

Package ‘RDBqc’

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Title Quality check functions for RDBFIS

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Description The package contains functions used to perform a priori and a posteriori quality checks on RDBFIS data.

License GPL (>= 3)

Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.1.2

Depends R (>= 4.1.0)

Imports dplyr, ggplot2, rworldmap, sp, rworldxtra, pander, data.table, grDevices, magrittr, tictoc, tidyverse, fishmethods, tidyr, gridExtra

LazyData true

Suggests rmarkdown,
knitr

VignetteBuilder knitr

R topics documented:

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| | |
|-------------------|--|
| Catch_tab_example | <i>Catch table in MED&BS datacall format</i> |
|-------------------|--|

Description

Catch table in MED&BS datacall format

Usage

Catch_tab_example

Format

An object of class `data.frame` with 57 rows and 171 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|--------------|---|
| catfau_check | <i>catfau_check in GFCM datacall format</i> |
|--------------|---|

Description

catfau_check in GFCM datacall format

Usage

catfau_check

Format

An object of class `data.frame` with 16 rows and 4 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|----------------|--|
| check_EF_FDI_G | <i>Check empty fields in FDI G table</i> |
|----------------|--|

Description

The function checks the presence of not allowed empty data in the given table, according to the [Fisheries Dependent Information data call 2021 - Annex 1](#)

Usage

```
check_EF_FDI_G(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task G table |
| verbose | boolean. If TRUE a message is printed. |

Value

Two lists are returned by the function. The first list gives the number of NA for each reference column. The second list gives the index of each NA in the reference column.

Examples

```
check_EF_FDI_G(fdi_g_effort)
```

| | |
|----------------|--|
| check_EF_FDI_H | <i>Check empty fields in FDI H table</i> |
|----------------|--|

Description

The function checks the presence of not allowed empty data in the given table, according to the [Fisheries Dependent Information data call 2021 - Annex 1](#)

Usage

```
check_EF_FDI_H(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task H table |
| verbose | boolean. If TRUE a message is printed. |

Value

Two lists are returned by the function. The first list gives the number of NA for each reference column. The second list gives the index of each NA in the reference column.

Examples

```
check_EF_FDI_H(fdi_h_spatial_land)
```

| | |
|----------------|--|
| check_EF_FDI_I | <i>Check empty fields in FDI I table</i> |
|----------------|--|

Description

The function checks the presence of not allowed empty data in the given table, according to the [Fisheries Dependent Information data call 2021 - Annex 1](#)

Usage

```
check_EF_FDI_I(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task I table |
| verbose | boolean. If TRUE a message is printed. |

Value

Two lists are returned by the function. The first list gives the number of NA for each reference column. The second list gives the index of each NA in the reference column.

Examples

```
check_EF_FDI_I(fdi_i_spatial_fe)
```

| | |
|----------------|--|
| check_EF_FDI_J | <i>Check empty fields in FDI J table</i> |
|----------------|--|

Description

The function checks the presence of not allowed empty data in the given table, according to the [Fisheries Dependent Information data call 2021 - Annex 1](#)

Usage

```
check_EF_FDI_J(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task J table |
| verbose | boolean. If TRUE a message is printed. |

Value

Two lists are returned by the function. The first list gives the number of NA for each reference column. The second list gives the index of each NA in the reference column.

Examples

```
check_EF_FDI_J(fdi_j_capacity)
```

| | |
|------------------|---|
| check_EF_taskII2 | <i>Check empty fields in GFCM Task II.2 table</i> |
|------------------|---|

Description

The function checks the presence of not allowed empty data in the given table, according to the [GFCM, 2018. GFCM Data Collection Reference Framework \(DCRF\). Version: 20.1](#)

Usage

```
check_EF_taskII2(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task II.2 table |
| verbose | boolean. If TRUE a message is printed. |

Value

Two lists are returned by the function. The first list gives the number of NA for each reference column. The second list gives the index of each NA in the reference column.

Examples

```
check_EF_taskIII(task_iii)
```

| | |
|------------------|--|
| check_EF_taskIII | <i>Check empty fields in GFCM Task III table</i> |
|------------------|--|

Description

The function checks the presence of not allowed empty data in the given table, according to the [GFCM, 2018. GFCM Data Collection Reference Framework \(DCRF\). Version: 20.1](#)

Usage

```
check_EF_taskIII(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task III table |
| verbose | boolean. If TRUE a message is printed. |

Value

Two lists are returned by the function. The first list gives the number of NA for each reference column. The second list gives the index of each NA in the reference column.

Examples

```
check_EF_taskIII(task_iii)
```

| | |
|-------------------|--|
| check_EF_taskVII2 | <i>Check empty fields in GFCM Task VII.2 table</i> |
|-------------------|--|

Description

The function checks the presence of not allowed empty data in the given table, according to the [GFCM, 2018. GFCM Data Collection Reference Framework \(DCRF\). Version: 20.1](#)

Usage

```
check_EF_taskVII2(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task VII.2 table |
| verbose | boolean. If TRUE a message is printed. |

Value

Two lists are returned by the function. The first list gives the number of NA for each reference column. The second list gives the index of each NA in the reference column.

Examples

```
check_EF_taskVII2(task_vii2)
```

| | |
|--------------------|--|
| check_EF_TaskVII31 | <i>Check empty fields in GFCM Task VII.3.1 table</i> |
|--------------------|--|

Description

The function checks the presence of not allowed empty data in the given table, according to the [GFCM, 2018. GFCM Data Collection Reference Framework \(DCRF\). Version: 20.1](#)

Usage

```
check_EF_TaskVII31(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task VII.3.1 table |
| verbose | boolean. If TRUE a message is printed. |

Value

Two lists are returned by the function. The first list gives the number of NA for each reference column. The second list gives the index of each NA in the reference column.

Examples

```
check_EF_TaskVII31(task_vii31)
```

| | |
|--------------------|--|
| check_EF_TaskVII32 | <i>Check empty fields in GFCM Task VII.3.2 table</i> |
|--------------------|--|

Description

The function checks the presence of not allowed empty data in the given table, according to the [GFCM, 2018. GFCM Data Collection Reference Framework \(DCRF\). Version: 20.1](#)

Usage

```
check_EF_TaskVII32(data, verbose = TRUE)
```


Arguments

| | |
|---------|--|
| data | GFCM Task VII.3.2 table |
| verbose | boolean. If TRUE a message is printed. |

Value

Two lists are returned by the function. The first list gives the number of NA for each reference column. The second list gives the index of each NA in the reference column.

Examples

```
check_EF_TaskVII32(task_vii32)
```

```
check_lmat_TaskVII.3.2
```

Plot of the maturity stages per length for each sex and species

Description

Function to plot the lengths at maturity stages by species and sex to easily identify outliers.

