

Designing And Implementing Fully Automated Commercial Mapping Software: A Case Study of the U.S. Census Bureau's Urbanized Area Mapping Project

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The U.S. Census Bureau's Geography Division must create a number of automated mapping systems to meet its requirements for nationwide mapping projects. In the past these mapping software systems have been created entirely by in-house Census Bureau cartographers and computer programmers. Now the Census Bureau is turning to commercially available mapping software normally used for highly interactive, high quality mapping and adapting it to create large volumes of unique maps in a batch processing, completely non-interactive environment.

Most recently, the Census Bureau created outline maps of the approximately 4,000 Urbanized Areas (UAs) of the United States. Urbanized Areas are delineated after every decennial census and serve as the basis for demographic research and many government programs. They are determined via a block by block calculation of population density, resulting in very complex shapes. The Urbanized Area Outline Maps show the boundaries of these areas and their identifiers.

This case study presentation will discuss aspects of system design and the production process. These include: using scripts, macros, watch folders, and marker files to create maps in a batch environment; problems in making three different commercial software mapping and graphics packages work together across different computers and operating systems; achieving highly effective feature names placement; the creation of graphics files suitable for both printing and viewing on screen via the world wide web; and encountered issues which need further development for future mapping systems.