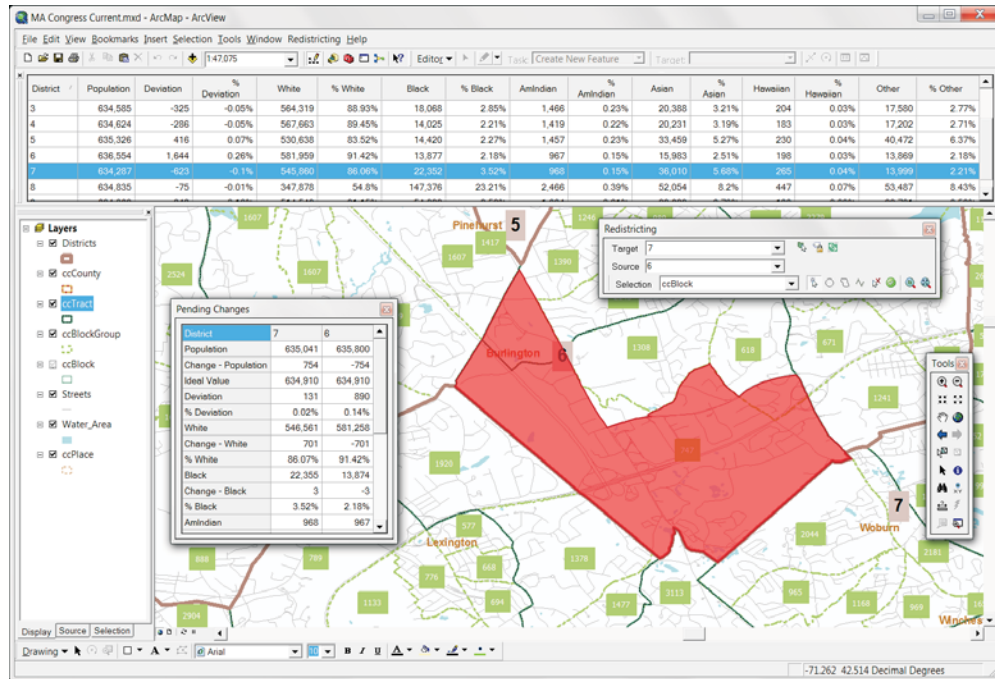# Maptitude® for Redistricting
Extension for ArcGIS®

Maptitude for Redistricting ArcGIS Extension Key Features:

- Create districts using any level of geography
- Compute control field totals and deviations
- Select any number of summary data fields and compute totals and percents
- Display the plan as district boundaries or as a unique values map
- Display the plan statistics in a scrollable data window
- Produce over 35 standard reports
- Export the plan to an equivalency file in industry-standard file formats
- Import plans from a block-district equivalency file
- Merge sub-plans
- Compute measures of compactness
- Verify completeness and district contiguity, and zoom to problem areas
- Update historic election results to new political boundaries
- Includes all TIGER geographic layers with PL94-171 population and race data attached

Caliper Corporation's Maptitude for Redistricting technology provides professional tools for political redistricting. This technology is used by a super-majority of the state legislatures, political parties, and public interest groups. Caliper designed it with the help of redistricting professionals, state legislatures, and political parties, to provide the features redistricters want in an interface that is easy to learn and use.

Maptitude for Redistricting is now available as an **ArcGIS** extension. As a result, you have access to the redistricting functionality and ease-of-use of Maptitude for Redistricting while leveraging your in-house expertise in **ArcGIS** software and all of your existing Oracle, SQL Server, DB2, and other data through the **ArcGIS** DBMS support.

With the **ArcGIS** extension, you can integrate online content from ESRI and Microsoft's Virtual Earth to create more informative maps for building districts and more professional maps for printing. You can also export your plans to Google Earth.

The Maptitude for Redistricting **ArcGIS** extension features a Plan Manager that serves as your redistricting control center. Use it to organize plans, create any number of plan types (e.g., congressional, state house, senate, and school district), and save them as Plan Templates. To create a plan, simply choose a template or an existing plan and enter a new name. You can organize plans in libraries by plan type, user, security access, etc., and you can locate, copy, change settings, and password-protect plans.

