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Temporary Dataset Download: LUCAS 2009 TOPSOIL data

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Name of User	Mohammad Sherri
Organization	Microhumus
Type of Organization	Private Company
-- Other	
E-mail	mc.sherri@microhumus.fr
Purpose	Research on soil organic carbon profiles for the DeepSoilPINN project (Microhumus with La Rochelle Université, funded by Bpifrance): training and validating physics-informed neural networks on LUCAS topsoil data. Results are published only as aggregated maps and statistics.
Notes	

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24. The following Annexes form an intergral part of this License Agreement: ANNEX 1: Specification of LUCAS_SOIL Database
25. **THE LICENCEE ACKNOWLEDGES TO HAVE READ, UNDERSTOOD AND AGREED TO BE BOUND BY THE ABOVE-MENTIONED TERMS AND CONDITIONS OF THE CONTRACT**

Technical assistance concerning the use of the LUCAS data can be obtained from : ec-esdac@ec.europa.eu

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ANNEX 1: SPECIFICATION OF LUCAS_SOIL DATA

Database: The LUCAS_SOIL data are :

- In MS Excel format for the soil properties data: LUCAS_TOPSOIL_v1.xlsx
- 1 formats for Soil Multispectral data: LUCAS_TOPSOIL_v1_spectral.rdata (RDATA)

Reports (Proposed Citation): The LUCAS_SOIL data are documented in the report:

- Orgiazzi, A., Ballabio, C., Panagos, P., Jones, A. and Fernández-Ugalde, O., 2018. LUCAS Soil, the largest expandable soil dataset for Europe: a review. *European Journal of Soil Science*, **69(1)**: 140-153.
- "Toth, G., Jones, A., Montanarella, L. (eds.) 2013. LUCAS Topsoil Survey. Methodology, data and results. JRC Technical Reports. Luxembourg. Publications Office of the European Union, EUR 26102 - Scientific and Technical Research series - ISSN 1831-9424 (online); ISBN 978-92-79-32542-7; doi: 10.2788/97922"

References:

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The documentation associated to the data is available from the report:

- Orgiazzi, A., Ballabio, C., Panagos, P., Jones, A. and Fernández-Ugalde, O., 2018. LUCAS Soil, the largest expandable soil dataset for Europe: a review. *European Journal of Soil Science*, **69(1)**: 140-153.

- Tóth, G., Jones, A., Montanarella, L. (eds.) 2013. LUCAS Topsoil Survey. Methodology, data and results. JRC Technical Reports. Luxembourg. Publications Office of the European Union, EUR26102 – Scientific and Technical Research series – ISSN 1831-9424 (online); ISBN 978-92-79-32542-7; doi: 10.2788/97922"

Peer-reviewed publications relevant to the data:

- Orgiazzi, A., Ballabio, C., Panagos, P., Jones, A., Fernández-Ugalde, O. 2018. LUCAS Soil, the largest expandable soil dataset for Europe: A review. *European Journal of Soil Science*, 69(1): 140-153, DOI: 10.1111/ejss.12499
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- Stevens, A., Nocita, M., Toth, G., Montanarella, L., Van Wesemael, B. (2013) Prediction of Soil Organic Carbon at the European Scale by Visible and Near InfraRed Reflectance Spectroscopy. *PLoS ONE*, 6: pp. xx-xx.
- Panagos, P., Köninger, J., Ballabio, C., Liakos, L., Muntwyler, A., Borrelli, P. and Lugato, E., 2022. Improving the phosphorus budget of European agricultural soils. Science of The Total Environment, 853: 158706. DOI: 10.1016/j.scitotenv.2022.158706
- Tóth, G., Guicharnaud, R.A., Tóth, B. and Hermann, T. (2013) Phosphorus levels in croplands of the European Union with implications for P fertilizer use

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