



## EOC3 DECEMBER 2023 NEWSLETTER

Welcome to the sixth issue of the Eastern Oregon Climate Change Coalition newsletter.

There's been a lot going on in northeastern Oregon related to our engagement in climate change awareness and advocacy since our last newsletter. Our board has been busy putting together next year's program of speakers, one that promises to be of the same high caliber as recent years. The Eastern Oregon Climate Vigil held a climate change vigil event in Pendleton at the Arts Center, including music, speakers, art, and ice cream! They also had three screenings of the film *Youth vs. Gov*, concentrating on young people in our communities. Peter Fargo, the coordinator of the effort, has a piece in this newsletter about a building effort to put a climate security constitutional amendment on the Oregon ballot.

As always, if you have any suggested newsletter topics useful for EOC3 members, please get in touch with me at the email below or any of the EOC3 board members.

Happy reading!

*Bill Aney, Editor/Publisher*  
*Aneykblj@yahoo.com*



### From the EOC3 Board Chair

Dear Climate Supporters:

This has been another record-breaking year for temperatures around the globe. Coupled with an emerging El Niño, our environment continues to be challenged, and that continues to challenge us and our communities. We at Eastern Oregon Climate Change Coalition (EOC3) remain deeply dedicated to sharing the latest and best science-based information with our citizens and communities so we can all make informed decisions on adjusting, adapting, mitigating, and preparing for a changing climate.

First of all thanks to you who have renewed or become new mem-

bers with EOC3. Your support and interest enabled EOC3 to bring our monthly programs to you.

In addition, EOC3 has been partnering with and advocating for a variety of programs and legislation that would further our community preparations and resilience when facing an uncertain future. Your support is crucial to our ability to continue with these efforts. You are at the heart of our work. Through your financial support, we can continue our collective work and make a positive difference.

This is where you come in. Our membership schedule is listed on the EOC3 website at [EOC3.org](https://eoc3.org). We have kept membership fees low, knowing that many organizations are constantly asking for your support. You can renew/become a new member/donate by:

- Going to the [EOC3.org](https://eoc3.org) website and hitting the membership tab at the top of the homepage, or
- Sending a check to EOC3, PO Box 485, Pendleton, Oregon. 97801.
- ◆ Donate to EOC3 through the Valley Giving Guide at <https://www.valleygivingguide.org>

Memberships run from the first of January to the end of December. Those signing up now would be covered for 2024.

EOC3 has also benefitted from your feedback and suggestions over the past few years, and we highly recommend your continuing help so we can be relevant and strong as we move into the future. You can always contact us at [info@eoc3.org](mailto:info@eoc3.org).

Fees and donations are fully tax deductible. Your interest and participation have made it possible for EOC3 to grow and be a player in the challenges we are all facing in the future. We hope to be able to continue to be a resource and service to you and our communities.

Thank you so much for your support.

*Jeff Blackwood*  
*Chair, EOC3*

# The Fifth National Climate Assessment – A Brief Guide

Imagine our future Earth in a changing climate: leave internet time behind and immerse yourself in the deeper time of planetary history. While humans represent only a recent development, our impact has been dramatic. We've woven our human societies into every thread in the fabric of life on the planet. Taking the long view, we can understand the changes we've brought and work to moderate those that are to come.

That's the message of the [Fifth Climate Assessment](#): *Future climate change impacts depend on choices made today.* That deeper time perspective delivers the vision we need to see and understand clearly that our actions today will bring real benefits – now and in the future:

*In addition to reducing risks to future generations, rapid emissions cuts are expected to have immediate health and economic benefits. At the national scale, the benefits of deep emissions cuts for current and future generations are expected to far outweigh the costs.*

The assessment is supported by graphics that show the way our choices will affect future generations – and what those generations will have to bear if we don't cut our carbon emissions. Right is the first of those images, a deep look at the current situation and the risks and the benefits posed by each path forward. There is [text that describes each of the charts](#) in this graphic. You can [visit the website](#) for all the details.

## How the United States Is Addressing Climate Change

On the plus side, even as population has increased and the U.S. economy has grown, emissions have decreased. Costs for solar, wind, and battery storage have steeply declined. That's been matched with an increase in the deployment for [each of those](#). There's a section on how we can accelerate the pace of change with links to scientific research that supports the findings. State climate assessments will play a large role including at the local level.