Includes a Data DVD for your jurisdiction containing all of the geographic layers from the U.S. Census TIGER map files with the official PL94-171 population, race, Hispanic ethnicity, and voting age data attached:

- Census blocks
- Census block groups
- Census tracts
- Upper and lower chamber state legislative districts
- Congressional districts
- State boundary
- County boundaries
- Incorporated place boundaries
- Minor Civil Division (MCD) boundaries
- Elementary, secondary, and unified school district boundaries
- Indian reservations
- Voting districts
- Point and area landmarks
- Water landmarks
- Utility lines
- Railroads
- Street segments
- All line features from Census TIGER/Line® files
- In addition to the PL94-171 redistricting data, you will find Department of Justice definitions of race, special calculations such as "Any Part Black," counts of persons reporting multiple races, and more.

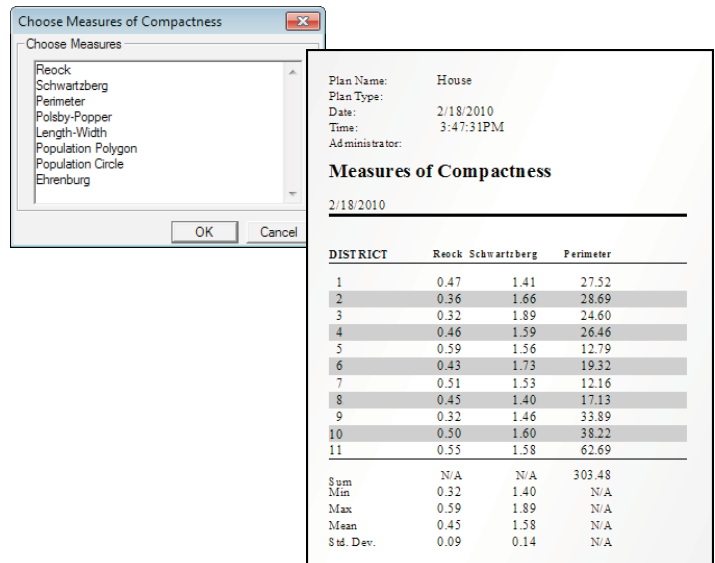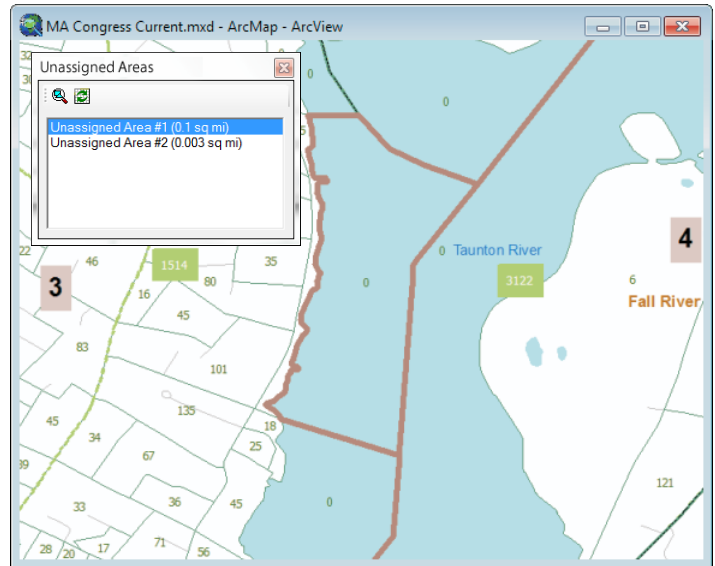Caliper provides timely updates of new data as the Census Bureau releases them.

The custom menu system and redistricting toolbox let you:

- **Create a new plan** from a map, a template, or an existing plan. You only have to enter the settings once. From then on, you can create a new plan by picking the appropriate template or existing plan.

- **Import and merge plans** created with the extension or other redistricting software.

- **Designate the control field**, number of districts, ideal value, and summary fields, and set other plan properties including plan type, creation date, password protection, and backup strategy.

- **Include any number of data fields in the same plan**; one-button toggle between field sets lets you display only the data of interest at any particular time.