Usage

```
check_lmat_TaskVII.3.2(data, MS, GSA, SP)
```

Arguments

| | |
|------|---|
| data | GFCM Task VII.3.2 table |
| MS | member state code |
| GSA | GSA code |
| SP | species reference code in the three alpha code format |

Value

The function return a plot of the maturity stages per length and sex per species.

Examples

```
check_lmat_TaskVII.3.2(task_vii32)
```

check_lw_TaskVII.2 *Plot of the relationship length weight for each species*

Description

Function to check the consistency of length-weight relationship in the GFCM Task VII.2 table per species.

Usage

```
check_lw_TaskVII.2(data, MS, GSA, SP, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task VII.2 table |
| MS | member state code |
| GSA | GSA code |
| SP | species reference code in the three alpha code format |
| verbose | boolean value to obtain further explanation messages from the function |

Value

The function return a plot of the length weight relationship per species.

Examples

```
check_lw_TaskVII.2(task_vii2, MS = "ITA", GSA = "18", SP = "BOG")
```

check_minmaxl50_TaskVII.3.1

Comparison between min/max L50 observed for each species and sex with theoretical values

Description

Function to verify the consistency of L50 reported in the TaskVII.3.1 table with the theoretical values reported in the minmaxLtaskVII31 table. The function allows to identify the records in which the observed L50 are greater or lower than the expected ones.

Usage

```
check_minmaxl50_TaskVII.3.1(data, tab_L50, MS, GSA)
```

Arguments

| | |
|---------|--|
| data | GFCM Task VII.3.1 table |
| tab_L50 | Theoretical values of min/max L50 for each species and sex |
| MS | member state code |
| GSA | GSA code |

Value

The function returns a table with the comparison between min/max L50 observed for each species and sex with theoretical values.

Examples

```
check_minmaxl50_TaskVII.3.1(task_vii31,minmaxLtaskVII31,MS="ITA",GSA="19")
```

```
check_minmaxl_TaskVII.2
```

Comparison between min/max observed for each species with theoretical values

Description

Function to verify the consistency of the lengths reported in the TaskVII.2 table with the theoretical values reported in the minmaxLtaskVII2 table. The function allows to identify the records in which the observed lengths are greater or lower than the expected ones.

Usage

```
check_minmaxl_TaskVII.2(data, tab_length, MS, GSA)
```

Arguments

| | |
|------------|---|
| data | GFCM Task II.2 table |
| tab_length | Theoretical values of min/max length for each species |
| MS | member state code |
| GSA | GSA code |

Value

The function returns a table with the comparison between min/max lengths observed for each species with theoretical values.

Examples

```
check_minmaxl_TaskVII.2(task_vii2,minmaxLtaskVII2,MS="ITA",GSA="18")
```

check_presence_taskII2

Check of missing combination GSA/Fleet segment per year

Description

Function to verify the completeness of the GSA/Fleet segments in Task II.2 table, as reported in the combination_taskII2 table.

Usage

```
check_presence_taskII2(data1, data2, MS, GSA)
```

Arguments

| | |
|-------|---|
| data1 | GFCM Task II.2 table |
| data2 | List of combination of the expected GSA/Fleet segments per year for Task II.2 table |
| MS | member state code |
| GSA | GSA code |

Value

The function returns a list of missing combinations GSA/Fleet segment per year.

Examples

```
check_presence_taskII2(task_ii2, combination_taskII2, MS="ITA", GSA="18")
```

check_RD_FDI_G

Check duplicated records in FDI G table

Description

The function check the presence of duplicated records. In particular, it checks whether the combination of the first 15 columns generates duplicate records.

Usage

```
check_RD_FDI_G(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task G table |
| verbose | boolean. If TRUE a message is printed. |

Value

The function returns the indices of the duplicated rows, checking the unique combinations of the first 15 columns of the FDI G table.

Examples

```
check_RD_FDI_G(fdi_g_effort)
```

| | |
|----------------|--|
| check_RD_FDI_H | <i>Check duplicated records in FDI H table</i> |
|----------------|--|

Description

The function check the presence of duplicated records. In particular, it checks whether the combination of the first 15 columns generates duplicate records.

Usage

```
check_RD_FDI_H(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task H table |
| verbose | boolean. If TRUE a message is printed. |

Value

The function returns the indices of the duplicated rows, checking the unique combinations of the first 20 columns of the FDI G table.

Examples

```
check_RD_FDI_H(fdi_h_spatial_land)
```

| | |
|----------------|--|
| check_RD_FDI_I | <i>Check duplicated records in FDI I table</i> |
|----------------|--|

Description

The function check the presence of duplicated records. In particular, it checks whether the combination of the first 15 columns generates duplicate records.

Usage

```
check_RD_FDI_I(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task I table |
| verbose | boolean. If TRUE a message is printed. |

Value

The function returns the indices of the duplicated rows, checking the unique combinations of the first 19 columns of the FDI G table.

Examples

```
check_RD_FDI_I(fdi_i_spatial_fe)
```

| | |
|----------------|--|
| check_RD_FDI_J | <i>Check duplicated records in FDI J table</i> |
|----------------|--|

Description

The function check the presence of duplicated records. In particular, it checks whether the combination of the first 15 columns generates duplicate records.

Usage

```
check_RD_FDI_J(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task J table |
| verbose | boolean. If TRUE a message is printed. |

Value

The function returns the indices of the duplicated rows, checking the unique combinations of the first 7 columns of the FDI G table.

Examples

```
check_RD_FDI_J(fdi_j_capacity)
```

| | |
|------------------|---|
| check_RD_taskII2 | <i>Check duplicated records in GFCM Task II.2 table</i> |
|------------------|---|

Description

The function check the presence of duplicated records. In particular, it checks whether the combination of the first 5 columns generates duplicate records.

Usage

```
check_RD_taskII2(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task II.2 table |
| verbose | boolean. If TRUE a message is printed. |

Value

The function returns the indices of the duplicated rows, checking the unique combinations of the first 5 columns of the Task II.2 table.

Examples

```
check_RD_taskIII2(task_ii2)
```

| | |
|------------------|--|
| check_RD_taskIII | <i>Check duplicated records in GFCM Task III table</i> |
|------------------|--|

Description

The function check the presence of duplicated records. In particular, it checks whether the combination of the first 10 columns generates duplicate records.

