

TAF and Stockassessment.org

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<http://taf.ices.dk>



Science for sustainable seas

Aim



*To implement a framework to organize user workflow so that **data**, **methods**, and **results** used in ICES assessments, are easy to **find** and **rerun** later with new data.*

Current situation on Sharepoint



Assessments: may not **exist**

may not **run**

may contain **partial/confusing** information

may be inconsistent **versioning** of data and methods

may be difficult to **locate** and **access** for many clients and the public

unclear where data **came from**

may be unclear how data were **preprocessed**

may be **different** from final advice

An assessment in TAF:



will be **persistent**

will be **executable** retrospectively

will be clearly **versioned**

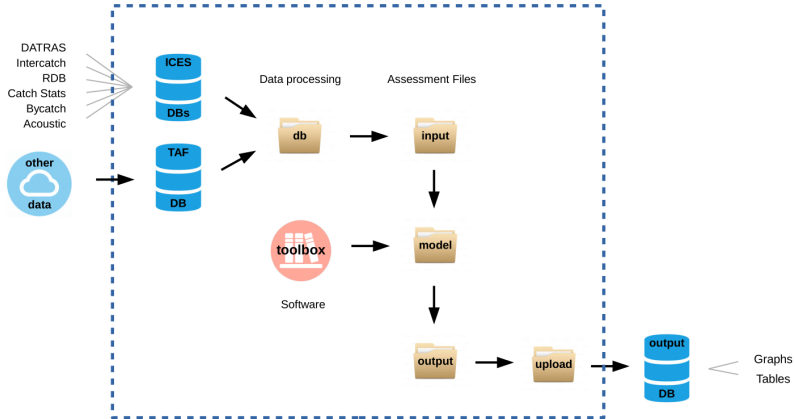
contains the final model run, in a standard structured format

open for anyone to **browse online** (after publication)

explicitly downloads from **ICES data sources**
and **preprocesses** the data

direct upload of results to SAG (**sg.ices.dk**) for final **advice sheet**

TAF workflow



Web user interface

(design outline)



Open taf.ices.dk in a web browser

Browse (everything is open) or **log in** to modify/run assessments like Stockassessment.org

- Stock mode

upload, edit, save, run

- Boss mode

HAWG	NWWG
<input checked="" type="radio"/> her-3a22	<input checked="" type="radio"/> cod-iceg
<input type="radio"/> her-47d3	<input checked="" type="radio"/> sai-faro
<input checked="" type="radio"/> her-67bc	<input checked="" type="radio"/> sai-icel
<input checked="" type="radio"/> her-irls	<input type="radio"/> smr-5614
<input type="radio"/> ...	<input type="radio"/> ...

Download any dataset into R using [read.csv](#)

TAF (web) services

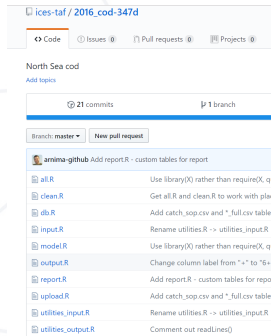


GET data services

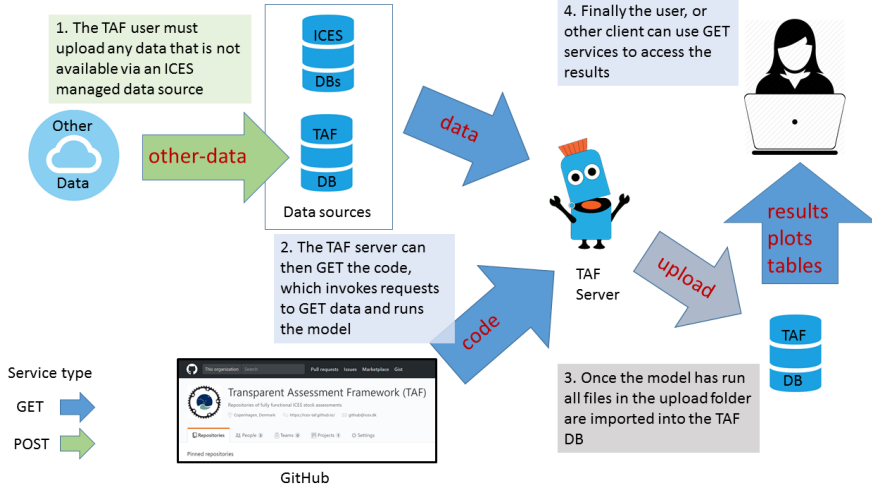
- run** get and run TAF code on an ICES server and harvest results
- code** view/download code used in the assessment
- data** view/download data files used in the assessment
- results** view/download results files
- plots** view/download plots (if submitted)
- tables** view/download report tables (if submitted)

POST data services

- other-data** data/models not currently in ICES system



TAF (web) services

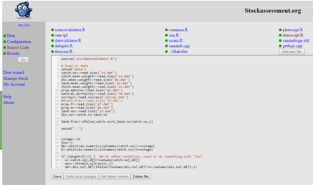


SAO-TAF interaction: model development

Data required by the assessment model that is not managed through ICES systems, e.g.

