

Table SM.1. Functional traits (carbon allocation and residence time for leaves, woody tissues and fine roots), their respective trade-offs and associated equations. The equations are described in Supplementary Material SM.1 together with the model description. ABGW: aboveground woody tissues.

Functional trait	Trade-offs	Equation
Leaves allocation	Leaves carbon content	SM 26
	Total plant carbon stock	SM 27
	Leaf area index	SM 18
	Maintenance respiration	SM 24
	Growth respiration	SM 23
ABGW allocation	ABGW carbon content	SM 26
	Total plant carbon stock	SM 27
	Light capture	section SM.1.8
	Maintenance respiration	SM 24
	Growth respiration	SM 23
Fine roots allocation	Fine roots carbon content	SM 26
	Total plant carbon stock	SM 27
	Water stress	SM 33
	Maintenance respiration	SM 24
	Growth respiration	SM 23
Leaves residence time	Leaves carbon content	SM 26
	Total plant carbon stock	SM 27
	Leaf area index	SM 18
	Specific leaf area	SM 19
	Maintenance respiration	SM 24
ABGW residence time	Growth respiration	SM 23
	ABGW carbon content	SM 26
	Total plant carbon stock	SM 27
	Light capture	section SM.1.8
	Maintenance respiration	SM 24
Fine roots residence time	Growth respiration	SM 23
	Fine roots carbon content	SM 26
	Total plant carbon stock	SM 27
	Water stress	SM 33
	Maintenance respiration	SM 24
	Growth respiration	SM 23