

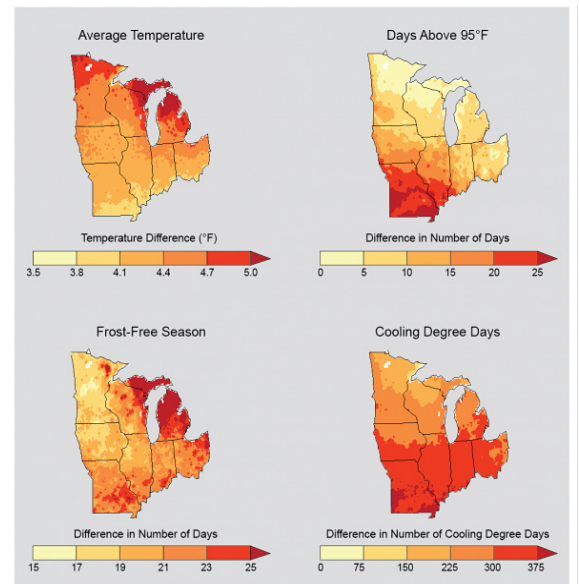
## Climate-Community Connections

### Agriculture and Food

The food we eat is an important part of our daily life and culture. We think about the pleasure, convenience, nutrition, and cost of our food, as well as our family and cultural food traditions, but we rarely think about the connection to climate change. We depend on the climate to grow our food, so as the climate changes, we will have to adapt what and how we grow. Producing food also releases roughly half of all greenhouse gases, and so our food choices can play a critical role in mitigating—or reducing—greenhouse gas emissions.

Climate change affects agricultural production. We all know that farmers depend on the weather. The success of their crops (and our meals) depends on rainfall and temperature from year to year. Farmers are already experiencing changes in rainfall patterns, including extreme rainfall, flooding, and episodic drought. Changes in precipitation make it difficult for farmers to plan their season—and can lead to crop failure and reduced production. Looking long-term, changes in the climate are shifting hardiness zones that indicate which crops will thrive in different regions. Land that has grown crops for generations may not be suitable for the same crops in the future. Beyond direct climate effects, climate change may increase the abundance and distribution of crop pests and pathogens that can adversely affect these food sources. These impacts, combined with a growing population, mean agriculture around the world and in the U.S. is in crisis.

Thankfully, there are many ways in which we can improve our agricultural and food systems. Creating a fruit or vegetable garden, shopping at your local farmers' market, and participating in Community Shared Agriculture (CSA) programs are all good ways to make your community's food system climate resilient. Food preservation is another important component of maintaining food security—and minimizing food waste—under climate change. During the growing season, freeze, can, and dehydrate surplus produce for use during the winter months. Foods preserved using these techniques allow us access to delicious produce year round without having to rely on food with a large carbon footprint coming from California or South America. Furthermore, as food production is very energy intensive and food supplies may be limited by changes in climate, it's increasingly important to minimize food waste. Today, 40 percent of all food produced in the U.S. is never consumed and ends up in the landfill. Once in the landfill, bacteria break down food waste in an oxygen-free (anaerobic) environment. This process produces methane, a greenhouse gas that contributes to climate change.



Projected Mid-Century Temperature Changes in the Midwest U.S.

Source: USGCRP, 2014.

**Objective:** Investigate how climate change affects agriculture and food and how to take climate action in your community

**Audience:** High school and up

**Materials:** Computer with Internet access (optional)

**Time Needed:** 15-20 minutes to read closely; additional time to explore linked content

From your weekly grocery-shopping trip to your dinner plate, many of the seemingly small food-related choices you make are connected to climate change. Read on to find out about how you can take climate action to nurture a climate-friendly food system in your community.

## Take Action

### Make Climate-Friendly Food Choices

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We can make climate-conscious decisions about food by thinking about the climate cost of food from “fertilizer to fork.” This means looking at the whole food system to understand the climate footprint of food (sometimes called “climate footprint”). There are many ways to support a more climate- and community-friendly food system. By supporting local agriculture and demonstrating a market for less-than-perfect produce, you can help to shift the culture, and policy, around your food system.