[A concise graphic with bar charts](#) displays what each state has accomplished to both adapt to and mitigate greenhouse gas emissions. There's also [a table with examples of actions](#) from around the country where resilience, adaptation, and mitigation are driving policy.

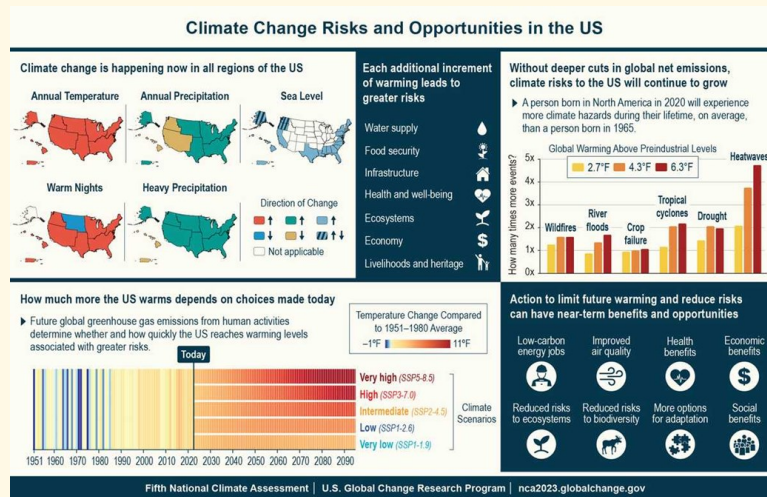
## How the United States is Experiencing Climate Change

[This section](#) covers how the country is being affected. While many of us are familiar with some of the details, the sobering fact is that [the current level of warming is unprecedented](#) so there are no models to guide us. What we do know is that there have been an increasing number of episodes that have impacted society at all levels.

Damage to infrastructure, interruption of public services, and declining property values will all accelerate if we don't act. The effects are already being felt: [a map shows the damage in each state](#) caused by billion-dollar disasters such as hurricanes, wildfires, floods and drought. Disasters can cascade. One example is smoke from wildfires impacting air-quality hundreds of miles away as it did in the summer of 2023.

Events can also compound. A changing climate can lead to wildfires in one location, while excess precipitation brings flooding to other parts of the country. Given past housing practices, these developments also exacerbate housing inequities such as the lack of green spaces, the availability of food, and the potential for flooding.

[There's another important table showing the potential impact](#) of a changing climate on each region of the country. Here in the Northwest, there may be less water in our rivers, more heat, more wildfires, and more smoke. Heat impacts anyone working outdoors, and everyone is affected by bad air quality from wildfires.



## Current and Future Risks to the United States

There's a long list of associated climate change risks for the U.S.: economic losses; bad health outcomes; lost agricultural productivity; reduced water availability for some, [flood damage for others](#); and those wildfires and the bad air quality they bring. The biggest risk is to water. On the one hand, increasing droughts and heat can affect our food systems in many ways reducing those water supplies. On the other heavy rain can damage crops and contaminate water sources. Heat can cause algal blooms putting those waters and the fisheries they harbor at risk.

The report details the disruption to public infrastructure and (continued next page)

(National Climate Assessment continued from p.1)

services, to public health, to migratory patterns of culturally important species and more. Pressure on vital systems [will lead to migration](#) away from areas where the risk is the greatest, and to areas with less risk.

A positive is that ranchers and farmers are taking action and innovating. Agroecological practices, precision agriculture, and carbon monitoring are happening. Aquaculture could also bring more food to the table if carefully managed. There's also the real promise of [job opportunities](#) as the economy shifts to renewable energy. Mitigating the risks is crucial to preserving important cultural traditions and the sense of place we all have.

## The Choices That Will Determine the Future

This brings us to [the path we choose](#) going forward. A [series of charts](#) show the changes we can expect as the choices diverge. The context is that United States is warming faster than the rest of the world. Average temperature and rainfall, extreme precipitation, coastal flooding, rising sea levels; all of these are going to be part of a changing climate here.

## How Climate Action Can Create a More Resilient and Just Nation

The closing section is very positive. It lists the [known and available](#) options for achieving net zero by 2050. It's about our collective will, the will to [transform](#) the way we get our energy and to do it equitably. That's a big ask given economic inertia, but we have a model in the demise of coal. It was important until it wasn't. We can make the same choice for the all fossil fuels.

It all depends on the kind of Earth we want. My choice is for a planet we can continue to live on comfortably, all of us together.

