

Package: slrcsap (via r-universe)

October 24, 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 7.3.3

Depends R (>= 4.1)

Imports dplyr, ggplot2, jsonlite, 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)

Config/testthat/edition 3

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>

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get_scenario	<i>Get Sea Level Rise (SLR) scenario</i>
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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/trends-and-extremes/> using the NOAA CO-OPS Derived Product API <https://api.tidesandcurrents.noaa.gov/dpapi/prod/webapi/product/sealvltrends.json?station=8726520&details=monthlymeans&units=metric&trendType=single>, by default. Results are monthly Mean Sea Level (MSL) in meters and feet, with the seasonal cycle removed. Months with no data are not returned.

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	<i>Plot sea level scenario data</i>
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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 <code>get_scenario()</code> .
cols	character, color palette for the lines. Default is <code>c('deepskyblue', 'orange', 'red')</code> .
units	character, units for the y-axis. Default is <code>'ft'</code> . Options are <code>'ft'</code> and <code>'m'</code> .
linewidth	numeric, line width. Default is 1.
caption	logical, add caption with source. Default is TRUE. Does not apply if <code>plotly = TRUE</code> .
xrng	numeric, x-axis range. Default is <code>c(2020, 2100)</code> .
xbrk	numeric, number of x-axis breaks. Default is 10. Does not apply if <code>plotly = TRUE</code> .
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 <code>plotly = TRUE</code> .
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	<i>Plot sea level data</i>
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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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