

Package ‘GeoDensityR’

July 24, 2026

Type Package

Title Generate Density Rasters from Polygon and Census Data

Version 0.2.0

Description Creates continuous density raster surfaces by joining vector spatial layers with tabular data frameworks, normalizing values by ellipsoidal polygon area calculations. Reconciles discrete boundary-constrained census or survey counts with uniform grids. Accepts spatial objects in-memory or via file paths. Methods are based on spatial rasterization workflows implemented in the 'terra' package Hijmans (2025) <<https://rspatial.github.io/terra/>>.

License MIT + file LICENSE

Encoding UTF-8

Depends R (>= 4.1.0)

Imports terra, tools

Suggests testthat, knitr, rmarkdown

URL <https://github.com/sahalpaladan/GeoDensityR>

BugReports <https://github.com/sahalpaladan/GeoDensityR/issues>

Config/roxygen2/version 8.0.0

NeedsCompilation no

Author Sahal Paladan [aut, cre]

Maintainer Sahal Paladan <sahalpaladan@gmail.com>

Repository CRAN

Date/Publication 2026-07-24 07:30:02 UTC

Contents

generate_density_raster	2
Index	4

generate_density_raster

Generate Density Raster from Polygon and Tabular Data

Description

Creates a continuous density raster surface by joining vector spatial layers with tabular data frameworks, normalizing values by ellipsoidal polygon area calculations.

Usage

```
generate_density_raster(
  spatial_target,
  attribute_table,
  join_spatial,
  join_attribute,
  value_col,
  resolution = 0.1,
  output = NULL
)
```

Arguments

spatial_target	A terra::SpatVector, sf::sf object, or a path string to a shapefile.
attribute_table	A data.frame, tibble, or path string to a CSV file.
join_spatial	Character. The indexing key column found within the spatial vector object.
join_attribute	Character. The indexing key column found within the attribute table.
value_col	Character. Numeric column containing values to evaluate for density calculation.
resolution	Numeric. The cell size resolution for the generated target output raster template.
output	Optional character. A target filepath string (.tif or .asc) to write the raster to disk.

Value

A terra::SpatRaster object representing computed density surfaces.

Examples

```
## Not run:
# Example using in-memory data frames and vectors
result <- generate_density_raster(
  spatial_target = standard_polygon_object,
  attribute_table = census_dataframe,
  join_spatial = "District_ID",
  join_attribute = "ID",
```

generate_density_raster

3

```
    value_col = "Population",  
    resolution = 0.05  
)  
  
## End(Not run)
```

Index

`generate_density_raster`, [2](#)