

Package ‘icesDatras’

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Description R interface to access the web services of the ICES (International Council for the Exploration of the Sea) DATRAS trawl survey database <<https://datras.ices.dk/WebServices/Webservices.aspx>>.

License GPL (>= 2)

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<https://github.com/ices-tools-prod/icesDatras>

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icesDatras-package *DATRAS Trawl Survey Database Web Services*

Description

R interface to access the web services of the ICES DATRAS trawl survey database.

Details

Exchange data:

getHHdata	haul data
getHLdata	length-based data
getCAdata	age-based data
getDATRAS	exchange data

Catch weights:

getCatchWgt	catch weights
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Survey indices:

getIndices	survey indices
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Overview of available data:

getSurveyList	surveys
getSurveyYearList	years
getSurveyYearQuarterList	quarters
getDatrasDataOverview	surveys, years, and quarters

Basic queries (thin web service wrappers):

getCAdata, getHHdata, getHLdata, getIndices, getSurveyList, getSurveyYearList, getSurveyYearQuarterList

Derived queries (combining web services with R computations):

getCatchWgt, getDatrasDataOverview, getDATRAS

Author(s)

Colin Millar, Scott Large, and Arni Magnusson.

References

ICES DATRAS database: <http://datras.ices.dk>.

ICES DATRAS web services: <https://datras.ices.dk/WebServices/Webservices.aspx>.

checkSurveyOK

Check that a survey name is in the database

Description

Checks a survey name against a list of all survey names in the DATRAS database. If the name is not matched it puts up a message showing the available survey names.

Usage

```
checkSurveyOK(survey)
```

Arguments

survey the survey acronym, e.g. NS-IBTS.

Value

logical.

See Also

[checkSurveyYearOK](#) and [getSurveyYearQuarterList](#) also perform checks against the DATRAS database.

[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:  
checkSurveyOK(survey = "ROCKALL")  
checkSurveyOK(survey = "NOTALL")  
  
## End(Not run)
```

checkSurveyYearOK	<i>Check that a survey and year combination is in the database</i>
-------------------	--

Description

Checks a year and/or survey name against a list of all survey year combinations in the DATRAS database. If the combination is not matched it puts up a message showing the available options.

Usage

```
checkSurveyYearOK(survey, year, checksurvey = TRUE)
```

Arguments

survey	the survey acronym, e.g. NS-IBTS.
year	the year of the survey, e.g. 2010.
checksurvey	logical, should the survey name also be checked.

Value

logical.

See Also

[checkSurveyOK](#) and [checkSurveyYearQuarterOK](#) also perform checks against the DATRAS database.
[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:  
checkSurveyYearOK(survey = "ROCKALL", 2015)  
checkSurveyYearOK(survey = "ROCKALL", 2000)  
checkSurveyYearOK(survey = "NOTALL", 2000)  
  
## End(Not run)
```

`checkSurveyYearQuarterOK`*Check that a survey, year and quarter combination is in the database*

Description

Checks a quarter and/or year and/or survey name against a list of all survey year quarter combinations in the DATRAS database. If the combination is not matched it puts up a message showing the available options.

Usage

```
checkSurveyYearQuarterOK(  
  survey,  
  year,  
  quarter,  
  checksurvey = TRUE,  
  checkyear = TRUE  
)
```

Arguments

survey	the survey acronym, e.g. NS-IBTS.
year	the year of the survey, e.g. 2010.
quarter	the quarter of the year the survey took place, i.e. 1, 2, 3 or 4.
checksurvey	logical, should the survey name also be checked.
checkyear	logical, should the year also be checked.

Value

logical.

