

Temporary Dataset Download: LUCAS 2015 TOPSOIL data

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Date - Time	Sat, 08/01/2026 - 03:48
Name of User	a
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Type of Organization	University
-- Other	
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Purpose	I am applying for access to the LUCAS 2015 Topsoil dataset for non-commercial academic research on near-infrared soil spectroscopy and chemometric modelling. The study aims to develop a causally regularized machine-learning framework for predicting soil properties, including soil organic carbon, total nitrogen, pH and clay content, from spectral measurements. The dataset will be used to investigate robust spectral calibration under geographical and land-use distribution shifts. Specifically, the research will examine causal representation learning, multi-task regression and classification, counterfactual spectral generation, domain adaptation, and interpretable spectral analysis using causal Shapley values. Country, land-use and other available ancillary variables will be used to evaluate model generalization across different environmental domains. The data will be used solely for scientific research and publication. I will comply with the applicable data-use conditions, properly ack
Notes	

Notifications:

1. The LUCAS2015_SOIL data are the property of the European Union , represented by the European Commission, represented by the Directorate General-Joint Research Centre (hereafter referred to as the JRC), which is allowed to authorize third parties to use these data free of charge.
2. The LUCAS2015_SOIL data have been generated with a harmonised methodology for the production of statistics on soil characteristics at European level and are not meant to provide any any information as to personal or land properties character. Furthermore, given the relatively limited number of points analysed and their spatial distribution, data contained in LUCAS2015_SOIL cannot be considered representative of local conditions and certainly not of field conditions.
3. The European Union grants to the Licencee a personal, non transferable, perpetual, and non exclusive right to use the LUCAS2015_SOIL data. No sub-licence is allowed. The data may be used for any purpose.
4. The Licensee shall take all the necessary regulatory, administrative, technical and organisational measures to ensure that the data are used only in accordance with the pprinciples specified in Article 2 and for the purposes specified in Article 3 and that there will be no attempt to identify by any means whatsoever, any individual statistical unit other than the geo-referenced coordinates of the points. In particular, owners of the land to which the points belong shall not be identified.
5. In any reports, including all publications and unpublished papers, the following rules should be applied:
 - a) Any results can be published once a proper aggregation process that prevents any individual body (private person, private organisation) from being identified has been applied, ,
 - b) Graphical representation of individual units on a map is permitted as far as the geographical

location of the soil samples is not detectable.

6. The present licence is granted free of charge.
7. This agreement shall start on the date the Licensee has received the LUCAS2015_SOIL data from the JRC. There is no need for a signature of the present agreement by the JRC.
8. The LUCAS2015_SOIL database will be accessible only to the Licensee and staff working for the Licensee's Organization and on a need-to-know basis. The Licensee undertakes to inform the authorized persons of the existence of the present licence agreement and of its obligations that they will also have to respect.
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 LUCAS2015_SOIL data as follows: "The LUCAS 2015 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/>".
10. The Licensee can obtain information concerning the LUCAS2015_SOIL database from the JRC by e-mail (ec-esdac@ec.europa.eu). The Licensee undertakes to communicate on a regular basis to the JRC any errors or omissions discovered
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19. The name LUCAS2015_SOIL of the data being created by the European Union, the Licensee shall not use the name of LUCAS2015_SOIL without prior written authorization of the JRC and shall not register the name LUCAS2015_SOIL as a trademark
20. Personal data retrieved from the LUCAS2015_SOIL database shall be processed according to Regulation (EC) 45/2001 of the European Parliament and of the Council of 18 December 2000 on the protection of individuals with regard to the processing of personal data by the Community

institutions and bodies and on the free movement of such data

21. Licensee is informed that its personal data may be used by the European Union and automatically processed. The identifying data that Licensee may submit (The Data) will be treated in accordance with the policy on "protection of individuals with regard to the processing of personal data by the European Union institutions", based on Regulation (EC) N° 45/2001. It may occur that you are requested to provide certain Data such as your name, your mailing address, your e-mail address, and other data such as your country, area as well as any other information requested via a specific form. The Data will not be communicated to nonauthorised third parties and will only be collected to allow you the use of the Software and for the establishment of statistics or trends. The Data will not be used for any other purposes than the indicated and will not be kept within our systems beyond the necessary timeframe to achieve this goal. Licensor will take all possible measures in order to secure the Data. However, it cannot eliminate all the risks related to the use of the Internet. Thus, at the time of submitting the Data, you must be aware that other users of the Internet can possibly manage to visualize the Data. Further to the law on private data protection, you are allowed to access, modify or to oppose yourself to any processing of your Data. To use that right, you may contact Licensor per e-mail at the following address: ec-esdac@ec.europa.eu. The licence may be terminated by the European Union if the Licensee breaches any of its provisions. In such a case, the JRC shall give the Licensee 30 days notice and opportunity to rectify the infringement but in any case, this termination shall not prevent the European Union from claiming any further damages.
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23. This Agreement shall be governed by and construed in accordance with Belgian law. Any dispute, controversy or claim arising out of or relating to this Licence shall be settled before the competent courts of Brussels.
24. The following Annexes form an intergral part of this License Agreement: ANNEX 1: Specification of LUCAS2015_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

ANNEX 1: SPECIFICATION OF LUCAS2015_SOIL DATA

Database: The LUCAS2015_SOIL data are :

- In MS Excel format for all tabular data and ESRI shapefile for geographical presentation of the data
- RDATA, text and MS Excel format for Soil Multispectral dataReports (Proposed Citation)

References:

The documentation associated to the data is available from the following two reports:

[report](#) describing the 2015 dataset for the EU

Jones, A, Fernandez-Ugalde, O., Scarpa, S. LUCAS 2015 Topsoil Survey. Presentation of dataset and results, EUR 30332 EN, Publications Office of the European Union: Luxembourg. 2020, ISBN 978-92-76-21080-1, doi:10.2760/616084, JRC121325

[report](#) describing changes between 2009 and 2015.

Fernández-Ugalde, O., Ballabio, C., Lugato, E., Scarpa, S., Jones, A., Assessment of changes in topsoil properties in LUCAS samples between 2009/2012 and 2015 surveys, EUR 30147 EN, Publications Office of the European Union: Luxembourg 2020, ISBN 978-92-76-17430-1, doi:10.2760/5503, JRC120138.

The following [report](#) may provide further insights to the data. The reader should be warned that this report refers to a different number of total points, and also makes explicit reference to data that are stored internally to ESDAC, but are not available to the public:

R. Hiederer, Data Evaluation of LUCAS Soil Survey Laboratory 2009 to 2015 Data, EUR 30092 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN, 978-92-76-15648-2, doi:10.2760/791714, JRC119881.

The following Science-policy [report](#) provides insights on how the two indicators (Soil erosion, Soil organic carbon) have been developed using the LUCAS topsoil data of 2009 and 2015:

Panagos, P., Ballabio, C., Scarpa, S., Borrelli, P., Lugato, E. and Montanarella, L., Soil related indicators to support agro-environmental policies, EUR 30090 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-15644-4, doi:10.2760/011194

[Scientific publication](#) describing the LUCAS survey as a whole.

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. <https://doi.org/10.1111/ejss.12499>

Scientific publication on the comparison with the Swiss sampling method.

Fernández-Ugalde, O, Jones, A, Meuli, RG. **Comparison of sampling with a spade and gouge auger for topsoil monitoring at the continental scale.** *Eur J Soil Sci.* 2020; 71: 137- 150. <https://doi.org/10.1111/ejss.12862>