



Soil Carbon Sequestration Update

November 2018

Publications, Reports and Studies

National Academy of Science report on negative emissions technologies including land and forests - an important overview on carbon removal technologies and strategies

<https://www.nap.edu/catalog/25259/negative-emissions-technologies-and-reliable-sequestration-a-research-agenda>

Summary paper on how global emissions from livestock are monitored, reported and

verified. https://cgspace.cgiar.org/bitstream/handle/10568/89335/CCAFS_Report17.pdf

Options for keeping our global food system within environmental and planetary limits

<https://www.nature.com/articles/s41586-018-0594-0>

Large scale soil health restoration is key to addressing climate change, water security and food security - very good report by Asian Development Bank

<https://www.adb.org/sites/default/files/publication/386056/sewp-16.pdf>

Peatlands store and will continue to store huge amounts of carbon - they need protection

<https://phys.org/news/2018-09-peatlands-carbon-planet.html>

Agroecological case studies show promise of diversified agricultural systems -

https://ia601506.us.archive.org/7/items/CS2ExecutiveSummary/CS2_ExecutiveSummary.pdf

Diversifying working lands is key to protecting biodiversity

https://www.sciencedaily.com/releases/2018/10/181018151103.htm?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+sciencedaily%2Fplants_animals%2Fagriculture_and_food+%28Agriculture+and+Food+News+--+ScienceDaily%29

Forest carbon stocks have been overestimated

<https://www.sciencedaily.com/releases/2018/10/181016110100.htm>

Young forests can store tremendous amounts of carbon. What are the implications of this for forest and ecological restoration efforts?

<http://www.climatecentral.org/news/young-forests-store-enormous-amounts-carbon-20348>

A [new report](#) from the Climate Land Ambition and Rights Alliance (CLARA), "Missing Pathways to 1.5 C", shows how basing climate mitigation and adaptation on land rights, ecology and agroecology can get to 1.5 C without resorting to untested and dangerous bio- and geoengineering pathways.-Interesting report on mitigation & agroecology. While soils doesn't make the splash page, it's all over the full report.

Agroecological practices can help the world stay below 1.5C in warming

<https://www.climatelandambitionrightsalliance.org/report>

Rising temperatures likely to increase soil respiration flux - a troubling trend.

<https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2018EF000937>

The role of markets in conserving, restoring and enhancing soil carbon - report by The Nature Conservancy

<https://www.nature.org/content/dam/tnc/nature/en/documents/Carbon-Market-Incentives-Report.pdf>

Supporting farmers in the transition to agroecology to promote carbon sequestration from silvopastoral systems

http://www.ifsa2018.gr/uploads/attachments/80/Theme2_Burbi.pdf

Grasslands may be more reliable sinks than forests in California

<http://iopscience.iop.org/article/10.1088/1748-9326/aacb39/meta>

Restored peatlands return to serving as important carbon sinks

<https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.14449>

Kelp, seaweed and the potential to sequester carbon in coastal zones

<http://carboninstitute.org/kelp-and-carbon-sequestration-bringing-terrestrial-carbon-accounting-to-the-deep-sea/>

Ecological Restoration Projects

A major effort to restore land and enhance soils carbon, rooted in indigenous communities

<https://www.niatero.org/>

National summit on coastal ecosystem restoration projects, Society for Ecological Restoration

<https://www.ser.org/events/EventDetails.aspx?id=1160387&group=>

Prizes

World Future Council offers rewards for policies that help scale up agroecological practices.

<https://www.worldfuturecouncil.org/p/2018-agroecology/>

The Institute for Food and Agriculture has a prize competition focused on innovations in technology that will support agricultural systems.

<https://nifa.usda.gov/program/innovations-food-and-agricultural-science-and-technology-i-fast-prize-competition>

Mapping, Monitoring, Reporting and Verifying Carbon in Soil

FAO slide deck on status and challenges for MRV

<https://www.slideshare.net/FAOoftheUN/status-and-challenges-for-mapping-monitoring-and-mrv-of-soc>

MRV tools not always exchangeable across landscapes and types of soil

<https://www.sciencedaily.com/releases/2018/08/180822082630.htm>

Resources

The WOCAT SLM Database is an extraordinary world database on sustainable land management practices in 129 countries

<https://qcat.wocat.net/en/wocat/>

Soils is an open access journal for scientists working to better understand the many dimensions of our soils. They invite papers for publication that will help us move forward in our deeper grasp of soils and their complex interactions.

<https://www.mdpi.com/2411-5126/1/1/7/htm>

The FAO Global Soil Organic Carbon Map (GSOCmap) is not just a map! It is also a consultative and participatory process involving 110 countries, which makes this map totally new and unique!

<http://www.fao.org/global-soil-partnership/pillars-action/4-information-and-data-new/global-soil-organic-carbon-gsoc-map/en/>

This website has a map of films and documentaries about projects around the world advancing regenerative agriculture and ecosystem restoration. See below for instructions.

<https://spherical.studio/regenerates/>

In a laptop or desktop browser, click a project pin then click the image that appears in the column on the left. This will display a YouTube video over the map. If the project has multiple videos, an arrow will appear to the right of the first video. Click on it to view additional videos and photos. In a tablet browser, click a project pin then click the image that appears at the bottom of the screen. Unfortunately, the video functionality is unpredictable on mobile phones. This is a technical limitation of Google's My Maps.

