tech tips

By Ashley Crane

Redistricting—A Hidden Feature in MapInfo Professional®

THE REDISTRICTING TOOL BUILT INTO MAPINFO PROFESSIONAL® IS A BENEFICIAL FUNCTION—AND A TOOL THAT MANY USERS MAY NOT REALIZE IS AVAILABLE.

The redistricting tool allows map objects to be assigned into groups. One example of when this may be useful is when grouping regions into sales regions— a particularly useful tool for users working in the insurance industry, as sales allocation is a common task.

FIGURE 1

FIGURE 2

This function allows the user to start with a boundary layer of postcodes or ZIP codes and then allocate each area to a sales region. Using the *MapInfo Professional* redistricting tool is a tremendous way to automate this manual, repetitive task. Also, by using the tool, users gain the advantage of their data being dynamically updated *while* the redistricting is being undertaken, allowing users to run what-if scenarios before a final allocation is made.

The best way to understand the redistricting process is to see it in action.

In the following case, there is a boundary layer containing a field for sales region and another field for the population living within the boundary. The population will be particularly useful because regions need to be balanced to ensure an equal distribution of population. We will use the redistricting tool to allocate or assign boundaries to our sales regions. *(figure 1)*

To initiate a new redistricting session, simply use the Window > New Redistrict Window function. The user is prompted to define which layer will be the base layer for the redistricting, as well as the field within this layer that will hold this information. Lastly, there is an option to include additional information in our Redistrict Browser; this easy access to information contained in the browser helps users make decisions about allocating sales regions. For our purposes here, we will use the population field. *MapInfo Professional* will generate grouped values using this numeric field (i.e., sum, percentage). *(figure 2)*

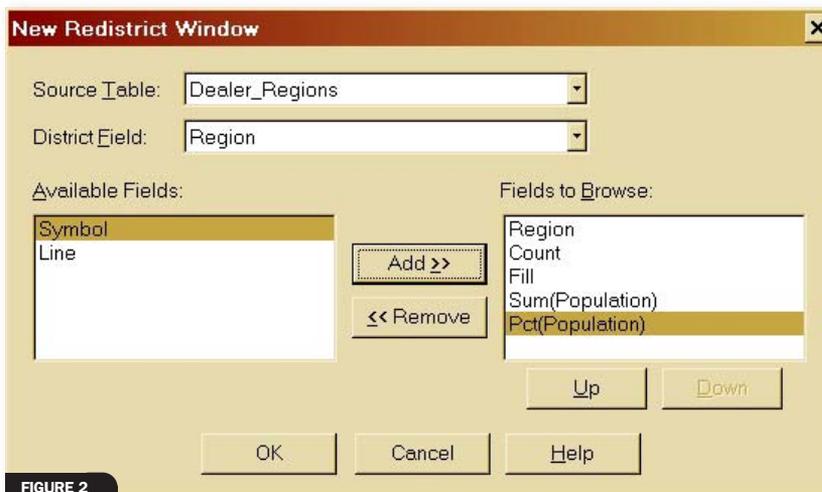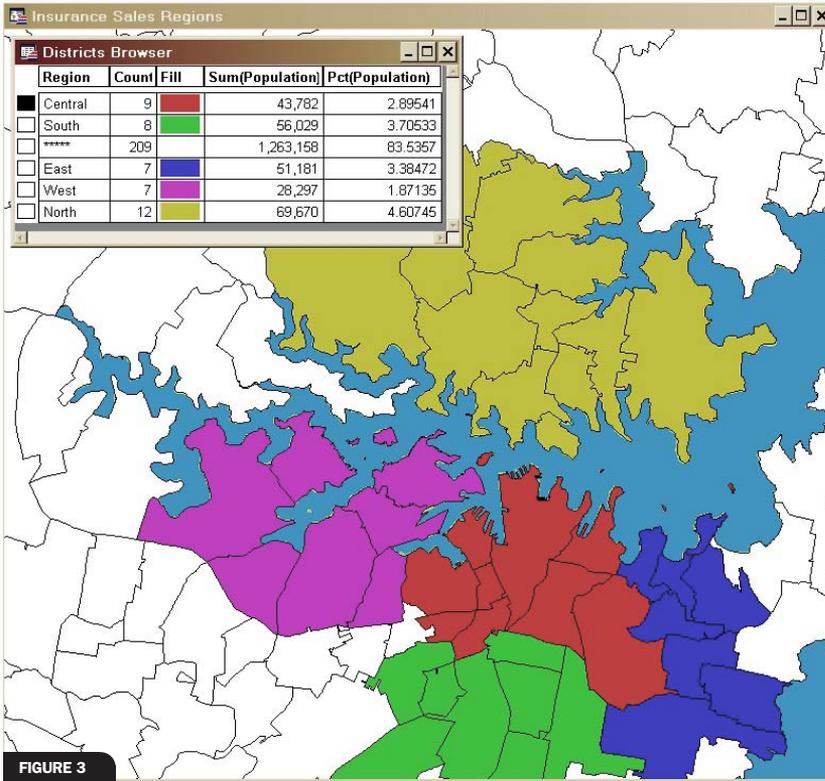| Region	Count	Fill	Sum(Population)	Pct(Population)
Central	9		43,782	2.89541
South	8		56,029	3.70533
*****	209		1,263,158	83.5357
East	7		51,181	3.38472
West	7		28,297	1.87135
North	12		69,670	4.60745

