

eupftv2: updated hydraulic pedotransfer functions for Europe

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New set of algorithms was derived with random forest method for 32 input combinations, provide built-in prediction uncertainty computation.

Predicted soil hydraulic properties

RMSE based on input combination

Saturated water content (THS)	0.020 – 0.068 cm ³ cm ⁻³
Field capacity at -330 cm matric potential head (FC)	0.046 – 0.055 cm ³ cm ⁻³
at -100 cm matric potential head (FC ₂)	0.040 – 0.060 cm ³ cm ⁻³
Wilting point (WP)	0.037 – 0.048 cm ³ cm ⁻³
Plant available water based on FC at -330 cm (AWC)	0.043 – 0.053 cm ³ cm ⁻³
based on FC at -100 cm (AWC ₂)	0.045 – 0.060 cm ³ cm ⁻³
Saturated hydraulic conductivity (KS)	0.89 – 1.18 log ₁₀ (cm day ⁻¹)
Moisture retention curve (VG)	0.041 – 0.068 cm ³ cm ⁻³
Hydraulic conductivity curve (MVG)	0.61 – 0.71 log ₁₀ (cm day ⁻¹)

Availability of the PTFs:

- user friendly web interface:

<https://ptfinterface.rissac.hu>

- R package:

<https://github.com/tkdweber/eupftv2>

Application of the PTFs:

- iAqueduct WaterJPI project:

<https://www.costharmonious.eu/iaqueduct-water-jpi/>



- OPTAIN H2020 project:

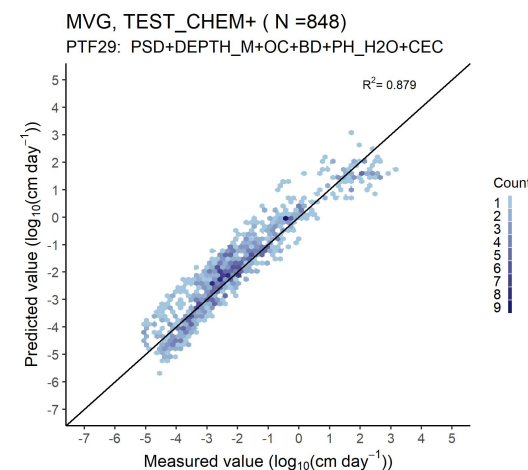
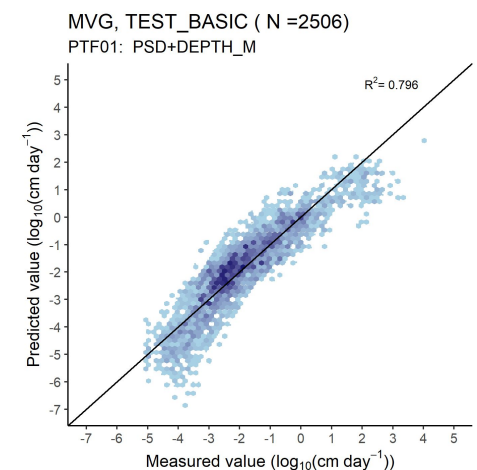
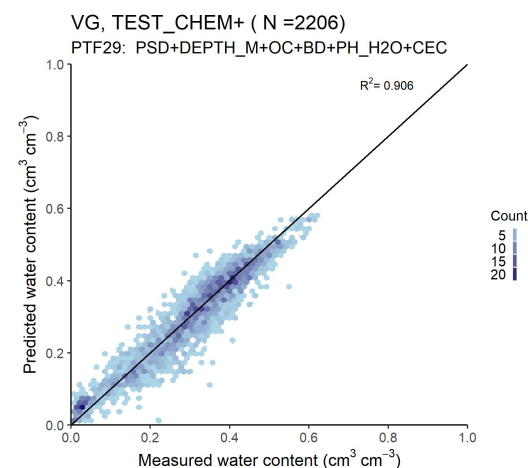
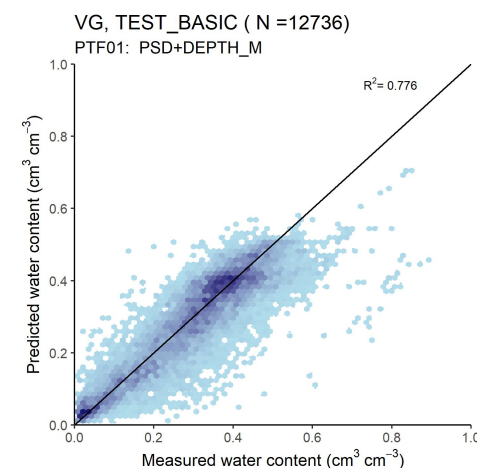
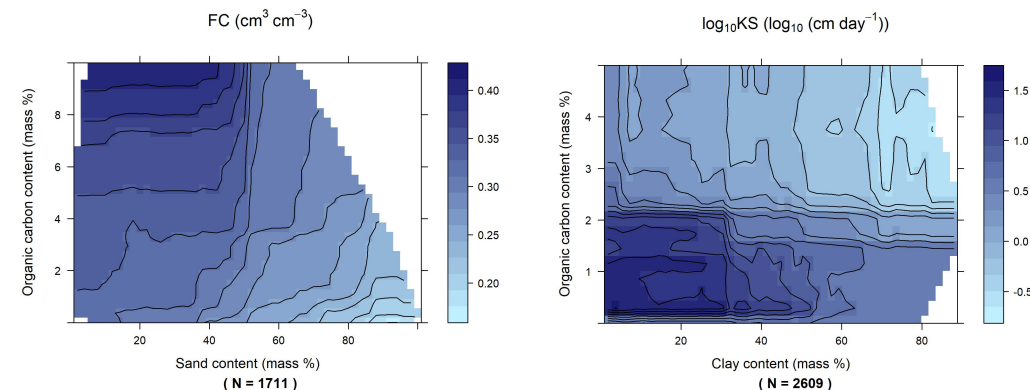
www.otain.eu



Szabó, B., Weynants, M., Weber, T.K., 2020. Updated European Hydraulic Pedotransfer Functions with Communicated Uncertainties in the Predicted Variables (eupftv2). Geosci. Model Dev. <https://doi.org/10.5194/gmd-2020-36>

Szabó, B., Gyurkó, D., Weynants, M., Weber, T.K.D., 2019. Web interface for European hydraulic pedotransfer functions (eupftv2). <https://doi.org/10.34977/eupftv2.01>

Weber, T. K. D., Weynants, M., and Szabó, B.: R package of updated European hydraulic pedotransfer functions (eupft2), Zenodo, <https://doi.org/10.5281/zenodo.4281045>



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