

Transparent Assessment Framework

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Science for sustainable seas

Aim



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

ICES advisory process



1. **Work** within institutes

prepare data, prepare model, run model(s)

2. **EG** meeting

finalize model run, write report + draft advice sheet

3. **ADG** meeting

finalize advice sheet

4. **ACOM** meeting

finalize advice

Current workflow

- ▶ **Chapter** in report
data, results
- ▶ **Stock annex** in report
data-methods, assmt-methods
- ▶ **Data folder** on Sharepoint
data, assmt-methods, results
- ▶ **Advice sheet** via Stock Assessment Graphs
results
- ▶ **GitHub** EG repository
data, assmt-methods, results

Areas for improvement

- ▶ **Chapter** in report
hard to find reports, hard to copy tables from pdf
- ▶ **Stock annex** in report
hard to find newest version, ambiguity, lack of detail
- ▶ **Data folder** on Sharepoint
depends on stock assessor, can be missing, no guarantees
- ▶ **Advice sheet** via Stock Assessment Graphs
pathway from assessment to SAG database could be streamlined
- ▶ **GitHub** EG repository
not linked into the ICES system

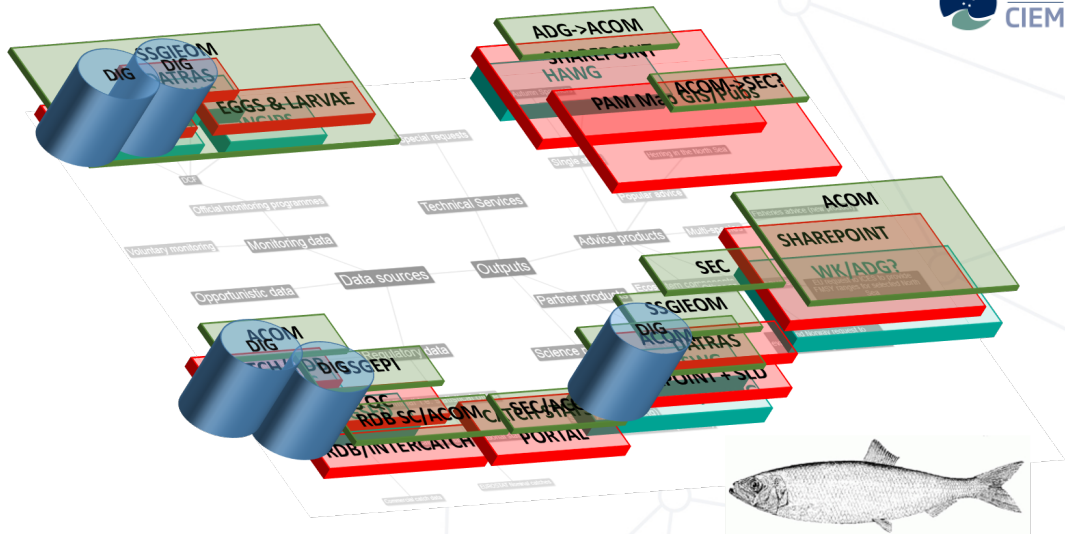
New framework

Objectives

The new framework should be:

- ▶ **Encapsulated:** entire pathway from input DBs to SAG in one system
- ▶ **Quality controlled:** data can be traced to sources, values are checked
- ▶ **Repeatable:** data preparation and assessment workflow is recorded and can be run
- ▶ **Transparent:** anyone can browse on the web
- ▶ **Cohesive:** make use of existing ICES infrastructure

Existing network



Maps and spatial informat... x ICES Metadata Catalogue - Int... x +

gis.ices.dk/geonetwork/srv/eng/catalog.search#/search?facet.q=topicCat%2Fbiota

ICES Metadata Catalogue Search Map Sign in English

Search ...

Sorted by relevancy 1 - 20 on 130

TYPE OF RESOURCES

- ☐ Dataset (130)

TOPICS

- ☒ Biota (110)
- ☐ Oceans (6)
- ☐ Environment (5)

KEYWORDS

- ☐ Biota (109)
- ☐ Habitats and... (46)
- ☐ Habitat extent (34)
- ☐ Species... (33)
- ☐ Marine... (33)

CONTACT FOR THE RESOURCE

- ☐ ICES (50)
- ☐ Natural England (13)
- ☐ University of... (7)
- ☐ University of... (7)
- ☐ Joint Nature... (5)

PROVIDED BY

- ☐ ICES (130)

YEARS

- ☐ 2015 (5)
- ☐ 2013 (4)
- ☐ 2012 (3)
- ☐ 2010 (4)

Categories

Marine biodiversity from south coast of Sagres (South of Portugal-Algarve):...

Under the MeshAtlantic project (2010-2013) the habitat of an area off the south coast of Portugal (Sagres) was classified. The biological data was gathered from surveys carried out during 2012. Stratified sampling by depth and bottom substrate was performed using underwater visual census, Van Veen grab and beam trawl to estimate fauna densities and quadrat method to

Pedro Monteiro & Jorge Gonçalves

José Luis Sanz Alonso

Categories

ICES Trawl Survey Datasets (DATRAS)

ICES database of trawl surveys

ICES Data manager

Categories

ICES Eggs and Larvae data collection (distribution and characteristics) for...

