Package: slrcsap (via r-universe)

May 23, 2026

Title Lightweight Tools to Create Sea Level Rise Projections for the Tampa Bay Region

Version 1.3.0

Description Lightweight tools to download data and create plots for sea level rise projections in the Tampa Bay region. Plots are produced to support recommendations of the Climate Science Advisory Panel facilitated by the Tampa Bay Estuary Program. Data are from NOAA Tides and Currents web page <https://tidesandcurrents.noaa.gov/> and the Interagency Sea Level Rise Scenario Tool <https://sealevel.nasa.gov/task-force-scenario-tool>.

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Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.2

Depends R (>= 4.1)

Imports dplyr, ggplot2, plotly, readxl, scales, tidyr

LazyData true

LazyDataCompression xz

VignetteBuilder knitr

URL <https://github.com/tbep-tech/slrcsap>, <https://tbep-tech.github.io/slrcsap/>

BugReports https://github.com/tbep-tech/slrcsap/issues

Suggests knitr, rmarkdown, testthat (>= 3.0.0)

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Config/pak/sysreqs cmake make libicu-dev libuv1-dev libssl-dev

Repository https://tbep-tech.r-universe.dev

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RemoteUrl https://github.com/tbep-tech/slrcsap

RemoteRef HEAD

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Contents

`get_scenario` *Get Sea Level Rise (SLR) scenario*

Description

Get Sea Level Rise (SLR) scenario

Usage

```
get_scenario(
  id = 520,
  scenario = c("IntLow", "Int", "IntHigh"),
  method = "curl",
  quiet = TRUE
)
```

Arguments

`id`	numeric, gauge number. Default is 520 (St. Petersburg, FL).
`scenario`	character, SLR scenario. Default is `'IntLow'`, `'Int'`, and `'IntHigh'` (NOAA Intermediate Low, Intermediate, and Intermediate High). See details for available options.
`method`	character, download method. Default is `'curl'`, passed to `download.file()`.
`quiet`	logical, suppress download messages. Default is `TRUE`.

Details

Information from https://sealevel.nasa.gov/task-force-scenario-tool?psmsl_id=520, by default. Results are SLR in meters and feet for the intermediate low, intermediate, and intermediate high scenarios based on recommended scenarios from the Climate Science Advisory Panel. Full options for scenarios are `'Low'`, `'IntLow'`, `'Int'`, `'IntHigh'`, and `'High'`. Values for SLR are relative change from 2020.

Value

A data frame with columns for id, scenario, year, SLR in meters, and SLR in feet.

Examples

```
dat <- get_scenario()
head(dat)
```

`get_sealevel` *Get monthly Mean Sea Level (MSL) data for selected gauge*

Description

Get monthly Mean Sea Level (MSL) data for selected gauge

Usage

```
get_sealevel(gauge = 8726520)
```

Arguments

gauge	numeric, gauge number. Default is 8726520 (St. Petersburg, FL).

Details

Information from https://tidesandcurrents.noaa.gov using the URL https://tidesandcurrents.noaa.gov/sltrends/data/8726520_meantrend.txt, by default. Results are monthly Mean Sea Level (MSL) in meters and feet, with the seasonal cycle removed.

Value

A data frame with columns for gauge, year, month, date, MSL in meters, and MSL in feet.

Examples

```
dat <- get_sealevel(gauge = 8726520)
head(dat)
```

`plot_scenario` *Plot sea level scenario data*

Description

Plot sea level scenario data

Usage

```
plot_scenario(
  dat,
  cols = c("deepskyblue", "orange", "red"),
  units = "ft",
  linewidth = 1,
  caption = TRUE,
  xrng = c(2020, 2100),
  xbrk = 10,
  yrng = NULL,
  ybrk = 7,
  plotly = FALSE
)
```

Arguments

dat	Input data from get_scenario().
cols	character, color palette for the lines. Default is c('deepskyblue', 'orange', 'red').
units	character, units for the y-axis. Default is 'ft'. Options are 'ft' and 'm'.
linewidth	numeric, line width. Default is 1.
caption	logical, add caption with source. Default is TRUE. Does not apply if plotly = TRUE.
xrng	numeric, x-axis range. Default is c(2020, 2100).
xbrk	numeric, number of x-axis breaks. Default is 10. Does not apply if plotly = TRUE.
yrng	numeric, y-axis range as two values. Default is NULL, which uses the range of the data.
ybrk	numeric, number of y-axis breaks. Default is 7. Does not apply if plotly = TRUE.
plotly	logical, if TRUE, returns a plotly object instead of ggplot. Default is FALSE.

Value

A ggplot object

Examples

```
dat <- get_scenario()
plot_scenario(dat)
```

`plot_sealevel` *Plot sea level data*

Description

Plot sea level data

Usage

```
plot_sealevel(
  dat,
  col = "deepskyblue",
  units = "ft",
  caption = TRUE,
  xrng = NULL,
  xbrk = 10,
  yrng = NULL,
  ybrk = 5,
  plotly = FALSE
)
```

Arguments

`dat`	Input data from `get_sealevel()`.
`col`	character, color for the line. Default is `'deepskyblue'`.
`units`	character, units for the y-axis. Default is `'ft'`. Options are `'ft'` and `'m'`.
`caption`	logical, add caption with source. Default is `TRUE`. Does not apply if `plotly = TRUE`.
`xrng`	Date, x-axis range as two values. Default is `NULL`, which uses the range of the data.
`xbrk`	numeric, number of x-axis breaks. Default is `10`. Does not apply if `plotly = TRUE`.
`yrng`	numeric, y-axis range as two values. Default is `NULL`, which uses the range of the data.
`ybrk`	numeric, number of y-axis breaks. Default is `5`. Does not apply if `plotly = TRUE`.
`plotly`	logical, if `TRUE`, returns a plotly object instead of ggplot. Default is `FALSE`.

Value

a ggplot object

Examples

```
dat <- get_sealevel()
plot_sealevel(dat)
```

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