BREAKTHROUGH & STRATEGIES SOLUTIONS

Soil Carbon Sequestration Update

March 2019

News and Resources for and About Farmers

New report showcases strategies for farming to support biodiversity
https://www.rare.org/en-farming-biodiversity

The MATC agriculture training center in Israel provides courses in agroecological methods for farming.
https://www.facebook.com/MATCShefayim

The Soil Health Academy offers trainings and programs primarily within the United States. See here for upcoming training programs on regenerative agriculture.
https://soilhealthacademy.org/upcoming-schools

Gaia Foundation produced an exceptional photographic exhibit, We Feed The World, profiling over fifty farmers and farm communities using agroecological and regenerative farming practices at small to medium size farms around the world.
https://www.wefeedtheworld.org/

Farmers can't count on technology to offset challenges posed by climate change
https://insideclimatenews.org/news/29112018/climate-change-agriculture-risk-farm-technology-science-report

Biovision has created a new website on agroecological practices for small farmers around the world.
https://www.biovision.ch/en/news/agroecology-infopool-website/

Iowa State has a range of resources to help small farms achieve sustainability
https://www.extension.iastate.edu/smallfarms/

An Oregon rancher is building soil health through holistic grazing
https://civileats.com/2019/01/31/how-an-oregon-rancher-is-building-soil-health-and-a-robust-regional-food-system/

Low-tech apps and soil testing tools for small farmers
https://soils.sectormentor.com/#aboutus

Here is an app / web interface to evaluate soil health called CAPSELLA and funded as an EU Horizon 2020 project. Subtitles are in Greek.
Web Interface
Explanatory Video
APP download link

Reports and Resources

The Lancet, a prestigious medical journal, published an important new study about food systems and diets. The EAT–*Lancet* Commission addressed the need to feed a growing global population a healthy diet while also defining sustainable food systems that will minimise damage to our planet. The report argues that big industrial agriculture along with man of its policy prescriptions and its operations, are undermining planetary and human health. In its words, "The triple challenges of obesity, undernutrition, and climate change, which interact and affect human and planetary health, need solutions that disrupt their common underlying societal and political drivers." A second report, *The Global Syndemic of Obesity, Undernutrition and Climate Change*, looks more deeply at how these issues intersect. The role of soils is central to long-term human health and the climate.
https://www.theguardian.com/commentisfree/2019/jan/28/global-food-killing-humans-planet-climate-change-obesity

FAO has produced a global soil organic map.
http://54.229.242.119/GSOCmap/

Breakthrough Strategies & Solutions, LLC released *Healthy Soils to Cool the Planet, a Philanthropic Action Guide* with recommended grants and a focus on seven levers for change, Including farmer-to farmer training programs, policy, research, supply chains and more.
The focus of the report is to help investors and foundations provide targeted funding to help scale up regenerative agriculture and soil carbon sequestration.
https://www.breakthroughstrategiesandsolutions.com/soilguide

This paper looks at policy developments in France and the UK to promote agroecological approaches to agriculture.
https://www.mdpi.com/2071-1050/10/8/2930/pdf

The Nature Conservancy published this report on carbon market incentives to conserve and restore soil carbon to our lands.
https://www.nature.org/en-us/what-we-do/our-insights/perspectives/carbon-market-incentives-to-conserve-restore-enhance-soil-carbon/

FAO has provided a summary of priorities for international support of NDCs and agriculture.
http://www.fao.org/3/a-i6400e.pdf

Can kelp and seaweed reduce methane emissions in cows? Looks hopeful!
https://foodtank.com/news/2017/06/seaweed-reduce-cow-methane-emission/

CGIAR has provided helpful data and maps for INDCs and agriculture. In general, it is very encouraging to see many international and national entities stepping up to help nations incorporate agriculture into their mitigation and adaptation action plans.
https://ccafs.cgiar.org/agricultures-prominence-indcs-data-and-maps#.XHQOecBKiM9 and
https://cgspace.cgiar.org/handle/10568/73255

The World Business Council on Sustainable Development released a report on the business case for investing in soil health.

The Organic Farming Research Foundation has released a report, Soil Health and Organic Farming: Organic Practices for Climate Mitigation, Adaptation, and Carbon Sequestration
https://ofrf.org/news/new-climate-guide-evaluates-best-organic-practices-curbing-climate-change

The last COP included various side events on soil carbon sequestration. The Research Program on Climate Change, Agriculture and Food Security hosted a Soils Advantage event. Here is some summary material from that gathering.
https://ccafs.cgiar.org/news/soils-advantage-scaling-action-soil-carbon#.XG9HVqJKiM9

The IPCC is developing a Climate and Land report - a critical new assessment of land degradation, desertification, sustainable land management, food security,and greenhouse gas fluxes in terrestrial ecosystems. This is an extremely critical process. To monitor the timeline or to learn more, see below.
https://www.ipcc.ch/report/srccl/

The Thunen Institute in Germany has many valuable resources on soil organic carbon.
https://www.thuenen.de/en/topics/soil/

Policy Developments

Uruguay passed an Agroecology Promotion bill in September 2018.
https://rwr.fm/special-reports/unanimous-vote/

Many states in the United States are moving forward with proposed policies to support healthy soils and soil organic carbon sequestration. Earthjustice has prepared a summary of much of what is going on. Carbon Cycle Institute, CERES and independent consultant Calla Rose Ostrander have provided additional summary data on a separate list serve for people interested in state policy advances on healthy soils within the USA. (To join this list, contact Austin Badger.) This summary of California's management of organic materials and compost,

provided by Nick Lapis, Californian's Against Waste and Matt Cotton Integrated Waste Management Consulting, may have relevance to other states and nations interested in capturing waste for compost and soil health.
https://earthjustice.org/sites/default/files/files/Summary-State-Soil-Health-Initiatives.pdf

