1/50.000 and 1/100.000 Scale Topographic Map Production by Automated Generalization

Conventional cartographic productions at these scales are stopped by the end of year 2000. A new project called "Computer Assisted Generalization Project" was started in 2002.

Data produced and added to library at 1/25.000 scale is used for this project. The objective of this project was to design 1/100.000 and 1/50.000 scale digital topographic map production system. By the end of 2005, 1/100.000 scale map production system, and by the end of 2006 1/50.000 scale map production system have been realized. According to statistics, 75 % of cartographic processes are carried out automatically and the rest are made interactively. On the other hand, time spent for production decreased to 50 %.

To accomplish this project, following aims were realized.

- Obtaining, defining and arranging the needed generalization rules,
- Defining and arranging the feature's importance and priority list,
- Defining the generalization parameters,
- Obtaining the needed generalization algorithms,
- Investigating the present algorithms and their applicability to our needs, and modify and/or improve them or develop a new one, if needed.
- Defining the processes and their orders, and
- Defining the production lines,

As mentioned above, project group created a semi-automatic production line by developing intelligent and sophisticated generalization tools using ArcGIS and its customization environment (ArcObjects, Visual Basic and C++ Programming languages). With this production line, which is still improved by the project group, more than 602 1/50.000 and 165 1/100.000 scaled maps have been produced until the end of 2011

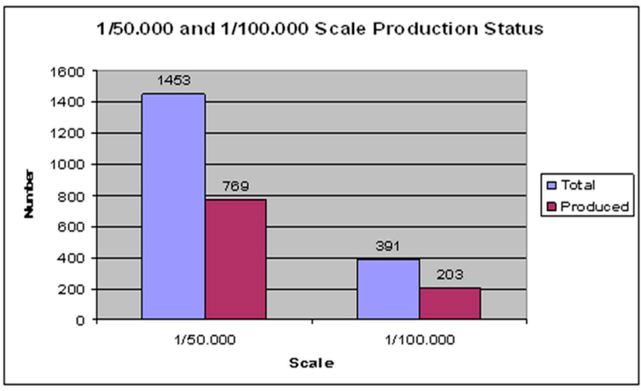
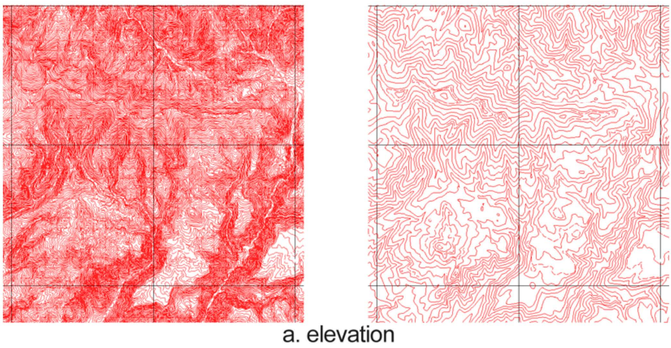
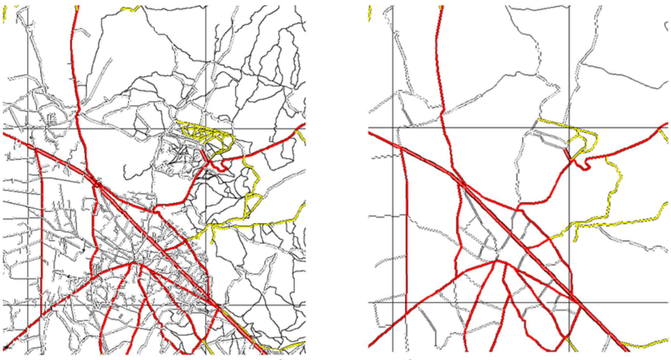


Figure 1

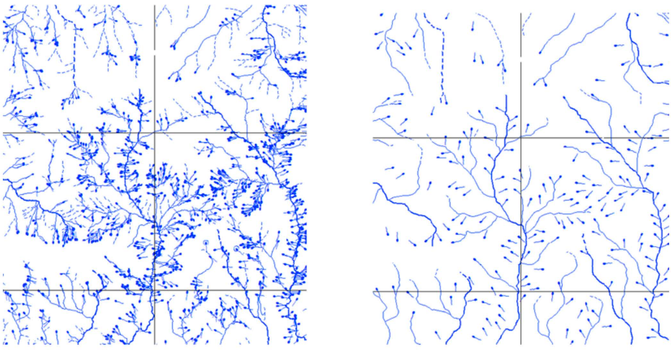
Generalization samples of 1/100.000 scale maps including different feature classes are given in figure-2.



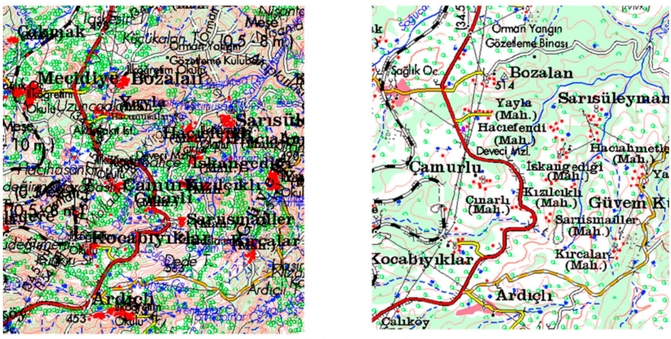
a. elevation



b. transportation



c. hydrography



d. all feature classes

Figure 2