17-November-2026 12:11:39

Temporary Dataset Download: LUCAS 2018 TOPSOIL data

ID	136369
Date - Time	Fri, 11/13/2026 - 12:43
Name of User	Guo Ruijie
Organization	Nanjing Institute of Soil Science, Chinese Academy of Sciences
Type of Organization	Research Organization
-- Other	
E-mail	guoruijie@issas.ac.cn
Purpose	This research aims to map and analyze the spatiotemporal dynamics of soil organic carbon (SOC) in the black soil region of Northeast China around 2010. The requested dataset will be used exclusively for academic, non-profit research as training and validation labels for machine learning-based SOC inversion models. Specifically, the data will support: (1) extracting multi-source environmental covariates (climate, terrain, remote sensing) at sample locations; (2) training and validating random forest / XGBoost models to predict topsoil (0–20 cm) SOC distribution at 30 m resolution; and (3) assessing the impact of environmental drivers on SOC spatial patterns. All results will be published in peer-reviewed academic journals. The data will not be redistributed, sold, or used for commercial purposes. Proper citation and acknowledgment of the data source will be provided in all resulting publications.
Notes	

ESDAC - JRC

Notifications:

1. The LUCAS2018_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 LUCAS2018_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 LUCAS2018_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 LUCAS2018_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 Licencee has received the LUCAS2018_SOIL data from the JRC. There is no need for a signature of the present agreement by the JRC.
8. The LUCAS2018_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 Licencee 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 LUCAS2018_SOIL data as follows: "The LUCAS 2018 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 LUCAS2018_SOIL database from the JRC by e-mail (ec-esdac@ec.europa.eu). The Licencee undertakes to communicate on a regular basis to the JRC any errors or omissions discovered
11. Neither the European Union, nor any person acting on its behalf, is responsible for the use which might be made of LUCAS2018_SOIL database.
12. Whereas every effort has been made to ensure the quality of the LUCAS2018_SOIL data, the European Commission does not give any warranty as to the completeness or accuracy of the LUCAS2018_SOIL data, nor that it is error free or of a satisfactory quality or appears precisely as described in any documentation related to the data. All other such warranties are expressly disclaimed.
13. The European Union disclaims all warranties relating to the data, expressed or implied, including, but not limited to, any implied warranty against infringement of third parties property rights, of merchantability and fitness for a particular purpose.
14. The European Union will not be liable for any loss of use, lost data, interruption of business or incidental, special, exemplary, consequential damages of any kind, even if the European Union has been advised, knew or should have known of the possibility of such damages.
15. The European Union does not represent or warrant that the data will be error free or uninterrupted, or that all non-conformities can or will be corrected, or that the data are timely, accurate or complete or that are of a satisfactory technical or scientific quality.
16. In case the Licencee receives claims for infringement from third parties, the Licencee shall inform immediately the JRC. The European Union may at its own discretion undertake any useful change to the LUCAS2018_SOIL data in order to deliver data free from any third parties rights. In case this is not possible, the availability of the LUCAS2018_SOIL data will be stopped. In the meantime, the Licencee will reply before the Court to the claims of the third party and pay all damages and costs.
17. In the event of any claim, suit or proceeding for infringement from third parties, the European Union shall have the right, at its option, to assume defence of such action.
18. The Licencee shall not use any trademarks of the European Union, the European Commission or JRC
19. The name LUCAS2018_SOIL of the data being created by the European Union, the Licencee shall not use the name of LUCAS2018_SOIL without prior written authorization of the JRC and shall not register the name LUCAS2018_SOIL as a trademark
20. Personal data retrieved from the LUCAS2018_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

ESDAC - JRC

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) NÂ° 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 Licencee 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.
22. The Licensee agrees to maintain in confidence and not to disclose to any natural or legal person and to use its best effort to prevent and protect the data and documentation and reports therefore, and all other material, know-how, information from disclosure by its agents or employees to any person, organisation or company.
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 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

References:

How to cite the data and associated report/scientific publications:

Fernandez-Ugalde, O; Scarpa, S; Orgiazzi, A.; Panagos, P.; Van Liedekerke, M; Marechal A. & Jones, A. LUCAS 2018 Soil Module. Presentation of dataset and results, EUR 31144 EN, Publications Office of the European Union, Luxembourg. 2022, ISBN 978-92-76-54832-4, doi:10.2760/215013, JRC129926

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

ESDAC - JRC