Package: GeoDensityR (via r-universe)

June 6, 2026

Type Package

Title Generate Density Rasters from Polygon and Census Data

Version 0.1.2

Description Creates density rasters from polygon vector data and tabular census or survey data. The package joins polygon boundaries with attribute data, calculates densities, rasterizes outputs, and exports ASCII Grid or GeoTiff rasters. Methods are based on spatial rasterization workflows implemented in the 'terra' package Hijmans (2025) <https://rspatial.github.io/terra/>.

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Encoding UTF-8

LazyData true

Depends R (>= 4.1.0)

Imports terra

Suggests testthat, knitr, rmarkdown

Roxygen list(markdown = TRUE)

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

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

Config/roxygen2/version 8.0.0

Config/pak/sysreqs libgdal-dev gdal-bin libgeos-dev libproj-dev libsqlite3-dev

Repository https://sahalpaladan.r-universe.dev

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RemoteUrl https://github.com/sahalpaladan/geodensityr

RemoteRef HEAD

RemoteSha 64d36e4be73f7b76646b7ed13aac3e5bac01583c

Contents

`generate_density_raster` *Generate Density Raster from Polygon and Tabular Data*

Description

Creates a density raster by joining polygon attributes with tabular data and calculating density as: value / polygon area.

Usage

```
generate_density_raster(
  csv_file,
  shp_file,
  join_shp,
  join_csv,
  value_col,
  resolution = 0.1,
  output = "density.asc"
)
```

Arguments

`csv_file`	Path to CSV file.
`shp_file`	Path to polygon shapefile (.shp).
`join_shp`	Join column in shapefile.
`join_csv`	Join column in CSV.
`value_col`	Numeric column used for density calculation.
`resolution`	Output raster resolution.
`output`	Output raster filename (.asc or .tif).

Value

A terra SpatRaster object.

Examples

```
if (file.exists("population.csv") &&
    file.exists("districts.shp")) {
  generate_density_raster(
    csv_file = "population.csv",
    shp_file = "districts.shp",
    join_shp = "District",
    join_csv = "District",
    value_col = "Population",
```

```
    resolution = 0.1,
    output = "density.asc"
  )
}
```

Index