

How to Prepare Your Gardens & Orchards For Climate Change

Climate chaos is upon us. Droughts are becoming more common, and the rains come in torrents. How do you help your plants adapt? Luckily, there's a lot you can do to prepare.

Here's what to expect, and what you can do to cultivate abundance in our shared climate future.

Climate Impacts in Western Washington

Temperature: By 2080, we'll go from Zone 8a to 9b. **We can expect hotter summers and warmer winters, with far fewer frosty days and many more days with temps above 86° F.** Olympia will look like Sacramento by 2080!

Precipitation: Total precipitation is only expected to increase slightly, but the timing of precipitation will change a lot, with heavy rain events concentrated in the fall, winter and spring.

This means hotter, drier summers and warmer, wetter winters.

We'll also see extremes from year-to-year, with very dry years followed by very wet ones. What we think of as a 40-year weather event today will be a 6-year event down the road.

So what does this mean for fruit-growers?

Less chill hours means some fruits that have worked here historically may not fruit. And it may not seem like a big deal to lose a fruit tree every 40 years due to weather. But if that's happening every 6 years, you've got a big problem.

In general, it will be harder to get plants established, plants will become susceptible to different pests and diseases, and greater plant stress will result in increased die-offs. But luckily, there's a lot you can do to help your plants adapt. Let's dive into these practices.

Retain Water:

With large swings between droughts and deluges throughout, you can prepare your plants for climate change by retaining water when it's. This will make more water available to your plants during the dry periods. Here are some ways to retain water:

- 1. Build Soil:** Every 1% increase in organic matter in the soil can make an extra [25,000 gallons of water](#) available to your plants! You [can build healthy, living soil](#) by [mulching](#) your plants, adding [perennial groundcover](#), promoting soil life, and by not tilling.
- 2. Slow Down Surface Water:** Slowing down surface water allows it to sink in and spread out, making it available to your plants long after the rain is gone. You can achieve this by adding mulch, constructing [swales](#), or using rock or log piles as [speed bumps](#) to hold back the flow.
- 3. Reduce Evaporation & Wind Velocity:** Once you've captured the rain, don't lose it! You can reduce evaporation by blocking wind and covering bare ground. Planting [hedgerows](#), building rock or log piles, and [mulching bare ground](#) are all ways to achieve this.

Reduce Plant Stress

More extremes means more plant stress, which means more die-offs. You can [prepare your plants for drought](#) and climate change by [moderating these extremes](#).

1. Moderate soil temperatures by building soil life.
2. Moderate air temperatures by creating late-afternoon shade
3. Moderate soil moisture by covering soil and blocking wind
4. Take steps to reduce pest and disease pressure (such as by [supporting predators](#), building [log and rock piles](#), building soil life, and [planting native plants](#).)

Create & Use Micro-Climates

Warmer winters and hotter summers will change which fruit trees and other plants thrive in western Washington. Plants that require a certain number of chill hours to bear fruit may not get the hours they need, even if they have thrived here historically. At the same time, some plants will do better here in the future, even if they have been only marginal in the past.

- 1. Cool microclimates:** People often think of frost pockets as a bad thing. But in a warmer future, [cool microclimates](#) may be the places where plants with high chill requirements can continue to produce.
- 2. Warm microclimates:** A warmer future means that some plants will do better here than they have in the past. You can amplify this effect by planting warm-loving fruit trees in [warm microclimates](#).

Plant a Mix of Varieties

There's no getting around it—more extremes means that some plants will struggle some years, while others will do great. And that's going to change from one year to the next. Enjoy abundant harvests year after year by planting a broad diversity of fruit trees and berries.

But it's not just about having a large variety of food crops—you want a diversity of other plants, too. Plants that will help you [build soil](#), [support wildlife](#), [access nutrients](#), block wind, and so much more.

Plants thrive in a diverse community of life. When you plant a broad diversity of plants, you're creating a more resilient system—an ecosystem.