nncrexm

R-Scripts

Crown extension and plasticity

This repository contains ...

File listing

1.) R-Scripts

File	task	sourcing/calling
0_Impressionistic.R	read data, calculate crown radius, distribute points	BM.distribute.R 0_Prune.R 0_Prune_CALC.R
0_Prune.R	evaluates neighbourhoods of points within DELTA_D	
0_Prune_CALC.R	calculates relocations	
1_Loop.R	loop over species to	2_NN.R
2_NN.R	evaluate neighbourhood of trees (r = 1, 2, ..., 20 m)	eval_nn

2.) R-Functions

File	task	function name
BM_Distribute.R	distribute points	BM.distribute
eval_NN.R	evaluate neigbhourhoods of trees	eval_nn

Variable listing

variable	meaning
Plot	Main plot 1 (MP1) or 2 (MP2)
Tag	individual tag number
X	X-coord in m
Y	Y-coord in m
F_Code07	Family code
Code07	Species code
GBH86	Girth at breast height 1986
GBH96	Girth at breast height 1996
GBH01	Girth at breast height 2001
GBH07	Girth at breast height 2007

Data can be downloaded from a [Dryad repository] ...

Summary of variables in data file

```
d <- read.table("FULL_test.txt", header = TRUE)
summary(d[, c("Plot", "X", "Y", "Code07", "GBH86", "GBH96", "GBH01", "GBH07")])
```

```
##   Plot         X               Y              Code07      GBH86
##  MP1:5   Min.   : 5.00   Min.   : 5.00   BEILGLAU:1   Min.   : 50
##          1st Qu.: 5.00   1st Qu.: 5.00   MALLWRAY:2   1st Qu.: 50
##          Median :12.10   Median :10.00   SHORJOHO:1   Median :175
##          Mean   : 9.84   Mean   : 9.42   SYZYELOP:1   Mean   :155
##          3rd Qu.:12.10   3rd Qu.:12.10                3rd Qu.:200
##          Max.   :15.00   Max.   :15.00                Max.   :300
##
##      GBH96            GBH01            GBH07
##  Min.   : 13.40   Min.   :  0.00   Min.   :0
##  1st Qu.: 13.40   1st Qu.:  0.00   1st Qu.:0
##  Median : 18.40   Median :  0.00   Median :0
##  Mean   : 35.28   Mean   : 22.64   Mean   :0
##  3rd Qu.: 18.40   3rd Qu.:  0.00   3rd Qu.:0
##  Max.   :112.80   Max.   :113.20   Max.   :0
##                                    NA's   :4
```

Citation:

Stoll & Newbery (to be submitted), Including tree spatial extension in the evaluation of neighbourhood competition effects in Bornean rain forest. Ecol Monogr.

To do:

- [x] Start preparing appendix (GitHub Repository)
- [x] Make a file list
- [x] Explain function of R-Scripts
- [x] re-work R-Scripts, comments