Ichthyoplankton surveys with different target species, spatial and temporal coverage

ICES Data manager

Categories

ICES North Sea International Bottom Trawl Survey for commercial fish species

The dataset includes age- and length-based catch per unit effort data for commercial fish around fish areas.

ICES Data manager

Categories

ICES Beam Trawl Survey for commercial fish

Categories

ICES Atlantic Anguilla (Eel) Larvae Dataset

The following web service APIs are provided:

Name `getHHdata(survey,year,quarter)`

Description This API of the webservice returns the url to the Haul-based information for the given survey, year, and quarter.

Input Survey acronym (e.g. NS-IBTS,BITS)
Year (e.g. 2010,2011)
Quarter (e.g. 1,2,3,4)

Output Returns detailed haul-based meta-data of the survey such as haul position, sampling method etc.

Example [Haul based data for survey=NS-IBTS,year=1966 and quarter=1](#)

Name `getHLdata(survey,year,quarter)`

Description This API of the webservice returns the url to the Length-based species information for the given survey, year, and quarter.

Input Survey acronym (e.g. NS-IBTS,BITS)
Year (e.g. 2010,2011)
Quarter (e.g. 1,2,3,4)


Output Returns length-based information such as measured length, individual counts, and subfactors of sampled species.

Example [Length based data for survey=NS-IBTS,year=1966 and quarter=1](#)

ETC_ICM... Marine Te... DATRAS DATRAS w... DATRAS data ... Data tools http://g...s.dk/sf/ http://g...s.dk/sf/ GitHub - I... ICES t...

GitHub, Inc. (US) | https://github.com/ices-tools-prod

Personal Open source Business Explore Pricing Blog Support This organization Search Sign in Sign up

 **ICES tools (products)**
Tools provided by ICES, or by other institutes and projects
Copenhagen, Denmark http://ices.dk github@ices.dk

Repositories People 3




Filters - Find a repository...

icesSAG R ★ 1 0
Stock Assessment Graphs Database Web Services
Updated 6 days ago

icesDatras R ★ 1 0
R interface to DATRAS trawl database web services
Updated 6 days ago

icesAdvice R ★ 3 0

People 3 >

-  **amima-github**
Arni Magnússon
-  **colinpmillar**
Colin Millar
-  **einarhjordleifsson**
Einar Hjorleifsson

Objectives (cont.)



Make it easier to:

- ▶ **Find** data and results from a given assessment
- ▶ **Rerun** model with different data or assumptions
- ▶ Prepare and run an **update** assessment
- ▶ **Access** ICES data web services

⇒ Will save time for EGs, ADGs, and ACOM

Objectives (cont.)



Help people to:

- ▶ See **changes** in model setup and data between years
- ▶ Use reproducible research to strengthen **institutional memory**
- ▶ Access data and results from all stocks for **big-picture research**

System workflow (core)

System workflow



data values
=> model input files



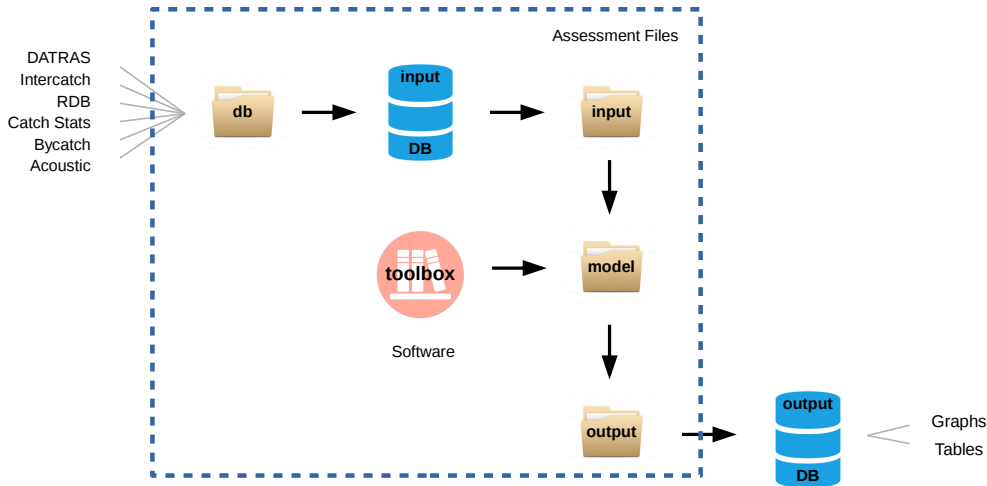
model executable
+ model input files
+ model config files
=> model output files



model output files
=> standard output files

System workflow (databases)

Databases for input and output



User interface

User interface



Open taf.ices.dk in a web browser

Browse (everything is open) or **log in** to modify/run assessments

- 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**

Key benefits



- ▶ High **quality** science: online, peer-reviewed, reproducible
- ▶ Improved **time efficiency** and **reduced workload** on EGs
- ▶ Much more **open and structured** than current workflow

Thanks!



Questions?

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