Conferences and Events

The Global Soil Week (GSW) brings together a diverse range of actors to initiate and strengthen policies and actions on sustainable soil management and responsible land governance. This year's conference is in Nairobi and will focus on land degradation neutrality in Africa.
https://globalsoilweek.org/

Japan's Ministry of Agriculture, Forestry, and Fisheries is hosting *Agriculture is the Solution to Climate Change,*a 3 day symposium including field trips and strategic discussions with government, scientists, and farmers - scheduled to immediately follow the 49th IPCC gathering in Japan in May.
http://www.maff.go.jp/e/policies/env/agsol.html

The UNFCCC is engaging on multiple levels to better understand and incorporate agriculture into climate action plans and negotiations. As we've noted before, In 2017, the UNFCCC Conference of the Parties adopted decision 4/CP.23 on the "Koronivia joint work on agriculture," (KJWA) which requests the SBSTA and the SBI to "jointly address issues related to agriculture, including through workshops and expert meetings, working with constituted bodies under the Convention and taking into consideration the vulnerabilities of agriculture to climate change and approaches to addressing food security." One of the six priority issues for further examination "improved soil carbon, soil health and soil fertility under grassland and cropland as well as integrated systems, including water management." As a critical follow up to this, a workshop will be held in Bonn from June 17-28 to examine soil organic carbon and carbon sequestration potential for adaptation and mitigation. This is an opportunity to try to provide greater guidance and help to nations exploring how to best incorporate soil carbon sequestration into their climate action plans. Several networks and groups have submitted proposed sessions at the workshop. To submit your own ideas, go to the UNFCC web portal below. The deadline is May 5.
https://www4.unfccc.int/sites/submissionsstaging/Pages/Home.aspx

The FAO is convening a symposium on soil erosion - one of the major threats to global soils.
http://www.fao.org/about/meetings/soil-erosion-symposium/en/

Supply Chains and Soil Carbon Sequestration

Fibershed is helping to build local and regional fiber-based economies with climate beneficial wool, cotton, hemp and other fibers.
https://www.fibershed.com/programs/education/carbon-farming/

Danone and General Mills are playing lead roles with global supply chains, providing incentives to farmers to adopt climate safe and regenerative practices.
https://sustainablebrands.com/read/supply-chain/danonewave-gives-regenerative-ag-boost-with-new-soil-health-initiative
https://www.generalmills.com/en/Responsibility/Sustainability/Regenerative-agriculture

Patagonia is focusing on organic and regenerative agriculture for its fiber and food sources.
https://www.patagonia.com/blog/2018/03/regenerative-organic-certification-unveiled/
https://www.patagonia.com/blog/2016/12/regenerative-organics-drawing-a-line-in-the-soil/

The Role of Viticulture and Soil Carbon

There is growing interest in and focus on regenerative agricultural practices in wine production.
https://www.awri.com.au/wp-content/uploads/2014/10/Managing-greenhouse-gas-emissions-in-viticulture.pdf

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5313494/

http://www.txb-finewines.com/upload/The_truth_about_CO2_emissions_in_the_wine_industry_April_2009_223.pdf

https://www.demeter-usa.org/learn-more/notes-from-the-market/healing-the-planet-through-biodynamic-agriculture.asp

Media Coverage

Natural lands solutions can help cancel out fossil fuel emissions.
https://insideclimatenews.org/news/14112018/climate-change-solutions-forests-farms-carbon-storage-cancel-out-emissions-study

The Green New Deal should include agriculture and soil organic carbon programs.
https://thinkprogress.org/an-opportunity-for-farmers-in-a-green-new-deal-a6dea9e9a4b8/

Agriculture, Green New Deal and Revitalizing Iowa
http://www.stormlake.com/articles/2019/02/06/%E2%80%98green%E2%80%99-new-deal

Dramatic loss of human life in the 1500s led to reforestation and vegetative growth that cooled the planet. This article is both crushing and hopeful. Crushing because of what European colonialists did in the Americas through colonization and acts of genocide against indigenous peoples….and how still, the facts are rarely acknowledged. Hopeful because of the unintended consequences on the climate..and the implications for today. The "large-scale depopulation" of indigenous people resulted in vast tracts of agricultural land being left untended, researchers say, allowing the land to become overgrown with trees and other new vegetation. The regrowth soaked up enough carbon dioxide from the atmosphere to actually cool the planet, with the average temperature dropping by 0.15C in the late 1500s and early 1600s, the study by scientists at University College London found.

Overview of efforts in California to scale up carbon plans for farmers
https://civileats.com/2018/06/12/carbon-farming-works-can-it-scale-up-in-time/

How the American Farm Bureau's Climate Agenda is Failing Its Farmers
https://insideclimatenews.org/news/24102018/farm-bureau-climate-change-denial-farmers-crop-insurance-subsidies-drought-future-at-risk

Books

Alastair McIntosh's *Soil and Soul* challenges us to redeem our fundamental relationship with the natural world.
http://www.alastairmcintosh.com/SoilandSoul.htm

Climate: A New Story by Charles Eisenstein also urges us to reclaim reverence for the natural world and to transcend the war mentality that dominates our thinking and narratives.
https://charleseisenstein.org/books/climate-a-new-story/