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Temporary Dataset Download: LUCAS 2009 TOPSOIL data

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Type of Organization	Research Organization
-- Other	
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Purpose	The LUCAS dataset (specifically topsoil properties and elements) will be integrated with other environmental and biological data to assess the exposure of large mammals, specifically the brown bear (Ursus arctos), to trace elements and potential environmental contaminants. The purpose of our research is to evaluate spatial patterns of trace element concentrations in relation to land use, accumulation in animal tissues, and assess potential toxicological impacts on wildlife health within the studied European regions.
Notes	

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9. The European Union will be formally mentioned and fully acknowledged in, but not limited to, reports, articles, publications and presentations of work resulting from the use of the LUCAS_SOIL data as follows: "The LUCAS topsoil dataset used in this work was made available by the European Commission through the European Soil Data Centre managed by the Joint Research Centre (JRC), http://esdac.jrc.ec.europa.eu/".
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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:

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
- Toth G., Jones A., Montanarella L. (2013) The LUCAS topsoil database and derived information on the regional variability of cropland topsoil properties in the European Union. *Environmental Monitoring and Assessment*, 185 (9), pp. 7409-7425.
- Panagos P., Ballabio, C., Yigini, Y., Dunbar M. (2013) Estimating the soil organic carbon content for European NUTS2 regions based on LUCAS data collection *Science of The Total Environment* Volume 442, pp. 235–246.
- Panagos, P., Meusburger, K., Alewell, C., Montanarella, L. (2012) Soil erodibility estimation using LUCAS point survey data of Europe, *Environmental Modelling & Software*, Volume 30, Pages 143-145, doi:10.1016/j.envsoft.2011.11.002
- Nocita, M, Stevens, A., Toth, G., Panagos, P., van Wesemael, B., Montanarella, L. 2013. Prediction of soil organic carbon content by diffuse reflectance spectroscopy using a local partial least square regression approach. *Soil Biology and Biochemistry*. 68 , pp. 337-347, DOI: 10.1016/j.soilbio.2013.10.022
- 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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