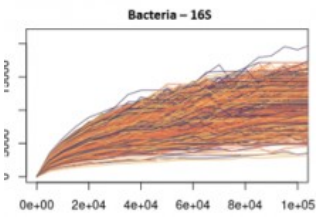
JOINT RESEARCH CENTRE
EUROPEAN SOIL DATA CENTRE (ESDAC)
ESDAC: http://esdac.jrc.ec.europa.eu ESDAC Newsletter No **154** (June 2023)

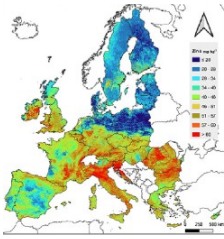
Soil microbial diversity across Europe - DNA Bacteria and Fungi



The dataset includes 16S and ITS raw DNA sequences for 885 samples collected as part of the LUCAS 2018 Soil survey biodiversity module. It is based on measured DNA and soil biological data. Based on this analysis the EUSO, in collaboration with other research Institutes, has developed a first-ever assessment of soil microbial diversity across Europe. This assessment shows interplaying effects of vegetation, climate and soil properties on microbial communities and the associated potential functions. the results have been published in a **Nature Communications** paper. This study indicates that a higher richness and diversity detected in more disturbed areas, such as croplands and grasslands, could also mean more potential plant pathogens. Data are available from:

https://esdac.jrc.ec.europa.eu/content/soil-biodiversity-dna-bacteria-and-fungi

Zinc concentrations in EU topsoils



Zinc (Zn) plays a crucial role in various biological processes and is an subsequently an essential micronutrient for living beings. Zinc can also be toxic when present in excess. In this research paper published recently, we applied a machine learning model on 21,682 soil samples from the LUCAS topsoil 2009/2012 database to assess the spatial distribution in Europe of topsoil Zn concentrations measured by aqua regia extraction, and to identify the influence of natural drivers and anthropogenic sources on topsoil Zn concentrations. The mean estimated Zn concentration in Europe was 41 mg kg−1. We identified clay content as the most important factor explaining the distribution of soil Zn in Europe. Presence of deposits and mining activities mainly explained the occurrence of relatively high Zn concentrations. Data are available at a resolution of 250m from:

https://esdac.jrc.ec.europa.eu/content/zn-concentrations-eu-topsoils

Mission Soil Manifesto

The document launched by the European Commission **can be voluntarily signed** by representatives of municipalities, regions, private or public companies and other organisations, such as NGOs and philanthropic organisations, schools and education institutions, as well as by research institutions. Individuals can also sign the Manifesto and become "Friends of the Mission Soil". To sign the manifesto: https://ec.europa.eu/eusurvey/runner/mission-soil-manifesto

Call for technical studies under the Fertilising Products Regulation

Call for tender for two technical studies to support the inclusion of new materials and microorganisms under the Fertilising Products Regulation (EU 2019/1009). **Deadline**: 17.7.2023. Web link: http://etendering.ted.europa.eu/cft/cft-display.html?cftId=13126

JRC Summer School on the evaluation of air, soil and water pollution in support to the European Green Deal: a holistic approach

The JRC is pleased to announce this "Summer School on the evaluation of air, soil and water pollution in support to the European Green Deal: a holistic approach". It is organised by the European Commission's Joint Research Centre in partnership with Novi Sad University. The aim of this training is to develop green skills for a more sustainable and resource-efficient society. We are looking for advanced students and young scientists from the Western Balkans region, i.e., Serbia, Montenegro, Kosovo, Bosnia & Herzegovina, North Macedonia and Albania (enrolled in masters or enrolled in PhD or max. 5 years after masters or PhD) with a strong interest in the protection of environment, air, soil and water in particular. Applications shall be submitted by **30 June 2023**.