

# Package ‘GWSDAT’

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**Title** GroundWater Spatiotemporal Data Analysis Tool (GWSDAT)

**Version** 3.3.0

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**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

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**Repository** CRAN

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createOptions	<i>Create a list with default start options.</i>
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### 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.
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### 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)
}
```

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launchApp	<i>Launches the GWSDAT Shiny application.</i>
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### 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  
}
```

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