See Also

[checkSurveyOK](#) and [checkSurveyYearOK](#) also perform checks against the DATRAS database.
[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:  
checkSurveyYearQuarterOK(survey = "ROCKALL", 2015, 3)  
checkSurveyYearQuarterOK(survey = "ROCKALL", 2015, 1)  
checkSurveyYearQuarterOK(survey = "ROCKALL", 2000, 1)  
checkSurveyYearQuarterOK(survey = "NOTALL", 2000, 1)  
  
# be careful of unexpected results with checksurvey and checkyear!  
checkSurveyYearQuarterOK(survey = "NOTALL", 2000, 1, checksurvey=FALSE)
```

```
## End(Not run)
```

getCAdata

Get Age-Based Data

Description

Get age-based data such as sex, maturity, and age counts per length of sampled species.

Usage

```
getCAdata(survey, year, quarter)
```

Arguments

survey	the survey acronym, e.g. NS-IBTS.
year	the year of the survey, e.g. 2010.
quarter	the quarter of the year the survey took place, i.e. 1, 2, 3 or 4.

Value

A data frame.

Author(s)

Colin Millar.

See Also

[getDATRAS](#) supports querying many years and quarters in one function call.

[getHHdata](#) and [getHLdata](#) get haul data and length-based data.

[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:  
cadata <- getCAdata(survey = "ROCKALL", year = 2002, quarter = 3)  
str(cadata)  
  
## End(Not run)
```

`getCatchWgt`*Get Catch Weights*

Description

Calculate the total reported catch weight by species and haul.

Usage

```
getCatchWgt(survey, years, quarters, aphia)
```

Arguments

<code>survey</code>	the survey acronym e.g. NS-IBTS.
<code>years</code>	a vector of years of the survey, e.g. <code>c(2010, 2012)</code> or <code>2005:2010</code> .
<code>quarters</code>	a vector of quarters of the year the survey took place, e.g. <code>c(1, 4)</code> or <code>1:4</code> .
<code>aphia</code>	a vector of Aphia species codes defined in the WoRMS database, e.g. <code>c(126436, 1264374)</code> .

Value

A data frame.

Note

The `icesVocab` package provides `findAphia`, a function to look up Aphia species codes.

See Also

[getSurveyYearList](#), [getSurveyYearQuarterList](#), and [getDatrasDataOverview](#) also list available data.

[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:
getCatchWgt(survey = "ROCKALL", years = 2002, quarters = 3, aphia = 126437)

# look up specific species
aphia <- icesVocab::findAphia(c("cod", "haddock"))
cwt <- getCatchWgt(survey = "ROCKALL", years = 2002, quarters = 3, aphia = aphia)

## End(Not run)
```

getCPUEAge	<i>Get CPUE per Age per Haul per Hour for a given Survey, year and Quarter</i>
------------	--

Description

Get CPUE per Age per Haul per Hour for a given Survey, year and Quarter

Usage

```
getCPUEAge(survey, year, quarter)
```

Arguments

survey	the survey acronym, e.g. NS-IBTS.
year	the year of the survey, e.g. 2010.
quarter	the quarter of interest, e.g. 1

Value

A data frame.

Author(s)

Adriana Villamor.

See Also

[getHHdata](#) and [getCadata](#) get haul data and age-based data., and [getIndices](#), and [getCPUELength](#).
[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:  
getCPUEperAge(survey = "NS-IBTS", year = 2018, quarter = 1)  
  
## End(Not run)
```

getCPUELength	<i>Get CPUE per Length per Haul per Hour for a given Survey, year and Quarter</i>
---------------	---

Description

Get CPUE per Length per Haul per Hour for a given Survey, year and Quarter

Usage

```
getCPUELength(survey, year, quarter)
```

Arguments

survey	the survey acronym, e.g. NS-IBTS.
year	the year of the survey, e.g. 2010.
quarter	the quarter of interest, e.g. 1

Value

A data frame.

Author(s)

Adriana Villamor.