Usage

```
check_RD_taskIII(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task III table |
| verbose | boolean. If TRUE a message is printed. |

Value

The function returns the indices of the duplicated rows, checking the unique combinations of the first 10 columns of the Task Task III table.

Examples

```
check_RD_taskIII(task_iii)
```

| | |
|-------------------|--|
| check_RD_taskVII2 | <i>Check duplicated records in GFCM Task VII.2 table</i> |
|-------------------|--|

Description

The function check the presence of duplicated records. In particular, it checks whether the combination of the first 9 columns generates duplicate records.

Usage

```
check_RD_taskVII2(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task VII.2 table |
| verbose | boolean. If TRUE a message is printed. |

Value

The function returns the indices of the duplicated rows, checking the unique combinations of the first 9 columns of the Task Task VII.2 table.

Examples

```
check_RD_taskVII2(task_vii2)
```

| | |
|--------------------|--|
| check_RD_taskVII31 | <i>Check duplicated records in GFCM Task VII.3.1 table</i> |
|--------------------|--|

Description

The function check the presence of duplicated records. In particular, it checks whether the combination of the first 5 columns generates duplicate records.

Usage

```
check_RD_taskVII31(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task VII.3.1 table |
| verbose | boolean. If TRUE a message is printed. |

Value

The function returns the indices of the duplicated rows, checking the unique combinations of the first 5 columns of the Task Task VII.3.1 table.

Examples

```
check_RD_taskVII31(task_vii31)
```

| | |
|--------------------|--|
| check_RD_TaskVII32 | <i>Check duplicated records in GFCM Task VII.3.2 table</i> |
|--------------------|--|

Description

The function check the presence of duplicated records. In particular, it checks whether the combination of the first 10 columns generates duplicate records.

Usage

```
check_RD_TaskVII32(data, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | GFCM Task VII.3.2 table |
| verbose | boolean. If TRUE a message is printed. |

Value

The function returns the indices of the duplicated rows, checking the unique combinations of the first 10 columns of the Task Task VII.3.2 table.

Examples

```
check_RD_TaskVII32(task_vii32)
```

```
check_species_catfau_TaskVII.3.2
```

Check mismatching species/Catfau and Sex per maturity stages for Task VII.3.2 table

Description

Function to check the correct codification of faunistic category according to species and sex in Task VII.3.2 table.

Usage

```
check_species_catfau_TaskVII.3.2(data, species, matsex, MS, GSA)
```

Arguments

- | | |
|---------|--|
| data | GFCM Task VII.3.2 table |
| species | List of combination of species/faunistic category for Task VII.3.2 table |
| matsex | List of combination of sex/maturity stages for Task VII.3.2 table |
| MS | member state code |
| GSA | GSA code |

Value

Two vectors are returned by the function. The first provides the list of mismatching combination of species/faunistic categories. The second vector provides the list of mismatching combination of sex/maturity stages.

Examples

```
check_species_catfau_TaskVII.3.2(task_vii32,catfau_check,sex_mat, MS="ITA",GSA="18")
```

```
circabc
```

Ports coordinates according to codification CIRCABC

Description

Ports coordinates according to codification CIRCABC

Usage

```
circabc
```

Format

An object of class `data.frame` with 24335 rows and 5 columns.

Author(s)

CIRCABC <<https://circabc.europa.eu>>

| | |
|---------------------|--|
| combination_taskII2 | <i>combination_taskII2 in GFCM datacall format</i> |
|---------------------|--|

Description

combination_taskII2 in GFCM datacall format

Usage

combination_taskII2

Format

An object of class `data.frame` with 60 rows and 4 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|---------|-----------------------|
| data_ex | <i>RCG CS example</i> |
|---------|-----------------------|

Description

RCG CS example

Usage

data_ex

Format

An object of class `data.frame` with 9099 rows and 40 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|----------------|-----------------------|
| data_exampleCL | <i>RCG CL example</i> |
|----------------|-----------------------|

Description

RCG CL example

Usage

data_exampleCL

Format

An object of class `data.frame` with 35 rows and 22 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|---------------------|--|
| Discard_tab_example | <i>Discard table in MED&BS datacall format</i> |
|---------------------|--|

Description

Discard table in MED&BS datacall format

Usage

Discard_tab_example

Format

An object of class `data.frame` with 21 rows and 114 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|--------------|---|
| fdi_g_effort | <i>fdi_g_effort in FDI DGMAREMED&BS datacall format</i> |
|--------------|---|

Description

fdi_g_effort in FDI DGMAREMED&BS datacall format

Usage

fdi_g_effort

Format

An object of class data.frame with 5 rows and 26 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|--------------------|---|
| fdi_h_spatial_land | <i>fdi_h_spatial_land in FDI DGMAREMED&BS datacall format</i> |
|--------------------|---|

Description

fdi_h_spatial_land in FDI DGMAREMED&BS datacall format

Usage

fdi_h_spatial_land

Format

An object of class data.frame with 5 rows and 23 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|------------------|---|
| fdi_i_spatial_fe | <i>fdi_i_spatial_fe in FDI DGMAREMED&BS datacall format</i> |
|------------------|---|

Description

fdi_i_spatial_fe in FDI DGMAREMED&BS datacall format

Usage

fdi_i_spatial_fe

Format

An object of class data.frame with 5 rows and 21 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|----------------|---|
| fdi_j_capacity | <i>fdi_j_capacity in FDI DGMAREMED&BS datacall format</i> |
|----------------|---|

Description

fdi_j_capacity in FDI DGMAREMED&BS datacall format

Usage

fdi_j_capacity

Format

An object of class data.frame with 5 rows and 14 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|----------------|---|
| GP_tab_example | <i>GP table in MED&BS datacall format</i> |
|----------------|---|

Description

GP table in MED&BS datacall format

Usage

GP_tab_example

Format

An object of class `data.frame` with 12 rows and 22 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|---------------------|--|
| Landing_tab_example | <i>Landing table in MED&BS datacall format</i> |
|---------------------|--|

Description

Landing table in MED&BS datacall format

Usage

Landing_tab_example

Format

An object of class `data.frame` with 57 rows and 114 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|----------------|---|
| MA_tab_example | <i>MA table in MED&BS datacall format</i> |
|----------------|---|

Description

MA table in MED&BS datacall format

Usage

```
MA_tab_example
```

Format

An object of class `data.frame` with 71 rows and 11 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|----------------------|---|
| MEDBS_Catch_coverage | <i>Catch_cov: function to check the coverage in Catch table</i> |
|----------------------|---|

Description

The function allows to check the coverage in Catch table by mean of summary tables summarizing both landing and discard volumes and producing relative plots for the selected species.

