

# Package ‘ggseg.meshes’

April 9, 2026

**Title** Additional Brain Surface Meshes for the 'ggsegverse' Ecosystem

**Version** 0.0.1

**Description** Provides additional brain surface meshes for cortical and cerebellar visualisation in the 'ggsegverse' ecosystem. Cortical surfaces include pial, white, midthickness, semi-inflated, sphere, smoothwm, and orig at fsaverage5 resolution. Cerebellar surfaces include the Spatially Unbiased Infratentorial Template (SUIT) flatmap. All meshes follow the same vertices/faces data frame format used by 'ggseg.formats' and 'ggseg3d'.

**License** MIT + file LICENSE

**Depends** R (>= 4.1.0)

**Imports** cli

**Suggests** freesurfer, freesurferformats, gifti, ggseg.formats, knitr, rmarkdown, testthat (>= 3.0.0)

**VignetteBuilder** knitr

**Config/testthat/edition** 3

**Config/Needs/website** ggsegverse/ggseg.docs

**Encoding** UTF-8

**RoxygenNote** 7.3.3

**URL** <https://github.com/ggsegverse/ggseg.meshes>,  
<https://ggsegverse.github.io/ggseg.meshes/>

**BugReports** <https://github.com/ggsegverse/ggseg.meshes/issues>

**NeedsCompilation** no

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**Repository** CRAN

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available\_cerebellar\_surfaces  
*List available cerebellar surfaces*

---

### Description

List available cerebellar surfaces

### Usage

available\_cerebellar\_surfaces()

### Value

Character vector of available surface names.

### Examples

available\_cerebellar\_surfaces()

---

available\_cortical\_surfaces  
*List available cortical surfaces*

---

### Description

List available cortical surfaces

### Usage

available\_cortical\_surfaces()

### Value

Character vector of available surface names.

### Examples

available\_cortical\_surfaces()

---

`get_cerebellar_flatmap`*Get SUIIT cerebellar flatmap mesh*

---

**Description**

Retrieves the SUIIT cerebellar flatmap surface mesh. This is a 2D flattened representation of the cerebellar cortex, useful for visualising cerebellar parcellations without 3D rendering.

**Usage**

```
get_cerebellar_flatmap(surface = .cerebellar_surfaces)
```

**Arguments**

`surface` Surface type. Currently only "suit\_flat".

**Details**

The flatmap has z-coordinates near zero (flat projection). Vertex count matches the SUIIT 3D pial surface in ggseg formats, so vertex indices from cerebellar atlases map directly to this mesh.

**Value**

A list with `vertices` (data.frame with x, y, z) and `faces` (data.frame with i, j, k, 0-based indices matching ggseg formats convention for cerebellar meshes). Has attribute `face_index_base = 0L`.

**Examples**

```
mesh <- get_cerebellar_flatmap()
nrow(mesh$vertices)
```

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`get_cortical_mesh`*Get cortical brain surface mesh*

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**Description**

Retrieves a cortical brain surface mesh for the specified hemisphere and surface type. All surfaces are fsaverage5 resolution (10,242 vertices, 20,480 faces per hemisphere).

**Usage**

```
get_cortical_mesh(hemisphere = c("lh", "rh"), surface = .cortical_surfaces)
```

**Arguments**

hemisphere      "lh" or "rh"  
surface          Surface type: "pial", "white", "midthickness", "semi-inflated", "sphere",  
                  "smoothwm", or "orig"

**Value**

A list with vertices (data.frame with x, y, z) and faces (data.frame with i, j, k, 1-based indices).  
Has attribute face\_index\_base = 1L.

**Examples**

```
mesh <- get_cortical_mesh("lh", "pial")  
nrow(mesh$vertices)
```

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