This is a general description of all processes step by step done in R version of the 3PGmix.

# Shortening

pYear – year when the trees were planted

pMonth – month when the trees were planted

iYear – year when first simulation happens

iMonth – month when first simulation happens, meaning that we are using climatic data from this month.

Date – the date which is written in the output file and always corresponds to the end of the month. So for example I think that 2010.01.31 shall corresponds to the output of 2010 Feb of VBA version.

sAge – species age, in years.

cDate – date for climatic data

# input

pYear = 2000

pMonth = 1

iYear = 2010

iMonth = 1

# Initialization

This is initialization of the model. In the output file we are writing it one month preceding the simulation. So the output file for that particular month would be as following:

Date: 2009.12.31

sAge: 10.0000

WS = iWS

WF = iWF

# Simulations

This is the first month of the simulations

* 1. All climatic modifiers are calculated using the 2010-01 climatic data
  2. All the age dependent modifiers are calculated with sAge = 10.000 (from previous month). This I’m not sure and wonder how it is in VBA.
  3. If this is firs dormant month or first month after dormancy we calculate species proportions and correct bias (since lai could change)
  4. Calculate the APAR
  5. Calculate GPP
  6. Calculate Transpiration
  7. Correct GPP
  8. Calculate the biomass change
  9. Update sAge = sAge + 1 month (10.08333)
  10. Correct the bias
  11. Calculate mortality
  12. Correct the bias (as biomass has potentially changed due to mortality)
  13. Calculate all the stand related variables

For the output

Date: 2010.01.31

cDate: 2010-01

sAge: 10.08333

Modifiers: Calculated with age 10.000

WS = WS + incrWS-mortWS