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Biodiversity for a Livable Climate

Restoring Ecosystems to Reverse Global Warming

July 22, 2015

Backyard Biochar and Beyond

by Peter Huntington

Photo by Tony Marrero

Today the world is facing a crisis. The term *peak soil* has emerged to describe the phenomenon of global soil loss, largely due to industrial agriculture and inappropriate land management. The United Nations has reported that global food production will need to nearly double by mid century to sustain the growing population, but concurrent soil erosion poses serious threats to human security and biological diversity. Thankfully, there is a solution that addresses soil loss, agricultural needs and sequesters atmospheric carbon! Biochar achieves

Featured Event

Tufts Fall 2015 Climate Conference: Restoring Water Cycles to Reverse Global Warming

all of this and more, and we at BLC are working to multiply its effects.

Biochar is a soil amendment, with uses dating back to Amazonian civilizations. Called *terra preta,* or "black earth," it is now thought to be the anthropogenic source of the great biological abundance in this region. Research devoted to biochar has produced startling results. Biochar is capable of fixing carbon and sequestering it in the soil for millennia. It acts like a sponge, storing water and nutrients over time. Biochar also improves soil structure, creating excellent habitat for microorganisms in the soil and facilitating exchanges between plants and other biota.
This summer BLC is developing a manual to assist workshops on how to make and use biochar in the backyard. On a sunny day earlier this summer, Adam Sacks, Amy Tighe, Hugh McLaughlin, and Peter Huntington of BLC visited Nightingale Community Gardens in Dorchester, MA. Members of the garden were introduced to biochar, given a load to start with, and taught how to make their own.

The secret to making biochar is sweet in its simplicity. *Pyrolysis* is the process of thermal decomposition that renders carbonaceous biomass into a form that removes it from the

In this conference we will focus on water's role in regulating climate through its capacity to store, move and transfer more heat than any other natural compound.

Sponsored by the Tufts Institute of the Environment.

RSVP

When

Friday, October 16, 2015, 5:30 PM - Sunday, October 18, 2015 5:00 PM (EDT).

Where

Tufts University, Medford, MA.

Fees

$150 sliding scale

For more information visit here and Register now on Eventbrite!

Other Events

Soil Not Oil International Conference
September 4-5, 2015
Memorial Civic Center Complex.
Richmond, CA.

Our Director, Adam Sacks, will be a speaker at this conference! Learn more about the conference here.

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carbon cycle, and therefore, out of the atmosphere. Burning biomass at a low temperature causes pyrolysis and creates biochar. The technology used to make biochar is called a pyrolyzer, and they can be scaled from small DIY systems. Backyard, paper, and garden waste can all be fed through a pyrolyzer to produce biochar.

2015 is the UN International Year of Soils and marks the start of BLC's biochar initiative. Soon we'll be publishing our manual on biochar, providing information to anyone interested in making their own. The manual will also accompany future workshops with BLC, bringing the science and craft of biochar to community groups. Biochar is one component of a broader movement to restore soils, capture carbon, and revive landscapes. People and organizations interested in learning more are encouraged to contact BLC and join the soil restoration movement!

Alright Seattle, where's the rain?

Photo via Reddit

Pulled back to consciousness by the sound of your alarm clock, you roll over and glance out the

events

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Jim Laurie's Talk on Microbes

In case you missed our "Microbes 'R' Us" discussion and potluck, you can watch a video on restoration ecologist Jim Laurie's talk on microbes:

Microbes 'R' Us

For additional resources, including presentation slides, recommended book list, and more visit the event page here. We hope to see you at our next Meetup!

About BLC

Our mission at Biodiversity for a Livable Climate is to mobilize the biosphere to restore ecosystems and reverse climate change. Our

window to yet another hazy shade of grey. One foot out the door and the cool mist greets your face as you habitually zip up your jacket and raise your hood. This is how most days begin because you live in Seattle. Or so I expected when I moved here last August. But that is far from how the days begin now.

As I write this, it's early July, historically just the beginning of summertime in the Pacific Northwest, but if feels like we've already had a full summer's worth of relentlessly hot sunshine and cloudless skies here in Seattle. To say this weather is untypical for the Northwest is an understatement. I can't remember the last time it rained here. Even for five minutes, I really can't recall.

Growing up in northwestern Oregon, I have bittersweet memories of walking home from school with my jeans soaked through, futilely gripping my hood to shield my eyes from the rain. Memories of tennis matches cancelled, Harry Potter movie marathons, and lots of cookie baking, all while the drops came down for hours and days and weeks and months. At least it seemed that way.

But that's the climate of the Pacific Northwest, and when you live here you learn to love it. Well, you grow to accept it (and probably secretly love it). You embrace it for what it is with the understanding that you are earning that summertime bliss. Anyone who has lived here knows that the summers here are worth the wait. But this year is very different. A statewide drought emergency was declared in mid-May, with snowpack in the Cascade mountains at its lowest level in 64 years. Glaciers on Mount Rainier, the 14,411-foot stratovolcano that serves as Seattle's imposing and spectacular backdrop, are melting at six times the historic rate.

Climate experts are saying that this endless heat is *not* another terrifying indicator of climate change's new normal. Instead, they attribute it to a massive dome of high pressure, or "ridging," over the West Coast and heightened ocean temperatures-not unusual given El Niño's presence. However, they do caution that it is a sample of what Seattle will be like once global climate change warms the planet. And that prospect is terrifying.

Instead of the friendly rain that PNW residents happily coexist with, climate change will bring more rain that arrives in sudden, violent downpours. Increased precipitation in the form of rain, not snow, will come with higher avalanche danger in the Cascades and a surge in the rate of glacial thinning on Rainier and other peaks. Less

primary project is to re-direct the mainstream climate conversation from an almost exclusive concern with atmospheric carbon to encompass the entire carbon and water cycles and the regenerative role of biology.

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snow will also mean lower stream flows during the summer and fall, higher water temperatures and a dramatically altered aquatic ecosystem. Endangered species like salmon will struggle even harder to survive. Seattle and Portland have some of the most progressive environmental policies in the country, undoubtedly due partly to their being surrounded by some of the most majestic natural areas in North America. But their efforts alone cannot prevent the climatic shift that will transform the Pacific Northwest and the life of its inhabitants.

The places we live are more than just a location- they are a part of our identity, a source of familiar comfort, and a setting for cherished memories with people we love. Whether or not we think about it regularly, the climate of a place largely impacts the way of life there. Climate change will alter that way of life, *our* way of life. Is this what we want? If not, what can we do? The answer is, we can do a lot.

It is time to get honest about our responsibility as humans living in a society to protect the places we love. Do we need to personally take action everyday to do this? Yes. Incremental shifts add up, and eventually build enough momentum to make a measurable impact. Shifts such as driving less and walking or biking more, conserving water and other vital resources, and refusing to accept a 'throw-away culture' that overwhelms landfills and pollutes the oceans are all part of the solution. Only when we can get real with ourselves and our role in protecting our beloved places can we gain the empowering energy that allows us to do more.

-Jacqueline Sussman