- Variable maturity at age
- National survey data
- Weights at age
- Mortality at age

could be uploaded to the TAF DB from Stockassessment.org via a POST service



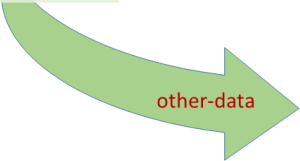
Stockassessment.org



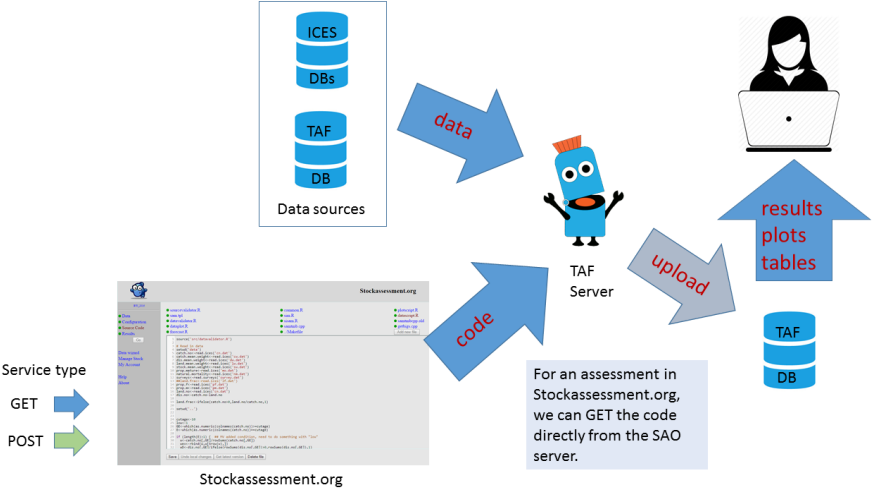
Once all input data are available from an ICES managed data source, all inputs can be access via a GET service



Service type
GET 
POST 



SAO-TAF interaction: final assessment



For an assessment in Stockassessment.org, we can GET the code directly from the SAO server.

SAO interaction: SAO web services

```
# get SOA cookie
x1 <- httr::POST("https://www.stockassessment.org/login.php",
  httr::add_headers(
    Host = "www.stockassessment.org",
    Connection = "keep-alive",
    `Content-Length` = "21",
    `Cache-Control` = "max-age=0",
    `Content-Type` = "application/x-www-form-urlencoded"),
  body = "user=guest&pass=guest")

(cookie <- httr::cookies(x1))

httr::GET("https://www.stockassessment.org/index.php?page=src",
  httr::set_cookies(PHPSESSID = cookie$value))

# see stocks
x1a <- httr::POST("https://www.stockassessment.org/index.php",
  httr::add_headers(
    Host = "www.stockassessment.org",
    Connection = "keep-alive",
    `Content-Length` = "21",
    `Cache-Control` = "max-age=0",
    `Content-Type` = "application/x-www-form-urlencoded"),
  body = "EcoRegion=North+Sea&Species=Cod&Owner=All&Show=90")

x1atxt <- xml2::as_list(httr::content(x1a))

# set stock
#stock <- "sam-tmb-haddock-2017-01"
stock <- "nscod16-ass02"
x2 <- httr::GET(sprintf("https://www.stockassessment.org/setStock.php?stock=%s", stock),
  httr::set_cookies(PHPSESSID = cookie$value))

httr::content(x2)

# download
x3 <- httr::GET("https://www.stockassessment.org/getZip.php",
  httr::set_cookies(PHPSESSID = cookie$value))

httr::content(x3)

# save to disk
fname <- gsub("attachment; filename=", "", httr::headers(x3)$`content-disposition`)
writeBin(httr::content(x3), paste0("D:/Profile/Desktop/", fname))
```

SAO interaction: considerations



- ▶ How do we manage changes to assessment code, after upload of the final assessment?
- ▶ How do we manage differences in server setup, e.g compilers, R packages?
- ▶ Can we share a common system for version control of assessment scripts?

Summary



- ▶ We need a system within ICES to store and access final assessments
- ▶ TAF is a way to store final assessments, whereas Stockassessment.org is an environment to develop and diagnose a variety of model runs
⇒ the two systems provide a different service
- ▶ ICES working groups run the final assessments within TAF
- ▶ The only way to get the results into the ICES databases (SAG/TAF) is by running it in TAF
- ▶ We aim to provide an API to upload and run on TAF, so that users of Stockassessment.org (and other systems) don't need to leave their normal working environment

Follow ongoing development



taf.ices.dk

Main landing page

ices-taf.github.io

Technical overview and design comments

github.com/ices-taf

Stock assessment code (R scripts)

github.com/ices-taf/doc/projects/1

TAF development board

github.com/ices-taf/doc/issues

Users can post suggestions for future TAF development