Soils at COP

An Overview of soil's place in Global Summits on Climate, Biodiversity and Desertification

SUSTAINABLE SOILS ALLIANCE

5 December 2024

Why Soils are on the COP agenda

Since the initial COPs in 1995, the role of soil in relation to **climate change, biodiversity** and **desertification** has transitioned gradually from being a peripheral issue, to a significant focus of discussion in 2024.

This reflects a growing understanding and awareness that the world's soils are both profoundly affected by the effects of climate change - and can have a significant mitigating impact - as a natural sink to offset greenhouse gas emissions.

This shift in has been driven by growing recognition of soils' ability to:

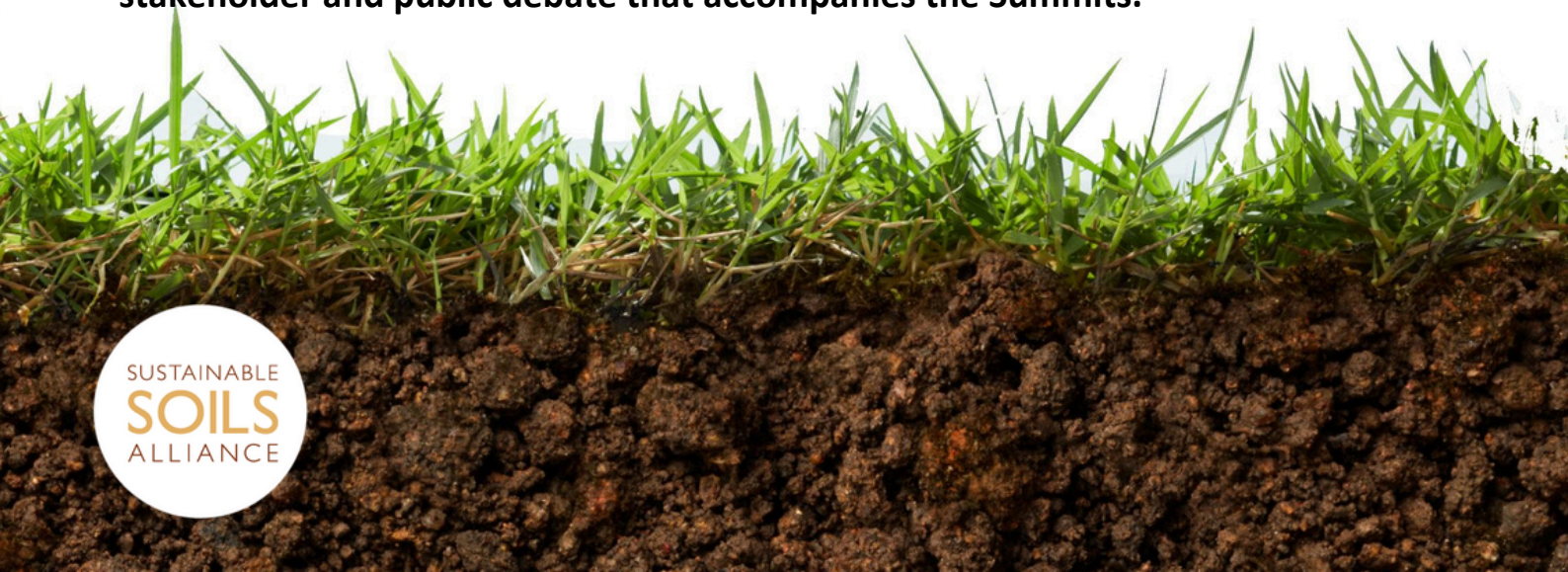
- remove and store carbon
- achieve a wide range of environmental goals
- provide cost-effective, scalable solutions for climate mitigation and adaptation
- provide and support ecosystem services

And how are they affected?

COP negotiations can have a number of outcomes - with varying degrees of impact for signatory/participant countries, industry and civil society. They include:

- New agreements and treaties such as the Kyoto Protocol and the Paris Agreement.
- Legally binding text over the UNFCCC Parties.
- New Nationally Determined Contributions (NDCs) - countries' plans to reduce emissions and adapt to climate change.
- Specific goals such as cutting transport emissions, and protecting forests.

Over the years - and especially since the 2015 Paris Agreement, global Soil awareness and policy have risen up the COP agenda and been influenced to varying degrees by all the mechanisms listed above, as well as the wider stakeholder and public debate that accompanies the Summits.



How has the focus on soil evolved at COP events over time?

Climate Change COPs

The 2015 Paris Agreement was a pivotal moment for soils because it included commitments to sustainable soil management and soil carbon sequestration. The agreement also includes the "4 per 1000 Initiative: Soils for Food Security and Climate", a voluntary action plan to increase soil carbon (see p.8), demonstrating the potential of agricultural soils to enhance food security and combat climate change through carbon storage.

Soil health has since become integral to climate finance for adaptation, regenerative agriculture, and carbon markets, reinforced at COP26 **(Glasgow, 2021)** under the Glasgow Leaders' Declaration on Forests and Land Use. By **COP28 (Dubai, 2023)**, soils were further linked to biodiversity, water management, and carbon storage through declarations on sustainable agriculture and resilient food systems.

