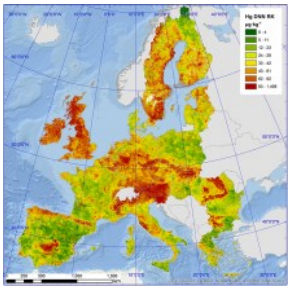
JOINT RESEARCH CENTRE
EUROPEAN SOIL DATA CENTRE (ESDAC)
ESDAC: http://esdac.jrc.ec.europa.eu ESDAC Newsletter No **127** (Jan-Feb 2021)

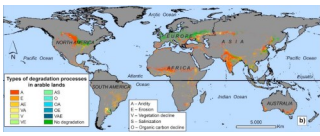
## Mercury (Hg) distribution in European topsoils



Mercury (Hg) distribution in topsoil (0-20cm) is influenced by climate, soil properties, vegetation. In addition to the natural factor, mercury has high values close to past mining activities and coal combustion sites. High Overall, the stock of Hg in EU topsoil is estimated to c.a. 44.8 Gg with a median concentration of 38.3 µg $kg^{-1}$; 10% of the area exceeds the 84.7 µg $kg^{-1}$ and 209 Hg hotspots (top 1%) have been identified with concentrations >422 µg $kg^{-1}$. In a detailed investigation, 42% of the hotspots were associated with well-known mining activities while the rest can be related either to coal combustion industries or local diffuse contamination. In total 209 hotspots were identified, defined as the top percentile in Hg concentration (>422 µg $kg^{-1}$). 87 sites (42% of all hotspots) were associated with known mining areas. The sources of the other hotspots may relate to unmined geogenic Hg or industrial pollution. In a recent research study we present soil Hg concentrations from the LUCAS topsoil (0–20 cm) survey mapped with Deep Neural Network (DNN) learning model. Download data:

https://esdac.jrc.ec.europa.eu/content/mercury-content-european-union-topsoil

## Land degradation in global arable lands



Land degradation is a global environmental issue that affects the world's arable lands on a large scale, thus threatening global food production systems. In a recent study, we analysed the land degradation footprint on global arable lands, using complex geospatial data on certain major degradation processes, i.e. *aridity, soil erosion, vegetation decline, soil salinization and soil organic carbon decline*. By applying geostatistical techniques that are representative for identifying the incidence of the five land degradation processes in global arable lands, results showed that aridity is by far the largest singular pressure for these agricultural systems, affecting ~40% of the arable lands' area, which cover approximately 14 million $km^2$ globally. Also, it was found that soil erosion is the major land degradation process, affecting ~20% of global arable systems. Data available:

https://esdac.jrc.ec.europa.eu/content/land-degradation-global-arable-lands

## Launch of the European Soil Observatory


Almost 900 unique visitors (from 70 countries) have followed the launch of the EU Soil Observatory, 4th December 2020. The event was live web-streamed and you can follow the discussion and presentations. More information about the developments on the European Soil Observatory will come soon. We also make available the presentations of the launch event: https://ec.europa.eu/jrc/en/event/workshop/launch-event-eu-soil-observatory

## EU Action Plan Towards a Zero Pollution Ambition for air, water and soil (public consultation)

To secure clean air, water and **soil**, healthy ecosystems and a healthy living environment for Europeans, the EU needs to better prevent, remedy, monitor and report on pollution, mainstream the zero pollution ambition into all its policy developments and decouple economic growth from the increase of pollution, in line with United Nations driven efforts. All citizens and the wider community of stakeholders are welcome to express their views. Soil is part of EU action plan and soil community is welcomed to express their opinion in this public consultation. **Deadline**: 10.2.2021

https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12588-EU-Action-Plan-Towards-a-Zero-Pollution-Ambition-for-air-water-and-soil/public-consultation

**More Details**

**Download the ESDAC Newsletter**: PDF Format. **Feedback**: panos.panagos@ec.europa.eu

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