See Also

[getHHdata](#) and [getCAdata](#) get haul data and age-based data., and [getIndices](#), and [getCPUEAge](#).
[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:  
getCPUELength(survey = "NS-IBTS", year = 2018, quarter = 1)  
  
## End(Not run)
```

`getDATRAS`*Get Any DATRAS Data*

Description

This function combines the functionality of `getHHdata`, `getHLdata`, and `getCAdata`. It supports querying many years and quarters in one function call.

Usage

```
getDATRAS(record = "HH", survey, years, quarters)
```

Arguments

<code>record</code>	the data type required: "HH" haul data, "HL" length-based data, "CA" age-based data.
<code>survey</code>	the survey acronym e.g. NS-IBTS.
<code>years</code>	a vector of years of the survey, e.g. <code>c(2010, 2012)</code> or <code>2005:2010</code> .
<code>quarters</code>	a vector of quarters of the year the survey took place, i.e. <code>c(1, 4)</code> or <code>1:4</code> .

Value

A data frame.

Author(s)

Scott Large and Colin Millar.

See Also

[getHHdata](#), [getHLdata](#), and [getCAdata](#) get haul data, length-based data, and age-based data.
[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:  
hhdata <- getDATRAS(record = "HH", survey = "ROCKALL", years = 2002, quarters = 3)  
hlldata <- getDATRAS(record = "HL", survey = "ROCKALL", years = 2002, quarters = 3)  
cadata <- getDATRAS(record = "CA", survey = "ROCKALL", years = 2002, quarters = 3)  
  
## End(Not run)
```

getDatrasDataOverview *Summarize Data Availability*

Description

Evaluate a presence-absence table for each survey with '1' where there is data and '0' (printed as '.') otherwise.

Usage

```
getDatrasDataOverview(surveys = NULL, long = TRUE)
```

Arguments

surveys a vector of survey names, or NULL to process all surveys.
long whether tables should have year as row names (default) or column names.

Value

A list of tables.

See Also

[getSurveyList](#), [getSurveyYearList](#), and [getSurveyYearQuarterList](#) also list available data.
[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:  
getDatrasDataOverview(surveys = "ROCKALL", long = FALSE)  
  
## End(Not run)
```

getFlexFile *Get Flex File*

Description

Get all information in HH plus estimates of Door Spread, Wing Spread and Swept Area per square km. Only available for NS-IBTS survey.

Usage

```
getFlexFile(survey, year, quarter)
```

Arguments

survey	the survey acronym, e.g. NS-IBTS.
year	the year of the survey, e.g. 2010.
quarter	the quarter of the year the survey took place, i.e. 1, 2, 3 or 4.

Value

A data frame.

Author(s)

Adriana Villamor.

See Also

[getDATRAS](#) supports querying many years and quarters in one function call.

[getHHdata](#) get haul data

[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:
flex <- getFlexFile(survey = "NS-IBTS", year = 2020, quarter = 1)
str(flex)

# error checking examples:
flex <- getFlexFile(survey = "NS-IBTS", year = 2016, quarter = 1)
flex <- getFlexFile(survey = "NS-IBTS", year = 2030, quarter = 1)
flex <- getFlexFile(survey = "NS-IBTS", year = 2016, quarter = 6)

## End(Not run)
```

getHHdata

Get Haul Data

Description

Get haul data such as position, depth, sampling method, etc.

Usage

```
getHHdata(survey, year, quarter)
```

Arguments

survey	the survey acronym, e.g. NS-IBTS.
year	the year of the survey, e.g. 2010.
quarter	the quarter of the year the survey took place, i.e. 1, 2, 3 or 4.

Value

A data frame.

Author(s)

Colin Millar.

See Also

[getDATRAS](#) supports querying many years and quarters in one function call.

[getHLdata](#) and [getCAdata](#) get length-based data and age-based data.