Usage

```
MEDBS_Catch_coverage(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|----------------------|--|
| <code>data</code> | Catch table in MEDBS format |
| <code>SP</code> | species (three alpha code) |
| <code>MS</code> | Country |
| <code>GSA</code> | GSA (Geographical sub-area (GFCM sensu)) |
| <code>verbose</code> | boolean value to obtain further explanation messages from the function |

Value

summary table and plots

Examples

```
MEDBS_Catch_coverage(Catch_tab_example,"DPS","ITA","GSA 9")
```

`MEDBS_check_duplicates`*Check for duplicated data rows*

Description

The function checks the presence of duplicated rows in both landings and discards data.

Usage

```
MEDBS_check_duplicates(data, type = "l", SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|----------------------|--|
| <code>data</code> | data frame containing landing data |
| <code>type</code> | string vector indicating the type of table to be checked. "l" for landing; "d" for discards. |
| <code>SP</code> | species reference code in the three alpha code format |
| <code>MS</code> | member state code |
| <code>GSA</code> | GSA code |
| <code>verbose</code> | Boolean value to obtain further explanation messages from the function |

Value

The function returns a data frame containing the duplicated rows to be likely deleted from the data.

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_check_duplicates(data=Discard_tab_example, type="d", MS="ITA", GSA="GSA 9", SP="DPS", verbose=TRUE)
MEDBS_check_duplicates(data=Landing_tab_example, type="l", MS="ITA", GSA="GSA 9", SP="DPS", verbose=TRUE)
```

| | |
|--------------------|--|
| MEDBS_comp_disc_YQ | <i>Comparison between discards in weight by quarter and -1</i> |
|--------------------|--|

Description

The function allows to compare the discards weights aggregated by quarter and by year for a selected species at the gear level.

Usage

```
MEDBS_comp_disc_YQ(data, MS, GSA, SP)
```

Arguments

| | |
|------|--|
| data | data frame containing discards data |
| MS | member state code as it is reported in the discards data |
| GSA | GSA code |
| SP | species reference code in the three alpha code format |

Value

The function returns a data frame for the comparison of discards aggregated by quarters and by year

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_comp_disc_YQ(data=Discard_tab_example,MS="ITA",GSA="GSA 9",SP="DPS")
```

| | |
|----------------------------|--|
| MEDBS_comp_disc_YQ_fishery | <i>Comparison between discards in weight by quarter, quarter -1 and by fishery</i> |
|----------------------------|--|

Description

The function allow to estimates the discards in weight for a selected species by quarter and fishery

Usage

```
MEDBS_comp_disc_YQ_fishery(data, MS, GSA, SP, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | data frame containing discards data |
| MS | member state code as it is reported in the discards data |
| GSA | GSA code |
| SP | species reference code in the three alpha code format |
| verbose | boolean value to obtain further explanation messages from the function |

Value

The function returns a data frame for the comparison of discards aggregated by quarters and by year and fishery

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_comp_disc_YQ_fishery(data=Discard_tab_example,MS="ITA",GSA="GSA 9",SP="DPS")
```

| | |
|----------------------|--|
| MEDBS_comp_land_Q_VL | <i>Comparison between landings in weight by quarter accounting for vessel length</i> |
|----------------------|--|

Description

The function allows to perform the comparison of landings of a selected species aggregated by quarters accounting for the presence of vessel length

Usage

```
MEDBS_comp_land_Q_VL(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | data frame containing landing data |
| SP | species reference code in the three alpha code format |
| MS | member state code |
| GSA | GSA code |
| verbose | boolean value to obtain further explanation messages from the function |

Value

The function returns a dataframe for the comparison of landings aggregated by quarters accounting for the presence of vessel length information.

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_comp_land_Q_VL(data = Landing_tab_example, MS = "ITA", GSA = "GSA 9", SP = "DPS")
```

```
MEDBS_comp_land_Q_VL_fishery
```

Comparison between landings in weight by quarter and fishery accounting for vessel length

Description

The function allows to perform the comparison of landings of a selected species aggregated by quarters and fishery accounting for the presence of vessel length

Usage

```
MEDBS_comp_land_Q_VL_fishery(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | data frame containing landing data |
| SP | species reference code in the three alpha code format |
| MS | member state code |
| GSA | GSA code |
| verbose | boolean value to obtain further explanation messages from the function |

Value

The function returns a data frame for the comparison of landings aggregated by quarters and fishery accounting for the presence of vessel length information.

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_comp_land_Q_VL_fishery(data = Landing_tab_example, SP = "DPS", MS = "ITA", GSA = "GSA 9")
```

| | |
|--------------------|--|
| MEDBS_comp_land_YQ | <i>Comparison between landings in weight by quarter and -1</i> |
|--------------------|--|

Description

The function allows to perform the comparison of landings of a selected species aggregated by quarters and by year

Usage

```
MEDBS_comp_land_YQ(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | data frame containing landing data |
| SP | species reference code in the three alpha code format |
| MS | member state code |
| GSA | GSA code |
| verbose | boolean value to obtain further explanation messages from the function |

Value

The function returns a data frame for the comparison of landings aggregated by quarters and by year

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_comp_land_YQ(data=Landing_tab_example, SP="DPS", MS="ITA", GSA="GSA 9")
```

| | |
|----------------------------|--|
| MEDBS_comp_land_YQ_fishery | <i>Comparison between landings in weight by quarter; quarter -1 and by fishery</i> |
|----------------------------|--|

Description

The function allows to perform the comparison of landings of a selected species aggregated by quarters and by year and fishery

Usage

```
MEDBS_comp_land_YQ_fishery(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | data frame containing landing data |
| SP | species reference code in the three alpha code format |
| MS | member state code |
| GSA | GSA code |
| verbose | boolean value to obtain further explanation messages from the function |

Value

The function returns a data frame for the comparison of landings aggregated by quarters and by year and fishery

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_comp_land_YQ_fishery(data = Landing_tab_example, SP = "DPS", MS = "ITA", GSA = "GSA 9")
```

MEDBS_discard_coverage

Discard_cov: function to check the coverage in discard table

Description

The function allows to check the coverage of the time series in discard table for a selected species.

