



## Soil Carbon Sequestration Update

August & September 2021

### News, Analysis & Recent Developments

**Agroecology is the key to feeding the world.**

<https://www.scientificamerican.com/article/agroecology-is-the-solution-to-world-hunger/>

**Canada moves to conserve wetlands and store carbon.**

<https://civileats.com/2021/07/30/canada-makes-a-move-to-conserve-wetlands-and-store-carbon/>

**Can a bit of seaweed in cow feed drastically reduce methane emissions?**

<https://www.msn.com/en-us/health/nutrition/to-get-cows-to-burp-and-fart-less-methane-gas-just-add-seaweed-to-their-diet/ar-AANcVqI>

Regenerative kelp farming is growing among indigenous groups and others seeking to boost local economies, sequester carbon, and offer a nutrient-rich food source.

<https://www.vogue.com/article/reclaiming-native-knowledges-through-kelp-farming-in-cordova-alaska>

and seaweed is more efficient than a rainforest at sequestering carbon according to the Climate Foundation.

<https://www.climatefoundation.org/what-is-marine-permaculture.html>

**Women farmers are leading the way**

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

**Danone drops nearly 90 organic regenerative farmers due to transportation and processing issues, giving producers short notice.**

<https://www.nationalorganiccoalition.org/blog/2021/9/7/danone-drops-northeast-organic-dairy-producers>

Television producer is using theater to promote natural farming in India.

<https://indianewengland.com/2021/09/activists-organic-theatre-to-promote-natural-farming-in-kerala/>

The Global Evergreening Alliance is working to restore lands in Africa and South Asia.

<https://indianewengland.com/2021/09/activists-organic-theatre-to-promote-natural-farming-in-kerala/>

American agriculture almost ruined my small English farm.

<https://time.com/6087751/james-rebanks-regenerative-agriculture-english-farm/>

Climate Farmers: working to change agricultural practices in Europe.

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

Global suppliers seek to advance regenerative practices for climate and biodiversity.

<https://www.reutersevents.com/sustainability/how-olam-natura-co-and-kering-are-taking-regenerative-approach-their-supply-chains>

Colombia is making tangible gains for yields and carbon sequestration through intensive silvopasture systems. [https://euraf.isa.utl.pt/thesis/Susanne\\_Hale](https://euraf.isa.utl.pt/thesis/Susanne_Hale)

### **Awards and Grants**

The Alliance for Food Sovereignty in Africa launches an agroecology awards program.

<https://afsafrica.org/the-alliance-for-food-sovereignty-in-africa-launches-the-afsa-africa-agroecology-awards/>

The US Department of Agriculture's Resource Conservation Partnership Program announced its 2021 alternative multi-million dollar funding initiatives, some of which focus on healthy soils, grassland conservation, and climate friendly agriculture.

<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/financial/rcpp/?cid=nrcseprd1829036>

General Mills invests in the Soil Healthy Academy

<https://www.morningagclips.com/regenerative-ag-efforts-expand/>

The Edwards Mother Earth Foundation closed its cycle for grant requests focused on alley cropping, silvopasture and related regenerative practices. Stay tuned for their announced grantees. <http://edwardsmotherearth.org/emef-request-for-proposals/>

## **Research**

**Bioversity International** and the International Center for Tropical Agriculture (CIAT) and their colleagues have demonstrated that integrating vegetation cover with earthworks, like holding trenches or walls, can help boost the carbon quantity stored in the soil.

<https://www.azocleantech.com/news.aspx?newsID=29963>

The coastal zones in China have lost a great deal of organic carbon. This study looks at the great potential associated with restoration of seagrasses, mangrove, and salt marsh habitats. <https://onlinelibrary.wiley.com/doi/epdf/10.1111/gcb.15348>

Better cropland management increases soil carbon sequestration and fertility, lowers global CO<sub>2</sub> levels and enhances food security. A study by ICARDA, the Mohammed VI Polytechnic University (UM6P), the African Plant Nutrition Institute (APNI), OCP North America (OCP NA), and the Institut National de la Recherche Agronomique (INRA), offers clear evidence that global croplands, and especially those in dry regions, are at risk of dire fertility loss. Soil carbon sequestration offers an important approach in the fight against global warming. <https://www.icarda.org/media/news/carbon-sequestration-better-soil-and-food-security>

## **Policy & Finance Developments**

Carbon 180 has issued [a blueprint](#) for Congressional Action on soil carbon.

