

Supplementary material to “Subsoils, but not
toeslopes, store millenia-aged PyC in gently sloping
catchment under temperate climate after centuries
of fire suppression”

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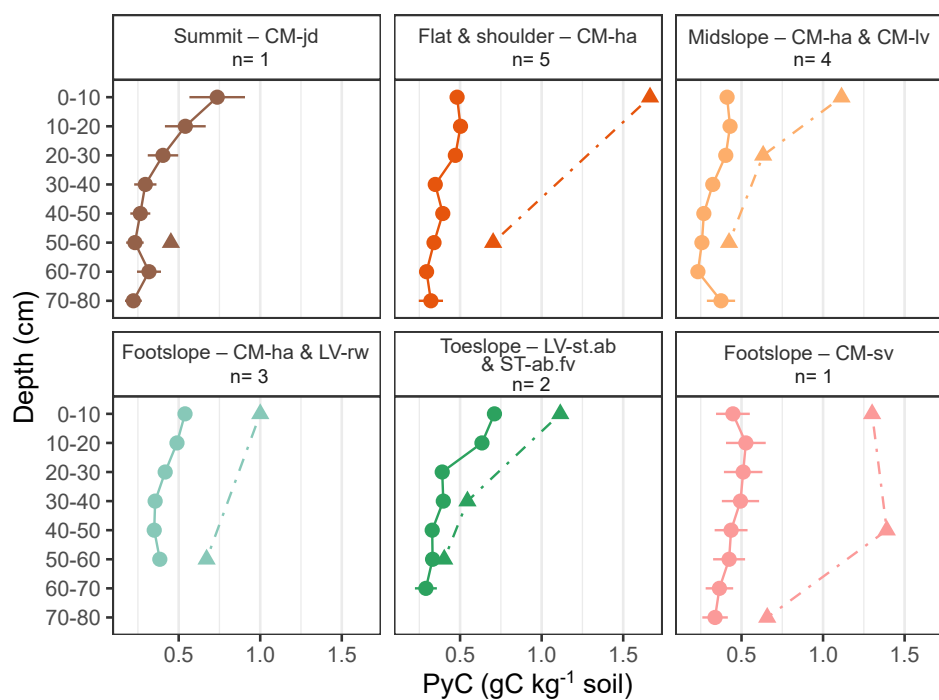
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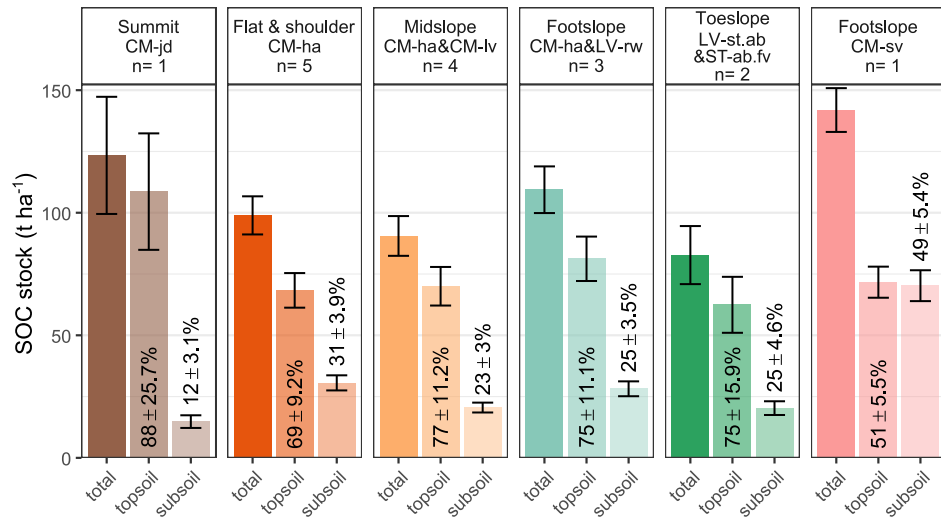
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Supplementary Figure S1: Profiles of PyC_{CTO} (dots) and PyC_{HyPy} (triangles) content with depth by soil group. CM - Cambisol, LV - Luvisol, lv - luvic, rw - relectistagnic, st - stagnic, ab - albic, co - colluvic. Error bars represent standard error (typical analytical error when n=1)



Supplementary Figure S2: SOC stocks down to 60 cm (darker shade), topsoil (0-30 cm, intermediate shade), and subsoil (30-60 cm, lighter shade) by soil group according to the gradient of soil evolution with slope. The numbers are the proportion of the topsoil (resp. subsoil) SOC stock in the total stock. Error bars represent the propagated standard error.

