Package: gsloid (via r-universe)

June 13, 2024

Type Package

Title Global Sea Level and Oxygen Isotope Data

Version 0.2.0

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Description Contains published data sets for global benthic d18O data for 0-5.3 Myr <doi:10.1029/2004PA001071> and global sea levels based on marine sediment core data for 0-800 ka <doi: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

Repository https://benmarwick.r-universe.dev

RemoteUrl https://github.com/benmarwick/gsloid

RemoteRef HEAD

RemoteSha 07ddb793030e284584454c1146589186f10c6d3f

Contents

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

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 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

- Timex 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,
              d18O)) +
     geom_line() +
     scale_x_continuous(limits = c(0, 250),
                        name = "x 1000 years ago") +
     scale_y_reverse(name = bquote(delta^18*O)) +
     theme_bw()
   }
```

LR04_MISboundaries *Marine isotope stages (MIS) boundaries.*

Description

From 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

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, ]
```

spratt2016 *Global Sea Level Reconstruction using Stacked Records from 0-800 ka.*

Description

This is a Late Pleistocene sea level stack based on marine sediment core data (foraminiferal carbonate d18O) 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_calkaBPAge, calendar ka BP
- SeaLev_shortPC1Sea Level, meters above present day, climate reconstructions, Scaled first principal component of seven sea level reconstructions (0-430 ka),N
- SeaLev_shortPC1_err_sigSea Level, standard deviation from bootstrap, meters, climate reconstructions, Scaled first principal component of seven sea level reconstructions (0-430 ka),N
- SeaLev_shortPC1_err_loSea 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_upSea Level, 95% confidence interval, upper bound, meters, climate reconstructions, Scaled first principal component of seven sea level reconstructions (0-430 ka),N
- SeaLev_longPC1Sea Level, meters above present day, climate reconstructions, Scaled first principal component of five sea level reconstructions (0-798 ka),N
- SeaLev_longPC1_err_sigSea Level, standard deviation from bootstrap,meters, climate reconstructions, Scaled first principal component of five sea level reconstructions (0-798 ka),N
- SeaLev_longPC1_err_loSea 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_upSea 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

Examples

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

Index