- **Easily manage districts:** rename districts, handle multi-member districts, assign both an ID and a long name to districts, lock districts, and mark them completed.

- **Add areas to a target district** using feature selection tools. Select by clicking, by dragging a box, by circle, by polygon, or by line. Select features in any geographic layer, such as Census block, voting district, county, town, or school district. Limit the selection to unassigned areas, one district, or the entire jurisdiction. As you add areas to a district, Maptitude for Redistricting redraws the district boundaries and updates the control and summary fields to reflect changes to the current plan.
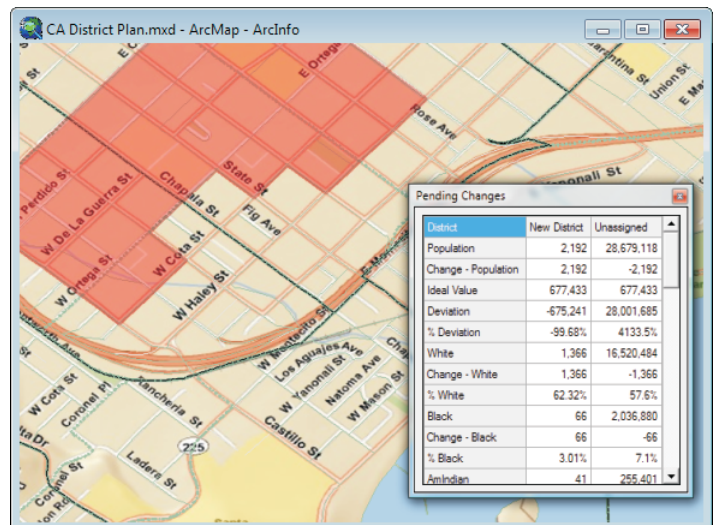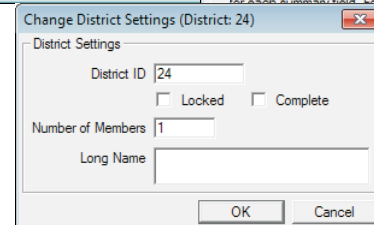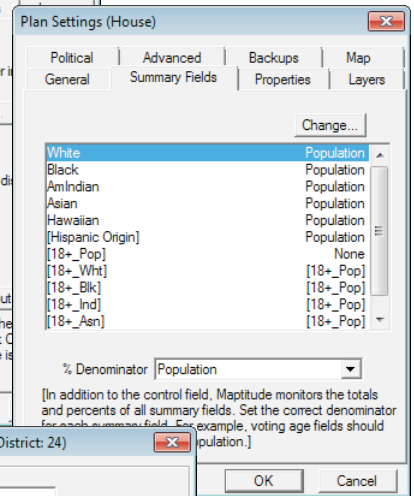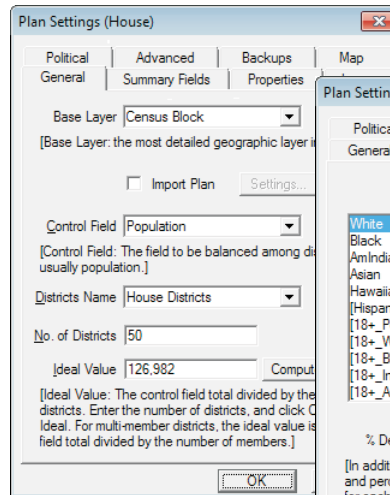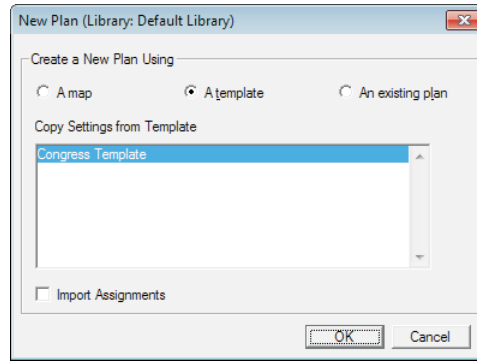
- **Capture the current status of a plan** as a snapshot. Each plan can have one or more snapshots organized by date and time under the same plan name. Return to any snapshot, and use it as a departure point in the evolution of the plan or as the starting point for a new plan.