Biodiversity COPs

Soil biodiversity entered global discussions at **COP13 (Cancún, 2016)**, where it was addressed under land degradation and desertification. At **COP14 (Sharm el-Sheikh, 2018)**, soil health was explicitly tied to the Sustainable Development Goals (SDGs), particularly SDG 15 (Life on Land), highlighting its role in sustainable land management and ecosystem restoration.

Desertification COPs

Soil health has transitioned from a focus on degradation prevention to broader ecosystem sustainability. At **COP14 (New Delhi, 2019)**, soil health was linked to global sustainability goals, while **COP15 (Abidjan, 2022)** emphasised the economic value of soil ecosystem services. By **COP28 (Dubai, 2023)**, soils featured prominently in declarations on agriculture, resilience, and climate action, reflecting their expanded role in biodiversity, water management, and carbon storage.

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How did the three COPs address land use in 2024?

2024 is a significant year for the Rio Conventions on biodiversity, climate change, and desertification. For the first time since 2000, Parties to all three Conventions have their negotiations in the same year, addressing the overlapping and connected issues of climate change, biodiversity and land. In these, Soil is covered as follows:

- **COP16** (Biodiversity) - Cali, 21 October - 1 November 2024

The conference emphasised the implementation of the Kunming-Montreal Global Biodiversity Framework, focusing on restoring degraded ecosystems and prioritising sustainable land management. Discussions included setting measurable targets for protecting 30% of global land by 2030 while improving connectivity between biodiversity-rich areas. Soil health was specifically highlighted as a cornerstone for achieving the GBF's targets.

- **COP29** (Climate Change) - Baku, 11 - 22 November 2024

Cop 29 saw agreement on Article 6.2 of the Paris Climate Change Agreement, which enables countries to exchange emission reductions and removals (including through soil carbon sequestration). Whilst the objective was to promote trade through bilateral agreements, this represents a significant step in bringing robustness and scale to voluntary carbon markets - although critics have already highlighted areas where transparency and integrity are lacking.

- **COP16** (UNCCD / Desertification) - Riyadh, 2 - 13 December 2024

Under the theme "Our Land. Our Future" the conference aims to advance efforts to combat land degradation and promote sustainable land management, with soils playing a pivotal role in several thematic discussions. These include Soil Health for Food Security and Resilience, Soil Carbon Sequestration, Agri-Food Systems and Policy and Science Discussions.

What decisions related to soil have been agreed at COP events?

Soils have been reflected in COPs as follows:

- **Paris Agreement (COP21, 2015)**: Countries committed to land-based climate solutions through their Nationally Determined Contributions (NDCs)
- **4 per 1000 Initiative (COP21, 2015)**: parties and stakeholders committed to integrating soil carbon storage into agricultural policies and practices
- **Koronivia Joint Work on Agriculture (COP24, 2018)**: Parties recognised the role of soils in improving agricultural productivity and addressing climate resilience, with soil health positioned as a critical component of sustainable agriculture
- **Land Degradation Neutrality (LDN) Targets (UNCCD)**: Many parties have committed to halting and reversing land degradation by 2030. While not specific to COP, this UN Convention's synergy with COP discussions emphasises soil conservation and restoration
- **Sustainable Development Goals (SDGs)**: Soil health contributes to achieving SDG 15.3 on Land Degradation Neutrality and is linked to climate action (SDG 13), food security (SDG 2), and clean water (SDG 6)
- **COP26 Glasgow Leaders' Declaration on Forests and Land Use (2021)**: Commitment to sustainable land use, including restoring degraded soils and increasing soil carbon stocks

Which countries and regions have raised soils at the COPs - and why?

Over the years, countries and regions have raised soil at COP for a variety of reasons - reflecting regional, cultural and climatic differences, economic and policy priorities and the emergence of new science and research.

- **France:** promote the 4 per 1000 Initiative (launched at COP21 in 2015) Several European countries highlight soils as part of their Nature-based Solutions (NbS) strategies to combat climate change.

- **UK**: actively engaged with soil-related issues at several UN Climate Change Conferences (COP), leveraging its position as a leader in climate action and agricultural innovation.

- **US:** emphasises soil health practices through initiatives such as cover cropping, no-till farming, and carbon markets, and at COP27, discussions included potential for private sector investment in soil carbon credits.

- **Africa**: countries in the Sahel region have championed efforts like the Great Green Wall initiative, which involves restoring degraded soils to halt desertification and improve livelihoods.

- **Latin America**: Countries like Brazil and Colombia stress the importance of maintaining healthy soils to sustain the Amazon and other ecosystems.

- **Asia-Pacific**: India and China have highlighted the role of soil organic carbon in improving agricultural productivity, with dialogues on Land Degradation Neutrality (LDN) targets within the region.

- **Small Island Developing States**: emphasise the importance of maintaining soil health in fragile ecosystems affected by rising sea levels.

