Maponics ZIP Codes™
Product Documentation

Includes:

- *Maponics ZIP Codes Boundaries™*
- *Maponics ZIP Codes Centroids™*
- *Maponics ZIP Codes Alternate Names™ (sold separately)*

The ZIP Code product includes the names and boundaries (and other attributes as Maponics may choose to provide) for postal ZIP Codes in the United States. Maponics' proprietary process builds these polygons using multiple data sources. The ZIP Code boundaries are based on the carrier route boundaries, using a combine/dissolve approach. Because there are areas where carrier routes do not exist, the ZIP Code boundaries have been extended using a proprietary process so that ZIP Codes cover the entire US. In all cases where carrier routes exist, the ZIP Codes share the border line with carrier routes.

There are some areas where there is not sufficient data to create ZIP Code polygons. Where possible, Maponics has created temporary ZIP Code areas and given the area a ZIP Code starting with the three digit ZIP Code followed by either an "MH" or "MX" (ex. 901MH) to differentiate area encompassed by water ("MH") or land ("MX"). [The "H" comes from "Hydrography"] Other such areas appear as holes. Some unique ZIP Codes might appear as polygons (for example, a university).

The Boundary version includes latitude/longitude coordinates for every polygon vertex but only includes records for ZIP Codes that have a defined area.

The Centroid version includes all ZIP Codes, one record per, including "point type" ZIPs such as PO Boxes. If truly a point ZIP, then we attempted to place its centroid at the Post Office or at the business's address. For centroids of polygonal ZIP Codes, we use a modified geographic center (essentially, the geographic center but we ensure that it falls within the polygon itself). For multi-poly ZIPs, we use the modified geographic center of the ZIP Code, ensuring that the centroid falls within the ZIP Code polygon.

In rare instances, ZIP Code boundaries can cross state borders, in which case the state recorded is where the ZIP Code centroid falls.

The Alternate Names file provides an alternative postal town name if one exists. The Alternate Names file is sold separately.

ZIP Code Frequently Asked Questions (FAQs)
Please reference the ZIP Code FAQ section following the product record layout tables for information to help understand and integrate Maponics ZIP Code data.

Maponics ZIP Code Boundaries™

GIS ready formats: ESRI - SHAPE File, MapInfo TAB
Database-loadable text: WKT, PostGIS, MySQL
Other formats: KML
Datum: WGS84
Product Version: 1.12.1
Data Tiles: by State (by US for database-loadable formats)
Update Cycle: Quarterly

Record Layout

#	Field Name	Type	Description
1	ZIP	C*5	5-digit ZIP Code
2	NAME	C*40	Postal town name, Primary
3	ZIPTYPE	C*20	The type of ZIP Code, per one of three types: NON_UNIQUE, PO_BOX, or UNIQUE
4	STATE	C*2	State abbreviation (see note #2 below)
5	STATEFIPS	C*2	State FIPS Code
6	COUNTYFIPS	C*5	County FIPS code
7	COUNTYNAME	C*60	County name
8	S3DZIP	C*3	3-digit ZIP Code (the first 3 digits of the 5-digit ZIP Code)
9	LAT	Float	Latitude of ZIP Code Centroid
10	LON	Float	Longitude of ZIP Code Centroid
11	EMPTYCOL	C*5	Empty record
12	TOTRESCNT	Integer	Total count of residential deliveries in this route
13	MFDU	Integer	Total count of multifamily deliveries in this route; generally analogous to apartments
14	SFDU	Integer	Total count of single family deliveries in this route; generally analogous to homes
15	BOXCNT	Integer	Total count of PO Box deliveries in this route
16	BIZCNT	Integer	Total count of business deliveries in this route
17	RELVER	C*8	Release version (e.g. 1.11.1)
18	COLOR	Integer	Numeric value for colorization in a map, so that no two adjacent ZIP Codes have the same color
19	WKT*		"MULTIPOLYGON" label, followed by coordinate pairs to define polygon(s) (longitude, latitude)
19	geom**		Binary internal representation of geometry

*WKT field only in WKT format file
**geom field only in MySQL and PostGIS formats
Note #1: For database loadable formats all field names will be lowercase
Note #2: In rare instances, ZIP Code boundaries can cross state borders, in which case the state recorded is where the ZIP Code centroid falls.

Maponics ZIP Code Centroids™

GIS ready formats: ESRI - SHAPE File, MapInfo TAB
Database-loadable text: WKT, PostGIS, MySQL
Other formats: KML
Datum: WGS84
Product Version: 1.12.1
Data Tiles: by State (by US for database-loadable formats)
Update Cycle: Quarterly

Record Layout

#	Field Name	Type	Description
1	ZIP	C*5	5-digit ZIP Code
2	NAME	C*40	Postal town name, primary
3	ZIPTYPE	C*20	The type of ZIP Code, per one of three types: NON_UNIQUE, PO_BOX, or UNIQUE
4	STATE	C*2	State abbreviation
5	STATEFIPS	C*2	State FIPS Code
6	COUNTYFIPS	C*5	County FIPS code
7	COUNTYNAME	C*60	County Name
8	S3DZIP	C*3	3-digit ZIP Code (the first 3 digits of the 5-digit ZIP Code)
9	LAT	Float	Latitude of ZIP Code Centroid
10	LON	Float	Longitude of ZIP Code Centroid
11	ENCZIP	C*5	If the ZIP is a “point only” ZIP, then this field indicates the polygonal ZIP it falls within
12	TOTRESCNT	Integer	Total count of residential deliveries in this route
13	MFDU	Integer	Total count of multifamily deliveries in this route; generally analogous to apartments
14	SFDU	Integer	Total count of single family deliveries in this route; generally analogous to homes
15	BOXCNT	Integer	Total count of PO Box deliveries in this route
16	BIZCNT	Integer	Total count of business deliveries in this route
17	RELVER	C*8	Release version (e.g. 1.11.1)
18	WKT*		“MULTIPOINT” label, followed by the defining coordinate pair (longitude, latitude)
18	geom**		Binary internal representation of geometry

