



Sequestering Carbon in Soil Addressing the Climate Threat

Recent Highlights on Healthy Soils Work around the World

October 2017

Prepared by [Breakthrough Strategies & Solutions, LLC](#)

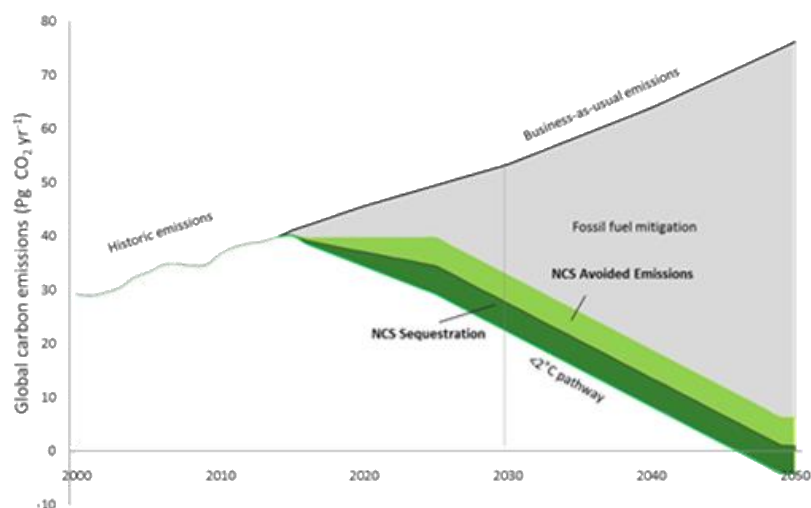
Critical Reports, Studies, & News Coverage

Natural Climate Solutions Study

This study was published in the *Proceedings of the National Academy of the Sciences (PNAS)* – the culmination of more than two years' work with 32 scientists from 15 different institutions. The paper is one of the most comprehensive studies of land-use greenhouse gas emissions to date and details 20 specific pathways for action – what The Nature Conservancy calls natural climate solutions – and finds that they can **cost-effectively deliver 37% of the emissions reductions the world needs by 2030**.

For the paper, click [here](#).

For the Natural Climate Solutions website, a project of The Nature Conservancy, click [here](#).



Reducing greenhouse gas emissions in agriculture without compromising food security

A new report in *Environmental Research Letters* focuses on the win-win strategy of building healthy soils, sequestering carbon, and boosting food security.

Click [here](#) for more details.

Better land stewardship could get us one-third of the way to Paris

This [article](#) published in *Anthropocene Magazine* is based on a recent study that suggests that better global land stewardship could get us more than one-third of the way to the Paris climate mitigation targets.

For the original report that this article refers to, click [here](#).

Soil carbon losses from 12,000 years of human land use

This [article](#) published in *Washington Post* highlighting the recently released paper “Soil Carbon debt of 12,000 years of human land use” provides a helpful overview of the positive role agriculture can play in addressing the climate threat. The original paper discusses how the historic loss of carbon indicates significant potential for restoring carbon to soil. It also focuses on the challenges in doing so.

For the original report that this article refers to, click [here](#).

Rural women are taking the lead with farming worldwide

This profile looks at innovative women farmers and their leadership role in agriculture globally.
<http://www.bbc.com/news/world-41366255>

Warming soils pose a challenge to long term carbon sequestration

This [article](#) published in the *Guardian* discusses how warming soils may release global warming emissions. [Some argue that warming will also cause greater above ground biomass and increased sequestration, but we are not featuring the full debate here.]

For the original report that this article refers to, click [here](#).

Unsustainable farming is causing catastrophic impacts on insects, pollinators, and all non-human living things.

This much circulated [article](#) from the *Guardian's* George Monbiot points to unsustainable farming and industrial fishing as the two greatest threats to the planet. A must read for everyone.

Carbon farming can help mitigate climate change

This positive and upbeat [article](#) published in the *New Food Economy* discusses ongoing studies and commentary on the potential of SCS.

Leveraging private and public capital to provide financing for healthy soils

This [report](#) by Encourage Capital looks at existing U.S. Farm Bill conservation funding as a lever for private capital to promote healthy soils and conservation farming.

Study shows organic farming is key to soil carbon sequestration and adaptation.

The scientific community has been actively debating whether organic farming methods can provide a promising solution to climate change. There are competing studies and perspectives. This [study](#) from a small research team at Northeastern University argues that organic farming has a critical role to play.

Emerging Work & Developments

NAS Carbon Removal Working Group

A committee within the National Academy of Sciences (NAS) has been tasked with developing a research on carbon dioxide removal (CDR) and sequestration is overseeing an ongoing study looking at various CDR approaches, namely soil carbon sequestration, accelerated weathering, bioenergy with capture, direct air capture, geologic sequestration, and blue carbon approaches.

