

Package ‘GWSDAT’

May 7, 2026

Title GroundWater Spatiotemporal Data Analysis Tool (GWSDAT)

Version 3.3.0

Maintainer Wayne Jones <wayne.w.jones@shell.com>

Description Shiny application for the analysis of groundwater monitoring data, designed to work with simple time-series data for solute concentration and ground water elevation, but can also plot non-aqueous phase liquid (NAPL) thickness if required. Also provides the import of a site basemap in GIS shapefile format.

License GPL-3

Depends R (>= 3.5.0)

Imports deldir, digest, geometry, Kendall, lattice, lubridate, MASS, Matrix, officer (>= 0.3.8), raster, readxl, rhandsontable, sf, shiny, shinycssloaders, shinydashboard, shinyjs, sm, sp, splancs, zoo

Suggests DBI, RSQLite

Encoding UTF-8

NeedsCompilation no

Author Wayne Jones [aut, cre]

Repository CRAN

Date/Publication 2026-02-06 08:00:02 UTC

Contents

createOptions	2
launchApp	2
Index	4

createOptions	<i>Create a list with default start options.</i>
---------------	--

Description

createOptions creates a list with start options that can be modified and passed as argument to [launchApp](#).

Usage

```
createOptions(site_name = NULL)
```

Arguments

site_name An arbitrary string containing the name of the monitoring site.

Value

A list containing essential model parameters and start options.

Examples

```
opt <- createOptions("New Site 1")
opt$PSplineVars$nseg <- 10 # modify model parameter for p-splines.
opt$WellDataFilename <- 'path_to_concentration_file.csv'
opt$WellCoordsFilename <- 'path_to_well_coordinate_file.csv'
if(interactive()) {
  launchApp(opt)
}
```

launchApp	<i>Launches the GWSDAT Shiny application.</i>
-----------	---

Description

The shiny application can run in multi or single data mode. If no parameter is specified with launchApp, the application starts in multi data mode, which includes a data manager and several data import facilities. If the parameter session_file was specified, the application launches in single data mode, which is limited to the analysis of the data specified by session_file.

Usage

```
launchApp(GWSDAT_Options, session_file)
```

Arguments

`GWSDAT_Options` A list of start options created with [createOptions](#).
`session_file` Path to .rds file containing a GWSDAT analysis session.

Value

None

Examples

```
if(interactive()) {  
  launchApp(session_file = "path_to_GWSDAT_session.rds") # launch in single data mode.  
  launchApp() # launch in multi data mode  
}
```

Index

`createOptions`, [2](#), [3](#)

`launchApp`, [2](#), [2](#)