- **Learn** how our food system contributes to climate change and ways to reduce your diet’s negative impact on the environment from the [Chicago Community Climate Action Toolkit: Climate Change and Food Discussion Guide](#) and [Guide to a Climate-Friendly Diet](#).
- **Eat local.** The cost to transport food can be high, especially for food that must be refrigerated or frozen for transit. In the United States, much of the produce found in grocery stores is grown in California and Florida. A large amount is also grown in Mexico, South America, and New Zealand. The distance that food is transported is called “food miles.” Eating food that is locally grown and in season gives you fresh food at the peak of flavor while reducing the climate cost of food miles.
  - Farmers’ markets directly connect local farmers to consumers in the community. By eliminating the middleman, farmers are able to charge less for their produce and less energy is used to get the produce from the farm to your fridge. [Find a local farmers’ market](#).
  - A growing number of farmers markets accept SNAP benefits. Check out the [USDA website for an up-to-date spreadsheet on “Farmers Markets Accepting SNAP Nationwide.”](#)
  - Community Supported Agriculture (CSA) is another great way to directly support local agriculture and reduce energy use in the food chain. Consumers purchase a share, and in return receive a box of seasonal produce periodically throughout the farming season. [Find a CSA in your area](#).
- **Eat less dairy and meat.** It takes a lot of energy to raise livestock. Eating a plant-based diet (also called eating first on the food chain) is a delicious and healthy way to feed yourself and your family while reducing greenhouse gas emissions.
- **Buy (and ask for) ugly fruits and vegetables.** Our society has become

#### Community Action

[The Mino Wiisinidaa! Let’s Eat Good! Project](#) encourages healthy living by reintroducing traditional food gathering practices and recipes used by Native Americans of the Upper Midwest. Elders in the community are interviewed and their stories detailing sustainable harvesting of indigenous foods documented. More than 70 recipes have been collected, which are taught through cooking demonstrations. The effort is led by the Great Lakes Indian Fish & Wildlife Commission and funded by the Administration for Native Americans.

Photo courtesy of the U.S. Forest Service.



overly obsessed with the aesthetics of our fruits and vegetables. Because of this, large amounts of food are thrown away because it is deemed “unsellable.” When at the farmers’ market or grocery store, consider purchasing the less-than-perfect products. You won’t sacrifice any of the taste or nutrition, and you’ll probably get it at a reduced rate!

## Grow and Gather Your Own Food

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Locally produced food is fresher, cheaper, and takes fewer resources to grow and reach your plate. Growing your own produce is about as local as you can get. If you don’t have a garden already, considering creating one in your yard or at a nearby community garden. Gardens also provide great opportunities for intergenerational learning and the passing on of traditional cultural practices related to food production.

- **Convert your yard into an edible garden.** Any scale of home food production, from a small orchard to a container herb garden, reduces your reliance on high-carbon produce and nurtures your relationship with your landscape, community, and climate. Here are some helpful resources for getting started:
  - The Chicago Botanic Garden’s guides to [starting a small-scale vegetable garden](#) and [the best edible plants to use for container gardening](#)
  - Climate-Community Connections: Gardens and Landscapes—Plant a Vegetable and Fruit Garden
- **Engage with community gardens and local food initiatives.** If you don’t have an outdoor space available for you to garden, consider renting a plot at a community garden. Many offer sliding scale pricing and include workshops and other types of support to all types of gardeners, from the total newbie to the seasoned pro.
  - [Find a community garden near you.](#)
- **Forage for wild edibles.** Before we cultivated food gardens stocked with imported crops, indigenous people made full use of the rich assortment of edible plants native to the Midwest. These native plants use less energy and resources than commercial crops, making them climate-friendly. Get started harvesting and enjoying wild edible plants with these resources:
  - [Wild Edible Plants of the Midwest \(Illinois Extension\)](#)
  - [99 Edible Plants for the Midwest Forager](#)
  - Consider attending the [Midwest Wild Harvest Festival](#)

### Community Action

The curriculum “Just Eating” explores what it means to “practice faith at the table,” focusing on the relationship between the food we eat and the health of our bodies, communities, and the environment. Through shared meals and conversations, faith groups develop a better understanding of the ecology of their food and the importance of local agriculture, among other topics. Advocate Health Care, Church World Service, and Presbyterian Hunger Program developed this curriculum.

# Reduce Food Waste

Food is wasted at each stage of the production system, from the crops that are left in the field to the food damaged or spoiled in transit to—lastly—the food we leave in the fridge and on our plates. Food production is very costly, both monetarily and in terms of energy consumption, and wasting energy accelerates climate change. By purchasing only what you need, and making better use of what you buy, you can help to cut back food waste for a healthier planet.