Ridgedale Permaculture has online training videos and materials. This Swedish farm focuses on Farm Scale Permaculture Design, Regenerative Agriculture, Keyline Design, Agroforestry, Pasture based livestock enterprises, Holistic Management, No-Dig Market Gardening

<http://www.ridgedalepermaculture.com/>

Regen Network has published a white paper featuring Regen Ledger, a decentralized data system of distributed ledger technology to accelerate investment in ecological restoration.

<http://regen-network.gitlab.io/whitepaper/WhitePaper.pdf>

The Soil Best Bets Compendium is sponsored by CIAT and identifies and explains in detail practices, methods, technologies or initiatives that have the potential to maintain or increase the organic matter and fertility of soils.

<http://soilsbestbets.ciat.cgiar.org/?callback=about>

CIAT sponsors profiles of climate-smart agriculture programs in numerous countries
<https://cgspace.cgiar.org/handle/10568/74485>

A team of scientists associated with Oak Ridge National Laboratory are pooling their talents and studies to gather information on below ground roots and the implications for long term carbon storage. This is an open source platform.

<http://iscn.fluxdata.org/2018/10/10/rootworkshop/>
<https://roots.ornl.gov/>

Nori is creating an open source platform to help finance carbon removal including through agriculture.

<https://nori.com/>

Events

December 1 & 2, Global Landscapes Forum, Bonn, Germany

<https://events.globallandscapesforum.org/bonn-2018>

December 13, 2018, the 4 per 1000 Initiative will co-sponsor a side event at the COP 24 in Katowice, Poland; Soils for Food Security and Climate.

<https://www.4p1000.org/events-news>

January 14 and 15, 2019; 21st International Conference on Soil Organic Matter science, Bali, Indonesia <https://waset.org/conference/2019/01/bali/ICSOMS>

From 13 to 16 February 2019, BIOFACH will bring the international organic community together for the 30th time to kick off the new year of organic trade shows

https://www.biofach.de/en/news/press-releases/organic-system-5qenoad6ie_pireport

November 15-17, 2018 - Regeneration International Tropical Agriculture Conference in Belize

<https://regenerationinternational.org/belize-conference-2018/>

8th World Climate Congress has a strong track on carbon sequestration and soils, May 8 & 9, 2019, Thailand

<https://www.omicsonline.org/conferences-list/carbon-capture-and-sequestration>

The Savanna Institute is holding a conference on perennial cropping systems and agroforestry opportunities in the midwest.

<http://www.savannainstitute.org/>

The Foundation for Food and Agriculture Research (FFAR) invites you to join the inaugural Foster Our Future – cultivate.discover.grow. the first of a kind event in Washington, DC on Feb. 5, 2019.

<https://foundationfar.org/get-involved/events/foster-our-future/>

Iowa State is hosting a conference on soil health.

<https://register.extension.iastate.edu/soilhealth>

International Soil Modeling Consortium met in early November. The program and content will be useful to all those trying to deepen their grasp of modeling to grasp soil's ecosystem functions and services

<https://soil-modeling.org/ismc-conference/uploads/ismc2018-book-of-abstracts>

8th World Conference on Ecological Restoration, September 24-28, 2019, Cape Town, South Africa

<https://ser2019.org/>

Southern Hemisphere Conference on Permafrost, December 4-14, 2019, New Zealand

<https://southcop19.com/>

Reclaim, Restore, Rewild, June 7-11, 2020, Quebec, Canada

<http://www.re3-quebec2020.org/>

Policy Developments

This group is developing a policy and action roadmap for the state of California, with a focus on soil carbon sequestration and the state's climate action goals.

<https://food.berkeley.edu/programs/policy/>

Funding and Grants

The US Department of Agriculture's Institute of Food and Agriculture has a range of grants that can be applied for.

<https://nifa.usda.gov/grants>

Media

Why Farmers are Ideally Positioned to fight Climate Change

https://insideclimatenews.org/news/24092018/infographic-farm-soil-carbon-cycle-climate-change-solution-agriculture?utm_source=InsideClimate+News&utm_campaign=7f37818927-&utm_medium=email&utm_term=0_29c928ffb5-7f37818927-327863701

Role of conservative Farm Bureau in US is to resist any focus on climate solutions

https://insideclimatenews.org/news/24102018/farm-bureau-climate-change-denial-farmers-crop-insurance-subsidies-drought-future-at-risk?utm_source=Friday+Feed+FERN+Subscriber+Only&utm_campaign=717b56b954-FERN_Friday_Feed_Non_AI_Subscribers_10_26_2018&utm_medium=email&utm_term=0_1741fe224a-717b56b954-79095353

Dartmouth College assistant professor profiled for work on soils and carbon mitigation

<https://news.dartmouth.edu/news/2018/08/keep-it-ground-caitlin-pries-studies-soil-carbon>

Michigan State professor's work profiled on soil organic carbon and carbon mitigation

<https://msutoday.msu.edu/news/2018/soil-holds-the-secret-to-mitigating-climate-change/>

Worrisome Trends:

Brazil is facing rapid deforestation. What can we do to support our colleagues in Brazil?

<http://www.climatechangenews.com/2018/11/14/bolsonaros-deforestation-amazon-already-begun/>

Prepared by Austin Badger, Taylor Herren and Betsy Taylor, Breakthrough Strategies and Solutions, Takoma Park, Maryland. To join our listserv on Soil Carbon Sequestration [click here](#). To submit suggested resources for the next update,

please contact [Austin Badger.](#)