



Research and analysis

Summary of the state of the environment: soil

Updated 26 January 2023

Applies to England

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This publication is available at <https://www.gov.uk/government/publications/state-of-the-environment/summary-state-of-the-environment-soil>

Our state of the environment report for soil highlights the importance of soil. It looks at the latest available evidence and the need for further monitoring and research.

This page summarises the main findings of the report.

1. Main findings

Soil is an important natural capital resource. It provides us with many essential services.

Soil biodiversity and the many biological processes and soil functions that it supports are thought to be under threat.

There are insufficient data on the health of our soils. Investment is needed in soil monitoring.

In England and Wales:

- almost 4 million hectares of soil are at risk of compaction
- over 2 million hectares of soil are at risk of erosion
- intensive agriculture has caused arable soils to lose about 40 to 60% of their organic carbon
- soil degradation was calculated in 2010 to cost £1.2 billion every year

Compaction and the loss of organic carbon are serious threats to soil health. They affect agricultural production and our resilience to climate change. UK soils currently store about 10 billion tonnes of carbon. This is roughly equal to 80 years of annual UK greenhouse gas emissions.

Wasting food and growing crops for bioenergy are putting additional pressure on soils.

Spreading of some materials to land is poorly controlled and can give rise to contamination. Some 300,000 hectares are contaminated in the UK.

Microplastics are widespread in soil with unknown consequences.

2. Looking ahead

Soil has been overlooked in environment policy in recent decades. However, the government's 25 Year Environment Plan states that:

- England's soils must be managed sustainably by 2030
- steps must be taken towards restoring the UK's soils

A new system of public money for public goods will reward farmers for environmental outcomes such as emphasising healthy soils. There is a huge opportunity if the new Environmental Land Management scheme is properly funded to incentivise farmers by rewarding them for protecting and regenerating soils.

Contamination of soils is often thought to be a thing of the past. However, new and emerging chemicals and waste management practices bring new regulatory challenges and environmental risks. The first step towards understanding these risks and challenges is to understand our soils and how they're changing.

Read the [state of the environment: soil report](#)

(https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/805926/State_of_the_environment_soil_report.pdf).

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