

Soil



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Soil

Soil underpins 90 % of all food, feed, fibre and fuel production, and it provides raw material for activities from horticulture to the construction sector. Soil is also essential for ecosystem health: it purifies and regulates water, it is the engine for nutrient cycles and a reservoir for genes and species, supporting biodiversity. It is a global carbon sink, playing an important role in the potential slowing of climate change and its impacts. Moreover, by conserving traces of our past, it is an important element of our cultural heritage.

However, soil is subject to ongoing, often conflicting demands from our society. The ability of soil to deliver ecosystem services — in terms of food production, as a biodiversity pool and as a regulator of gasses, water and nutrients — is thus under pressure. Observed rates of soil sealing, erosion, decline in organic matter and contamination all reduce soil resilience or its capability to absorb the changes it is exposed to.

Within the time frame of a human life, soil can be considered a non-renewable resource. As a society we need to manage it sustainably to enjoy its benefits. Despite the range of activities that ultimately depend on soil, there is no specific EU legislation on soil. To date, and unlike water and air, soil protection is addressed indirectly or within sectoral policies: agriculture and forestry, energy, water, climate change, nature protection, waste and chemicals. The lack of a coherent soil policy at EU level is also reflected in the scarcity of harmonised soil data.

Nevertheless, the past ten years have seen progress in policy development and coordinated data efforts. The European Commission's Soil Thematic Strategy from 2006 highlights the need to protect soil functioning as an essential element of sustainable development. At the global level, soil issues are being addressed under the wider concept of land degradation (so far limited to dryland areas) by the United Nations Convention to Combat Desertification (UNCCD). More recently, the notion of preserving soil functions has been embedded in the land-degradation-neutrality concept as part of the Sustainable Development Goals (SDGs), agreed by the United Nations General Assembly in 2015. The SDGs also include targets on soil quality, soil contamination, the management of chemicals and waste. Implementation of the SDGs can provide an important vehicle for soil protection measures in Europe. Efforts to harmonise and standardise soil information for public use are proceeding accordingly, both at global and European level.

The EEA produces indicator-based assessments on a range of land-use and soil topics under the thematic cluster of land-use and soil indicators (LSI set). The LSI set comprises indicators on land take, imperviousness, management of contaminated sites, soil moisture, soil erosion and soil organic carbon. Indicators on fragmentation and land recycling are planned. Copernicus land

monitoring services facilitate regular updates of several of these indicators. The EEA equally publishes ad-hoc assessments on specific soil-related topics, such as soil resource efficiency in urbanised areas, or soil nutrient and metal loads to the environment.

In function of the topic, the EEA cooperates with colleagues from the European Commission (in particular the Joint Research Centre (JRC) and DG Environment), Eionet representatives from the National Reference Centre for Soil and Land Use, and Spatial Planning, or other European networks and experts. Global partners include: the UNCCD Secretariat, the Global Soil Partnership, the Global Land Indicator Initiative (facilitated by UN-Habitat) and the United Nations Environment Programme.

The EEA's work in this thematic area has been supported by relevant European Topic Centres (ETCs) since 1996; the ETC on Urban, Land and Soil systems (ETC/ULS), which has been active since 2014, currently supports EEA work on soils. In 2007, soil data activities were transferred to the European Soil Data Centre at the JRC

Related content

Related indicators

Imperviousness and imperviousness change [<https://www.eea.europa.eu/data-and-maps/indicators/imperviousness-change/assessment>]

Soil moisture [<https://www.eea.europa.eu/data-and-maps/indicators/water-retention-3/assessment>]

Progress in management of contaminated sites [<https://www.eea.europa.eu/data-and-maps/indicators/progress-in-management-of-contaminated-sites-3/assessment>]

Land take [<https://www.eea.europa.eu/data-and-maps/indicators/land-take-2/assessment-2>]

Soil erosion [<https://www.eea.europa.eu/data-and-maps/indicators/soil-erosion-by-water-1/assessment>]

Soil organic carbon [<https://www.eea.europa.eu/data-and-maps/indicators/soil-organic-carbon-1/assessment>]

See also

About indicators [<https://www.eea.europa.eu/data-and-maps/indicators/about>]

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