We are restoring a safe and healthy climate.

HEALTHY CLIMATE ALLIANCE

Climate change poses an imminent threat to the survival of humanity. However, we now have the opportunity to restore a safe and healthy climate. While efforts are underway to reduce emissions and adapt to climate change, these mitigation strategies do not address the excess of CO_2 already present in the atmosphere, which will last for a thousand years. The Healthy Climate Alliance is focused on the complementary and critical strategy of restoring the climate to the way it was 100 years ago. This process is known as Climate Restoration. We have identified and are promoting scalable solutions that can affordably remove the excess CO_2 from the atmosphere, as well as protect and rebuild year-round ice in the Arctic.

Since CO_2 acts like a blanket and retains the sun's heat, warming will continue unless carbon is removed. Removing the excess CO_2 from the atmosphere makes it possible for us to return to the CO_2 levels that can safely support human life. Restoring year-round ice to the Arctic rebuilds the heat shield that stabilizes weather patterns worldwide, prevents massive quantities of methane from being released, and preserves species diversity in the Arctic.

The Healthy Climate Alliance (HCA) is an education, networking, and advocacy program of the nonprofit Foundation for Climate Restoration. We bring together stakeholders, including the public, policy-makers, academics, and technical and business experts, to contribute their unique expertise to this monumental task. HCA advances the field of Climate Restoration by seeking out, evaluating, and promoting the most promising solutions to restore the climate. We equip innovators with the resources they need to scale and succeed. We connect them with funding, publicity, scientists, policy experts, and more. When these solutions succeed, we all benefit.

The Healthy Climate Alliance promotes solutions to reverse global warming and restore a safe and healthy climate.

Specific solutions currently promoted by HCA are described below.

Restoring the Arctic

The Arctic is warming twice as fast as the rest of the world. Arctic sea ice has lost 80% of its summer volume since 1979 and is increasingly ice-free in the summer. Twenty-four-hour summer sun shining on dark blue water that was formerly bright reflective ice is now responsible for about a third of the warming we now experience globally. It also contributes to extreme weather events. Ice near the poles also keeps permafrost from melting and releasing vast amounts of now-buried methane. Methane is a powerful greenhouse gas, so losing the permafrost could threaten our ability to restore the climate.

Ice911: Reflective Floating Sand

Ice911 Research (ice911.org) uses reflective material to preserve Arctic ice. The cooler ice can survive the Arctic summer, building thicker, multiyear ice over time. The team spreads a safe, floating, reflective silica sand on top of ice. These silica microspheres reflect incoming solar rays, so the ice absorbs less heat. Field testing and climate modeling show that applying this non-toxic sand in strategic Arctic locations can rebuild ice volume, decrease extreme weather, and reduce Arctic and global temperatures. Ice911 is now working on permitting, climate modeling, further testing, and scaling. HCA is advancing public awareness, education, and advocacy on behalf of Ice911.

Removing carbon dioxide

Since 1988, atmospheric concentrations of CO_2 have been above safe thresholds. To restore the climate, beyond reducing emissions, we need to remove a trillion tons of CO_2 from the atmosphere. Fortunately, there are scalable and affordable solutions.

Blue Planet: Synthetic Limestone from CO_2

Limestone aggregate (which is the main ingredient of concrete) is nearly half CO_2 by weight. With a global demand of over 50 billion tons per year, it is the only product with sufficient demand to scale up to the goal of removing a trillion tons of CO_2 by 2050. Blue Planet (blueplanet-ltd.com) produces synthetic limestone for concrete through a reaction similar to how shellfish build their shells. It sells the resulting aggregate, replacing quarried rock. CO_2 for their process can come from industrial waste gas or from the atmosphere. In 2019, Blue Planet plans to start commercial production and scale-up of this already-proven technology. HCA is advancing public awareness and political demand to use this carbon-negative limestone.

Climate Foundation: Floating Marine Permaculture

Oceans store 50 times more carbon than the atmosphere. Increases in the biological productivity of the oceans can effectively, efficiently, and relatively inexpensively reduce greenhouse gases from the atmosphere. Ocean productivity has fallen for the last half century—in some places, up to 50%. Marine permaculture is an innovative approach to increase ocean productivity and the ability for the oceans to serve as a long-term sink for atmospheric carbon. Large, floating structures seeded with kelp are released out into the open ocean via prevailing currents. Wave-driven pumps feed the kelp forests with nutrient-rich deep ocean water. Kelp can grow several feet per day while supporting a wide array of organisms, including fish, birds, and crabs. Periodically the kelp can be cut and let drop to the deep ocean floor. These structures effectively create self-sustaining, floating ecosystems that actively capture carbon from the atmosphere to restore large ocean pastures, fisheries, seaweed, and sequester carbon in the deep ocean. HCA is providing support to organizations like the Climate Foundation that are implementing marine permaculture projects globally.

Currently researching:

Iron Ore Dust Supplementation

An area for additional research is supplementing oceans with ultra-fine iron ore dust. This limited nutrient used to come to the ocean naturally through dust storms and ocean currents, but less dust now settles on the ocean surface due to shifting weather patterns, altered soils, and reduced currents. We can add ultrafine iron ore dust to the ocean surface in nutrient-limited regions to stimulate the growth and photosynthesis of phytoplankton and fish. This increase in marine productivity can restore functioning fisheries—a vital component of local economies and a critical food source for coastal communities.

Regenerative Agriculture

We're assessing the most promising approaches to sequester CO_2 in soils and increase biodiversity and agricultural productivity. We expect to identify and support innovators and solutions in this area in the coming year.