

# Package ‘zipcodeR’

October 4, 2022

**Title** Data & Functions for Working with US ZIP Codes

**Version** 0.3.5

**Description** Make working with ZIP codes in R painless with an integrated dataset of U.S. ZIP codes and functions for working with them. Search ZIP codes by multiple geographies, including state, county, city & across time zones. Also included are functions for relating ZIP codes to Census data, geocoding & distance calculations.

**License** GPL-3

**URL** <https://github.com/gavinrozzi/zipcodeR/>,  
<https://www.gavinrozzi.com/project/zipcodeR/>

**BugReports** <https://github.com/gavinrozzi/zipcodeR/issues/>

**Encoding** UTF-8

**LazyData** true

**RoxygenNote** 7.2.1

**Imports** rlang, stringr, raster, tidycensus, tidyr, dplyr, jsonlite,  
httr, curl, RSQLite, DBI

**Depends** R (>= 3.5.0)

**Suggests** knitr, rmarkdown, markdown, readr, testthat (>= 3.0.0), covr,  
tibble

**VignetteBuilder** knitr, rmarkdown

**Config/testthat/edition** 3

**NeedsCompilation** no

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download_zip_data	<i>Download updated data files needed for library functionality to the package's data directory. To be implemented for future updates.</i>
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---

**Description**

Download updated data files needed for library functionality to the package's data directory. To be implemented for future updates.

**Usage**

```
download_zip_data(force = FALSE)
```

**Arguments**

force            Boolean, if set to TRUE will force overwrite existing data files with new version

**Value**

Data files needed for package functionality, stored in data directory of package install

**Examples**

```
## Not run:
download_zip_data()

## End(Not run)
```

---

geocode_zip	Returns that lat / lon pair of the centroid of a given ZIP code
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---

**Description**

Returns that lat / lon pair of the centroid of a given ZIP code

**Usage**

```
geocode_zip(zip_code)
```

**Arguments**

zip\_code      A 5-digit U.S. ZIP code

**Value**

tibble of lat lon coordinates

**Examples**

```
geocode_zip("07762")
geocode_zip("90210")
geocode_zip("90210")$lat
geocode_zip("90210")$lng
```

---

get_cd	Get all congressional districts for a given ZIP code
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**Description**

Get all congressional districts for a given ZIP code

**Usage**

```
get_cd(zip_code)
```

**Arguments**

zip\_code      A U.S. ZIP code

**Value**

a named list of two-digit state code and two digit district code

**Examples**

```
get_cd("08731")
get_cd("90210")
```

---

get_tracts	<i>Get all Census tracts within a given ZIP code</i>
------------	--

---

**Description**

Get all Census tracts within a given ZIP code

**Usage**

```
get_tracts(zip_code)
```

**Arguments**

zip_code	A U.S. ZIP code
----------	-----------------

**Value**

tibble of Census tracts and data from Census crosswalk file found for given ZIP code

**Examples**

```
get_tracts("08731")  
get_tracts("90210")
```

---

is_zcta	<i>Returns true if the given ZIP code is also a ZIP code tabulation area (ZCTA)</i>
---------	---

---

**Description**

Returns true if the given ZIP code is also a ZIP code tabulation area (ZCTA)

**Usage**

```
is_zcta(zip_code)
```

**Arguments**

zip_code	A 5-digit U.S. ZIP code
----------	-------------------------

**Value**

Boolean TRUE or FALSE based upon whether provided ZIP code is a ZCTA by testing whether it exists in the U.S. Census crosswalk data

**Examples**

```
is_zcta("90210")
is_zcta("99999")
is_zcta("07762")
```

---

normalize_zip	<i>Normalize ZIP codes</i>
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**Description**

Normalize ZIP codes

**Usage**

```
normalize_zip(zipcode)
```

**Arguments**

zipcode            messy ZIP code to be normalized

**Value**

Normalized zipcode

**Examples**

```
normalize_zip(0008731)
```

---

reverse_zipcode	<i>Given a ZIP code, returns columns of metadata about that ZIP code</i>
-----------------	--