The Soil Health Institute maintains an ongoing tracker related to state and federal policy and healthy soils. <https://soilhealthinstitute.org/resources/catalog/#legislative>

The bipartisan [Growing Climate Solutions Act](#), which is intended to make it easier for farmers, ranchers, and forest landowners to participate in voluntary carbon markets, passed the Senate without amendments in late June and was subsequently introduced to the House, where it awaits [further action](#). If passed, the bill would establish a U.S. Department of Agriculture (USDA) certification program for third-party verifiers and provide technical assistance on how to produce and sell carbon credits. The bill has [many supporters](#) but also [many critics](#).

In April, Agriculture Secretary Vilsack [announced](#) that the USDA will also expand the Conservation Reserve Program (CRP) with new incentives and higher payment rates. This expansion includes targeted climate change mitigation elements, like a new Climate-Smart Practice Incentive that aims to increase carbon sequestration; research by the Natural Resources Conservation Service into establishing a baseline for soil carbon on land enrolled in CRP; and a program to measure and monitor soil carbon over the life of new CRP contracts.

**At a recent Clifford Chance Law Firm event, a panel of experts discussed nature-based solutions and the crucial role nature plays in combating climate change and sustaining national economies, as well as examining how state and private sector nature-based solutions could be financed.**

<https://www.cliffordchance.com/content/dam/cliffordchance/briefings/2021/07/cop26-nature-based-solutions-to-climate-change.pdf>

**This piece looks broadly and deeply at carbon markets and offsets.**

<https://civileats.com/2021/07/27/as-carbon-markets-reward-new-efforts-will-regenerative-farming-pioneers-be-left-in-the-dirt/>

**The US International Development Finance Corporation just allocated \$1 billion for food security and agriculture projects globally. The question remains - what kind of agricultural practices will be subsidized?**

<https://www.dfc.gov/media/press-releases/dfc-invest-1-billion-food-security-and-agriculture-projects>

**This piece provides an overview of soil carbon schemes around the world**

[https://www.savills.co.uk/research\\_articles/229130/318914-0/318910-0](https://www.savills.co.uk/research_articles/229130/318914-0/318910-0)

**This short 3 minute radio clip reviews the Biden Administration's quest for climate friendly agriculture.**

<https://www.npr.org/2021/06/01/1002018190/biden-administration-wants-agriculture-subsidies-to-help-fight-climate-change>

**The CREO Syndicate issued this report on investment developments in the field of regenerative agriculture.**

[https://static1.squarespace.com/static/53b153bde4b0eb409786a288/t/60ad0142698d073170b85007/1621950790046/CREO\\_RegenerativeAgriculture\\_Final\\_v3.pdf](https://static1.squarespace.com/static/53b153bde4b0eb409786a288/t/60ad0142698d073170b85007/1621950790046/CREO_RegenerativeAgriculture_Final_v3.pdf)

### **Monitoring Carbon in Soils and Forests**

**[This article](#) with authors from The Nature Conservancy and TerraCarbon posits that we need dynamic monitoring of reforestation and ecological restoration efforts using remote sensing technologies and control plots.**

**The Foundation for Food and Agricultural Research awarded a grant of \$1 million to the University of Illinois and University of Minnesota to develop an integrated technique for measuring carbon in soils.**

<https://foundationfar.org/news/ffar-grant-quantifies-organic-carbon-to-improve-agricultural-productivity/>

There are several labs that assess soil health, including soil organic carbon in soils. One of the most widely used is at Cornell University. <https://soilhealth.cals.cornell.edu/>

Australia is working to finalize and refine its soil carbon measurement approaches. <https://consult.industry.gov.au/soil-carbon-method-proposed-new-method>

Lawrence Livermore Laboratory is working on a technology to measure carbon at greater depths than conventional levels. <https://arpa-e.energy.gov/technologies/projects/associated-particle-imaging-soil-carbon>

### **The Challenges and Problems with Industrial Agriculture**

Many of the large commodity crop producers are adopting conservation agriculture practices such as cover crops, no-till, and crop rotation, but it is important to keep an eye on the whole agricultural system. This article looks at the impact of pesticides and the arrival of superweeds. <https://www.nytimes.com/2021/08/18/magazine/superweeds-monsanto.html>

### **Helpful Resources and Tools**

FAO released a new mapping tool on soil carbon. <http://54.229.242.119/GloSIS/>

Check out this guide to fiber production and regenerative practices. <https://www.agandfoodfunders.org/featured-work/sustainable-fibers-and-textiles/fibers-roadmap/>

This primer on soil carbon was recently published by Mongabay <https://news.mongabay.com/2021/08/soil-and-its-promise-as-a-climate-solution-a-primer/>

This new book is winning awards and much acclaim. [https://bookshop.org/books/pastoral-song-a-farmer-s-journey/9780063073272?sscid=81k5\\_hbwr9](https://bookshop.org/books/pastoral-song-a-farmer-s-journey/9780063073272?sscid=81k5_hbwr9)