Usage

```
MEDBS_discard_coverage(Discard_tab, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|-------------|--|
| Discard_tab | Discard table in MED&BS format |
| SP | species (three alpha code) |
| MS | Country |
| GSA | GSA (Geographical sub-area (GFCM sensu)) |
| verbose | boolean value to obtain further explanation messages from the function |

Value

summary table and plots of discard time series by year and gear

Examples

```
MEDBS_discard_coverage(Discard_tab_example,"DPS","ITA","GSA 9")
```

MEDBS_disc_mean_weight

Mean weight by year, gear and fishery aggregation

Description

The function allows to check consistency of mean discard of a selected species plotting the discards' weight by year, gear and fishery

Usage

```
MEDBS_disc_mean_weight(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | data frame containing discards data |
| SP | species reference code in the three alpha code format |
| MS | member state code as it is reported in the discards data |
| GSA | GSA code |
| verbose | boolean value to obtain further explanation messages from the function |

Value

The function returns a plot of the mean discards weight by year, gear and fishery aggregation

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_disc_mean_weight(data=Discard_tab_example, SP="DPS", MS="ITA", GSA="GSA 9")
```

MEDBS_GP_check

GP_tab (growth params) table check

Description

The function allows to check the growth parameters by sex and year for a selected species

Usage

```
MEDBS_GP_check(data, SP, MS, GSA)
```

Arguments

| | |
|------|---|
| data | growth params table in MED&BS datacall format |
| SP | species (three alpha code) |
| MS | Country |
| GSA | GSA (Geographical sub-area (GFCM sensu)) |

Value

a list of objects containing a summary table and different plots of the growth curves by sex and year.

Examples

```
MEDBS_GP_check(GP_tab_example, "MUT", "ITA", "GSA 18")
```

| | |
|----------|--------------------------------|
| MEDBS_ks | <i>Kolmogorov-Smirnov test</i> |
|----------|--------------------------------|

Description

The function allows to perform the Kolmogorov-Smirnov test on both landings and discards for a selected species providing cumulative length distribution plots by fishery and year. The function performs Kolmogorov-Smirnov tests on couples of years to assess if they belong to the same population.

Usage

```
MEDBS_ks(data, type, SP, MS, GSA, Rt = 1, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | data frame of landings or discards data |
| type | type of data frame. "l" for landing and "d" for discard |
| SP | species reference code in the three alpha code format |
| MS | member state code |
| GSA | GSA code |
| Rt | ratio to be applied to subsample data to reduce the risk of rejection of H0 Hypothesis |
| verbose | boolean value to obtain further explanation messages from the function |

Value

the function returns a list of data frames and cumulative distribution plots

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_ks(data=Landing_tab_example, type="1", SP="DPS",MS="ITA",GSA="GSA 9",Rt=1)
```

```
MEDBS_Landing_coverage
```

Landing_cov: function to check the coverage in Landing table

Description

the function allows to check the coverage in landing table providing a summary table and a plot of landing

Usage

```
MEDBS_Landing_coverage(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | Landing table in MED&BS format |
| SP | species (three alpha code) |
| MS | Country |
| GSA | GSA (Geographical sub-area (GFCM sensu)) |
| verbose | boolean value to obtain further explanation messages from the function |

Value

a list containing a summary table and coverage plot is provided

Examples

```
MEDBS_Landing_coverage(Landing_tab_example,"DPS","ITA","GSA 9")
```

```
MEDBS_land_mean_weight
```

Mean weight by year,gear and fishery aggregation

Description

The function allows to check consistency of mean landing of a selected species plotting the landings' weight by year, gear and fishery

Usage

```
MEDBS_land_mean_weight(data, SP, MS, GSA, verbose = TRUE)
```


Arguments

| | |
|---------|--|
| data | data frame containing landing data |
| SP | species reference code in the three alpha code format |
| MS | member state code |
| GSA | GSA code |
| verbose | boolean value to obtain further explanation messages from the function |

Value

The function returns a plot of the mean landing weight by year, gear and fishery aggregation, and return the data frame as well.

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_land_mean_weight(data=Landing_tab_example,SP="DPS",MS="ITA",GSA="GSA 9")
```

MEDBS_lengthclass_0 *Length classes number 0 in landings and discards*

Description

The function checks landings and discards for the presence of length class filled in having weight > 0.

Usage

```
MEDBS_lengthclass_0(data, type = "l", SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | data frame containing landing data |
| type | string vector indicating the type of table to be checked. "l" for landing; "d" for discards. |
| SP | species reference code in the three alpha code format |
| MS | member state code |
| GSA | GSA code |
| verbose | Boolean value to obtain further explanation messages from the function |

Value

The function returns a data frame with the rows with 0 values length class having weight > 0.

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_lengthclass_0(data=Landing_tab_example, type="l", SP="DPS", MS="ITA", GSA="GSA 9", verbose=TRUE)
MEDBS_lengthclass_0(data=Discard_tab_example, type="d", SP="DPS", MS="ITA", GSA="GSA 9", verbose=TRUE)
```

| | |
|------------------|------------------------------------|
| MEDBS_length_ind | <i>Main length size indicators</i> |
|------------------|------------------------------------|

Description

The function allows to check the consistency of length data for a selected species on both landings and discards: Main length size indicators

Usage

```
MEDBS_length_ind(
  data,
  type,
  SP,
  MS,
  GSA,
  splines = c(0.2, 0.4, 0.6, 0.8),
  Xtresholds = c(0.25, 0.5, 0.75),
  verbose = TRUE
)
```

Arguments

| | |
|------------|--|
| data | data frame of landings or discards data |
| type | type of data frame. "l" for landing and "d" for discard |
| SP | species reference code in the three alpha code format |
| MS | member state code |
| GSA | GSA code |
| splines | spline values assignment to fit cumulative distributions |
| Xtresholds | threshold value |
| verbose | boolean value to obtain further explanation messages from the function |

Value

The function returns a plot of the Main length size indicators time series by fishery

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_length_ind(Landing_tab_example,type="l",SP="DPS",MS=c("ITA"),
GSA=c("GSA 9"), splines=c(0.2,0.4,0.6,0.8),
Xtresholds = c(0.25,0.5,0.75))
MEDBS_length_ind(Discard_tab_example,type="d",SP="DPS",MS=c("ITA"),
GSA=c("GSA 9"), splines=c(0.2,0.4,0.6,0.8),
Xtresholds = c(0.25,0.5,0.75))
```

MEDBS_LW_check

LW params in GP_tab in table check

Description

The function allows to check the length-weight parameters included in the GP table for a selected species

Usage

```
MEDBS_LW_check(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | growth params table in MED&BS datacall format |
| SP | species (three alpha code) |
| MS | Country |
| GSA | GSA (Geographical sub-area (GFCM sensu)) |
| verbose | boolean value to obtain further explanation messages from the function |

Value

a summary table and plots of the LW params

Examples

```
MEDBS_LW_check(GP_tab_example,"MUT","ITA","GSA 18")
```

| | |
|----------------|---|
| MEDBS_MA_check | <i>MA_tab (maturity at age) table check</i> |
|----------------|---|

Description

The function allows to check the maturity at age (MA) table providing a summary table of the data coverage and plots for the selected species of the proportion of matures for age class by sex and year.

Usage

```
MEDBS_MA_check(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | maturity at AGE table in MED&BS datacall format |
| SP | species (three alpha code) |
| MS | Country |
| GSA | GSA (Geographical sub-area (GFCM sensu)) |
| verbose | boolean value to obtain further explanation messages from the function |

Value

a summary table and plots

Examples

```
MEDBS_MA_check(MA_tab_example, "DPS", "ITA", "GSA 99")
```

| | |
|----------------|--|
| MEDBS_ML_check | <i>ML_tab (maturity at length) table check</i> |
|----------------|--|

Description

The function allows to check the maturity at length (ML) table providing a summary table of the data coverage and plots for the selected species of the proportion of matures for age class by sex and year.

