



Block Centroid Data Retrieval Method

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OVERVIEW

This document explains how the block centroid retrieval process works, which is used in most Claritas products.

HOW IT WORKS

In addition to providing demographic and other data for standard geographic units – such as counties, census tracts, and block groups – Claritas products are able to report data for custom geometric areas defined by the data user. For example, one could report data for a two-mile radius around a store location, or a polygon defining a neighborhood or trade area of interest.

Such areas typically do not conform to the boundaries of standard geographic units, so simple aggregation is not an option. Instead, geometric data retrieval requires that one determine which geographic units are (wholly or partially) in the area, and the percent of each unit to allocate to the geometric area.

Claritas products aggregate data to geometric areas using block centroid retrieval. The process works as follows. Data are stored at the census block group level – the lowest geographic level for which most census data and Claritas estimates are reported. However, census counts and Claritas estimates for basic totals, such as population and households, are carried at the census block level – the smallest level of census geography. For 2010 Census, there are approximately 217,000 block groups nationwide, and they are subdivided into about 11 million blocks.

When an area such as a two-mile radius is defined, the system identifies which census blocks are included in the area. Inclusion is determined by latitude/longitude points within each block, often referred to as centroids. If a block's centroid is included in the radius, the block is allocated to the area.

The list of blocks allocated to the area determines the “percent inclusion factor” for block groups. If all blocks in a block group are included in the area, 100 percent of the block group’s data is allocated to the area. If only some of a block group’s blocks are in the area, the percent inclusion is based on Claritas’ current year population estimates for census blocks. For example, consider a block group with 30 blocks and a total estimated population of 1,200. If 10 of those 30 blocks are within the geometric area, and those 10 blocks have a combined estimated population of 720, that is an inclusion factor of 0.60 (720/1,200). The system would allocate 60 percent of this block group’s data to the geometric area. All block group data would be allocated with the 60 percent factor. Note that while only 33 percent of the block group’s blocks are in the area, the block data indicate a 60 percent share of the block group’s population, and thus a 60 percent allocation of the block group’s data to the geometric area.

To summarize, data for geometric areas are aggregations of data for the relevant block groups, with percent allocations based on the current year population estimates at the census block level.

TECHNICAL SUPPORT

If you need further assistance, not provided in this document, please contact the Claritas Solution Center between 9:00 a.m. and 8:00 p.m. (Monday through Friday, EST) at 800.866.6511.

LEGAL NOTIFICATIONS

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