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:

Catch_tab_example   *Catch table in MED&BS datacall format*

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 *catfau_check in GFCM datacall format*

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 *Check empty fields in FDI G table*

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   *Check empty fields in FDI H table*

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   *Check empty fields in FDI I table*

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	*Check empty fields in FDI J table*

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	*Check empty fields in GFCM Task II.2 table*

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_taskII2(task_ii2)
```

---

check_EF_taskIII   *Check empty fields in GFCM Task III table*

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   *Check empty fields in GFCM Task VII.2 table*

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   *Check empty fields in GFCM Task VII.3.1 table*

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   *Check empty fields in GFCM Task VII.3.2 table*

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   *Check duplicated records in FDI H 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_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   *Check duplicated records in FDI I 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_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   *Check duplicated records in FDI J 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_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   *Check duplicated records in GFCM Task II.2 table*

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_taskII2(task_ii2)
```

---

check_RD_taskIII   *Check duplicated records in GFCM Task III table*

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   *Check duplicated records in GFCM Task VII.2 table*

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   *Check duplicated records in GFCM Task VII.3.1 table*

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   *Check duplicated records in GFCM Task VII.3.2 table*

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   *combination_taskII2 in GFCM datacall format*

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   *RCG CS example*

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 *RCG CL example*

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 *Discard table in MED&BS datacall format*

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   *fdi_g_effort in FDI DGMAREMED&BS datacall format*

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   *fdi_h_spatial_land in FDI DGMAREMED&BS datacall format*

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 | *fdi_i_spatial_fe in FDI DGMAREMED&BS datacall format* |

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 | *fdi_j_capacity in FDI DGMAREMED&BS datacall format* |

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_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

```
GP_check(GP_tab, SP, MS, GSA)
```

Arguments

GP_tab	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 contaning a summary table and different plots of the growth curves by sex and year.

Examples

```
GP_check(GP_tab_example,"MUT","ITA","18")
```

GP_tab_example   *GP table in MED&BS datacall format*

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   *Landing table in MED&BS datacall format*

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   *MA table in MED&BS datacall format*

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   *Catch_cov: function to check the coverage in Catch table*

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(catch, SP, MS, GSA, verbose = TRUE)
```

Arguments

catch	Catch table in MEDBS 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

Examples

```
MEDBS_Catch_coverage(Catch_tab_example,"DPS","ITA","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", MS, GSA, SP, 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.
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 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="9",SP="DPS",verbose=TRUE)
MEDBS_check_duplicates(data=Landing_tab_example,type="l",MS="ITA",GSA="9",SP="DPS",verbose=TRUE)
```

MEDBS_comp_disc_YQ   *Comparison between discards in weight by quarter and -1*

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(disc, MS, GSA, SP)
```

Arguments

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

MEDBS_comp_disc_YQ_fishery

Comparison between discards in weight by quarter, quarter -1 and by fishery

---

Description

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

Usage

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

Arguments

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

MEDBS_comp_land_Q_VL   *Comparison between landings in weight by quarter accounting for vessel length*

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(land, MS, GSA, SP, verbose = TRUE)
```

Arguments

`land`	data frame containing landing data
`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 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(land = Landing_tab_example, MS = "ITA", 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(land, MS, GSA, SP, verbose = TRUE)
```

Arguments

`land`	data frame containing landing data
`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 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(land = Landing_tab_example, MS = "ITA", GSA = 9, SP = "DPS")
```

MEDBS_comp_land_YQ   *Comparison between landings in weight by quarter and -1*

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(land, MS, GSA, SP, verbose = TRUE)
```

Arguments

land	data frame containing landing data
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 returns a data frame for the comparison of landings aggregated by quarters and by year

Author(s)

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Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

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

MEDBS_comp_land_YQ_fishery

Comparison between landings in weight by quarter, quarter -1 and by fishery

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(land, MS, GSA, SP, verbose = TRUE)
```

Arguments

land	data frame containing landing data
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 returns a data frame for the comparison of landings aggregated by quarters and by year and fishery

Author(s)

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Isabella Bitetto bitetto@coispa.it

Examples

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

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","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(disc, MS, GSA, SP, verbose = TRUE)
```

Arguments

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

MEDBS_ks   *Kolmogorov-Smirnov test*

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, MS, GSA, SP, 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
MS	member state code
GSA	GSA code
SP	species reference code in the three alpha code format
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 cumulatine distribution plots

Author(s)