Usage

```
MEDBS_ML_check(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | maturity at length table in MED&BS datacall format |
| SP | species (three alpha code) |
| MS | Country |
| GSA | GSA (Geographical sub-area (GFCM sensu)) |
| verbose | boolean value to obtain further explanation messages from the function |

Value

a summary table and plots

Examples

```
MEDBS_ML_check(ML_tab_example, "DPS", "ITA", "GSA 99")
```

MEDBS_plot_discard_ts *Plot of total discards*

Description

The function estimates the total discard time series by both year and quarters for a selected combination of member state, GSA and species.

Usage

```
MEDBS_plot_discard_ts(data, SP, MS, GSA, by = "year")
```

Arguments

| | |
|------|--|
| data | data frame containing discard data |
| SP | species reference code in the three alpha code format |
| MS | member state code as it is reported in the discard data |
| GSA | GSA code |
| by | string defining the temporal aggregation level of discard data to be plotted. Allowed values are: "year" and "quarter" |

Value

The function returns a plot of the total discard time series by year or by quarters. The plot by year also reports the landing by gear.

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_plot_discard_ts(data=Discard_tab_example, SP="DPS", MS="ITA", GSA="GSA 9", by="quarter")
MEDBS_plot_discard_ts(data=Discard_tab_example, SP="DPS", MS="ITA", GSA="GSA 9", by="year")
```

MEDBS_plot_disc_vol *Plot of total discards by gear and fishery*

Description

The function allows to visual check the time series of discard volumes by fishery of a selected species

Usage

```
MEDBS_plot_disc_vol(data, SP, MS, GSA)
```

Arguments

| | |
|------|---|
| data | data frame containing discard data |
| SP | species reference code in the three alpha code format |
| MS | member state code as it is reported in the discard data |
| GSA | GSA code |

Value

The function returns a plot of the total discards time series by fishery and gear

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_plot_disc_vol(data=Discard_tab_example,SP="DPS",MS="ITA",GSA="GSA 9")
```

MEDBS_plot_landing_ts *Plot of total landing*

Description

The function estimates the total landings time series by both year and quarters for a selected combination of member state, GSA and species.

Usage

```
MEDBS_plot_landing_ts(data, SP, MS, GSA, by = "year", verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | data frame containing landing data |
| SP | species reference code in the three alpha code format |
| MS | member state code |
| GSA | GSA code |
| by | string defining the temporal aggregation level of landing data to be plotted. Allowed values are: "year" and "quarter" |
| verbose | boolean value to obtain further explanation messages from the function |

Value

The function returns a plot of the total landing time series by year or by quarters. The plot by year also reports the landing by gear.

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_plot_landing_ts(data=Landing_tab_example, SP="DPS", MS="ITA", GSA="GSA 9", by="quarter")
MEDBS_plot_landing_ts(data=Landing_tab_example, SP="DPS", MS="ITA", GSA="GSA 9", by="year")
```

MEDBS_plot_land_vol *Plot of total landing by gear and fishery*

Description

The function allows to visual check the time series of landing volumes by fishery of a selected species

Usage

```
MEDBS_plot_land_vol(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | data frame containing landing data |
| SP | species reference code in the three alpha code format |
| MS | member state code |
| GSA | GSA code |
| verbose | boolean value to obtain further explanation messages from the function |

Value

The function returns a plot of the total landing time series by fishery and gear

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_plot_land_vol(data=Landing_tab_example, SP="DPS", MS="ITA", GSA="GSA 9")
```

| | |
|----------------|--|
| MEDBS_SA_check | <i>SA_tab (sex ratio at age) table check</i> |
|----------------|--|

Description

The function allows to check the sex ratio at age (SA) table providing a summary table of the data coverage and plots for the selected species of the proportion of sex ratio for age class by year.

Usage

```
MEDBS_SA_check(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | sex ratio at age table in MED&BS datacall format |
| SP | species (three alpha code) |
| MS | Country |
| GSA | GSA (Geographical sub-area (GFCM sensu)) |
| verbose | boolean value to obtain further explanation messages from the function |

Value

a summary table and plots

Examples

```
MEDBS_SA_check(SA_tab_example, "DPS", "ITA", "GSA 99")
```

| | |
|----------------|---|
| MEDBS_SL_check | <i>SL_tab (sex ratio at length) table check</i> |
|----------------|---|

Description

The function allows to check the sex ratio at length (SL) table providing a summary table of the data coverage and plots for the selected species of the proportion of sex ratio for length class by year.

Usage

```
MEDBS_SL_check(data, SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | sex ratio at length table in MED&BS datacall format |
| SP | species (three alpha code) |
| MS | Country |
| GSA | GSA (Geographical sub-area (GFCM sensu)) |
| verbose | boolean value to obtain further explanation messages from the function |

Value

a summary table and plots

Examples

```
MEDBS_SL_check(SL_tab_example,"DPS","ITA","GSA 99")
```

| | |
|----------------|--|
| MEDBS_weight_0 | <i>weight 0 in landings and discards</i> |
|----------------|--|

Description

The function checks landings or discards in weight equal to 0 having length classes filled in

Usage

```
MEDBS_weight_0(data, type = "l", SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | data.table object containing landing or discard data |
| type | type of table: "l" for landings; "d" for discards |
| SP | species reference code in the three alpha code format |
| MS | member state code as it is reported in both landing and discard data |
| GSA | GSA code |
| verbose | boolean value to obtain further explanation messages from the function |

Value

The function returns the number of rows with 0 values in weights having length classes filled in.

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_weight_0(data=Landing_tab_example,type="l",SP="DPS",MS="ITA",GSA="GSA 9", verbose=TRUE)
MEDBS_weight_0(data=Discard_tab_example,type="d",SP="DPS",MS="ITA",GSA="GSA 9", verbose=TRUE)
```

| | |
|---------------------|------------------------------|
| MEDBS_weight_minus1 | <i>weight -1 in landings</i> |
|---------------------|------------------------------|

Description

The function checks landings in weight equal to -1 having length class filled in

Usage

```
MEDBS_weight_minus1(data, type = "l", SP, MS, GSA, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | data.table object containing landing or discards data |
| type | type of table: "l" for landings; "d" for discards |
| SP | species reference code in the three alpha code format |
| MS | member state code |
| GSA | GSA code |
| verbose | Boolean value to obtain further explanation messages from the function |

Value

The function returns the number of rows with -1 values in landing weights having length class filled in.

