

# Package ‘rurality’

April 10, 2026

**Title** Classification and Scoring of U.S. County and ZIP Code Rurality

**Version** 0.1.0

**Description** Provides USDA Rural-Urban Continuum Codes (RUCC 2023), Rural-Urban Commuting Area codes (RUCA 2020), and a composite rurality score for all U.S. counties. Functions enable lookup by FIPS code, ZIP code, or county name, and easy merging with existing datasets. Data sources include the USDA Economic Research Service, U.S. Census Bureau American Community Survey, and Census TIGER/Line shapefiles.

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**Encoding** UTF-8

**RoxygenNote** 7.3.3

**Depends** R (>= 4.1.0)

**Imports** dplyr, rlang, stringr

**Suggests** ggplot2, knitr, rmarkdown, sf, tigris, testthat (>= 3.0.0)

**VignetteBuilder** knitr

**Config/testthat/edition** 3

**LazyData** true

**URL** <https://github.com/cwimpy/rurality>, <https://rurality.app>

**BugReports** <https://github.com/cwimpy/rurality/issues>

**NeedsCompilation** no

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add_rurality	<i>Merge Rurality Data onto a Data Frame</i>
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### Description

Joins rurality data onto an existing data frame by FIPS code.

### Usage

```
add_rurality(
  data,
  fips_col = "fips",
  vars = c("rurality_score", "rurality_classification", "rucc_2023")
)
```

### Arguments

data	A data frame with a FIPS code column.
fips_col	The name of the FIPS code column (default: "fips").
vars	Which rurality variables to add. Default adds score and classification. Use "all" for all variables.

### Value

The input data frame with rurality columns appended.

### Examples

```
my_data <- data.frame(fips = c("05031", "06037", "48453"), value = 1:3)
add_rurality(my_data)
add_rurality(my_data, vars = "all")
```

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classify_rurality	<i>Classify a Rurality Score</i>
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**Description**

Converts numeric rurality scores to classification labels.

**Usage**

```
classify_rurality(score)
```

**Arguments**

score            A numeric vector of rurality scores (0-100).

**Value**

A character vector of classifications.

**Examples**

```
classify_rurality(c(15, 35, 55, 75, 90))
```

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county_rurality	<i>County-Level Rurality Data for the United States</i>
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**Description**

A dataset containing rurality scores, USDA classifications, and demographic data for all U.S. counties. Includes RUCC 2023 codes, population density, distance to metro areas, and a composite rurality score.

**Usage**

```
county_rurality
```

**Format**

A tibble with approximately 3,233 rows and 23 columns:

**fips** 5-digit county FIPS code (character)

**state\_fips** 2-digit state FIPS code (character)

**county\_fips** 3-digit county FIPS code (character)

**state\_abbr** Two-letter state abbreviation

**county\_name** County name  
**pop\_2020** 2020 Census population  
**acs\_pop** ACS 2022 5-year population estimate  
**land\_area\_sqmi** Land area in square miles  
**pop\_density** Population per square mile  
**rucc\_2023** USDA Rural-Urban Continuum Code (1-9)  
**rucc\_description** RUCC code description  
**omb\_designation** OMB designation: Metropolitan, Micropolitan, or Nonmetro  
**lat** County centroid latitude  
**lng** County centroid longitude  
**dist\_large\_metro** Distance to nearest large metro (>1M pop) in miles  
**dist\_medium\_metro** Distance to nearest medium metro (250K-1M) in miles  
**dist\_small\_metro** Distance to nearest small metro (50K-250K) in miles  
**rucc\_score** RUCC-derived score component (0-100)  
**density\_score** Population density score component (0-100)  
**distance\_score** Distance to metro score component (0-100)  
**rurality\_score** Composite rurality score (0-100)  
**rurality\_classification** Classification: Urban, Suburban, Mixed, Rural, Very Rural  
**median\_income** ACS 2022 median household income  
**median\_age** ACS 2022 median age

### Details

The composite rurality score is calculated as a weighted average:

- RUCC score: 55\
- Population density score: 28\
- Distance to metro score: 17\

Classifications:

- 80-100: Very Rural
- 60-79: Rural
- 40-59: Mixed
- 20-39: Suburban
- 0-19: Urban

### Source

- USDA Economic Research Service, Rural-Urban Continuum Codes 2023
- U.S. Census Bureau, American Community Survey 2022 5-Year Estimates
- U.S. Census Bureau, TIGER/Line Shapefiles 2020

**Examples**

```
# View the data
county_rurality

# Filter to rural counties
library(dplyr)
county_rurality |> filter(rurality_classification == "Very Rural")

# Arkansas counties
county_rurality |> filter(state_abbr == "AR")
```

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`get_ruca`*Look Up RUCA Code by ZIP Code*

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**Description**

Returns the USDA Rural-Urban Commuting Area code (2020) for one or more ZIP codes or ZCTAs.

**Usage**

```
get_ruca(zip)
```

**Arguments**

`zip` A character vector of 5-digit ZIP codes.

**Details**

RUCA codes range from 1 (metropolitan core) to 10 (rural). The primary code reflects the majority commuting pattern; the secondary code captures additional commuting flows.

**Value**

A tibble with columns: `zip`, `primary_ruca`, `secondary_ruca`, `state`. Returns NA values for ZIPs not in the RUCA dataset.

**Examples**

```
get_ruca("72401")
get_ruca(c("72401", "90210", "59801"))
```

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get_rucc	<i>Get RUCC Code for a County</i>
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**Description**

Returns the USDA Rural-Urban Continuum Code (2023) for one or more counties.

**Usage**

```
get_rucc(fips)
```

**Arguments**

fips                    A character vector of 5-digit county FIPS codes.

**Value**

An integer vector of RUCC codes (1-9), or NA for unmatched FIPS.

**Examples**

```
get_rucc("05031")  
get_rucc(c("05031", "06037"))
```

---

get_rurality	<i>Look Up Rurality Data by FIPS Code</i>
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**Description**

Returns the full rurality record for one or more county FIPS codes.

**Usage**

```
get_rurality(fips)
```

**Arguments**

fips                    A character vector of 5-digit county FIPS codes.

**Value**

A tibble with rurality data for the matched counties.

**Examples**

```
get_rurality("05031")  
get_rurality(c("05031", "06037", "48453"))
```

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ruca_codes	<i>RUCA Code Data for U.S. ZIP Codes</i>
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**Description**

USDA Rural-Urban Commuting Area codes (2020) for approximately 41,000 ZCTAs.

**Usage**

```
ruca_codes
```

**Format**

A tibble with columns:

**zip** 5-digit ZIP/ZCTA code (character)

**state** Two-letter state abbreviation

**primary\_ruca** Primary RUCA code (1-10)

**secondary\_ruca** Secondary RUCA code (1-10)

**Source**

USDA Economic Research Service, Rural-Urban Commuting Area Codes 2020

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rurality_score	<i>Get Rurality Score for a County</i>
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**Description**

Returns the composite rurality score (0-100) for one or more counties.

**Usage**

```
rurality_score(fips)
```

**Arguments**

**fips** A character vector of 5-digit county FIPS codes.

**Value**

A numeric vector of rurality scores, or NA for unmatched FIPS.

**Examples**

```
rurality_score("05031")  
rurality_score(c("05031", "06037", "48453"))
```

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