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> 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
NeedsCompilation no
Author Ben Marwick [aut, cre],
   Lorraine Lisiecki [aut],
   Rachel Spratt [aut],
   Maureen Raymo [aut]
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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 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


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()
}
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, ]
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_calkaBP, 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)
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