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_weight_minus1(data=Landing_tab_example,type="l",SP="DPS",MS="ITA",GSA="GSA 9",verbose=TRUE)
MEDBS_weight_minus1(data=Discard_tab_example,type="d",SP="DPS",MS="ITA",GSA="GSA 9",verbose=TRUE)
```

MEDBS_yr_missing_length

Years with missing length distributions

Description

The function checks the presence of years with missing length distributions in both landings and discards for a selected species

Usage

```
MEDBS_yr_missing_length(data, type, SP, MS, GSA)
```

Arguments

| | |
|------|---|
| data | data frame of landings or discards data |
| type | type of data frame. "l" for landing and "d" for discard |
| SP | species reference code in the three alpha code format |
| MS | member state code |
| GSA | GSA code |

Value

the function returns a data frame containing the reference combination of year, gear and fishery missing length distributions

Author(s)

Alessandro Mannini alessandro.mannini@ec.europa.eu

Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_yr_missing_length(data=Discard_tab_example,type="d",SP="DPS",MS=c("ITA"),GSA=c("GSA 9"))
MEDBS_yr_missing_length(data=Landing_tab_example,type="l",SP="DPS",MS=c("ITA"),GSA=c("GSA 9"))
```

minmaxLtaskVII2

minmaxLtaskVII2 in GFCM datacall format

Description

minmaxLtaskVII2 in GFCM datacall format

Usage

```
minmaxLtaskVII2
```

Format

An object of class `data.frame` with 26 rows and 3 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

`minmaxLtaskVII31`

minmaxLtaskVII31 in GFCM datacall format

Description

`minmaxLtaskVII31` in GFCM datacall format

Usage

`minmaxLtaskVII31`

Format

An object of class `data.frame` with 36 rows and 4 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

`ML_tab_example`

ML table in MED&BS datacall format

Description

ML table in MED&BS datacall format

Usage

`ML_tab_example`

Format

An object of class `data.frame` with 437 rows and 12 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|--------------|---|
| RCG_check_AL | <i>Check consistency of age-length relationship</i> |
|--------------|---|

Description

Check consistency of age-length relationship

Usage

```
RCG_check_AL(data, MS, GSA, SP, min_age = 0, max_age = 30, verbose = TRUE)
```

Arguments

| | |
|---------|---|
| data | table of detailed data in RCG format |
| MS | member state code |
| GSA | GSA code |
| SP | reference species for the analysis |
| min_age | minimum age expected |
| max_age | maximum age expected |
| verbose | boolean. If it is TRUE messages are reported with the outputs |

Value

summary table length-age and error (if any)

Examples

```
RCG_check_AL(data_ex, MS="ITA", GSA="GSA99", SP="Mullus barbatus", min_age=0, max_age=30)
```

| | |
|--------------|---------------------------------------|
| RCG_check_CL | <i>Quality checks on CL RCG table</i> |
|--------------|---------------------------------------|

Description

The output is a list of 6 data frames:

1. Sum of Landings by year, quarter and month;
2. Sum of Landing value by year, quarter and month;
3. Sum of landings by LandCtry, VslFlgCtry, Area, Rect, SubRect, Harbour;
4. Sum of landing value by LandCtry, VslFlgCtry, Area, Rect, SubRect, Harbour;
5. Sum of landings by Year, Species, foCatEu5, foCatEu6;
6. Sum of landing value by Year, Species, foCatEu5, foCatEu6.

Usage

```
RCG_check_CL(data, MS, GSA, SP, verbose = TRUE)
```

Arguments

| | |
|---------|---|
| data | Landing table in RCG CL format |
| MS | member state code |
| GSA | GSA code |
| SP | reference species for the analysis |
| verbose | boolean. If it is TRUE messages are reported with the outputs |

Value

Checks_CL list of tables for temporal, spatial, species and metier coverage

Examples

```
RCG_check_CL(data_exampleCL,MS="COUNTRY1",GSA="GSA99",SP="Parapenaeus longirostris")
```

| | |
|---------------|----------------------|
| RCG_check_LFD | <i>RCG_check LFD</i> |
|---------------|----------------------|

Description

The function allows to check the consistency of LFDs (length frequency distributions) by year on a given species generating a multi-frame plot. The function also returns the records in which the length classes are greater or lower than the expected ones (min_len and max_len parameters).

Usage

```
RCG_check_LFD(data, MS, GSA, SP, min_len = 1, max_len = 1000, verbose = TRUE)
```

Arguments

| | |
|---------|---|
| data | RCG CS table |
| MS | member state code |
| GSA | GSA code |
| SP | reference species for the analysis |
| min_len | minimum length |
| max_len | maximum length |
| verbose | boolean. If it is TRUE messages are reported with the outputs |

Value

comparison plot of LFDs among the years and check of length range of the data using allowed range

Examples

```
RCG_check_LFD(data_ex,MS="ITA",GSA="GSA99", SP="Mullus barbatus",min_len=1,max_len=35)
```

RCG_check_LFD_comm_cat

Check consistency of LFD by year and commercial category

Description

The function allows to check the consistency of LFDs (length frequency distributions) by year and commercial size category on a given species generating a multi-frame plot. The function also returns a data frame with the length range by year and commercial size category.

Usage

```
RCG_check_LFD_comm_cat(data, MS, GSA, SP, verbose = TRUE)
```

Arguments

| | |
|---------|---|
| data | RCG CS table |
| MS | member state code |
| GSA | GSA code |
| SP | reference species for the analysis |
| verbose | boolean. If it is TRUE messages are reported with the outputs |

Value

plot and a summary table with ranges by year and commercial category

Examples

```
RCG_check_LFD_comm_cat(data_ex, MS="ITA", GSA="GSA99", SP="Mullus barbatus")
```

RCG_check_loc

Check trip location

Description

The function allows to check the spatial distribution of data using the initial and final coordinates, where available, and the ports position included in the data.

If Initial and/or Final coordinates are included in the data, maps of them are produced. If not the locations of the harbours are mapped.

