CLIMATE CHANGE

FARMING AND CLIMATE CHANGE

Since the beginning of agrarian society around 12,000 years ago, farming has been intrinsically linked to the health of the planet. Practices and policies, on and off the farm, have greatly influenced agriculture and its impact on our communities, our soil, water and air, and our future. As we look toward the next half century, aware of the urgency and danger of the warming of our planet, farmers are again fundamentally tied to our future. Hope for our climate future lies in the hands of family farmers and ranchers.

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ESSENTIAL QUESTIONS AND ANSWERS

HOW DOES CLIMATE CHANGE AFFECT FAMILY FARMING?

Agriculture is particularly vulnerable to climate change. Family farmers find themselves on the frontlines of weather extremes that threaten not only their livelihoods but also our food supply. The increasing frequency and severity of natural disasters like floods, droughts, wildfires and hurricanes is challenging farmers' abilities to produce food, earn a living and stay on their land. As temperatures continue to rise, new pest and disease pressures are impacting crop yields and quality. And long-term, climate change will impact the nutritional quality of our food. While farmers are accustomed to adapting, the extremes they are experiencing are unprecedented. And the rural communities in which they live often lack the resources and infrastructure to deal with these challenges.

HOW DOES FAMILY FARMING AFFECT CLIMATE CHANGE?

It's important to separate industrial agriculture from sustainable family farms. Ultimately, one is a chief contributor to the warming of our planet, while the other holds incredible promise for capturing carbon and mitigating climate change. There is no doubt that industrial agriculture is a key factor in the increase in greenhouse gasses (GhGs), with its reliance on synthetic fertilizers, pesticides, deforestation and monocultures. Emissions related to manure management have risen 66% since 1990, and the majority of this increase is due to the shift toward larger dairy cattle and hog Confined Animal Feeding Operations (CAFOs), according to the EPA. Meanwhile, visionary family farmers who understand their inherent relationship to the environment have developed climate-resilient practices like including planting crops to cover soil between growing seasons, rotating crops, reducing soil tillage, integrating livestock and crop production, raising pastured livestock, and improving soil and water management.

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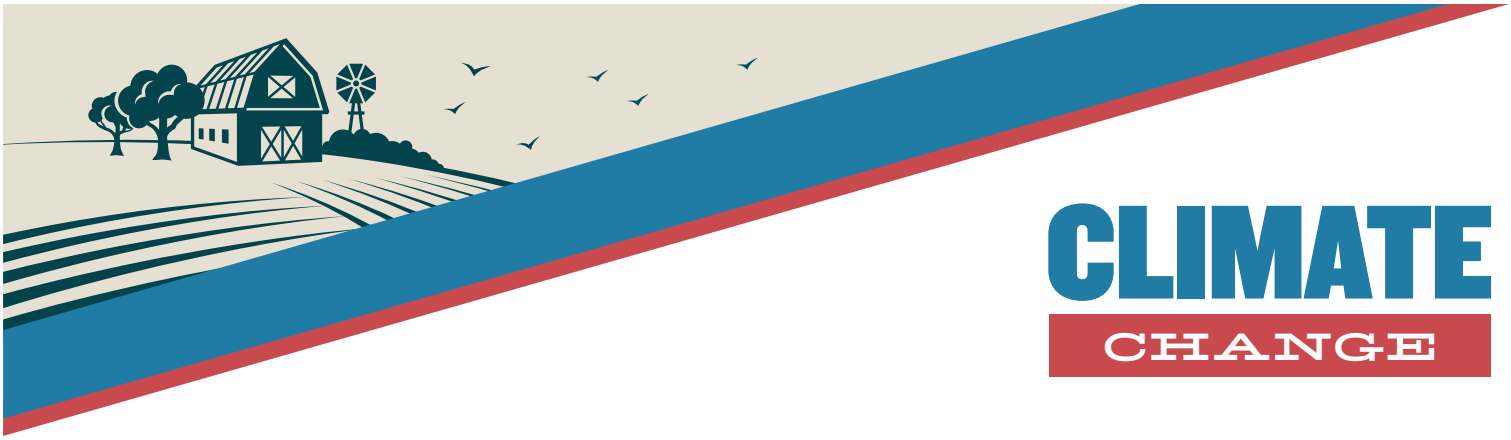

CLIMATE CHANGE

HOW DOES CLIMATE CHANGE AFFECT WATER?

Climate change is impacting water availability and precipitation patterns throughout the U.S. Flooding, droughts, and decreased reserves of fresh, clean water are all consequences of these changing patterns. Farmers are at the forefront of climate change, weathering new precipitation patterns and extreme weather events on a daily basis. They're finding ways to adapt, by altering their growing practices and finding new ways to use water. Some of these mitigation strategies include recycling wastewater, improving efficiency of water use and diverting floods to recharge aquifers. In combination with implementing conservation practices such as improving soil health or planting grassed waterways and riparian buffers to prevent erosion, these efforts are vital to sustaining one of our planets most valuable resources.

WHAT DOES SOIL HAVE TO DO WITH IT?

Farmers and ranchers are critical to climate change mitigation, and one solution is rooted in our soil. Increasing soil health can combat climate change from the ground up. Farming methods that reduce chemical inputs and employ soil-building practices like crop rotation and rotational grazing help draw atmospheric carbon back into the earth and reduce fossil fuel-based GhG emissions. Healthy soil also absorbs water like a sponge[1] making it more resilient in a dry year and reducing cropland runoff. Good soil is hard to come by — the most common estimate is that it takes 500 years to build just one inch of topsoil naturally — meaning that for all intents and purposes, soil is a non-renewable resource that must be stewarded wisely.

WHAT ARE FAMILY FARMERS DOING TO MAKE OUR FOOD SYSTEM MORE CLIMATE-RESILIENT?

Family farmers in the U.S. and around the globe are leading the way in climate mitigation strategies. Many are farming organically, which is one way to prioritize soil health and soil carbon-building practices, because it prohibits synthetic fossil fuel-based fertilizers. Others are making farms stronger by redesigning them as diverse agroecosystems — incorporating trees and native perennials, reducing dependence on fertilizers and pesticides, and reintegrating crops and livestock. Farmers also have developed new crop varieties, livestock breeds, and farm practices specifically designed to help farmers adapt to evolving climate realities. Farmers also lower their climate impact by using renewable energy to power their farms.

WHAT CAN EATERS DO TO SUPPORT A CLIMATE-RESILIENT FOOD SYSTEM?

When we choose local family farmers as the source for our food, we support their investments in the health of our planet. We also cut down on the energy used to process and transport food around the globe and the emissions that are spewed into the atmosphere as a result. As the distance food travels decreases, so does the need for processing and refrigeration to reduce spoilage. Supporting local farmers keeps them thriving, which means they can stay on the land, increasing the resilience of the soil, keeping farmland in our communities, and supporting other local businesses.

We also can raise our voices for local, state and federal policies that support family farmers to make transitions to more sustainable agriculture. In 2023, Congress will pass a new Farm Bill and therein lies great promise to shift policy to strengthen family farmers and support climate-resilient agriculture.

[1] Simpson, April. (2019). "Soil Health Can Combat Climate Change From the Ground Up." *Pew Charitable Trusts*. Retrieved from https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2019/08/23/soil-health-can-combat-climate-change-from-the-ground-up