**What is SASHELP.ZIPCODE?**

The SASHELP.ZIPCODE file is a SAS data set containing ZIPCODE level information for the United States including ZIPCODE centroids (x, y coordinates), Area Codes, city names, FIPS codes, and more. The file is indexed on ZIPCODE to facilitate processing, and is updated on a regular basis by SAS. It is provided in transport format so that installations with dissimilar releases of SAS and operating systems can make use of the file. The source of the zip code data in the file is [http://www.zipcodedownload.com/](http://www.zipcodedownload.com/), which is a subscription service that users can purchase. It is available for free to licensed SAS users as a SAS data set through SAS MAPS Online.

**Where can SASHELP.ZIPCODE be found?**

SAS 9.2 ships with the latest version of the SASHELP.ZIPCODE file. For users with SAS version 9 and above, the SASHELP.ZIPCODE file is located in your SASHELP folder, and may be accessed by using SASHELP as the library reference, just as you would access SAS map data sets by using MAPS as the library reference. For PC-SAS installations, the SASHELP folder is usually located at: C:\Program Files\SAS\SASFoundation\9.2\core\sashelp. An updated version of SASHELP.ZIPCODE may also be obtained from SAS MAPS ONLINE for versions 8 and above.

**SASHELP.ZIPCODE - It’s Not Just for Maps (But Those Are Fun Too!)**

Don’t be intimidated by the fact that the data set is maintained by the SAS MAPS ONLINE staff! The file can be and is used by SAS for more than mapping. The SASHELP.ZIPCODE FILE can be used to enable SAS-written functions, calculate distances between zip codes, to annotate SAS/GRAPH maps with information in the file, to develop user-defined formats, and much, much more. If you do not have a current ZIPCODE file in your SASHELP subdirectory, these uses are not possible!

**BASIS OF ZIP GEOGRAPHIC FUNCTIONS**

9.1 SAS-written functions utilizing the SASHELP.ZIPCODE file include ZIPCITY, ZIPSTATE, ZIPNAME, ZIPNUMBER and ZIPS. For example, the ZIPCITY function takes ZIPCODE as its argument and returns a proper case city name and a two character postal state abbreviation.

```
ZIPCITY('00518') returns 'Cambridge', MA
ZIPSTATE('00518') returns 'MA'
ZIPNAME('00518') returns 'Massachusetts'
ZIPS('00518') returns 25 (FIPS state code for Massachusetts)
```

The SASHELP.ZIPCODE file can also be used to calculate distances between Zip Code centroids in 8.2 and 9.1. support.sas.com has provided an example of this use at [http://support.sas.com/techsup/unotes/SSN/005/005325.html](http://support.sas.com/techsup/unotes/SSN/005/005325.html).

**ZIPS BY DISTANCE**

Use Zip City/Zip Code Function to calculate distance from a central zip, and color-code maps according to values.

**HIGHLIGHT/ANNOTATE**

Use Zip Code centroid locations on SASHELP.ZIPCODE to enable annotation (examples shown: annotation of city names and zip codes / poverty rates)

**DOT DENSITY**

Use dithering technique to distribute annotation on zip code centroids – creates a clustering effect.

**Why Update?**

Zip Codes are occasionally reassigned by the US Postal Service. The two Wake County maps graphically demonstrate how Zip Code 27523 was used for the city of Apex (in western Wake County, NC) a few years ago, and as of the writing of this paper, it is used for the city of Apex (in eastern Wake County, NC).

SAS also uses SASHELP.ZIPCODE as the basis of some geographic functions. In the example above, an older version of SASHELP.ZIPCODE would return the value “Eagle Rock” for the ZIP CITY function for zip code 27523, while using the newer version of SASHELP.ZIPCODE with ZIP CITY and the zip code 27523 would yield “Apex.” Similarly, distance calculations accomplished with ZIPSITYDIST would be incorrect using an older version of SASHELP.ZIPCODE.

To obtain a new (or older) version of SASHELP.ZIPCODE, navigate to Downloads -> Misc. Updates and click on the Zip Code Dataset link. Note the availability of archives, which allows the user to choose data sets to match their response data. The zip file that contains the updated SASHELP.ZIPCODE transport file also contains some programs to add additional SAS datasets that come in the transport file. These datasets contain military zip code and alias information.

**What is SAS MAPS ONLINE?**

SAS MAPS ONLINE is a SAS-provided web page with a number of useful tools regarding mapping, including map data sets and updates, related data sets (such as SASHELP.ZIPCODE and WORLDCTS), and sample programs. SAS MAPS ONLINE archives older map data sets and versions of SASHELP.ZIPCODE so that users can match their response data appropriately. The files do change over time so it is important to visit SAS MAPS ONLINE on a regular basis to download newer versions of files, or, you may wish to download an older file which matches the timing of your response data. Or maybe you'll just like to see the cool new samples that are available.

You can subscribe to an RSS feed so that you will be notified of updates.

SAS MAPS ONLINE is located on the support.sas.com page, at: [http://support.sas.com/rnd/datalivelournalization/mapsonline/](http://support.sas.com/rnd/datalivelournalization/mapsonline/).