

# Package ‘fgdr’

September 30, 2020

**Title** Utilities for Fundamental Geo-Spatial Data

**Version** 1.1.0

**Description** Read and Parse for Fundamental Geo-Spatial Data (FGD) which downloads XML file from providing site (<<https://fgd.gsi.go.jp/download/menu.php>>). The JPGIS format file provided by FGD so that it can be handled as an R spatial object such as 'sf' and 'raster', 'terra' or 'stars'.  
Supports the FGD version 4.1, and accepts fundamental items and digital elevation models.

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**Imports** data.table (>= 1.12.8), jpmesh (>= 1.1.1), magrittr (>= 1.5), purrr (>= 0.2.5), raster (>= 2.6.7), readr (>= 1.3.1), rlang (>= 0.2.2), sf (>= 0.6.3), stars (>= 0.3-1), stringr (>= 1.3.1), terra (>= 0.8-2), tibble (>= 3.0.0), units (>= 0.6.6), xml2 (>= 1.2.0)

**Encoding** UTF-8

**LazyData** true

**URL** <https://github.com/uribo/fgdr>

**BugReports** <https://github.com/uribo/fgdr/issues>

**RoxygenNote** 7.1.1

**Suggests** covr (>= 3.4.0), roxygen2 (>= 6.1.1), testthat (>= 2.3.1)

**Depends** R (>= 3.3.0)

**NeedsCompilation** no

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**Repository** CRAN

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dem_check	<i>DEM input file status check</i>
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**Description**

DEM input file status check

**Usage**

```
dem_check(file, .verbose = TRUE, ...)
```

**Arguments**

file	XML file download from fgd
.verbose	logical. suppress info input XML file's about DEM information.
...	Additional arguments passed on to other functions.

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fgd_line_parse	<i>Line element parsed</i>
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**Description**

Line element parsed

**Usage**

```
fgd_line_parse(file)
```

**Arguments**

file	XML file download from fgd
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**Details**

type AdmArea, BldA, WA

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read_fgd	<i>Read and Parse Fundamental Geospatial Data (FGD) file</i>
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## Description

The JPGIS (GML) format file provided by FGD as input, the fundamental items in the file is read as an 'sf' object. Supporting FGD Version 4.1 (2016/10/31).

## Usage

```
read_fgd(file)
```

## Arguments

file	Path to XML file
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## Details

Support following items: Administrative Area ('AdmArea'), Administrative Boundary ('AdmBdry'), Representative point of Administrative Area ('AdmPt'), Building Area ('BldA'), Building Outline ('BldL'), Contour ('Cntr'), Community Boundary ('CommBdry'), Representative Point of Community Area ('CommPt'), Coastline ('Cstline'), Elevation Point ('ElevPt'), Geodetic Control Point ('GCP'), Railroad Track Centerline ('RailCL'), Road Component ('RdCompt'), Road Edge ('RdEdg'), Water Area ('WA'), Water Line ('WL') and Waterside Structure Line ('WStrL').

## Value

A *sf*

## See Also

[https://fgd.gsi.go.jp/download/ref\\_kihon.html](https://fgd.gsi.go.jp/download/ref_kihon.html)

## Examples

```
# Administrative Area
read_fgd(system.file("extdata/FG-GML-000000-AdmPt-dummy.xml", package = "fgdr"))
```

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`read_fgd_dem`*Read and Parse Fundamental Geospatial Data (FGD) dem file*

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### Description

The JPGIS (GML) format file provided by FGD as input, the digital elevation models in the file are read as a `data.frame` or spatial object (`raster`, `stars` or `terra`). Supporting FGD Version 4.1 (2016/10/31)

### Usage

```
read_fgd_dem(file, resolution = c(5, 10), return_class)
```

### Arguments

<code>file</code>	Path to XML file
<code>resolution</code>	the number of dem mesh size resolution: 5m or 10m
<code>return_class</code>	one of return object class: <code>'data.table'</code> for faster than <code>data.frame</code> , <code>'data.frame'</code> , <code>'raster'</code> , <code>'stars'</code> or <code>'terra'</code>

### Value

A `tibble` (`data.frame`), `raster`, `stars` or `terra`

### See Also

[https://fgd.gsi.go.jp/download/ref\\_dem.html](https://fgd.gsi.go.jp/download/ref_dem.html)

### Examples

```
fgd_5dem <- system.file("extdata/FG-GML-0000-00-00-DEM5A-dummy.xml", package = "fgdr")
read_fgd_dem(fgd_5dem,
             resolution = 5,
             return_class = "data.table")
read_fgd_dem(fgd_5dem,
             resolution = 5,
             return_class = "data.frame")
# return as raster
read_fgd_dem(fgd_5dem,
             resolution = 5,
             return_class = "raster")
# return as stars
fgd_10dem <- system.file("extdata/FG-GML-0000-10-dem10b-dummy.xml", package = "fgdr")
read_fgd_dem(fgd_10dem,
             resolution = 10,
             return_class = "stars")
```

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