*WKT field only in WKT format file
**geom field only in MySQL and PostGIS formats
Note: For database loadable formats all field names will be lowercase

Maponics ZIP Code Alternate Names™

GIS ready formats: -
Other formats: delimited text
Datum: -
Product Version: 1.12.1
Data Tiles: by Nation
Update Cycle: Quarterly

Record Layout

#	Field Name	Type	Description
1	ZIP	C*5	5-digit ZIP Code
2	NAME	Char	USPS postal town name
3	ABBREV	Char	USPS acceptable postal town name abbreviation
4	ACCEPTED	C*1	USPS acceptable (“Y”) or Unacceptable (“N”)status indicator
5	PREFERRED	C*1	USPS name preference indicator (Preferred = “Y”)
6	STATE	C*2	State abbreviation
7	COUNTYNAME	Char	County name

FIPS – “Federal Information Processing Standards” - a unique numbering system used by government agencies. This code allows users to link the map data to other databases. See also http://www.itl.nist.gov/fipspubs/

ZIP Code Frequently Asked Questions

The Nature of ZIP Codes

ZIP Codes are postal codes used to group addresses for mail delivery. These address groupings follow streets and are linear in nature. A ZIP Code on-the-ground is not a point location or a geographic polygon or boundary. Maponics takes raw data from the United States Postal Service (USPS) to create either a point location or boundary that best represents the geographic location of addresses assigned to a specific ZIP Code.

Because ZIP Code points and polygons are 'manufactured' representations of ZIP Codes locations can be confusing and at times difficult to understand. Below are answers to frequently asked questions to help customers better understand the Maponics ZIP Code Boundaries product.

Frequently Asked Questions

1. **Why does the ZIP Code Centroid file have more records than the ZIP Code Boundary file?**

   ZIP Codes can be represented as either points or polygons. In the boundary file only the ZIP Codes represented as polygons are included. In the point file both ZIP Codes represented by a point and centroids of the ZIP Code boundaries are included. The ZIP Code Centroid file contains the 'universe' of ZIP Codes for a given quarterly release.

2. **What does the ZIP Code point represent? The post office location?**

   A ZIP Code point has two potential manifestations in Maponics ZIP Code products. The first is simply a polygonal ZIP Code centroid, which is associated with a ZIP Code in the boundaries file. The second manifestation is different types of point locations. One type is a Post Office or a building receiving a high volume of mail, which will be categorized as 'PO Box' in the ziptype field. Another type is 'unique' – a ZIP Code used for a specific company or organization. In general all other points are considered 'non-unique'.

3. **What is the relationship between the ZIP Code point and the polygon centroid?**

   There is no relationship between a ZIP Code point and a ZIP Code polygon centroid. These two entities are provided in the same file because structurally they are both points. Centroids can be filter out by using the following SQL query: SELECT * FROM [point table name] WHERE ZIP NOT IN(SELECT zip FROM [boundary table name]).

4. **Can polygonal ZIP Codes convert to point ZIP Codes and vice versa? If so, under what circumstances would this happen?**

   Yes, a polygonal ZIP Code can convert to a point ZIP Code and vice versa. ZIP Code polygons are created when the data from the USPS for a specific ZIP Code has sufficient data points to shape a boundary around them. If there is insufficient data for a specific ZIP Code, than the representation is a point. As the raw data from the USPS changes over time the best representation of the ZIP Code may change. These conversions are reflected in Maponics quarterly releases and impact a small fraction of the total ZIP Code records. We offer a ZIP Code Change File for purchase that lists these changes.

5. **Why would a ZIP Code centroid or point move location?**

   A ZIP Code boundary centroid will move when the ZIP Code polygon moves due to boundary definition change - meaning the raw USPS address information changes for a given ZIP Code. A ZIP Code point would move if USPS address data changes, but ZIP Code still only qualifies as a point. Additionally a ZIP Code point would move if source material changes, such as a census block update.

ZIP Code Frequently Asked Questions (continued)

6. **Why are there filler ZIP Codes? How can they be used?**
   Filler ZIP Codes are utilized by Maponics to help create continuous polygonal ZIP Code coverage across the United States in places where there isn't sufficient information to define a ZIP Code point or polygon. Filler ZIP Codes can be used for display purposes so that visually there are no holes. Filler ZIP Code structure is as follows: a 3-digit ZIP Code followed by either an "MH" or "MX" (ex. 901MH) to differentiate areas encompassed by water (MH) or land (MX).

7. **How current is the USPS data that Maponics bases their quarterly releases on?**
   Maponics quarterly ZIP Code Boundaries product is created roughly one and a half months after the most current USPS data is received.

Quarter	USPS Data Currency	Maponics Product Release Date
Q1	February	Early April
Q2	May	Early July
Q3	August	Early October
Q4	November	Early January

8. **Why do some ZIP Codes have multiple polygons?**
   As mentioned in The Nature of ZIP Codes section, ZIP Code data is not really polygonal. ZIP Code data can be non-contiguous pockets of addresses served by a specific zip code. Additionally, topological features such as water (a bay or river - especially with islands) or mountains can create address pockets.

9. **Can ZIP Codes cross state boundaries? If so, how are the polygon represented in this product? Is the same true for county boundaries?**
   ZIP Codes can cross state boundaries. In Maponics ZIP Code Boundaries product these ZIP Codes are represented as one polygon and are assigned to the state where the centroid of the ZIP falls. The same is true for ZIP Codes that cross county boundaries.