SOFIA-TAF

Demo notes

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Overview

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

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

GitHub

github.com/sofia-taf

2023Area51

Code, HTTPS, Copy

Demos

Effort shared

Effort by stock

Index by stock

Priors by stock

R Session

Start RStudio (VRE)

i-marine.d4science.org

SOFIA-TAF

RStudio

Clone demo

File - New Project

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

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

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 `source.taf("data.R")`

5. In the console, run `source.all()` 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

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

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

SOFIA-TAF collaboration (catch data, effort data, survey data, priors, model settings) involves the use of four technical components:

Component	Expertise required	Features
R	Some	Run scripts, modify scripts, objects
GitHub	Little	Clone repository
TAF	Some	Run TAF scripts, run boot procedure
sraplus	Some	Browse data/priors/results, set up input

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