FIGURE 3

Once this information is set, *MapInfo Professional* automatically creates a thematic layer to visually show the current allocation of regions. This layer is dynamically updated to reflect any changes in object allocation enabling the user to see and understand the effect of potential allocation before a final decision is made. Also created at this stage is a Districts Browser, which provides the user with a tabular representation of region allocation. *(figure 3)*

With the redistricting session initiated, we can use our standard range of selection tools (polygon select, radius select, etc.) within MapInfo Professional to select and allocate new regions. Initially, we must set our Target Region by simply selecting the appropriate region and then pressing the Set Target District button on the main toolbar, shown on the left in the illustration below. *(figure 4)*
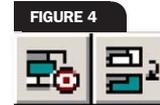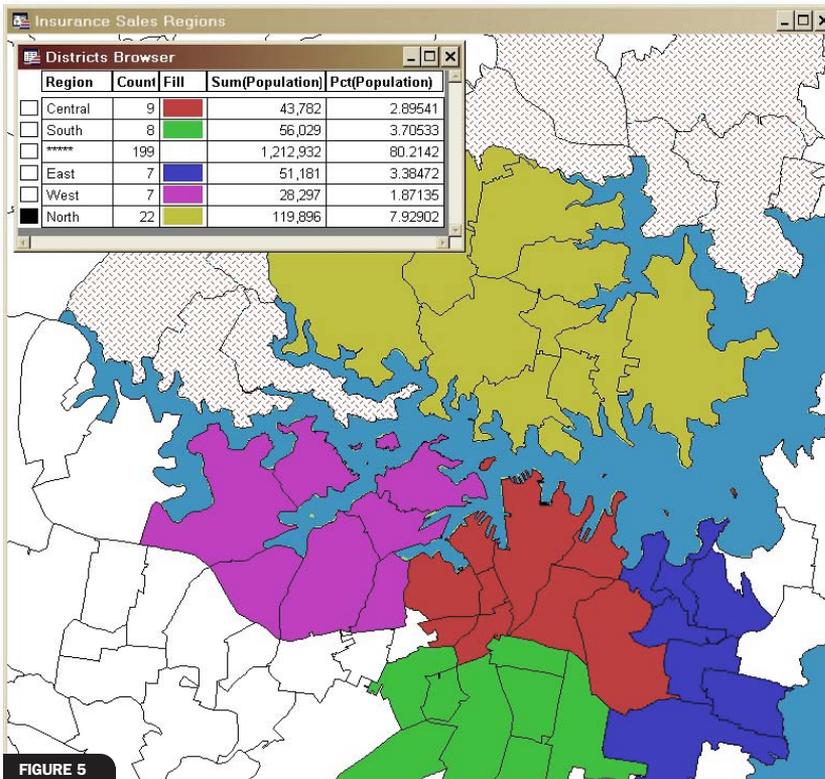
FIGURE 4

