article mainly introduces the river system element generalization of the cartographic generalization and simply describes the selection and simplification of the facet river system and the linear river system. In addition, the article emphatically analyzes the river system data generalization of the land use and carries out the secondary development and achievement by the MapGIS software. And relatively good effects have been achieved for special data. But the completeness and robustness of the function shall be strengthened in order to make it appropriate for more common conditions. It requires the researcher to carry out further study and perfection.

REFERENCES

- [1] Ying-shen, Guo Ren-zhong, Yan Hao-wen, Lin Heng-gui. Framework Design and Implementation of Model-Oriented Cartographic Generalization[J]. Acta Geodaetica et Cartographica Sinica, 2002, 31 (4) : 344-349.
- [2] Dettori G, Puppo E-Designing a Library to Support Model-Oriented Generalization [A] In : Proceedings 5th ACM Workshop on Advances in GIS [C], November 15-16, Washington, DC(USA), 1998 : 34-39.
- [3] Douglas DIH1 & Peucker TIK1 Algorithms for the Reduction of Points Required to Represent a Digitized Line or Its Carticature[J] Canadian Cartographer, 1993, (10) : 112-1221.
- [4] Li Z.-L., and Openshaw, S. 1992. Algorithms for Automated Line Generalization Based on a Natural Principle of Objective Generalization. INT. J. Geographical Information Systems. 6 (5) : 373~389.
- [5] Zhang Qing-nian, Generalization of Drainage Network with Density Differences [A], Acta Geodaetica et Cartographica Sinica 2006.(5)
- [6] AI Zi-xing, WU He-hai, AI Ting-hua, et al. The Application of Delaunay Triangulation in River Net Automatic Generalization [J]. Geo2Information Science, 2003, (2) : 39-42.
- [7] HE Zong-yi. Principles and Methods of Cartographical Models for Data Processing [M]. Wuhan : Wuhan University Press, 2004.
- [8] Lei Wei-gang, Liu Da-jie, Tong Xiao-hua, Discussion about uncertainty of spatial line feature generalization algorithms, Engineering of Surveying and Mapping, 2004.(6) 7~10.
- [9] Zhang-Gang, Li-Dong, Research on Automatic Cartographic Generalization in Water System [A] Water Conservancy Science and Technology and Economy. 2009. (4) 302~304.
- [10] Ai Ting-hua, Guo Ren-zhong, Chen Xiao-dong, Simplification and Aggregation of Polygon Object Supported by Delaunay Triangulation Structure [J] Journal of Image and Graphics. 2001. (7) 703~710