

3D-CMCC-FEM Daily Output variab

At class level:

YEAR	Year of simulation
MONTH	Month of simulation
DAY	Day of simulation
LAYER	Layer of forest structure
HEIGHT	Average height of a specie (m)
DBH	Average diameter at breast height of a specie (cm)
AGE	Age of trees (years)
SPECIES	The species considered
MANAGEMENT	T = Timber
GPP	Gross Primary Productivity ($\text{gC/m}^2 \cdot \text{day}$)
GR	Growth respiration ($\text{gC/m}^2 \cdot \text{day}$)
MR	Maintenance Respiration ($\text{gC/m}^2 \cdot \text{day}$)
RA	Autotrophic respiration ($\text{gC/m}^2 \cdot \text{day}$)
NPP	Net Primary Productivity ($\text{gC/m}^2 \cdot \text{day}$)
CUE	Carbon Use Efficiency (gCNPP/gCGPP)
LAI_PROJ	LAI for Projected Area covered (at zenith angle) (m^2/m^2)
PEAK-LAI_PROJ	Peak Projected LAI(maximum attainable LAI) (m^2/m^2)
LAI_EXP	LAI for Exposed Area covered (m^2/m^2)
CC_P	Projected Canopy Cover (frac)
CC_E	Exposed Canopy Cover (frac)
DBHDC	DBH/Crown diameter relationship
CROWN_AREA_PROJ	Crown Projected Area (at zenith angle) (m^2)
CROWN_AREA_EXP	Crown Exposed Area (at zenith angle) (m^2)
APAR	Absorbed Photosynthetically Active Radiation ($\text{molPAR/m}^2/\text{day}$)
Ntree	Number of trees
VEG_D	Day of vegetative period for class (Days/Year)
C_INT	Canopy Interception ($\text{mm/m}^2/\text{day}$)
C_WAT	Canopy Water stored (mm/m^2)
C_EVA	Canopy Evaporation ($\text{mm/m}^2/\text{day}$)
C_TRA	Canopy Transpiration ($\text{mm/m}^2/\text{day}$)
C_ET	Canopy Evapotranspiration ($\text{mm/m}^2/\text{day}$)
C_LE	Canopy Latent Heat (W/m^2)
WUE	Water Use Efficiency (DIM)
WRes	Reserve carbon pool (tC/cell)
WS	Stem carbon pool (tC/cell)
WSsap	Stem sapwood carbon pool (tC/cell)
WSL	Stem live carbon pool (tC/cell)
WSD	Stem dead biomass (tC/cell)
WL	Leaf biomass (tC/cell)
WFR	Fine root biomass (tC/cell)
WCR	Coarse root biomass (tC/cell)
WCRsap	Coarse root sapwood biomass (tC/cell)
WCRL	Coarse root livewood biomass (tC/cell)
WCRD	Coarse root deadwood biomass (tC/cell)
WBB	Branch biomass (tC/cell)
WBBsap	Branch sapwood biomass (tC/cell)
WBBL	Branch livewood biomass (tC/cell)
WBBD	Branch deadwood biomass (tC/cell)
WFru	Fruit biomass (tC/cell)
dWRes	daily allocation to reserve (tC/cell)
dWS	daily allocation to stem (tC/cell)
dWL	daily allocation to leaf (tC/cell)
dWFR	daily allocation to fine root (tC/cell)
dWCR	daily allocation to coarse root (tC/cell)

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dWBB	daily allocation to branch (tC/cell)
dFRUIT	daily allocation to fruit (tC/cell)
SAR	Stem autotrophic respiration (gC/m ²)
LAR	Leaves autotrophic respiration (gC/m ²)
FRAR	Fine Roots autotrophic respiration (gC/m ²)
CRAR	Coarse Roots autotrophic respiration (gC/m ²)
BBAR	Branch autotrophic respiration (gC/m ²)
FCO2	Modifier for assimilation (0-1)
FCO2_TR	Modifier for transpiration (0-1)
FAGE	Modifier for age (0-1)
FT	Modifier for air temperature (0-1)
FVPD	Modifier for VPD (0-1)
FN	Modifier for soil nutrient (0-1)
FSW	Modifier for soil water (0-1)
LITR_C	Current Litter Carbon Pool (tC/cell)
CWD_C	Coarse Woody Debris Carbon (tC/cell)
SOIL_C	Current Soil Carbon Pool (tC/cell)

At cell level (equals if only one class is modelled):

gpp	Gross Primary Productivity (gC/m ² /day)
npp	Net Primary Productivity (gC/m ² /day)
ar	Autotrophic respiration (gC/m ² /day)
et	Evapotranspiration (mm/day)
le	Latent heat (W/m ²)
soil_evapo	Soil evaporation (mm/m ² /day)
snow_pack	Current Amount of Snow (cm/m ²)
asw	Available soil water (mm/volume)
iWue	intrinsic Water Use Efficiency
litrC	Litter Carbon (gC/m ²)
cwdC	Daily coarse woody debris carbon pool (gC/m ² /day)
soilC	Soil Carbon (gC/m ²)
litrN	Litter Nitrogen (gN/m ²)
soilN	Soil Nitrogen (gN/m ²)