[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:
hhdata <- getHHdata(survey = "ROCKALL", year = 2002, quarter = 3)
str(hhdata)

# error checking examples:
hhdata <- getHHdata(survey = "NS-IBTS", year = 2016, quarter = 1)
hhdata <- getHHdata(survey = "NS-IBTS", year = 2030, quarter = 1)
hhdata <- getHHdata(survey = "NS-IBTS", year = 2016, quarter = 6)

## End(Not run)
```

getHLdata

Get Length-Based Data

Description

Get length-based information such as measured length, individual counts, and sub-factors of sampled species.

Usage

```
getHLdata(survey, year, quarter)
```

Arguments

survey	the survey acronym, e.g. NS-IBTS.
year	the year of the survey, e.g. 2010.
quarter	the quarter of the year the survey took place, i.e. 1, 2, 3 or 4.

Value

A data frame.

See Also

[getDATRAS](#) supports querying many years and quarters in one function call.

[getHHdata](#) and [getCAdata](#) get haul data and age-based data.

[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:
hldata <- getHLdata(survey = "ROCKALL", year = 2002, quarter = 3)
str(hldata)

## End(Not run)
```

getIndices

Get Survey Indices

Description

Get age based indices of abundance by species, survey and year.

Usage

```
getIndices(survey, year, quarter, species)
```

Arguments

survey	the survey acronym, e.g. NS-IBTS.
year	the year of the survey, e.g. 2010.
quarter	the quarter of the year the survey took place, i.e. 1, 2, 3 or 4.
species	the aphia species code for the species of interest.

Value

A data frame.

Note

The **icesAdvice** package provides `findAphia`, a function to look up Aphia species codes.

See Also

[getDATRAS](#) supports querying many years and quarters in one function call.

[getHHdata](#) and [getCAdata](#) get haul data and age-based data.

[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:
haddock_aphia <- icesVocab::findAphia("haddock")
index <- getIndices(survey = "NS-IBTS", year = 2002, quarter = 3, species = haddock_aphia)
str(index)

## End(Not run)
```

getLTassessment	<i>Get Litter assessment output</i>
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Description

Get Litter assessment output by survey, year and quarter. The raw data are also included in this file.

Usage

```
getLTassessment(survey, year, quarter)
```

Arguments

survey	the survey acronym, e.g. NS-IBTS.
year	the year of the survey, e.g. 2010.
quarter	the quarter of the year the survey took place, i.e. 1, 2, 3 or 4.

Value

A data frame.

Note

The **icesAdvice** package provides `findAphia`, a function to look up Aphia species codes.

See Also

[getDATRAS](#) supports querying many years and quarters in one function call.
[getHHdata](#) and [getCAdata](#) get haul data and age-based data.
[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:
index <- getLTassessment(survey = "NS-IBTS", year = 2002, quarter = 3)
str(index)

## End(Not run)
```

getSurveyList *Get a List of All Surveys*

Description

Get a list of all survey acronyms.

Usage

```
getSurveyList()
```

Value

A character vector.

Author(s)

Colin Millar.

See Also

[getSurveyYearList](#), [getSurveyYearQuarterList](#), and [getDatrasDataOverview](#) also list available data.

[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:  
getSurveyList()  
  
## End(Not run)
```

getSurveyYearList *Get a List of Survey Years*

Description

Get a list of all data years for a given survey.

Usage

```
getSurveyYearList(survey)
```

Arguments

survey the survey acronym, e.g. NS-IBTS.

Value

A numeric vector.

Author(s)

Colin Millar.

See Also

[getSurveyList](#), [getSurveyYearQuarterList](#), and [getDatrasDataOverview](#) also list available data.

[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:  
getSurveyYearList(survey = "ROCKALL")  
  
## End(Not run)
```

`getSurveyYearQuarterList`
Get a List of Quarters

Description

Get a list of quarters available for a given survey and year.

Usage

```
getSurveyYearQuarterList(survey, year)
```

Arguments

survey the survey acronym, e.g. NS-IBTS.
year the year of the survey, e.g. 2010.

Value

A numeric vector.

Author(s)

Colin Millar.

See Also

[getSurveyYearList](#), [getSurveyYearQuarterList](#), and [getDatrasDataOverview](#) also list available data.

[icesDatras-package](#) gives an overview of the package.

Examples

```
## Not run:  
getSurveyYearQuarterList(survey = "ROCKALL", year = 2002)  
  
## End(Not run)
```

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