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Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_ks(data=Landing_tab_example, type="l",MS="ITA",GSA="9", SP="DPS",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(Landing_tab, SP, MS, GSA, verbose = TRUE)
```

Arguments

Landing_tab	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","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(land, MS, GSA, SP, verbose = TRUE)
```

Arguments

land	data frame containing landing data
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 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(land=Landing_tab_example,MS="ITA",GSA=9,SP="DPS")
```

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 weigth > 0.

Usage

```
MEDBS_lengthclass_0(data, type = "l", MS, GSA, SP, 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.
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 returns a data frame with the rows with 0 values length class having weigth > 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",MS="ITA",GSA=9,SP="DPS",verbose=TRUE)
MEDBS_lengthclass_0(data=Discard_tab_example,type="d",MS="ITA",GSA=9,SP="DPS",verbose=TRUE)
```

MEDBS_length_ind   *Main length size indicators*

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,
  MS,
  GSA,
  SP,
  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
MS	member state code
GSA	GSA code
SP	species reference code in the three alpha code format
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)

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Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_length_ind(Landing_tab_example,type="l",MS=c("ITA"),
GSA=c("9"),SP="DPS", 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",MS=c("ITA"),
GSA=c("9"),SP="DPS", 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(GP_tab, SP, MS, GSA, verbose = TRUE)
```

Arguments

GP_tab	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","18")
```

MEDBS_MA_check   *MA_tab (maturity at age) table check*

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(MA_tab, SP, MS, GSA, verbose = TRUE)
```

Arguments

MA_tab	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","9")
```

MEDBS_ML_check   *ML_tab (maturity at length) table check*

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(ML_tab, SP, MS, GSA, verbose = TRUE)
```

Arguments

ML_tab	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", "9")
```

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(disc, MS, GSA, SP, by = "year")
```

Arguments

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

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Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

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

Arguments

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

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,MS="ITA",GSA=9,SP="DPS")
```

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

Arguments

`land`	data frame containing landing data
`MS`	member state code
`GSA`	GSA code
`SP`	species reference code in the three alpha code format
`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)

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Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

```
MEDBS_plot_landing_ts(land=Landing_tab_example,MS="ITA",GSA=9,SP="DPS",by="quarter")
MEDBS_plot_landing_ts(land=Landing_tab_example,MS="ITA",GSA=9,SP="DPS",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, MS, GSA, SP, verbose = TRUE)
```

Arguments

data	data frame containing landing data
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 returns a plot of the total landing time series by fishery and gear

Author(s)

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Isabella Bitetto bitetto@coispa.it

Examples

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

MEDBS_SA_check   *SA_tab (sex ratio at age) table check*

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(SA_tab, SP, MS, GSA, verbose = TRUE)
```

Arguments

SA_tab	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", "9")
```

MEDBS_SL_check   *SL_tab (sex ratio at length) table check*

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(SL_tab, SP, MS, GSA, verbose = TRUE)
```

Arguments

SL_tab	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","9")
```

MEDBS_weight_0 *weight 0 in landings and discards*

Description

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

Usage

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

Arguments

data	data.table object containing landing or discard data
type	type of table: "l" for landings; "d" for discards
MS	member state code as it is reported in both landing and discard 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 the number of rows with 0 values in weights having length classes filled in.

Author(s)

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Walter Zupa zupa@coispa.it

Isabella Bitetto bitetto@coispa.it

Examples

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

MEDBS_weight_minus1   *weight -1 in landings*

Description

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

Usage

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

Arguments

data	data.table object containing landing or discards data
type	type of table: "l" for landings; "d" for discards
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 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",MS="ITA",GSA=9,SP="DPS",verbose=TRUE)
MEDBS_weight_minus1(data=Discard_tab_example,type="d",MS="ITA",GSA=9,SP="DPS",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, MS, GSA, SP)
```

Arguments

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

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

---

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   *Check consistency of age-length relationship*

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   *Quality checks on CL RCG table*

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   *RCG_check LFD*

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 cetegory 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   *Consistency of length-weight relationship and consistency with al-*
                                lowed ranges

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 *Check consistency sex and maturity stage*

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 *Maturity ogives by sex*

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

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   *SA table in MED&BS datacall format*

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   *sex_mat in GFCM datacall format*

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   *SL table in MED&BS datacall format*

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   *task_ii2 in GFCM DCRF datacall format*

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   *task_iii in GFCM DCRF datacall format*

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>

Index