Usage

```
RCG_check_loc(data, ports = circabc)
```

Arguments

| | |
|-------|--------------------------------|
| data | detailed data in RCG CS format |
| ports | ports codification file |

Value

map of trip locations

Examples

```
RCG_check_loc(data_ex)
```

| | |
|--------------|--|
| RCG_check_lw | <i>Consistency of length-weight relationship and consistency with allowed ranges</i> |
|--------------|--|

Description

The function allows to check the consistency of length-weight relationship by sex and year on a given species generating a multi-frame plot. The function also returns the records in which the individual weights are greater or lower than the expected ones (Min and Max parameters).

Usage

```
RCG_check_lw(data, MS, GSA, SP, Min = 0, Max = 1000, verbose = TRUE)
```

Arguments

| | |
|---------|---|
| data | table of detailed data in RCG format |
| MS | member state code |
| GSA | GSA code |
| SP | reference species for the analysis |
| Min | min weight expected in the data |
| Max | max weight expected in the data |
| verbose | boolean. If it is TRUE messages are reported with the outputs |

Value

Plot and error message

Examples

```
RCG_check_lw(data_ex,MS="ITA",GSA="GSA99", SP="Mullus barbatus",Min=0,Max=1000)
```

| | |
|---------------|---|
| RCG_check_mat | <i>Check consistency sex and maturity stage</i> |
|---------------|---|

Description

The function allows to perform a visual check of the maturity stage composition by length class, sex and year.

Usage

```
RCG_check_mat(data, MS, GSA, SP, verbose = TRUE)
```

Arguments

| | |
|---------|---|
| data | table of detailed data in RCG format |
| MS | member state code |
| GSA | GSA code |
| SP | reference species for the analysis |
| verbose | boolean. If it is TRUE messages are reported with the outputs |

Value

The function the returns the plot of the maturity stages by length class

Examples

```
RCG_check_mat(data_ex,MS="ITA",GSA="GSA99",SP="Mullus barbatus")
```

| | |
|---------------------|-------------------------------|
| RCG_check_mat_ogive | <i>Maturity ogives by sex</i> |
|---------------------|-------------------------------|

Description

The function allows to check the maturity stages composition estimating the maturity ogives by sex for the selected species, using a selected pool of stages to classify the immature stages in the sample.

Usage

```
RCG_check_mat_ogive(
  data,
  MS,
  GSA,
  SP,
  sex,
  immature_stages = c("0", "1", "2a"),
  verbose = TRUE
)
```

Arguments

| | |
|-----------------|---|
| data | table of detailed data in RCG format |
| MS | member state code |
| GSA | GSA code |
| SP | reference species for the analysis |
| sex | defines the sex of the individuals selected for the analysis ('F' for females, 'M' for males) |
| immature_stages | maturity stages considered immature |
| verbose | boolean. If it is TRUE messages are reported with the outputs |

Value

Plot ogive by sex

Examples

```
RCG_check_mat_ogive(data_ex,MS="ITA",GSA="GSA99",SP="Mullus barbatus",
sex="F",immature_stages=c("0","1","2a"))
```

RCG_summarize_ind_meas

Number of individual by trip for which biological data have been collected (length, sex, maturity, weight and age)

Description

Number of individual by trip for which biological data have been collected (length, sex, maturity, weight and age)

Usage

```
RCG_summarize_ind_meas(data, MS, GSA, SP, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | detailed data in RCG CS format |
| MS | member state code |
| GSA | GSA code |
| SP | species reference code in the three alpha code format |
| verbose | boolean value to obtain further explanation messages from the function |

Value

a list containing a summary of measurements by trip for each biological variable

Examples

```
RCG_summarize_ind_meas(data=data_ex,MS="ITA",GSA="GSA99",SP="Mullus barbatus")
```

| | |
|---------------------|--|
| RCG_summarize_trips | <i>summarizing the number of trips/hauls monitored by year by port, metier, sampling method;</i> |
|---------------------|--|

Description

summarizing the number of trips/hauls monitored by year by port, metier, sampling method;

Usage

```
RCG_summarize_trips(data, MS, GSA, SP, verbose = TRUE)
```

Arguments

| | |
|---------|--|
| data | RCG CS table |
| MS | member state code |
| GSA | GSA code |
| SP | species reference code in the three alpha code format |
| verbose | boolean value to obtain further explanation messages from the function |

Value

Number of trips by area, year, port, metier and sampling method

Examples

```
RCG_summarize_trips(data_ex, MS="ITA", GSA="GSA99", SP="Mullus barbatus")
```

| | |
|----------------|---|
| SA_tab_example | <i>SA table in MED&BS datacall format</i> |
|----------------|---|

Description

SA table in MED&BS datacall format

Usage

```
SA_tab_example
```

Format

An object of class `data.frame` with 74 rows and 9 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|---------|--|
| sex_mat | <i>sex_mat in GFCM datacall format</i> |
|---------|--|

Description

sex_mat in GFCM datacall format

Usage

sex_mat

Format

An object of class `spec_tbl_df` (inherits from `tbl_df`, `tbl`, `data.frame`) with 42 rows and 5 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|----------------|---|
| SL_tab_example | <i>SL table in MED&BS datacall format</i> |
|----------------|---|

Description

SL table in MED&BS datacall format

Usage

SL_tab_example

Format

An object of class `data.frame` with 454 rows and 10 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|----------|--|
| task_ii2 | <i>task_ii2 in GFCM DCRF datacall format</i> |
|----------|--|

Description

task_ii2 in GFCM DCRF datacall format

Usage

task_ii2

Format

An object of class data.frame with 5 rows and 9 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

| | |
|----------|--|
| task_iii | <i>task_iii in GFCM DCRF datacall format</i> |
|----------|--|

Description

task_iii in GFCM DCRF datacall format

Usage

task_iii

Format

An object of class data.frame with 5 rows and 16 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

`task_vii2`*task_vii2 in GFCM DCRF datacall format*

Description`task_vii2` in GFCM DCRF datacall format`task_vii31` in GFCM DCRF datacall format**Usage**`task_vii2``task_vii2`**Format**An object of class `data.frame` with 20 rows and 13 columns.An object of class `data.frame` with 20 rows and 13 columns.**Author(s)**

Isabella Bitetto <bitetto@coispa.it>

Isabella Bitetto <bitetto@coispa.it>

`task_vii31`*task_vii31 in GFCM datacall format*

Description`task_vii31` in GFCM datacall format**Usage**`task_vii31`**Format**An object of class `data.frame` with 5 rows and 8 columns.**Author(s)**

Isabella Bitetto <bitetto@coispa.it>

task_vii32*task_vii32 in GFCM DCRF datacall format*

Description

task_vii32 in GFCM DCRF datacall format

Usage

task_vii32

Format

An object of class `data.frame` with 10 rows and 15 columns.

Author(s)

Isabella Bitetto <bitetto@coispa.it>

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