

# Package ‘HawaSpatial’

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**Type** Package

**Title** Holistic and Areal Weighted Analysis for Global Development

**Version** 0.1.10

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**Description** Provides a 'shiny'-based platform for sub-national monitoring of global development indicators using large-scale household surveys. The package supports the Demographic and Health Surveys, Multiple Indicator Cluster Surveys, Malaria Indicator Surveys, Integrated Household Budget Surveys, Service Provision Assessment surveys, and Living Standards Measurement Study surveys. It provides workflows for descriptive, diagnostic, predictive, and prescriptive spatial analytics, including a spatial equalizer for survey-shapefile integration, exploratory spatial data analysis, area-level small area estimation, spatial autoregressive and spatial error models, hierarchical multilevel models, spatial inequality metrics, spatial and temporal decomposition, and publication-ready reporting. The implemented methods are described in <[doi:10.1111/j.1538-4632.1995.tb00338.x](https://doi.org/10.1111/j.1538-4632.1995.tb00338.x)>, <[doi:10.1007/s11749-018-0599-x](https://doi.org/10.1007/s11749-018-0599-x)>, and the reference identified by <isbn:9781118735787>. The software has been cited in applied geographic and multilevel health studies, including studies of arthritis resource allocation <[doi:10.1016/j.jorep.2026.101000](https://doi.org/10.1016/j.jorep.2026.101000)> and childhood stunting priorities <[doi:10.1016/j.nutos.2026.100660](https://doi.org/10.1016/j.nutos.2026.100660)>.

**License** GPL (>= 3)

**Encoding** UTF-8

**RoxygenNote** 7.3.3

**Depends** R (>= 4.2.0)

**Imports** shiny

**Suggests** biscale, broom, broom.mixed, bs4Dash, classInt, corrplot, cowplot, dplyr, ggplot2, ggrepel, glmmTMB, gstat, haven, ineq, knitr, lmtest, magrittr, performance, purrr, RColorBrewer, readr, rmarkdown, sae, scales, sf, spatialreg, spdep, stringr, survey, testthat (>= 3.0.0), tidyr, tidyselect, tidyverse, viridis

**Config/testthat/edition** 3

**URL** <https://github.com/Abdisalammuse/HawaSpatial>  
**BugReports** <https://github.com/Abdisalammuse/HawaSpatial/issues>  
**NeedsCompilation** no  
**Repository** CRAN  
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|                                         |
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| hawaspatial_example_files               |
| <i>Locate HawaSpatial example files</i> |

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**Description**

Returns installed paths to example datasets and shapefile archives included with the package.

**Usage**

```
hawaspatial_example_files()
```

**Value**

A data frame with columns example, description, and path.

**Examples**

```
files <- hawaspatial_example_files()  
head(files)
```

---

`load_hawaspatial_state`*Load a HawaSpatial project state*

---

**Description**

Loads a structured project-state file saved by `save_hawaspatial_state()`.

**Usage**

```
load_hawaspatial_state(file)
```

**Arguments**

`file`                      Path to the .rds state file.

**Value**

A named list containing the saved workflow settings and metadata.

**Examples**

```
st <- list(indicator = "food_security", admin_level = "region")
f <- tempfile(fileext = ".rds")
save_hawaspatial_state(st, f)
load_hawaspatial_state(f)
```

---

`run_app`*Run the HawaSpatial Shiny application*

---

**Description**

Launches the HawaSpatial Shiny application for sub-national monitoring of development indicators using survey data and administrative shapefiles.

**Usage**

```
run_app(...)
```

```
run_hawaspatial(...)
```

**Arguments**

`...`                      Additional arguments passed to `shiny::runApp()`.

**Value**

No return value. Called for the side effect of launching the Shiny application in an interactive R session.

**Examples**

```
if (interactive()) {  
  run_app()  
}
```

---

save\_hawaspatial\_state

*Save a HawaSpatial project state*

---

**Description**

Saves a structured list of workflow settings, metadata, selected variables, model options, and analysis notes to an RDS file.

**Usage**

```
save_hawaspatial_state(state, file)
```

**Arguments**

|       |                                                         |
|-------|---------------------------------------------------------|
| state | A named list containing workflow settings and metadata. |
| file  | Path to the output .rds file.                           |

**Value**

Invisibly returns the normalized output file path.

**Examples**

```
st <- list(indicator = "poverty", year = c(2017, 2022), admin_level = "region")  
f <- tempfile(fileext = ".rds")  
save_hawaspatial_state(st, f)  
restored <- load_hawaspatial_state(f)  
restored$indicator
```

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