*Norm Cimon is a member of the EOC3 Board of Directors and valued contributor to the newsletter*

## EOC3 Poster Contests

EOC3 recently received an Amazon Web Services grant of \$8150 to support youth climate change poster contests through our three regional art and cultural centers. EOC3 will coordinate the three area contests beginning after the first of the year in partnership with the Pendleton Center for the Arts, Art Center East in La Grande, and the Crossroads Carnegie Arts Center in Baker City.

The poster contest will be aimed at youths 13-18 years of age, but younger students will be encouraged to join as well. Submissions will be in January with judging and displays at the four art centers in February. A joint announcement will be issued soon. There will be cash prizes for winners, but all entrants will be recognized.

Studies have shown that while sound scientific findings, facts, charts, and graphs are necessary for a base understanding, art can bring in the emotions and personal reflections that influence and solidify beliefs.

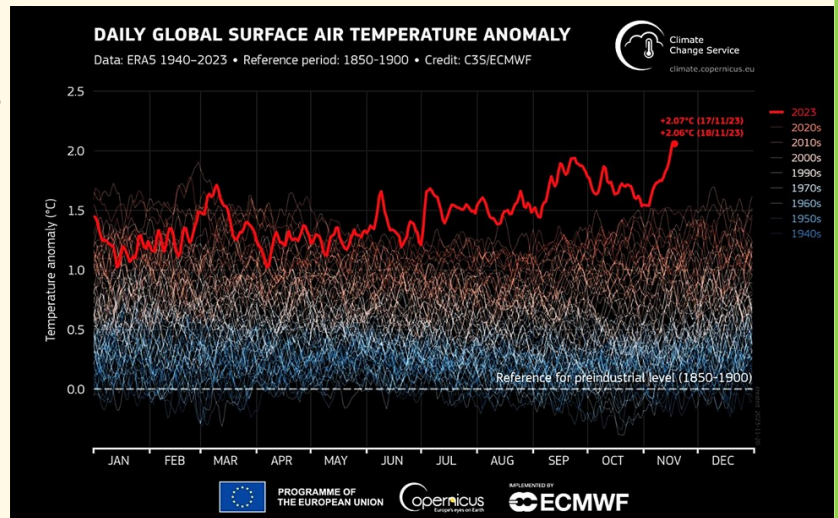
Teens are in a much better position to relate to other teens, creating messages that can resonate much more strongly than marketing materials created by adults. AND, we have so many talented teens in Eastern Oregon – we know that the artwork and ideas will be engaging for viewers. In conjunction with art center partners, an EOC3 sponsored poster contest would ask teens to submit hand drawn/painted/collaged or digital entries in 11 x 17" format. Each art center would advertise through the art instructors in Eastern Oregon high schools, tribal schools, and the home-school groups that local art centers work with. With this funding, regional arts centers would provide both materials and a space to work if the need arises, along with well-advertised exhibit space.

Judging the results would be an event that brings in parents, friends, and others to celebrate the work and reflections of participants. EOC3 is working with local library districts to have the winning posters printed on bookmarks to be distributed to area libraries.

EOC3 is excited to sponsor this event and believe it will help our youth and their parents better understand the implications of climate change and how we can all prepare and navigate our changing environment.

In November of 2023, the daily global surface air temperature passed an important threshold: it was 2 degrees C above the preindustrial reference level (1850-1900). Why is this important? For a long time now, a 2°C rise in global temperatures has been considered a critical threshold for human-generated climate change. The Paris Agreement aims to limit global warming to 2°C above preindustrial levels, although the Agreement has an ambition of limiting temperature increase to no more than 1.5°C.

(It's important to remember that this is an average for the globe; climate change impacts are not spread evenly around our planet, with warming generally higher over land areas than oceans, and the strongest warming is occurring at northerly latitudes like the Arctic (although Earth's mid-latitudes have very strong warming during their warm season)).



*Image provided by Dr. Dominique Bachelet, member of the EOC3 Advocacy workgroup.*

## We hold these truths to be self-evident

Would you sign a petition to put the constitutional right to a healthy environment on your election ballot? And if this right was on your ballot, would you fill in the “yes” bubble?

With your help, Oregon voters will have both choices in 2024.

What is the right to a healthy environment? In the US Constitution, the 5th and 14th amendments protect our rights to life, liberty, and property. These rights echo the Declaration of Independence: “We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the pursuit of Happiness.”

All these rights depend on meeting our basic human needs for a healthy environment, including but not limited to clean air, clean water, and a stable climate.

