

Package: esaRmisc (via r-universe)

September 5, 2024

Type Package

Title ESA Miscellaneous Convenience Functions

Version 0.1.6

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Description Miscellaneous convenience functions used at ESA.

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Encoding UTF-8

LazyData true

RoxygenNote 7.2.3

Depends R (>= 2.10)

Suggests tinytest

Repository <https://environmentalscienceassociates.r-universe.dev>

RemoteUrl <https://github.com/EnvironmentalScienceAssociates/esaRmisc>

RemoteRef HEAD

RemoteSha 8564daa639325e145f65acae3939835f608142b8

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exceedance_flow *Exceedance Flow*

Description

Calculate flow value that meet a vector of exceedance probabilities

Usage

```
exceedance_flow(flow, probs)
```

Arguments

| | |
|-------|--------------------------|
| flow | Flow time series |
| probs | Exceedance probabilities |

Examples

```
exceedance_flow(runif(30, 0, 10000), seq(0.1, 0.9, 0.1))
```

exceedance_prob *Exceedance Probability*

Description

Calculate exceedance probability for a flow time series

Usage

```
exceedance_prob(flow)
```

Arguments

| | |
|------|------------------|
| flow | Flow time series |
|------|------------------|

Examples

```
exceedance_prob(runif(30, 0, 10000))
```

`get_water_year_type` *Water year classifications*

Description

Get water year classifications from `water_year_type` dataframe

Usage

```
get_water_year_type(water_year, valley = c("SAC", "SJR"))
```

Arguments

`water_year` numeric vector of water years
`valley` Sacramento or San Joaquin valley (options: SAC or SJR)

See Also

[get_wy_type_table](#), [water_year_type](#)

Examples

```
get_water_year_type(1900:1906)  
get_water_year_type(1900:1906, "SJR")  
get_water_year_type(2014:2020)
```

`get_wy_type_table` *Water year classifications*

Description

Get table of Water Year Hydrologic Classification Indices from **CDEC**.

Usage

```
get_wy_type_table()
```

See Also

[get_water_year_type](#), [water_year_type](#)

| | |
|------------|-------------------|
| water_year | <i>Water year</i> |
|------------|-------------------|

Description

Get water year from date-time object. Warning: uses the system-specific time zone and not the time zone associated with the date-time object.

Usage

```
water_year(x)
```

Arguments

x A date-time object.

Examples

```
x <- c("2016-12-31", "2017-01-01", "2017-09-30", "2017-10-01")
water_year(as.Date(x))
water_year(as.Date(x)) == format(as.Date(x), "%Y")
```

| | |
|-----------------|------------------------|
| water_year_type | <i>Water year type</i> |
|-----------------|------------------------|

Description

Water year classifications for the Sacramento and San Joaquin valleys from [CDEC](#).

Usage

```
water_year_type
```

Format

A data frame with 4 columns:

WaterYear 1901-present

Valley SAC or SJR

WYT Water year classifications as abbreviations: C, D, BN, AN, W

WaterYearType Water year classifications: Critical, Dry, Below Normal, Above Normal, Wet.

| | |
|---------|------------------------|
| wy_date | <i>Water year date</i> |
|---------|------------------------|

Description

Get date for day of water year

Usage

```
wy_date(x, y)
```

Arguments

| | |
|---|-------------------|
| x | Day of water year |
| y | Water year |

Examples

```
wy_date(x = seq(1, 361, 60), y = 2011)
```

| | |
|---------|------------------------|
| wy_week | <i>Water year week</i> |
|---------|------------------------|

Description

Get week in water year from a date-time object.

Usage

```
wy_week(x)
```

Arguments

| | |
|---|---------------------|
| x | A date-time object. |
|---|---------------------|

Details

Returns the number of complete seven day periods that have occurred between the date and October 1st, plus one. Based on `lubridate::week()`.

Examples

```
wy_week(as.Date(c("2016-10-01", "2017-01-01")))
```

`wy_yday`*Day of water year*

Description

Get day of water year from date-time object. Warning: uses the system-specific time zone and not the time zone associated with the date-time object.

Usage

```
wy_yday(x)
```

Arguments

`x` A date-time object.

Examples

```
wy_yday(as.Date(c("2016-01-01", "2016-10-01", "2017-01-01")))
wy_yday(as.Date(c("2016-03-01", "2017-03-01"))) # 2016 was a leap year
```

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