- **Buy smart, and only what you need.** A great way to do this is through meal planning. Here are some tools to help:
  - [Reducing Wasted Food at Home: Planning \(EPA\)](#)
  - [Reduce Food Waste \(Iowa State University\)](#)
- **Learn traditional food preservation techniques.** Pickling, dehydrating, canning, and freezing allow surplus to be saved for later, and keeps it out of your compost bin. Explore the linked resources below to get started with your own food preservation project:
  - [Historical Origins of Food Preservation \(National Center for Home Food Preservation\)](#)
  - [Preserving Food Safely—Tested Recipes for Canning \(University of Wisconsin\)](#)
- **Compost.** Composting is the last option for keeping food waste out of landfills (where it creates methane, a greenhouse gas) and instead creating a nutrient-rich soil amendment that can be used to feed the next generation of crops. Here are some helpful resources to learn more:
  - [U.S. EPA—Composting at Home](#)
  - [University of Illinois Extension—Composting in the Home Garden](#)
  - The [Chicago Botanic Garden’s guide to composting](#)
  - Worm composting is great alternative for those without outdoor space. Check out [composting with Herman the Worm \(University of Illinois Extension\)](#) for more information.
  - If you don’t have space to set up your own compost operation, consider a food waste pick-up service. Do an online search for “compost pickup” + “your area.”
- **Host a documentary viewing** to educate your community about food waste:
  - [Just Eat it](#)
  - [Dive!](#)



Students at Stratford Middle School (Bloomington, IL) participate in lunchroom composting.

Photo courtesy of Carol Stream Elementary District 93.

## Web Addresses

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### Make climate-friendly food choices:

- Find a local farmers' market: (<http://www.localharvest.org/farmers-markets/>)
- Check out the USDA website for an up-to-date spreadsheet on “Farmers Markets Accepting SNAP Nationwide”: (<http://www.fns.usda.gov/ebt/snap-and-farmers-markets>)
- Find a CSA in your area: (<http://www.localharvest.org/csa/>)

### Grow and gather your own food:

- The Chicago Botanic Garden's guide to starting a small-scale vegetable garden: ([http://www.chicagobotanic.org/plantinfo/starting\\_small\\_space\\_vegetable\\_garden](http://www.chicagobotanic.org/plantinfo/starting_small_space_vegetable_garden)) and the best edible plants to use for container gardening: ([http://www.chicagobotanic.org/plantinfo/edibles\\_containers](http://www.chicagobotanic.org/plantinfo/edibles_containers))
- Climate-Community Connections: Gardens and Landscapes
- Find a community garden near you: (<https://communitygarden.org/find-a-garden>)
- The Mino Wiisinidaa! Let's Eat Good! Project: (<http://blogs.usda.gov/2013/11/15/reaching-back-to-traditional-native-american-cooking-in-search-of-healthier-meals/>)
- Wild Edible Plants of the Midwest (Illinois Extension): ([https://web.extension.illinois.edu/mg/conference2012/files/Wild\\_edibles\\_Deb\\_Lee.pdf](https://web.extension.illinois.edu/mg/conference2012/files/Wild_edibles_Deb_Lee.pdf))
- 99 Edible Plants for the Midwest Forager: (<https://midwesternplants.org/2015/03/12/99-edible-plants-for-the-midwest-forager/>)
- Consider attending the Midwest Harvest Festival: (<http://wildharvestfestival.org>)

### Reduce food waste:

- Reducing Wasted Food at Home: Planning (EPA): (<https://www.epa.gov/recycle/reducing-wasted-food-home-planning>)
- Reduce Food Waste (Iowa State University): (<http://www.extension.iastate.edu/foodsavings/page/reduce-food-waste>)
- U.S. EPA—Composting at Home: (<https://www.epa.gov/recycle/composting-home>)
- University of Illinois Extension—Composting in the Home Garden: (<http://extension.illinois.edu/compost/>)
- The Chicago Botanic Garden's guide to composting: (<http://www.chicagobotanic.org/plantinfo/composting>)
- *Just Eat it* (<http://www.foodwastemovie.com>)
- *Dive!* (<http://www.divethefilm.com/default.aspx>)