**Purpose:** A function used calculate the distance of inputted tow tracks, only set up to work with tow track files, very specific function. There is a moving average function (**mave**) at the end of the script used within **getdis.r**.

* Note: For some reason at the end we divide 0.8 by the calculated tow length, I believe this will standardize our tow length to be what proportion of 800 meters the tow was, but want to confirm that.

**Version Control:** Multiple versions exist, usually duplicates of each other but no guarantees.

Required packages: PBSmapping

**Function Arguments Summary**

1. **tows:** Vector containing the tow track numbers we want to extract
2. **path**: location of the tow track log files. defaults to ...data/GBa/TowTracks
3. **w:** used in the sub-function **mave**, a means of weighting the tow track data if running a

moving average across them.

1. **rule:** the number of seconds between records to retain. Options that work are 4,8,20 and

"SE". Default is 8 seconds. SE means we retain the tow location at the start and end of the tow only

1. **smooth:** Smooth the tow track data using the **mave** (see sub-function) moving average

function.

1. **plt:** create a standalone plot. (T/F) default is F
2. **meh:** If >0 this number is added to the tow numbers so the correct ones are read. If = 0 it just

runs a simple paste command there is no clear indication of when we would need meh

to be > 0. Default meh=0

1. **printtow:** prints the tow information to the screen to track progress.
2. **direct:** Directory to grab the function from. Defaults = "Y:/Offshore scallop/Assessment/"

**Section 1**

This encompasses all of the main **getdis.r** function. This reads in the tow tracks, optionally smooths the data using the internal **mave** function can also send to a plotting device if you want to compare original tracks with the smooths. We calculate the lengths of the tows and the bearing information towards the end of the function. For some reason at the end we divide 0.8 by the calculated tow length, reason for this is unknown.

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**Section 2**

A small function (**mave**) used to calculate weighted moving averages. This could be replaced by the WMA moving average function from TTR package as the results are essentially identical.

**Function Arguments Summary**

1. **x:** Vector containing the tow track numbers we want to extract
2. **w**: weights for the moving average, default is a rather complex weight scheme of

c(1:10,9:1)

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