

Influencing factor	Scenario	Description	MAR ideal profile (g cm ⁻² yr ⁻¹)		CAR ideal profile (g C _{org} m ⁻² yr ⁻¹)	
			Seagrass	Mangrove-tidal marsh	Seagrass	Mangrove-tidal marsh
Mixing	A	Random upper 5 cm	0.20	0.30	50	240
	B	Random upper 5 cm	0.20	0.30	50	240
	C	Random upper 5–10 cm	0.20	0.30	50	240
Increasing MAR in recent years	D	Increased basal MAR by 20 %	0.21	0.31	52	248
	E	Increased basal MAR by 50 %	0.22	0.32	54	259
	F	Increased basal MAR by 100 %	0.23	0.35	59	278
	G	Increased basal MAR by 200 %	0.27	0.40	67	317
Erosion	H	Removal of ²¹⁰ Pb _{xs} inventory from 0–5 cm	0.20	0.30	50	240
	I	Removal of ²¹⁰ Pb _{xs} inventory from 5–10 cm	0.20	0.30	50	240
	J	Removal of ²¹⁰ Pb _{xs} inventory from 10–15 cm	0.20	0.30	50	240
Grain size	K	Coarse sediment (70 % coarse sand, 20 % medium sand, 10 % silt)	0.20	0.30	50	240
	L	Fine surface sediments (50 %–80 % of clays at surface)	0.20	0.30	50	240
	M	Coarse surface sediments (50 %–80 % of sands at surface)	0.20	0.30	50	240
	N	Heterogeneous grain size (alternated sand layers with clay layers)	0.20	0.30	50	240
Organic matter decay		16.5 % OM				
	O	100 % with: $k_s = 0.00005 \text{ d}^{-1}$	0.17	0.25	34	150
	P	50 % with $k_{ox} = 0.0005 \text{ d}^{-1}$	0.17	0.25	16	116
	Q	50 % with $k_{lb} = 0.01 \text{ or } 0.03 \text{ d}^{-1}$	0.17	0.25	14	111
		65 % OM				
	R	100 % with: $k_s = 0.00005 \text{ d}^{-1}$	0.07	0.10	62	156
S	50 % with $k_{ox} = 0.0005 \text{ d}^{-1}$	0.07	0.10	33	100	
T	50 % with $k_{lb} = 0.01 \text{ or } 0.03 \text{ d}^{-1}$	0.07	0.10	30	94	