- **Easily find unassigned areas** and assign them to the correct district. Automatically assign unassigned areas that are completely surrounded by the same district.

- **List all noncontiguous portions of a district**, zoom to each one, and easily assign them to the correct district.

- **Identify communities of interest**, which are geographically cohesive areas such as cities, neighborhoods, or racial or ethnic enclaves that tend to have similar interests and vote as a bloc. Keep them intact within the same district, and lock them so that you cannot accidentally reassign them to different districts. Alternatively, for communities that you do split into multiple districts, run the Communities of Interest reports to calculate the total and percent population of the community in each district.

- **Compute measures of compactness** to assess or defend the districts in a plan. Maptitude for Redistricting computes all of the recognized measures of geographic compactness including the Reock, Schwartzberg, Perimeter, Polsby-Popper, Length-Width, Population Polygon, Population Circle, and Ehrenburg metrics.

- **Export a plan to standard equivalency file** formats that can be read by other redistricting software and the Department of Justice. This is the best way to transfer a plan because every Census block is assigned to a district and there is no possibility for a mis-assignment.

Measures of Compactness

2/18/2010

Plan Name: House
Plan Type:
Date: 2/18/2010
Time: 3:47:31PM
Administrator:

DISTRICT	Reock	Schwartzberg	Perimeter
1	0.47	1.41	27.52
2	0.36	1.66	28.69
3	0.32	1.89	24.60
4	0.46	1.59	26.46
5	0.59	1.56	12.79
6	0.43	1.73	19.32
7	0.51	1.53	12.16
8	0.45	1.40	17.13
9	0.32	1.46	33.89
10	0.50	1.60	38.22
11	0.55	1.58	62.69
Sum	N/A	N/A	303.48
Min	0.32	1.40	N/A
Max	0.59	1.89	N/A
Mean	0.45	1.58	N/A
Std. Dev.	0.09	0.14	N/A

Export of Congress 1

Block	DistrictID
060371240004000	1
060371240004001	1
060371240004002	1
060371240004003	1
060371240004004	1
060371240004005	1
060371240004006	1
060371240004007	1
060371240004008	1
060371240004009	1
060371240004010	1
060371240004011	1
060371240004012	1
060371240004013	1
060371240004014	1
060371240005000	2
060371240005001	2

- **Generate and print a variety of reports** including population summary, error check, political subdivision splits, incumbents, plan statistics, plan components, plan comparison, communities of interest, measures of compactness, and more.

Easy to Learn and Use

Maptitude for Redistricting Extension for ArcGIS includes online help and a detailed manual packed with step-by-step instructions and tutorials. The Plan Manager leads you through the process of creating your first plan and speeds the creation of all additional plans.

Complete Organizational Solution

With the Maptitude for Redistricting Extension for ArcGIS Plan Manager you can easily manage an unlimited number of plans stored on a computer network. You can quickly find a plan by type, creator, date, key word, etc. The Plan Manager lets you distribute plans for viewing and perform plan management functions across your organization. Data and plans can be stored on individual machines or on one central server with access controlled by both the extension and the network administration software.

Other Redistricting Services

Caliper provides database development, hands-on training, software customization, web design, telephone support, on-site support, priority support, and other related consulting services on a time and materials basis.

Adjustments to PL94-171 Data and Block Geography

Some states require adjustments to Census Public Law 94–171 population data to account for prison population, college


students, military personnel, or other factors. For example, Kansas requires that the population figures reflect college students and military personnel at their places of permanent residence. Maryland adjusts their population counts based on prison population. Pennsylvania splits census blocks. Please contact us if your state is planning such an adjustment and you would like assistance.

Ordering & Information

Please contact Caliper Sales at 617-527-4700 or SALES@CALIPER.COM for more information or to place an order.

About Caliper

Caliper Corporation is a leading developer of transportation and Geographic Information System (GIS) software and applications. Caliper software is used by more than 70,000 users in over 70 countries. Caliper is the developer of the U.S. Census Bureau's 2010 MAF/TIGER Partnership Software (MTPS) that was used by Census Bureau partners to update the addresses and geography for the 2010 Census.
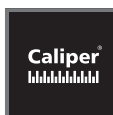
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