



# 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 prior*

# Documentation

## Overview

SOFIA-TAF [github.com/sofia-taf/doc](https://github.com/sofia-taf/doc)

## R packages

SOFIA [github.com/sofia-taf/SOFIA](https://github.com/sofia-taf/SOFIA)

TAF [github.com/ices-taf/doc](https://github.com/ices-taf/doc)

sraplus [github.com/DanOvando/sraplus](https://github.com/DanOvando/sraplus)

# Clone Repositories

## GitHub

[github.com/sofia-taf](https://github.com/sofia-taf)

2023Area51ShortDemo

Code, HTTPS, Copy

## Demos

Effort shared

Effort by stock

Index by stock

Priors by stock

# R Session

## Start RStudio (VRE)

[i-marine.d4science.org](https://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.bootstrap()
```

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)



# 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 2022Area31DemoIndexByStock 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
<b>R</b>	Some	Run scripts, modify scripts, same.effort=FALSE
<b>GitHub</b>	Little	Clone repository
<b>TAF</b>	Some	Run TAF scripts, run boot procedure
<b>sraplus</b>	Some	Browse data/priors/results, set up input

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