4Per1000 – A Case Study

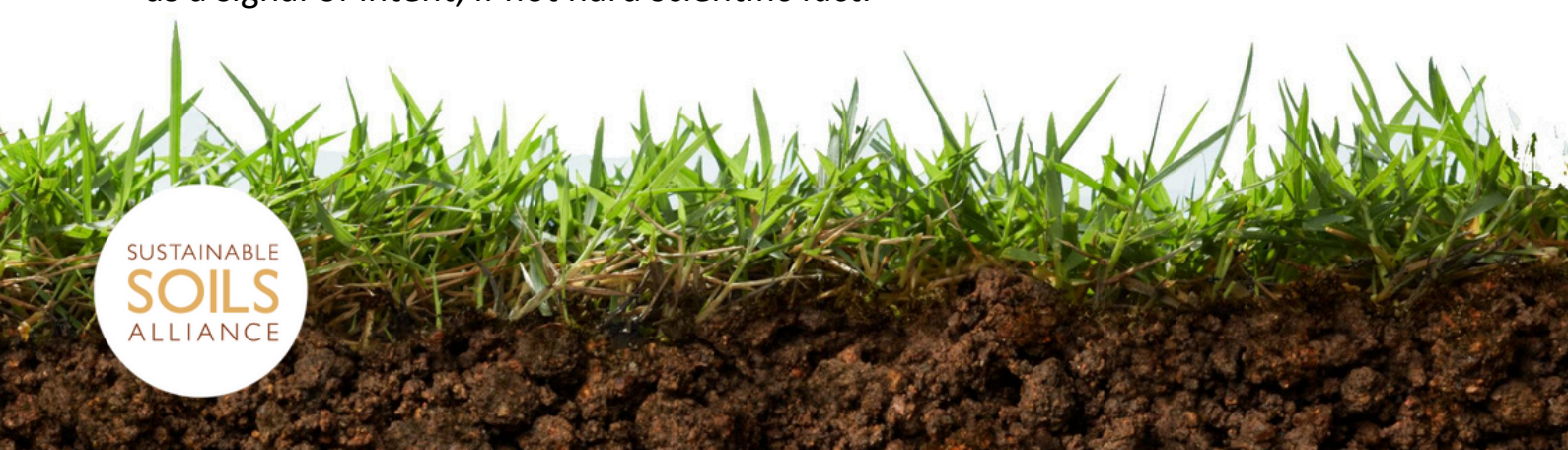
The challenge of setting global targets for regionally diverse soils

Launched at COP 21 (Paris) , **the 4 per 1000 Initiative** aimed to show that agriculture, and in particular agricultural and forest soils, can provide concrete solutions to the challenges of climate change while at the same time meeting the challenge of food security. It encourages voluntary actors (government and business) to commit to a transition towards regenerative, productive and resilient agriculture, based on appropriate management of land and soil.

At the heart of the initiative was the assumption that If the level of carbon stored by soils in the top 30 to 40 centimetres of soil were to be increased by 0.4% (or 4‰) per year, the annual increase of carbon dioxide (CO2) in the atmosphere would be significantly reduced.

Whilst a critical stepping stone towards securing a widespread understanding of soil's role and potential, it was subject to almost immediate criticism among the scientific community that it over-estimated soils' sequestration potential while glossing over challenges around its feasibility, saturation, and disparities in regional soil capabilities.

The 4/1000 initiative exemplifies the challenge of applying global targets to highly localised and variable systems like soils - and proposing equitable, proportionate solutions. Despite the furore, 4/1000 remains a memorable and eye-catching slogan for soil, which continues to resonate in public, political and farming circles as a signal of intent, if not hard scientific fact.



Voices from participants

Hopes were high for a 'Triple-COP' Year, in particular given that 2024 had been punctuated by flash floods, drought, wildfires, and other extreme weather events around the globe, devastating communities, threatening biodiversity, and accelerating the degradation of soils.

Save Soil, along with over 70 other NGOs, have called for COP29 to improve financial assistance to smallholder farmers to help them manage global agriculture soils which, they claim conservatively have the potential to sequester 27 per cent of carbon that is needed to arrest the global temperature rise by two degrees.

Opinions were divided on the package of rules agreed at COP29 governing carbon markets, including soil carbon. Proponents celebrated the breakthrough (which have been a decade in the making) and which they claim will mobilise billions of dollars for new climate projects.

Sadhguru was among the decision's supporters, highlighting its potential for smallholder farmers to be rewarded for protecting their soils, however others criticised the weakness of the framework "The flaws of Article 6 have, unfortunately, not been fixed," says Isa Mulder, policy expert on global carbon markets at Carbon Market Watch "It seems countries were more willing to adopt insufficient rules, and deal with the consequences later, rather than prevent those consequences in the first place."

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"Let's remember: soil is the absolute foundation of life on land, on our planet."
- Ann Winowiecki, soil systems scientist (CA4SH) at COP27 (Sharm el-Sheikh, 2022)

"Soils have leapt up the agenda, being explicitly discussed as a critical part of solutions to climate change mitigation and adaptation, water, biodiversity, equity, and community."
- British Society of Soil Science at COP28 (Dubai, 2023)