

THE SOLUTION TO CLIMATE CHANGE RIGHT UNDER OUR FEET

New report spotlights how healthy soil takes CO₂ out of the atmosphere to where it helps build climate resiliency



Healthy soil. (Photo: Natural Resources Conservation Service Soil Health Campaign/flickr/cc)

What if there were a risk-free way of helping to mitigate climate change while simultaneously addressing food and water security?

A new report from the Center for Food Safety's Cool Foods Campaign says that such an opportunity is possible, and it's right below our feet.

Soil & Carbon: Soil Solutions to Climate Problems outlines how it is possible to take atmospheric CO₂, which is fueling climate change, and plug it into the soil.

Far from moving the problem from one place to another, this shift can reduce ocean acidification because the oceans are no longer the sink for vast amounts of CO₂, and can regenerate degraded soils by providing needed carbon.

The report lays out the problem in this way:

Humans are altering the chemistry of where carbon is stored, and climate change is a manifestation of that alteration.

Another way of looking at the problem is that too much of the carbon that was once in a solid phase in the soil is now a gas. As a result, there is too much carbon in the atmosphere, too much in the ocean, but not enough stable carbon where it once was, in the soil.

The report adds that "cultivated soils globally have lost 50-70 percent of their original carbon content." Multiple factors have contributed to the problem, the report states: paving over land; converting grasslands to cropland; and agricultural practices that involve tillage and chemical inputs, which not only deprive soil of organic matter and rob it of the ability to store carbon but also contribute to flooding and erosion.



Regenerative practices like this help build healthy soil. (Photo: London Permaculture/flickr/cc)

Healthy soils, in contrast, fed through organic agriculture practices, like polycultures, cover crops, and compost; give soil microbes the ability to store more CO₂. Not only have that, the report states, healthy soil can better weathered both drought and floods because its structure allows it to act like a sponge. And healthy soil means better crop yields.

Just how much CO₂ can be stored in soils is unclear, with one estimate cited in the report being 75-100 parts per million of CO.

But the bottom line, the report states, is that healthy soils will help communities have resilience in the face of climate change impacts.

The report concludes: "Unlike geoengineering, rebuilding soil carbon is a zero-risk, low-cost proposition. It has universal application, and we already know how to do it. All that stands in our way is a greater awareness of the opportunity and the political will to make it happen."

Source: <http://www.commondreams.org/news/2015/04/24/solution-climate-change-right-under-our-feet>