Food and Agriculture Organization of the United Nations

SOFIA-TAF

Demo notes

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Overview

Food and Agriculture Organization of the United Nations

Documentation

overview, r packages

Clone Repositories

github, demos

R Session

rstudio, clone, clean up, taf.bootstrap, run scripts

Examine Repositories

data.bib, csv files, plots, tables, diff, custom drior

Documentation

Food and Agriculture Organization of the United Nations

Overview

SOFIA-TAF `github.com/sofia-taf/doc`

R packages

SOFIA `github.com/sofia-taf/SOFIA`

TAF `github.com/ices-taf/doc`

sraplus `github.com/DanOvando/sraplus`

Clone Repositories

Food and Agriculture Organization of the United Nations

GitHub

github.com/sofia-taf

2023Area51

Code, HTTPS, Copy

Demos

Effort shared

Effort by stock

Index by stock

Priors by stock

R Session

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Start RStudio (VRE)

i-marine.d4science.org

SOFIA-TAF

RStudio

Clone demo

File - New Project

Version Control - Git - Paste URL - Create in Home ($\sim$)

R Session

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Clean up demo files

```
library(TAF)
clean()
clean("bootstrap", force=TRUE)
```

Set up data and software

```
taf.bootstrap()
```

Bootstrap procedure

Copies CSV files from `bootstrap/initial/data` to `bootstrap/data`

Installs SOFIA 2.1.1 in local library

SOFIA Version and Local Library

If we declare SOFIA 2.1.1 in `DATA.bib`, then

```
taf.bootstrap()
```

will install that inside `bootstrap/library`, and

```
taf.library(SOFIA)
```

will load SOFIA 2.1.1 from `bootstrap/library`

R Session

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Five ways to run R scripts

1. Open script and use Ctrl-Enter to run line by line
2. Open script and select Source button
3. In the console, run `source("data.R")`
4. In the console, run `sourceTAF("data.R")`
5. In the console, run `sourceAll()` to run all the scripts

The `data.R`, `output.R`, and `report.R` scripts run very fast, but `model.R` takes longer to run (a few minutes per stock)

Examine Repositories

Food and Agriculture Organization of the United Nations

Can be done in web browser, File Explorer, or RStudio

Initial data

Inside `bootstrap`, open `DATA.bib` to see a list of all data used in the analysis

Inside `bootstrap/initial/data` we can examine the CSV data files

Results & intermediate calculations

Plots and tables are inside the `data`, `output`, and `report` folders

Examine Repositories

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Differences between the demos

The R scripts are almost identical between different analyses, so we can use a 'diff' tool (such as WinMerge) to see the exact differences between analyses

`same.effort` = `TRUE` / `FALSE`

`same.priors` = `TRUE` / `FALSE`

Custom drior function

The `2022Area31DemoIndexByStock` analysis demonstrates the use of a custom drior function, instead of the default `addDriors` function

This lets us use the `format_driors` directly to specify priors and model options that are different from `priors.csv` and the default values

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