For the study this summary refers to, click [here](#).

Climate Summit in Paris

French President Emmanuel Macron has announced that, two years after the adoption of the Paris Agreement, he will convene a summit on December 12, 2017 to take further action on climate, notably on the financial front. Details are limited but we understand that high-level panels may address mobilization of private and public finance, opportunities for action by local authorities, and climate mobilization and ecological transition. Parallel events will take place around the date of December 12th. A small, *by invitation only* workshop co-organized by the World Bank, the AFD (French Agency for Development) and the “4 for 1000” Initiative will take place on December 13th and 14th, at the premises

of the World Bank in Paris. The subject will be "4 per 1000 and land tenure issue: conditions conducive to the sustainability of carbon storage in soils".

First Agroecology Forum for Europe Takes Place

Scientists, practitioners, and NGO leaders gathered to explore the role of agroecology in addressing climate change, food security, and adaptation. For more information, click [here](#).

Additional context and background materials on the importance of agroecological approaches can be found [here](#).

IPCC Land Based Strategy

The IPCC is working on two special reports with a direct connection to healthy soils and carbon sequestration. The first of these special reports, to be finalized in September 2018, is an IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. Nearly 500 experts from around the world took part in the recent review of the First Order Draft of the *Special Report on Global Warming of 1.5°C (SR15)*. The lead authors addressed nearly 13,000 comments from expert reviewers in 61 countries as they prepare the Second Order Draft of this extremely important report.

For more details on the timeline and next steps, [click here](#).

Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems will be delivered in September 2019. The [author team](#) for this second report has been selected. 103 experts from 52 countries will work together to produce the report. The IPCC expects to issue a call for expert reviewers in 2018.

New Carbon Economy Consortium

Academic consortium that is doing multi-sector R&D on carbon management, including on soil carbon sequestration but also with a focus on other technologies and approaches.

To go to the website, click [here](#).

For the report summarizing this meeting, click [here](#).

FAO Global Soil Partnership

The Global Soil Partnership of the FAO has put out [an open call](#) to stakeholders to join a working group that will produce a technical manual on soil organic carbon management at the regional and sub-regional scale.

For more information about the initiative and the schedule of activities and research underway at the GSP, click [here](#).

No Regrets Initiative

The No Regrets Initiative Team has launched a new website. The intention is that this website can be an ever-evolving resource that will provide information focused on improving soil health and growing soil carbon in the agricultural soils of America.

To go to the website, click [here](#).

Permafrost Carbon Network

The 7th annual meeting of the Permafrost Carbon Network will take place on Sunday, December 10, 2017 in New Orleans, LA. For more details, click [here](#).

Policy Developments

California Healthy Soils Programs Stalled by Budget Cuts

The Healthy Soils Program provides incentives and demonstration projects for soil management practices on farms and ranches that sequester carbon and reduce greenhouse gas emissions. The program launched this summer with \$7.5 million. Program funding was zeroed out for FY 2017-18 in the Greenhouse Gas Reduction Fund budget bills. Governor Jerry Brown signed SB 5, a \$4 billion bond measure, that provides important natural resources and sustainable agriculture funding. If approved by voters in June 2018, the bond measure would make a one-time allocation of \$10 million for the Healthy Soils Program and \$20 million for State Water Efficiency and Enhancement Program (SWEEP)— two Climate Smart Agriculture programs that were cut in the recent climate investments budget deal.

To go to Healthy Soils Program website, click [here](#).

For an article on the cuts in the recent climate investments budget deal, click [here](#).

Fellowships

Borlaug Global Research Alliance Fellowships

The U.S. Department of Agriculture is now accepting applications for the 2017 Borlaug Global Research Alliance Fellowships. Fellows selected from eligible countries (Colombia, Costa Rica, Egypt, Ghana, Honduras, Indonesia, Malaysia, Mexico, Nicaragua, Panama, Peru, Philippines, Thailand, Vietnam) will work with a mentor at USDA's Agricultural Research Service or a United States university for up to 12 weeks on resilient agricultural research. For more information, click [here](#).



Farmer Training Programs

Soil Health Consulting, LLC.

Soil Health Consulting, LLC. Is a newly founded company that is providing training to farmers who want to learn regenerative agriculture practices. Specifically, the firm puts on a program called the Soil Health Academy, which is a three-day course that engages 50 farmers by combining classroom education with hands-on learning in the field.

For more information about the program, click [here](#).

This update was prepared by Taylor Herren, Austin Badger and Betsy Taylor of Breakthrough Strategies & Solutions, a small consulting firm based in Takoma Park, MD. It is being circulated to a global list serve of farmers, investors, policy leaders, NGOs and philanthropists interested in advancing the field of soil carbon sequestration, healthy soils, and win-win strategies for addressing climate mitigation, adaptation, biodiversity, and food security. Apply to join the list serve [here](#).