In response to persistent government failures to protect these basic rights, a growing movement seeks to protect them through direct democracy and the courts. For example, organizations such as Green Amendments for the Generations ([forthe generations.org](http://forthe generations.org)) are advocating for state constitutional amendments to codify each person’s right to a healthy environment. Organizations such as Our Children’s Trust ([our childrenstrust.org](http://our childrenstrust.org)) are taking governments to court to defend the rights of young people to a stable climate.

These two approaches met in a recent climate lawsuit, *Held v. State of Montana*, in which the Montana judge ruled in favor of youth plaintiffs based on Montana’s 1972 constitution which requires “a clean and healthful environment in Montana for present and future generations.” The *Held v. State of Montana* decision, if upheld by the Montana Supreme Court, will transform Montana’s climate policy and fossil fuel industry to correct their contributions to runaway climate change.

The moral of the story: when government gridlock prevents necessary action to protect our fundamental environmental rights, and the rights of our children, we have options to hold the government accountable.

In the direct democracy vein, there is another movement afoot to amend Oregon’s constitution to protect everyone’s right to a clean and healthy environment, including a stable climate. I’m proud to be part of this effort as an Eastern Oregon resident, and I would welcome the participation of EOC3 members. Once we file the proposed amendment, the next step will be to gather over 1,000 voter signatures to meet the “sponsorship” requirement.

If you are interested in learning more about the petition, signing it, and/or inviting others to sign it, please email [yes@climatevigil.org](mailto:yes@climatevigil.org).

*Peter Fargo*  
Founder, Climate Vigil and Climate Rights Campaign  
Baker City, OR



### Upcoming EOC3 Climate Change Conversations

- Jan 16 Kyle Dittmer—Climate Change Impacts on Columbia Basin Tribal Lands. Nov 21
- Feb 20 Craig Madsen—Increasing drought tolerance with healthy soil
- Mar 19 Bob Patterson—Resilient Utilities, Wastewater and Water, Clean Energy Projects
- April 16 Dominique Bachelet—Climate Change Adaptation in Western Europe

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## Policy and Legislative Contacts

We live in a representative democracy, where elected officials appoint judges and make law and policy that affect us all. These officials need to hear from us to know what is important.

The significant renewable energy incentives in the Inflation Reduction Act of 2022 are good examples of how legislators and policy makers can make a difference in our efforts to reduce our impact on the earth's climate.

Whether on this piece of policy and legislation or other climate change concerns, you can make yourself heard. Write a letter, send an email, make a phone call – individual citizen voices do count!

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## **Acting Locally**

### Practical xeriscaping

What it is - an approach to landscaping when you live in a dry climate and need to save water. It is especially suited for Eastern Oregon, and with the locally increasing temperatures we need to be finding ways to conserve water.- and guess what, that is where we are. Pendleton's public wells are dropping, and the cost of clean water is going up. The times for nice green grass lawns are rapidly coming to a close, along with lawn mowers, water sprinklers, and water guzzling imported garden flow-ers. Time to think about native plants that are ok with dry soil. This is the approach which the Episcopal Church in Pendleton has used. It was planted about June, and now is looking rather good.

In recent years xeriscaping has started to become popular and ideal for a happy lawn that LIKES a lack of rain, dry soil, and decorative rocks.

These two approaches are starting to be used in places like Eastern Oregon:

A. Landscape your yard with decorative rock. First kill and/or plow it up and rake smooth. Then cover it with ground cloth to prevent weed seeds coming up, then cover it with a spread of dirt. The next step is to cover that with some rock (available through landscapers). Then you can plant whatever native plants that need almost no water. The first year a little water may be needed, but by the second year you may need little or no watering, using just what falls as rain. There are several yards in Pendleton using this approach. One example is in the Pendleton hospital; go in the front door and a little way straight ahead. However, most using this method don't use really big rocks like the ones there.

B. Cover your yard with a mixture of seed that produces plants that spread easily, have flowers, don't get very tall, once established continues to self-seed itself, and needs very little or no watering.

A recent article in the East Oregonian speaks to xeriscaping principles and points to the example of the Episcopal Church in Pendleton with images of site preparation, end of summer conditions, and post-mowing.

