NB Community Harvest Gardens
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Coping with climate change in our gardens

Humans are influencing the climate and the earth's temperature by burning fossil fuels (adds carbon dioxide to the environment), cutting down forests (forests can remove carbon dioxide from the environment), farming livestock on the large scale, there are many other examples. This all greatly adds to the greenhouse gases that already occur naturally in the atmosphere, increasing the greenhouse effect and causing global warming.

As gardeners, we too need to do our part to help with climate change. Follow the 3 R's: Reduce, reuse, recycle. This includes recycling our plastics, metals, and such, composting rather than discarding organic materials, and taking advantage of donating unwanted items to thrift stores, or even using these stores to source new items. This may help by slowing climate change. Climate change is here, now, what can we do in our gardens to help cope with unpredictable and extreme weather events? Regenerative gardening replicates what nature does so well without human help. Soil is nourished naturally and you work with nature rather than against it in your garden. This idea of growing plants in harmony with the land is not a new concept. Our First Nations have been using farming practices focused on replenishing the land far before our modern practices took hold. Healthy soil with healthy microorganisms within the soil, creates healthy nourishing food and helps the environment.

In a nutshell this is how nature feeds itself: Plants use the energy in the sun to take the carbon dioxide from the air along with water from their roots to make oxygen and energy (or food). (Photosynthesis) The natural microbes and fungus in the soil use some of this energy or food to make protein, and other molecules that the plant needs to be healthy. These tiny organisms also use dead plant material in their work to keep the soil healthy. Most of the food requirements for plants can be obtained through this natural method. This whole process takes carbon from the air (CO_2) and leaves much of it in the soil. Some plants have the added ability to take nitrogen from the air and change it in the roots into a form that plants can use.

Gardeners need to change the way we traditionally garden to a new way that helps nature do what it does naturally. Most traditional gardeners dig and turn the soil to prepare for planting. This disturbs the microorganisms in the soil, so they don't do their work effectively while they are 'fixing' what the gardener disturbed. Don't dig the soil, try to disturb the soil as little as possible. These same gardeners used artificial fertilizers, and sometimes herbicides and pesticides. These are not needed in nature's garden and in turn can harm the soil and the environment. Plants that are native to your area cope better during adverse weather than other plants, they have a better ability to cope. Other plants that have been growing in a region for generations become adapted to local growing conditions. The take home message: buy local seeds, grow local plants, save your own seeds.

Nature has also provided us with the means for plants to be fertilized and protected. There are many good insects that should be encouraged to visit your garden, they in turn will help the plants. To do this, grow local wild plant varieties, even let some 'weeds' grow, plant flowers enjoyed by insects or build a bug hotel. Try companion planting and growing a wide variety of crops, this confuses insects

and in turn protects your plants from pest damage. Remember weeds are only weeds when they grow where you don't want them.

Another way to mimic nature in your garden is to never leave bare soil. The soil should always have something growing, this is a way to continually nurture the soil microorganisms. If this is impossible, cover the soil to protect from damage and erosion, organic mulch will also help nourish the microorganisms. Cover cropping is a fancy term for this. Cover crops aren't usually planted to eat, but rather planted to feed the soil (with nitrogen, organic matter, and some other essential minerals) Composting is a last important part of the battle to reduce global warming. Food waste in the landfill releases undesirable methane into the environment. That same food waste composted at home does not release methane but makes nourishing amendments for the soil.

An internet search will find numerous sites describing ways to help reverse the problems created by climate change. The folks at BC Farms and Foods have a wonderful article detailing how to grow a climate change resilient garden: (https://bcfarmsandfood.com/grow-climate-change-resilient-garden/). I encourage you to read it.

Resources:

https://www.honestlymodern.com/
https://www.onegreenplanet.org/lifestyle/build-regenerative-garden/
https://www.highmowingseeds.com/blog/regenerative-agriculture-growing-techniques-to-build-soil-and-sequester-carbon/
https://kisstheground.com/regenerative-agriculture/