



The Power of Maps

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Newsrooms across the country routinely get computerized public records. These databases tell a lot about a community. They detail crimes. Every home built. Every business location.

In the early days of computer-assisted reporting, the tools for analyzing these records were database managers and spreadsheets. But there are patterns you may never spot with those tools. You could not easily spot whether crimes are clustered around a hot spot. Or if homes were constructed in troubled areas. Or whether businesses were avoiding certain areas.

These are trends that hinge on geography. The tool that's making inroads for doing this kind of analysis is mapping software. Or, by its formal name, Geographic Information Systems.

Using GIS programs requires some basic skills of computer-assisted reporting. Because the querying process is very similar to querying in database programs, a journalist needs to have a good grounding in spreadsheets and databases before tackling mapping. Also, a basic understanding of your local geography and census geography would be helpful.

This tool is becoming invaluable for finding patterns and clusters.

Before El Nino hit California in the late 1990s, the San Jose Mercury News looked for potential mudslide problems in the Santa Cruz Mountains. The story spotted a disturbing trend: many new houses were cropping up on slopes with a high risk of landslides.

The reporters had a database of building permits in rapidly growing, congested Silicon Valley.

They also got a computerized map of areas susceptible to mudslides. Mapping software allowed them to overlay the two maps. That meant the newspaper could now ask harder questions to local planners and builders.

In 1992, Steve Doig, then at the *Miami Herald*, looked at the damage caused by Hurricane Andrew. He had a map of building damage. And, from the National Weather Service, he obtained a map of wind speeds. And he spotted something that only mapping software could reveal: some of the worst damage was happening in places that faced only moderate winds, while other communities suffered little damage despite the onslaught of the most severe force of the hurricane. Further digging uncovered that those houses damaged after only moderate winds were newer homes – constructed after local building codes were diluted.

“I’ve always conceptualized CAR as ‘finding the patterns’ in the data,” Doig said. “And spatial patterns are perhaps the easiest to understand. I first got a GIS package in order to work with 1990 census data, and I saw how much easier it was for reporters to see the story in the data when I could give it to them mapped. Not only does mapping make good end graphics to go with a story, but perhaps even more important it helps sell a story to editors and reporters.”

After the 1990 census data was released, Ron Campbell of the *Orange County Register* was examining bank branches. He decided to plot them on a map. The result showed a pattern that would have been obvious in no other form than a map. “In everywhere but Santa Ana, you could practically stub your foot on a bank there,” Campbell said. Practically everywhere. Except for one area “There was a donut in Orange County with a hole in the center without banks.”

This did not end his reporting. He went further by adding a second map; one that showed demographics. This led to a map in the newspaper that showed how bank branches appeared to be avoiding minority neighborhoods.

“I think the real value to mapping is in the cliché ‘a picture being worth a thousand words.’ You can go on and on about the trends but when you put the data on a page in color people can tell what’s going on,” Campbell said.

The release of 2000 Census data brought mapping to many newsrooms of all sizes around the country.

Getting started

The most common programs in newsrooms include Mapinfo, Arcview, Maptitude and, in Europe, MAPS. Most of these programs come with basic maps. And these programs keep getting easier at reading maps in their rival’s file formats. This means you face fewer worries about getting maps developed using one mapping program by a government agency, and a different map drawn with a competing program by another source. But if you have a choice, you may want to get the program most often used by those from whom you’ll be seeking maps. That would keep conversions to a minimum, which can sometimes take a lot of time. And you lessen the risk that you won’t be able to bring a map into your program.

Various mapping programs may seem different. They may put one button over there. Another may need a command line to do a certain task. Some software may offer features as part of a basic package that a rival may charge extra for with an add-on. The important element to know is that, underneath, all GIS uses the same underlying principles. The authors of this book learned GIS using different programs than they use today. And the lessons that follow are in ArcMap not because they are endorsing that program, but because that seems to be the most commonly used mapping software in newsrooms.

And part of all computerized maps is a database table. That table may have very little

information. Or it may contain a very detailed database. The trick about mapping software is it’s able to figure out where records in a database land on our planet. It knows where a census tract falls. Or where a road runs along. Or where to put a dot representing a school. That part of the equation was developed in the 1960s and 1970s – the concept of how to plot a record onto our planet. But it’s also why journalists using mapping software should be familiar with database managers.

At the very least, all the data tables you use in mapping software must have some geographic information. A census tract. A zip code. An address, which mapping programs can process and geocode, plotting it on a map. A latitude and longitude.

Once you get going, you’ll want to build a library of maps that you will use most often. This might include county boundaries for your state, census tracts for the counties you cover, school district boundaries or other maps.

You may want to re-examine the databases you’ve been getting, to see if there are stories that had been overlooked. Did economic development loans really go into poorer communities? Did that highway construction project really reduce accidents? Are unsolved crimes concentrated in certain parts of town? There are countless stories you may find. Again, the key element is that whatever database you use, it must have some geographic element.

You’ll also want a process for getting your maps to your graphics department. Most of the software companies will send you sample output files you can test to make sure maps will flow smoothly from your computer to the newspaper, or onto the television screen.

Shameless plug for IRE beat book:

Mapping for Stories: A Computer-Assisted Reporting Guide

By Jennifer LaFleur and Andy Lehren

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