[https://www.eastoregonian.com/news/local/turning-water-into-wise-local-lawns-and-gardens-using-less-water/article\\_a5a647e4-7432-11ee-a295-3364976f65e7.html](https://www.eastoregonian.com/news/local/turning-water-into-wise-local-lawns-and-gardens-using-less-water/article_a5a647e4-7432-11ee-a295-3364976f65e7.html)

Call me if you have questions.....*Bruce Barnes, EOC3 member*

**Acting Locally** is intended to be a regular feature of the EOC3 newsletter, with ideas about how we can reduce our carbon footprint in our daily lives. Your ideas are welcome—please let the editor know if you have something to share.

## Upcoming Presentations

### January 16, 2024: Climate Change Impacts on Columbia Basin Tribal Lands: Past-Present-Future

Presented by Kyle Dittmer, Hydrologist-Meteorologist with the Columbia Basin Inter-Tribal Fish Commission in Portland, Oregon.

This program is based on climate change research published in 2013 in a peer-reviewed journal called Climatic Change. The article, *Climate change impacts on the water resources of American Indians and Alaska Natives in the U.S.*, and the associated program is PNW specific and focuses on observed changes in tributary river flow from 1900-2009 in 32 basins, including NE Oregon: the Umatilla, John Day, and Grand Ronde watersheds.

### February 20, 2024: Increasing drought resilience with healthy soil

Presented by Craig Madsen, Soil Agroecologist Coach and a member of the Roots of Resilience organization. He is located in Edwall, Washington, a small community south of Spokane.

Craig is a strong proponent of the regenerative agriculture approach. He has worked with the Holistic Management process championed by Allan Savory and the Savory Institute. Here is some background information, provided directly by Craig or taken from his LinkedIn account:

The complexity and diversity of life on earth is truly amazing. I find the interrelationships between the soil biome, plants, animals and humans fascinating. My passion is helping people to become better observers of their landscape so they can evaluate how well the ecosystem processes are functioning. Asking questions and providing a process to find solutions that fit their context - that's my approach to helping people create their desired quality of life. Are their soils acting like a sponge to absorb the maximum rainfall? What are the weeds telling them, besides being aggravating? Where is the weak link on their farm or ranch? What is happening with each of the 5 Ms: Mindset, Management, Microbes, Minerals and Organic Matter? How effective are they at working with nature so that she is providing the inputs?

Craig has a strong interest in helping people enhance their triple bottom-line, through balancing their economic, environmental, and social context. His personal experience transitioning from working for the Natural Resources Conservation Service to establishing a vegetation management business using goats has provided him with great experience in using the Holistic Management process to work through change. His experience as a Field Professional with the Savory Institute, 20 years managing Healing Hooves Natural Vegetation Management and now reaching out as an independent Soil Agroecologist Coach combines a unique set of skills to help people through a process to develop the quality of life they desire.



### March 19, 2024: Resilient Utilities: Wastewater & Water. Clean Energy Projects

Presented by Bob Patterson, Public Works Director for the city of Pendleton, Oregon.

Bob provided an in-person EOC3 program at Pendleton's Prodigal Son Brewpub in Pendleton in February 2020, right before the Covid pandemic hit. This program will be an update and discuss the innovative things that the city of Pendleton has implemented since he last talked with us early in 2020.

**Program description:** Bob's program will cover solar systems, hydro-power with vertical turbines, cogeneration with microturbines, battery storage and microgrid programs, solar shading for the wastewater treatment facility, and a variety of other clean energy projects.

Bob plans to retire from his Pendleton Public Works Director position next year and he and his wife Lisa plan to migrate to western Australia next fall.

### April 16, 2024: Climate change adaptation in France and western Europe (draft/tentative title)

Presented by Dr. Dominique Bachelet, Climate Change Ecologist affiliated with Oregon State University in Corvallis, Oregon, and one or two of her students.