---

**Description**

Given a ZIP code, returns columns of metadata about that ZIP code

**Usage**

```
reverse_zipcode(zip_code)
```

**Arguments**

zip\_code            A 5-digit U.S. ZIP code or character vector with multiple ZIP codes

**Value**

A tibble containing data for the ZIP code(s)

**Examples**

```
reverse_zipcode("90210")
reverse_zipcode("08731")
reverse_zipcode(c("08734", "08731"))
reverse_zipcode("07762")$county
reverse_zipcode("07762")$state
```

---

search_cd	<i>Get all ZIP codes that fall within a given congressional district</i>
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---

**Description**

Get all ZIP codes that fall within a given congressional district

**Usage**

```
search_cd(state_fips_code, congressional_district)
```

**Arguments**

```
state_fips_code
  A two-digit U.S. FIPS code for a state
congressional_district
  A two digit number specifying a congressional district in a given
```

**Value**

tibble of all congressional districts found for given ZIP code, including state code

**Examples**

```
search_cd("34", "03")
search_cd("36", "05")
```

---

search_city	<i>Search ZIP codes for a given city within a state</i>
-------------	---

---

**Description**

Search ZIP codes for a given city within a state

**Usage**

```
search_city(city_name, state_abb)
```

**Arguments**

city\_name      Name of major city to search  
state\_abb      Two-digit code for a U.S. state

**Value**

tibble of all ZIP code data found for given city

**Examples**

```
search_city("Spring Lake", "NJ")
search_city("Chappaqua", "NY")
```

---

search_county	<i>Search ZIP codes for a county</i>
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---

**Description**

Search ZIP codes for a county

**Usage**

```
search_county(county_name, state_abb, ...)
```

**Arguments**

county\_name      Name of a county within a U.S. state  
state\_abb      Two-digit code for a U.S. state  
...              if the parameter similar = TRUE, then send the parameter max.distance to the base function agrep. Default is 0.1.

**Value**

tibble of all ZIP codes for given county name

**Examples**

```
middlesex <- search_county("Middlesex", "NJ")
alameda <- search_county("alameda", "CA")
search_county("ST BERNARD", "LA", similar = TRUE)$zipcode
```

---

search_fips	<i>Returns all ZIP codes found within a given FIPS code</i>
-------------	---

---

**Description**

Returns all ZIP codes found within a given FIPS code

**Usage**

```
search_fips(state_fips, county_fips)
```

**Arguments**

state_fips	A U.S. FIPS code
county_fips	A 1-3 digit county FIPS code (optional)

**Value**

tibble of Census tracts and data from Census crosswalk file found for given ZIP code

**Examples**

```
search_fips("34")
search_fips("34", "03")
search_fips("34", "3")
search_fips("36", "003")
```

---

search_radius	<i>Search for ZIP codes that are within a given radius from a point</i>
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---

**Description**

Search for ZIP codes that are within a given radius from a point

**Usage**

```
search_radius(lat, lng, radius = 1)
```

**Arguments**

lat	latitude
lng	longitude
radius	distance to search in miles, set by default to 1



**Value**

a tibble containing the ZIP code(s) within the provided radius and distance from the provided coordinates in miles

**Examples**

```
## Not run:  
search_radius(39.9, -74.3, 10)  
  
## End(Not run)
```

---

search_state	<i>Search for ZIP codes located within a given state</i>
--------------	--

---

**Description**

Search for ZIP codes located within a given state

**Usage**

```
search_state(state_abb)
```

**Arguments**

state\_abb      Two-digit code representing a U.S. state

**Value**

tibble of all ZIP codes for each state code defined in state\_abb

**Examples**

```
search_state("NJ")  
search_state(c("NJ", "NY", "CT"))
```

---

search_tz	<i>Search all ZIP codes located within a given timezone</i>
-----------	---

---

**Description**

Search all ZIP codes located within a given timezone

**Usage**

```
search_tz(tz)
```

**Arguments**

tz	Timezone
----	----------

**Value**

tibble of all ZIP codes found for given timezone

**Examples**

```
eastern <- search_tz("Eastern")  
pacific <- search_tz("Mountain")
```

---

zcta_crosswalk	<i>ZCTA to Census Tract (2010) Crosswalk</i>
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---

**Description**

A dataset containing the relationships between ZIP code tabulation areas (ZCTA) and Census Tracts. This contains selected variables from the official crosswalk file.

