

# Package ‘gsmoothr’

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**Title** Smoothing tools

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**Depends** R (>= 2.8.0), methods

**Description** Tools rewritten in C for various smoothing tasks

**License** LGPL (>= 2.0)

**NeedsCompilation** yes

**Repository** CRAN

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tmeanC	<i>Trimmed Mean Smoother</i>
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### Description

A fast trimmed mean smoother (using C code) of data at discrete points (e.g. probe-level data).

### Usage

```
tmeanC(sp, x, spout = NULL, nProbes = 10, probeWindow = 600, trim = 0.1)
```

**Arguments**

sp	numeric vector of positions (x-values)
x	numeric vector of data (corresponding to sp)
spout	optional vector of output values to calculate trimmed mean at, default: NULL
nProbes	minimum number of observations required within window
probeWindow	distance (in x) in each direction to look for observations to be used in the trimmed mean
trim	proportion of trim to use in trimmed mean

**Details**

Using the specified probe window, this procedure uses all values within the window and calculates a trimmed mean with the specified amount of trim. If there are not enough observations within the window at a given position (as given by nProbes), a zero is returned.

**Value**

vector (of the same length as sp (or spout)) giving the trimmed mean smoothed values

**Author(s)**

Mark Robinson

**See Also**

[trimmedMean](#)

**Examples**

```
sp <- seq(100, 1000, by=100)
ss <- seq(100,1000, by=50)
set.seed(14)
x <- rnorm(length(sp))

tmC <- tmeanC(sp, x, probeWindow=300, nProbes=5)
tmC1 <- tmeanC(sp, x, spout=sp, probeWindow=300, nProbes=5)
tmC2 <- tmeanC(sp, x, spout=ss, probeWindow=300, nProbes=5)

cbind(tmC,tmC1)

plot(sp, x, type="h", ylim=c(-2,2))
lines(sp, tmC1, col="blue")
lines(ss, tmC2, col="red")
```

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trimmedMean	<i>Trimmed Mean Smoother</i>
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**Description**

A slow trimmed mean smoother (using R code) of data at discrete points (e.g. probe-level data).

**Usage**

```
trimmedMean(pos, score, probeWindow=600, meanTrim=.1, nProbes=10)
```

**Arguments**

pos	numeric vector of positions (x-values)
score	numeric vector of data (corresponding to sp)
probeWindow	distance (in x) in each direction to look for observations to be used in the trimmed mean
meanTrim	proportion of trim to use in trimmed mean
nProbes	minimum number of observations required within window

**Details**

Using the specified probe window, this procedure uses all values within the window and calculates a trimmed mean with the specified amount of trim. If there are not enough observations within the window at a given position (as given by nProbes), a zero is returned.

**Value**

vector (of the same length as sp giving the trimmed mean smoothed values

**Author(s)**

Mark Robinson

**See Also**

[tmeanC](#)

**Examples**

```
sp <- seq(100, 1000, by=100)
ss <- seq(100,1000, by=50)
set.seed(14)
x <- rnorm(length(sp))

tmC <- trimmedMean(sp, x, probeWindow=300, nProbes=5)
```

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