Supplementary Table S1: ^{14}C enrichment (Fraction modern, F^{14}C) of SOC and the PyC_{HyPy} fraction and 1σ error taking into account the overall analytical uncertainty. For the PyC_{HyPy} fraction, calibrated ages were calculated using OxCal v4.4 with the IntCal20 calibration curve and are reported as a 95.4 % coverage interval. Lab number is the unique analysis code.

Soil group	Site	Depth (cm)	SOC		PyC_{HyPy}		Calibrated age	
			Lab number	F^{14}C	σ (%)	Lab number	F^{14}C	σ (%)
Summit	173	0–10	ETH-139090.1.1	1.14	0.0064	UCIAMS-272940	0.75	0.0033
CM-jd	173	50–60	ETH-139091.1.1	0.82	0.0067	UCIAMS-272941	0.60	0.0029
Flat & shoulder	221	0–10	ETH-139088.1.1	1.01	0.0060	UCIAMS-272942	0.83	0.0036
CM-ha	221	50–60	ETH-139089.1.1	0.80	0.0073	UCIAMS-272944	0.59	0.0048
	318	0–10	ETH-139104.1.1	1.02	0.0069	UCIAMS-272950	0.79	0.0035
	318	50–60	ETH-139105.1.1	0.87	0.0063	UCIAMS-272951	0.51	0.0023
	309	0–10	ETH-139099.1.1	1.02	0.0064	UCIAMS-272960	0.79	0.0035
	309	50–60	ETH-139100.1.1	1.11	0.0056	UCIAMS-272962	0.62	0.0027
Footslope	240	0–10	ETH-139092.1.1	1.02	0.0075	UCIAMS-272945	0.76	0.0033
CM-ha & LV-rw	240	50–60	ETH-139093.1.1	0.80	0.0061	UCIAMS-272946	0.30	0.0027
	265	0–10	ETH-139085.1.2	1.02	0.0050	UCIAMS-272954	0.72	0.0047
	265	30–40	ETH-139086.1.1	1.00	0.0061	UCIAMS-272955	0.82	0.0036
	265	50–60	ETH-139087.1.1	0.98	0.0060	UCIAMS-272956	0.73	0.0032
	277	0–10	ETH-139097.1.1	0.99	0.0056	UCIAMS-272963	0.81	0.0035
	277	50–60	ETH-139098.1.1	0.86	0.0067	UCIAMS-272964	0.63	0.0027
Toeslope	241	0–10	ETH-139094.1.1	1.04	0.62	-	-	-
LV-st.ab	241	30–40	ETH-139095.1.1	0.94	0.0060	UCIAMS-272948	0.59	0.0029
& ST-ab.fv	241	50–60	ETH-139096.1.1	0.83	0.0066	UCIAMS-272949	0.49	0.0027
	326	0–10	ETH-139101.1.1	1.06	0.0059	UCIAMS-272957	0.72	0.0031
	326	30–40	ETH-139102.1.1	0.98	0.0061	UCIAMS-272958	0.50	0.0023
	326	50–60	ETH-139103.1.1	0.88	0.0067	UCIAMS-272959	0.53	0.0025
Footslope	401	0–10	ETH-139106.1.1	1.01	0.0056	UCIAMS-272965	0.79	0.0034
CM-sv	401	40–50	ETH-139107.1.1	1.03	0.0061	UCIAMS-272966	0.81	0.0035
	401	70–80	-	-	-	UCIAMS-272967	0.73	0.0032