Now, simply select new regions to be assigned to our Target District. As each region is selected, the Districts Browser window will be dynamically updated to reflect the change in allocation of the different regions. Multiple regions can be selected at once by simply holding down the shift key. *(figure 5)*

Region	Count	Fill	Sum(Population)	Pct(Population)
Central	9		43,782	2.89541
South	8		56,029	3.70533
*****	199		1,212,932	80.2142
East	7		51,181	3.38472
West	7		28,297	1.87135
North	22		119,896	7.92902

FIGURE 5

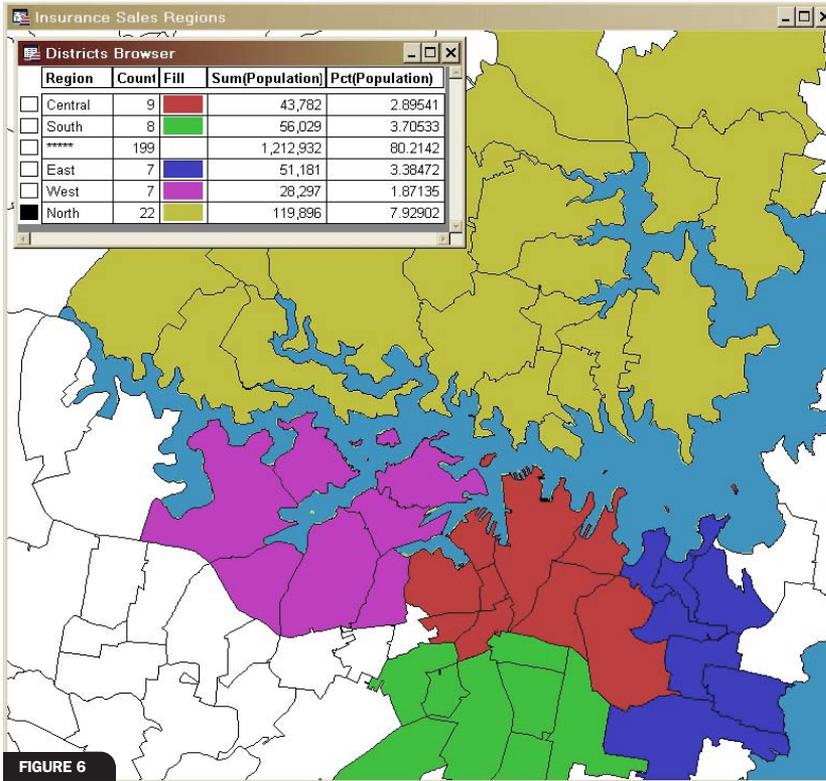| Region	Count	Fill	Sum(Population)	Pct(Population)
Central	9		43,782	2.89541
South	8		56,029	3.70533
*****	199		1,212,932	80.2142
East	7		51,181	3.38472
West	7		28,297	1.87135
North	22		119,896	7.92902

FIGURE 6

When set with your selection, click the Assign Selected Objects button (shown on the right in figure 4) on the main toolbar to permanently assign these objects to the selected region. *(figure 6)*

This process can be repeated until all region objects have been assigned to a given sales region. Alternatively, regions can easily be reassigned at any time by repeating the process. When the redistricting session is complete, close the Districts Browser to return *MapInfo Professional* to a normal mode of operation.

Using the redistricting tool allowed us to allocate objects (in this case postcodes or ZIP codes) to sales regions, providing rapid visualization of this information. In addition, with sales regions now created within *MapInfo Professional*, they can be easily reused for additional tasks, such as analysis of sales figures, sales forecasting/modeling and risk analysis.

The redistricting tool also allows use of point and line objects during redistricting. Other tasks—such as school or voter district allocation, delivery route allocation and dealer allocation —benefit from the use of *MapInfo Professional*'s redistricting tool. ★

For more information on redistricting, refer to Chapter 18 of the MapInfo Professional User's Guide. *For more information on* MapInfo Professional *go to www.mipro.com.*

Ashley Crane is a presales engineer for MapInfo Corporation's Asia-Pacific operations.