**Usage**

```
zcta_crosswalk
```

**Format**

A data frame with 148897 rows and 4 variables:

**ZCTA5** 2010 ZIP Code Tabulation Area

**TRACT** 2010 Census Tract Code

**GEOID** Concatenation of 2010 State, County, and Tract

**Source**

<https://www.census.gov/geographies/reference-files/time-series/geo/relationship-files.html>

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zip\_code\_db

*ZIP Code Database*

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### Description

A dataset containing detailed information for U.S. ZIP codes

### Usage

zip\_code\_db

### Format

A data frame with 41877 rows and 24 variables:

**zipcode** 5 digit U.S. ZIP code

**zipcode\_type** 2010 State FIPS Code

**major\_city** Major city serving the ZIP code

**post\_office\_city** City of post office serving the ZIP code

**common\_city\_list** List of common cities represented by the ZIP code

**county** Name of county containing the ZIP code

**state** Two-digit state code for ZIP code location

**lat** Latitude of the centroid for the ZIP code

**lng** Longitude of the centroid for the ZIP code

**timezone** Timezone of the ZIP code

**radius\_in\_miles** Radius of the ZIP code in miles

**area\_code\_list** List of area codes for telephone numbers within this ZIP code

**population** Total population of the ZIP code

**population\_density** Population density of the ZIP code (persons per square mile)

**land\_area\_in\_sqmi** Area of the land contained within the ZIP code in square miles

**water\_area\_in\_sqmi** Area of the waters contained within the ZIP code in square miles

**housing\_units** Number of housing units within the ZIP code

**occupied\_housing\_units** Number of housing units within the ZIP code

**median\_home\_value** Median home price within the ZIP code

**median\_household\_income** Median household income within the ZIP code

**bounds\_west** Bounding box coordinates

**bounds\_east** Bounding box coordinates

**bounds\_north** Bounding box coordinates

**bounds\_south** Bounding box coordinates

### Source

[https://github.com/MacHu-GWU/uszipcode-project/files/5183256/simple\\_db.log](https://github.com/MacHu-GWU/uszipcode-project/files/5183256/simple_db.log)

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zip_distance	<i>Calculate the distance between two ZIP codes in miles</i>
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---

**Description**

Calculate the distance between two ZIP codes in miles

**Usage**

```
zip_distance(zipcode_a, zipcode_b, lonlat = TRUE, units = "miles")
```

**Arguments**

zipcode_a	First vector of ZIP codes
zipcode_b	Second vector of ZIP codes
lonlat	lonlat argument to pass to raster::pointDistance() to select method of distance calculation. Default is TRUE to calculate distance over a spherical projection. FALSE will calculate the distance in Euclidean (planar) space.
units	Specify which units to return distance calculations in. Choices include meters or miles.

**Value**

a data.frame containing a column for each ZIP code and a new column containing the distance between the two columns of ZIP code

**Examples**

```
zip_distance("08731", "08901")
```

---

zip_to_cd	<i>ZIP Code to Congressional District Relationship File</i>
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**Description**

A dataset containing mappings between ZIP codes and congressional districts

**Usage**

```
zip_to_cd
```

**Format**

A data frame with 45914 rows and 2 variables:

**ZIP** 5 digit U.S. ZIP code

**CD** Four digit congressional district code (State FIPS code + district number)

**Source**

[https://www.huduser.gov/portal/datasets/usps\\_crosswalk.html](https://www.huduser.gov/portal/datasets/usps_crosswalk.html)

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