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*Supplement of*

## **A model based on Rock-Eval thermal analysis to quantify the size of the centennially persistent organic carbon pool in temperate soils**

**Lauric Cécillon et al.**

*Correspondence to:* Lauric Cécillon ([lauric.cecillon@irstea.fr](mailto:lauric.cecillon@irstea.fr))

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10 **Table S1: Basic characteristics of the four long-term agronomic experimental sites used for the reference soil sample set. Abbreviation: *LTBF*, long-term bare fallow.**

<b>Site</b>	<b>Latitude, longitude</b>	<b>Mean annual temperature (°C)</b>	<b>Mean annual precipitation (mm)</b>	<b>Land use before experiment</b>	<b>Sampling depth (cm)</b>	<b>Soil texture (%, clay/silt/sand)</b>
Versailles, France	48°48N, 2°08E	10.7	628	grassland	25	17/57/26
Rothamsted, United Kingdom	51°82N, 0°35E	9.5	712	grassland	23	25/62/13
Ultuna, Sweden	59°49N, 17°38E	5.5	533	arable	20	36/41/23
Grignon, France	48°51N, 1°55E	10.7	649	grassland	25	16/54/30

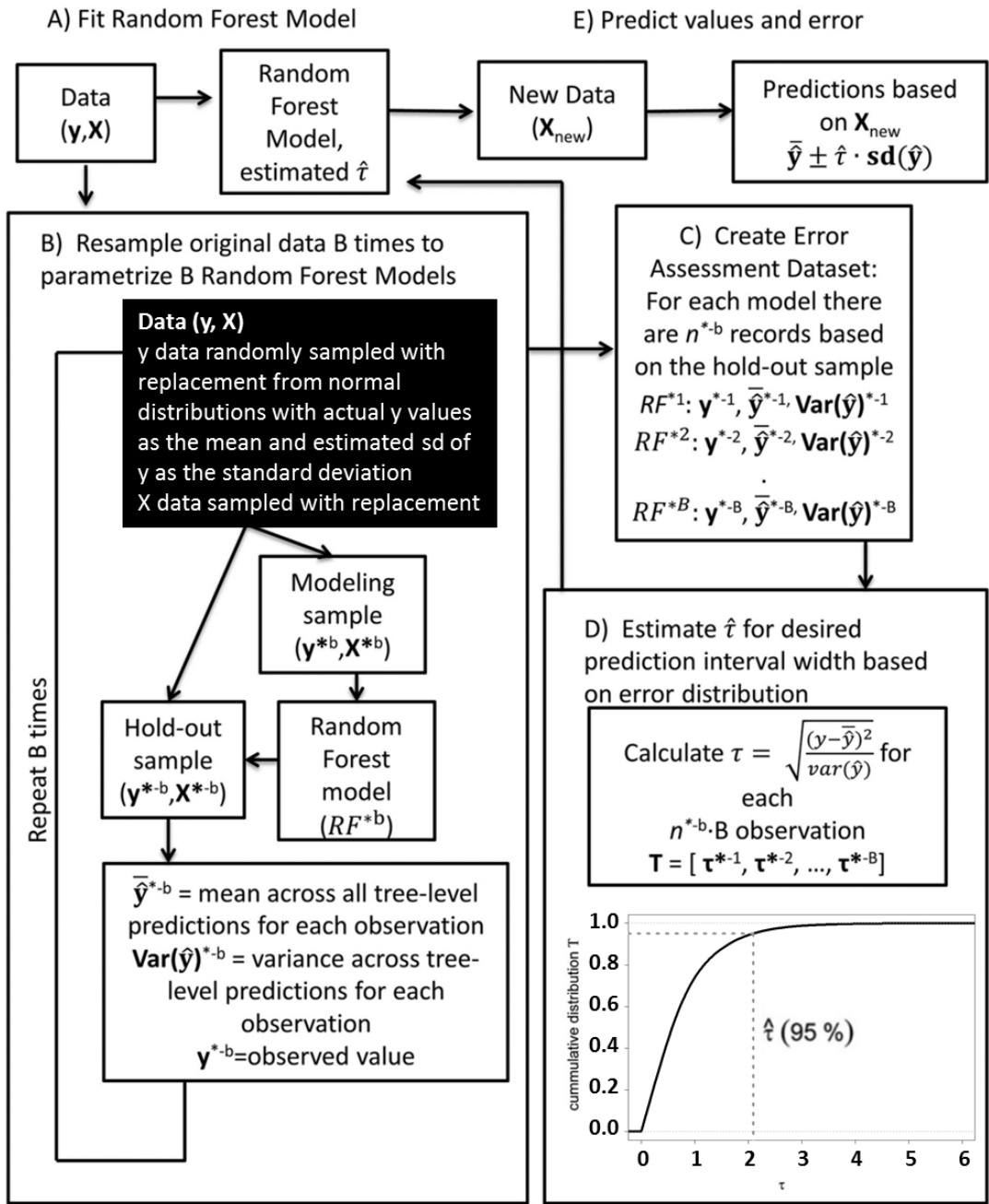
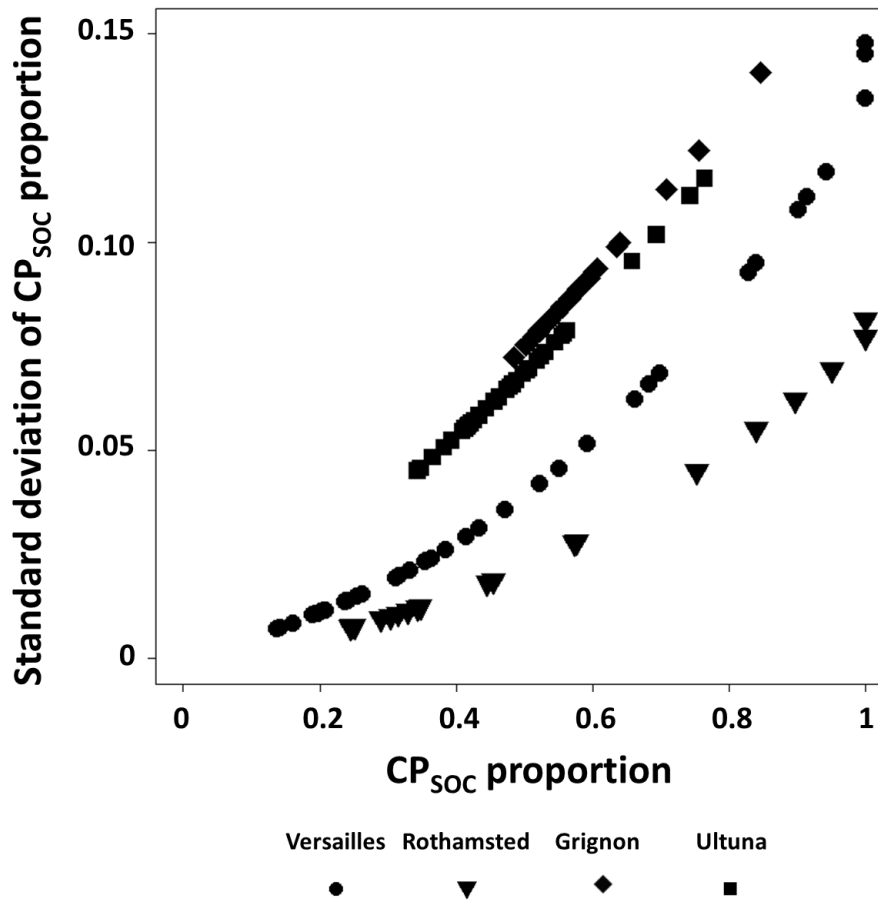


Figure S1: Error propagation scheme in the random forests regression model (adapted from Coulston *et al.* (2016) and modified).



5 **Figure S2:** Standard deviation of the  $CP_{SOC}$  proportion as a function of the  $CP_{SOC}$  proportion in the reference soil sample set (n = 118).

### Supplementary reference

Coulston, J.W., Blinn, C.E., Thomas, V.A., and Wynne, R.H.: Approximating prediction uncertainty for random forest regression models. *Photogramm. Eng. Remote Sens.*, 82, 189–197, 2016.