Table SI.5. Descriptions, units and the respective equation number of the variables used in the CAETÊ model. *see Oyama & Nobre (2004)

Symbol	Variable	Unit	Equation
A_r	Relative abundance	unitless	1
C	Total plant carbon	$KgCm^{-2}$	30
C_T	Total carbon in a grid cell	$KgCm^{-2}$	2
C_z	Carbon content in a plant compartment	$KgCm^{-2}$	29
C_a	Atmospheric CO_2 concentration	ppmv	input
C_{init_z}	Initial carbon content in a plant compartment	$KgCm^{-2}$	4
C_{press}	Partial CO_2 pressure at leaf interior	Pa	11
C_r	Canopy resistance	sm^{-1}	31
D	Atmospheric demand for transpiration	mmH_2Oday^{-1}	38
$E_{evap_{pot}}$	Potential evapotranspiration	mmH_2Oday^{-1}	*
E_{vap}	Evapotranspiration	mmH_2Oday^{-1}	*
f_1	leaf level gross photosynthesis	$molCO_2 m^{-2}s^{-1}$	6
f_2	Michaelis-Menten constant for CO_2	Pa	9
f_3	Michaelis-Menten constant for O_2	Pa	10
f_4	Function for upscaling the leaf level photosynthesis to the canopy level	unitless	19/20
f_4^{sun}	Canopy portion in which solar radiation reaches it in a 90º angle	unitless	19
f_4^{shade}	Canopy portion that receives diffuse radiation in a 20º angle	unitless	20
f_5	Water stress factor	unitless	36
GPP	Gross primary productivity	$kgCm^{-2}yr^{-1}$	5
g_{pot}	Canopy potential conductance	mms^{-1}	39
g_s	Stomatal condunctance	$molCO_2 m^{-2}s^{-1}$	32
h	Relative humidity	gkg^{-1}	input
H_y	Actual soil water content in a grid cell	mm	34
IPAR	Incident photosynthetic active radiation	$Einm^{-2}s^{-1}$	input
J_C	Rubisco carboxilation limiting factor for photosynthesis	$molCO_2 m^{-2}s^{-1}$	8
J_E	Electron limiting factor for photosynthesis	$molCO_2 m^{-2}s^{-1}$	17
J_L	Light limiting factor for photosynthesis	$molCO_2 m^{-2}s^{-1}$	16
J_P	The minimum between J_C and J_L	$molCO_2 m^{-2}s^{-1}$	7

L	Water supply for transpiration	mmH_2Oday^{-1}	37
LAI	Leaf area index	unitless	21
LAI_{sun}	Leaf area index in the canopy portion in which solar radiation reaches it in a 90º angle	unitless	23
LAI_{shade}	Leaf area index in the canopy portion in which solar radiation reaches it in a 90º angle	uniless	24
NPP	Net primary productivity	$kgCm^{-2}yr^{-1}$	28
NPP_{grid}	Net primary productivity of a grid cell	$kgCm^{-2}yr^{-1}$	3
NPP_{pot}	Potential net primary productivity	$kgCm^{-2}yr^{-1}$	input
P_{rec}	Precipitation	mmm^{-1}	input
P_{surf}	Surface water vapor pressure	atm	input
R_a	Autotrophic respiration	$kgCm^{-2}yr^{-1}$	25
R_g	Growth respiration	$kgCm^{-2}yr^{-1}$	26
R_m	Maintenance respiration	$kgCm^{-2}yr^{-1}$	27
r	Leaf level moisture deficit	$kgkg^{-1}$	13
r_{max}	Saturated mixing ratio	$kgkg^{-1}$	14
R_{off}	Runoff	mmH_2O	*
S	Number of PFTs/PLSs in the grid cell	unitless	*
SLA	Specific leaf area	m^2KgC^{-1}	22
T	Temperature	ºC	input
T_{soil}	Soil temperature	ºC	input
V_m	Rubisco carboxilation rate	$molCO^2m^{-2}s^{-1}$	18
VPD	Deficit of vapor pressure on the leaf surface	kPa	33
w_{press}	Partial pressure of water vapor	hPa	15
w_{sat}	Degree of water soil saturation	unitless	35
Γ'	Photorespiration compensation point	Pa	12