



Food and Agriculture
Organization of the
United Nations

SOFIA-TAF

Demo notes

Arni Magnusson

SOFIA-TAF workshop, Bangkok
29 November 2023

Overview

Documentation

overview, r packages

Clone Repositories

github, demos

R Session

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

Examine Repositories

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

Documentation

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

[2023Area71FishStat30](#)

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 (~)

R Session

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.boot()
```

will **install** that inside bootstrap/library, and

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

will **load** SOFIA 2.1.1 from bootstrap/library

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)

R Session

Two important lines

```
library(TAF)
```

```
taf.boot()
```

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

Examine Repositories

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 drrior function

The WorkshopIndexByStock analysis demonstrates the use of a [custom drrior function](#), instead of the default [addDrriors](#) function

This lets us use the `format_drriors` directly to specify priors and model options that are different from [priors.csv](#) and the default values

How are we doing?

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, same.effort=FALSE
GitHub	Little	Clone repository
TAF	Some	Run TAF scripts, run boot procedure
sraplus	Some	Browse data/priors/results, set up input

Overview

Documentation

overview, r packages

Clone Repositories

github, demos

R Session

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

Examine Repositories

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