## **The Big Picture**

This piece looks anew at the potential of nature based solutions to help mitigate climate change.<https://news.climate.columbia.edu/2021/09/23/natural-climate-solutions-why-we-need-them/>

Rice feeds half the world and rice production is in trouble due to climate impacts.  
<https://www.sciencenews.org/article/rice-agriculture-feeds-world-climate-change-drought-flood-risk>

In a year of climate reckoning, where does Joe Biden stand on agriculture and climate?  
<https://civileats.com/2020/09/21/in-a-year-of-climate-reckoning-where-does-joe-biden-stand-on-climate-and-agriculture/>

This piece provides a helpful overview of the potential as well as some of the concerns being raised about the field.  
<https://www.csis.org/analysis/soil-carbon-sequestration-myths-realities-and-biden-administrations-proposals>

This blog provides a simple overview of issues with nature-based solutions to climate and how they are being discussed in the run-up to COP26.  
<https://hsfnotes.com/climatechange/2021/09/30/cop26-series-nature-based-solutions/>

How soils can save us. The latest overview by Dr. Rattan Lal.  
<https://www.devex.com/news/sponsored/opinion-how-soil-can-save-us-all-101619>

The World Bank urges a focus on feeding ten billion people with climate smart agriculture.  
<https://www.worldbank.org/en/news/feature/2021/09/22/needed-a-climate-smart-food-system-that-can-feed-10-billion>

The FAO has listed 10 key elements that are at the heart of agroecology.  
<http://www.fao.org/agroecology/overview/overview10elements/en/>

## **Job Openings**

Soil Health Institute has several openings.  
<https://soilhealthinstitute.org/jobs/>

Savanna Institute is trying to fill three key positions.  
<https://www.savannainstitute.org/jobs/>

There are numerous positions listed at Indeed.com

<https://www.indeed.com/jobs?q=Regenerative%20Agriculture&l&ts=1633024631165&pts=1626732070263&rs=1&vjk=c15089415cbe6b7b>

## Events

Million Acres Challenge Soil Hub Training - farm-based event October 1

[https://www.eventbrite.com/e/on-farm-soil-health-hub-meetup-tickets-170536886418?aff=odeimcmailchimp&mc\\_cid=1b6ab55d86&mc\\_eid=1f2c10f5e2](https://www.eventbrite.com/e/on-farm-soil-health-hub-meetup-tickets-170536886418?aff=odeimcmailchimp&mc_cid=1b6ab55d86&mc_eid=1f2c10f5e2)

World Food Day Summit on Agroecology and Regenerative Agriculture

<https://regenerationinternational.org/peoples-food-summit>

Savanna Institute holds trainings and on-farm learning about agroforestry.

<https://www.savannainstitute.org/events/>

PASA Sustainable Agriculture hosts on-farm and Zoom events on soil health for farmers

<https://pasafarming.org/event/alley-cropping-planting-trees-for-economic-and-ecological-diversity/>

Regen Ag 101 (ongoing)

<https://soilhealthacademy.org/regen-ag-101/>

On Farm [meetup](#) at Backbone Food Farm is for all those interested in exploring soil health management systems on diversified vegetable farms.

The IUCN World Conservation Congress recently took place and nature-based solutions to climate change and biodiversity loss were at the heart of discussions.

<https://www.europarc.org/news/2021/09/nature-based-solutions-at-the-forefront-iucn-world-conservation-congress/>

This webinar on transitioning food systems to agroecology was held on September 24 and can be viewed retrospectively on YouTube. It is part of a larger course and joint effort of FAO and [the Latin American Scientific Society of Agroecology \(SOCLA\)](#).

<http://www.fao.org/agroecology/database/detail/en/c/1439893/>

## **Producers & Land Stewards in Transition**

**Rick Clark, a non-GMO and organic, regenerative grower from Warren County, Indiana, is a 5th generation farmer making positive changes.**

**<https://puris.com/resources/move-makers-in-regenerative-agriculture-rick-clark>**

**Jacqueline Smith, sheep farmer, is new to farming but determined to regenerate the land.**

**<https://farmersfootprint.medium.com/?p=e1df19da8e5f>**

**Adam Chappell is building soil health on his farm in Arkansas**

**<https://theclimate.org/regenerative-farmer-everyman-adam-chappell-what-is-regenerative-agriculture-discover-farmers-footprint-marinebio-conservation-society/>**

**These ten case studies from Africa showcase the positive impacts of regenerative practices on smallholder farms.**

**[https://www.researchgate.net/publication/341669446\\_Case\\_Studies\\_of\\_Regenerative\\_Agriculture](https://www.researchgate.net/publication/341669446_Case_Studies_of_Regenerative_Agriculture)**