

# Package ‘gsloid’

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**Type** Package

**Title** Global Sea Level and Oxygen Isotope Data

**Version** 0.2.0

**Maintainer** Ben Marwick <benmarwick@gmail.com>

**Description** Contains published data sets for global benthic d18O data for 0-5.3 Myr <[doi:10.1029/2004PA001071](https://doi.org/10.1029/2004PA001071)> and global sea levels based on marine sediment core data for 0-800 ka <[doi:10.5194/cp-12-1-2016](https://doi.org/10.5194/cp-12-1-2016)>.

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**BugReports** <https://github.com/benmarwick/gsloid>

**URL** <https://github.com/benmarwick/gsloid>

**Depends** R (>= 3.3.0)

**Encoding** UTF-8

**LazyData** true

**RoxygenNote** 7.1.2

**Suggests** knitr, rmarkdown, ggplot2

**VignetteBuilder** knitr

**NeedsCompilation** no

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**Repository** CRAN

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`lisiecki2005`*LR04 Global Pliocene-Pleistocene Benthic d18O Stack (5.3-Myr).*

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### Description

The LR04 stack spans 5.3 Myr and is an average of 57 globally distributed benthic d18O records (which measure global ice volume and deep ocean temperature) collected from the scientific literature. Obtained from [ftp://ftp.ncdc.noaa.gov/pub/data/paleo/contributions\\_by\\_author/lisiecki2005/lisiecki2005.txt](ftp://ftp.ncdc.noaa.gov/pub/data/paleo/contributions_by_author/lisiecki2005/lisiecki2005.txt) on 28 June 2017. A data frame with 2115 rows and 3 variables.

### Usage

```
lisiecki2005
```

### Format

An object of class `data.frame` with 2115 rows and 3 columns.

### Details

- `Time` 1000 years (i.e. ka)
- `d18OBenthic` d18O (per mil)
- `ErrorStandard` error (per mil)

### Source

```
ftp://ftp.ncdc.noaa.gov/pub/data/paleo/contributions\_by\_author/lisiecki2005/lisiecki2005.txt
```

### Examples

```
names(lisiecki2005)
head(lisiecki2005)
# plot for 0-250 ka:
if (require("ggplot2")) {
  ggplot(lisiecki2005,
         aes(Time,
             d180)) +
  geom_line() +
  scale_x_continuous(limits = c(0, 250),
                    name = "x 1000 years ago") +
  scale_y_reverse(name = bquote(delta^18*O)) +
  theme_bw()
}
```

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LR04\_MISboundaries     *Marine isotope stages (MIS) boundaries.*

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## Description

From [http://www.lorraine-lisiecki.com/LR04\\_MISboundaries.txt](http://www.lorraine-lisiecki.com/LR04_MISboundaries.txt)

## Usage

LR04\_MISboundaries

## Format

A data frame with 232 rows and 7 variables:

**MIS\_Boundary** Marine isotope stage boundary, start/end

**start\_MIS** start of this phase

**end\_MIS** end of this phase

**label\_MIS** short version of 'start\_MIS' suitable for annotating plots

**LR04\_Age\_ka\_start** Age of start of MIS, x 1000 years ago

**LR04\_Age\_ka\_end** Age of end of MIS, x 1000 years ago

**LR04\_Age\_ka\_mid** Age of middle of MIS, x 1000 years ago, suitable for controlling label placement on plots

## Source

[http://www.lorraine-lisiecki.com/LR04\\_MISboundaries.txt](http://www.lorraine-lisiecki.com/LR04_MISboundaries.txt)

## Examples

```
names(LR04_MISboundaries)
head(LR04_MISboundaries)
# subset the MIS data for the last 250 ka years
mis_last_250ka <- LR04_MISboundaries[LR04_MISboundaries$LR04_Age_ka_start <= 250, ]
```

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 spratt2016

*Global Sea Level Reconstruction using Stacked Records from 0-800 ka.*


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### Description

This is a Late Pleistocene sea level stack based on marine sediment core data (foraminiferal carbonate  $\delta^{18}O$ ) as estimated by several different techniques in seven different studies. Obtained from <https://www.ncdc.noaa.gov/paleo-search/study/19982> on 28 June 2017. A data frame with 799 rows and 9 variables.

### Usage

```
spratt2016
```

### Format

An object of class `data.frame` with 799 rows and 9 columns.

### Details

- `age_cal`kaBP, calendar ka BP
- `SeaLev_shortPC1`Sea Level, meters above present day, climate reconstructions, Scaled first principal component of seven sea level reconstructions (0-430 ka),N
- `SeaLev_shortPC1_err_sig`Sea Level, standard deviation from bootstrap, meters, climate reconstructions, Scaled first principal component of seven sea level reconstructions (0-430 ka),N
- `SeaLev_shortPC1_err_lo`Sea Level, 95% confidence interval, lower bound, meters, climate reconstructions, Scaled first principal component of seven sea level reconstructions (0-430 ka),N
- `SeaLev_shortPC1_err_up`Sea Level, 95% confidence interval, upper bound, meters, climate reconstructions, Scaled first principal component of seven sea level reconstructions (0-430 ka),N
- `SeaLev_longPC1`Sea Level, meters above present day, climate reconstructions, Scaled first principal component of five sea level reconstructions (0-798 ka),N
- `SeaLev_longPC1_err_sig`Sea Level, standard deviation from bootstrap,meters, climate reconstructions, Scaled first principal component of five sea level reconstructions (0-798 ka),N
- `SeaLev_longPC1_err_lo`Sea Level, 95% confidence interval, lower bound,meters, climate reconstructions,Scaled first principal component of five sea level reconstructions (0-798 ka),N
- `SeaLev_longPC1_err_up`Sea Level, 95% confidence interval, upper bound,meters, climate reconstructions, Scaled first principal component of five sea level reconstructions (0-798 ka),N

### Source

<https://www.ncei.noaa.gov/access/paleo-search/study/19982>

*spratt2016*

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**Examples**

```
names(spratt2016)  
head(spratt2016)
```

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