Earth Day Notice: Ecosystem Destruction Heats Earth More Than Greenhouse Gases - It's Rapidly Fixable, Says Bio4Climate

Bringing back life and lowering temperatures on billions of desertified acres offer a new and productive path forward amid climate and biodiversity disruption.

CAMBRIDGE, MASSACHUSETTS, UNITED STATES, April 22, 2022 /EINPresswire.com/ -- Cooling living systems across the planet is our most urgent priority.

> "When managed well, ecosystems can recover from bare to abundant in a few short years. We've seen seemingly miraculous recoveries many times on land that appeared hopeless. Life does this every day."
>
> *Adam Sacks, Executive Director of Biodiversity for a Livable Climate*

Powerful natural solutions to climate chaos are now readily available worldwide. It is well known how to calm the weather and lower temperatures. While ending the use of fossil fuels is critically important, it is only a partial solution. But there is much more that can and should be done.

Water is the Earth's natural cooling system. In order to maintain modern lifestyles, there are not only excess carbon emissions, there is also rampant destruction of Earth's healthy ecological systems – forests, prairies, farmlands, wetlands, shorelines, oceans, coastlines.

Particularly alarming is our impact on earth's complex hydrological processes and the loss of freshwater, both in our waterways and also in our soils and aquifers.

The growing loss of freshwater from Earth's land masses results in drought, extreme heat, massive wildfires, and disappearance of arable farmland as soil dries out.

Trees are particularly important. First, they pulll carbon out of the atmosphere and store it in their trunks and the soil. There, carbon compounds become food for a multitude of life forms beneath the surface of the earth, where roots aerate the soil. This makes way for the infiltration of rain into soils, adding to groundwater storage. Aboveground, trees make rain happen by releasing water vapor and condensation nuclei which turn the vapor into raindrops. When water vapor condenses it releases latent heat - that is, heat energy that doesn't raise temperature - higher in the atmosphere where the heat is then released into space. This is how living biology

cools the Earth.

When trees are felled they not only stop performing these vital functions, they also release stored carbon back into the atmosphere, adding to carbon dioxide emissions. Such deforestation often occurs in the pursuit of cleared land for industrialized agriculture, a farming practice dependent upon heavy machinery that compacts soil, thus disrupting water penetration. Such industrial farming not only relies on fossil fuels for power, but also on pesticides, herbicides, fertilizers, and fungicides, usually made from fossil fuels, that kill soil life.

These factors, combined with the intensity of solar radiation on exposed bare earth, render formerly healthy soil cracked, dry, and lifeless, where rainwater evaporates or runs off in floods rather than sinking into the ground where it belongs. The result is loss of precious freshwater. Freshwater is the invaluable resource which we humans and all other land and freshwater species depend on for our lives.

Water also gets lost through urbanization. Paving over soil to build cities – mostly with heat-holding materials such as asphalt, cement, and metals – denies soils the benefits of plant life and water infiltration. These are key factors that maintain biodiversity and regulate the earth's temperature.

It is also important to understand that rising temperatures aren't generated by greenhouse gases. They do not generate heat, they simply hold it in – like a lid covering a pot of boiling water. The heat source is the fire beneath the pot, not the lid. The question that must be asked then becomes, "What is generating the excess heat on earth?" Human-induced ecosystem disruption is once again the culprit.

Earth's water and carbon cycles – thrown out of kilter – result in glacial melt, frequent intense storms, sea level rise, wildfires, and heat waves. These ecological impacts now occur on such a scale as to create chaos for millions of people and destructive effects on millions of other species.

Ecological restoration must be placed front and center as national and international/global policy. This is a call to support and join the millions of people around the world engaged in regenerative practices, for example:

* 200,000,000 farmers from 150 organizations across 70 countries in La Via Campesina are restoring the land and soil through agroecology;
* 6,000,000, farmers, mostly women, in the Community-Managed Natural Farming Movement in Andhra Pradesh – one of the driest states in India – are using ecological farming techniques, multiplying productivity and incomes, and restoring healthy lands;
* Ecosystem Restoration Camps on 5 continents at 46 sites in 30 countries – including the US – are restoring 3.1 million hectares across the globe by 2030;

* the growing number of farmers in the US are transitioning to regenerative agriculture to restore the soil, improve the land and restore biodiversity.

Biodiversity for a Livable Climate is a non-profit that works to bring essential ecosystem restoration into the mainstream conversation. Everyone can help. Watch our videos on our WGBH Forum Network "Life Saves the Planet" series. Inquiries welcome.

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