**From Dominique's LinkedIn profile:** Dominique is a broadly trained ecosystem scientist with over 30 years of combined education and work experience in ecology in the USA. She has studied ecosystems at increasingly larger scales, starting from local (a patch of grass) and progressing to regional (southwestern deserts of the U.S., rice growing regions of Asia), national and continental (North America), and finally to global scales. She has done this in association with multi-disciplinary research teams first at the Natural Resources Ecology Laboratory (Colorado State University), then at the Dry Lands Research Institute (UC Riverside), the Jornada Long-Term Ecological Research project (New Mexico State University), the US-EPA Environmental Research Laboratory (Corvallis), the USFS-Global Climate Change Research Group (USDA-FS PNW Station Corvallis), the Nature Conservancy, and now the Conservation Biology Institute (CBI). Her research has focused specifically on global climate change issues since 1988 and since 1995 she has participated in the development of one of the first dynamic global vegetation models MC1 and is contributing to the development of MC2 and its successor. Dominique has written and participated in model documentation, quality assurance/control of model output, and contributed to various data storage exercises involving the creation of data CDs and web page archives. She has extensive knowledge of various ecosystem and dynamic global vegetation models through several model intercomparison exercises. Dominique initiated the creation of the climate wizard at the Nature Conservancy. She worked for 8 years at CBI developing the Climate Center for the on-line database and data manipulation web site [databasin.org](http://databasin.org), ensuring that climate change is integral to conservation planning. She also had her team develop climate web tools (<http://climateconsole.org/sagebrush> or <http://landscapesim.org>) for managers.

## Book Review: For the Love of Soil, by Nicole Masters

Our February 2024 climate conversation program will be presented by Craig Madsen, a regenerative agriculture proponent, Soil Agroecologist Coach, and a representative of the Roots of Resilience organization. When I asked Craig to provide some background material to help me prepare for his program, he immediately recommended this book:

For the Love of Soil: Strategies to Regenerate Our Food Production Systems, authored by Nicole Masters; 2019; 299 pages.

Here is praise for this title from Gabe Brown, author of one of my favorite regenerative agriculture books (Dirt to Soil): "For years many of us involved in regenerative agriculture have been touting the soil health - plant health - animal health - human health connection but no one has tied them all together like Nicole does!"

She shows us through her own personal experiences and those of farmers, ranchers, researchers, and medical professionals all over the world that the answers lie in the soil. A very thought-provoking read that is a call to action for all of us.

I highly recommend *For The Love of Soil* for anyone interested in their health, their children's health, and the health of our planet!"

Nicole founded an organization called Integrity Soils – one of their important missions is to train what are called soil agroecologist coaches. February's climate conversation presenter, Craig Madsen, attended 20 weeks of Soil Agroecologist Coach training which was provided through the Integrity Soils CREATE program and instructed by Nicole.

The coaches can be thought of as regeneration or restoration agriculture ambassadors, working with traditional farmers to help them try different 'soil health' approaches that will ultimately allow them to use fewer synthetic soil amendments like herbicides and fertilizers.

The first few chapters of this book provide a detailed introduction to soil biology. Have you ever heard terms like mycorrhiza, prokaryotes, micro-arthropods, fungi, vermicast, springtails, and others? They are described in vivid detail in this book. While some passages in these early chapters may seem boring or tedious at times, they are needed as Nicole builds a biological and ecological foundation for what follows in this book. I am not a soil biologist by background or trade, but her science seems thorough and persuasive to me!

One aspect I really enjoyed is her technique of weaving in case studies throughout the book. Just when a section seems to be wandering into a technical data swamp, she brings in a case study, involving real farmers and real managers, to provide a personal example of how the topic she's just covered is being used. Although many of the case studies involve New Zealand or Australia farmers, she also does lots of work in the United States and our conditions are represented in these studies too.

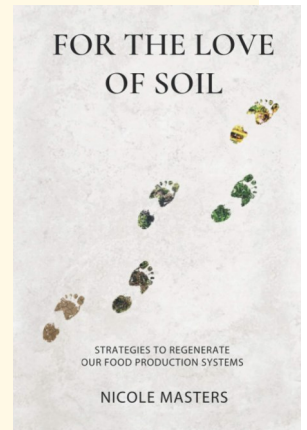
This book was published in 2019, when concerns about climate change and soil carbon were moving to the forefront. Nicole includes quite a bit of information about soil carbon, soil organic matter and the role it plays in nutrient cycling (and as a food source for soil biota like fungi, bacteria, and arthropods), and the future role of soil carbon as a climate change mitigation and adaptation measure. She also ties her work into food systems and food security, spending quite a bit of time discussing how many consumers now demand cleaner, nutrient dense foods and how regenerative agriculture approaches are helping to meet that need.

This book is focused on agroecology and the benefits it provides for food production systems – it is not a tirade against traditional agriculture or the use of synthetic soil amendments like herbicides, fungicides, or fertilizers. It adopts a proactive approach by describing how a different mindset and way of doing business can reap tremendous benefits while lowering operating costs by avoiding expensive synthetic amendments, some of which are derived from fossil fuels.

Do I recommend this book? Most definitely!

In my view, this book is not a how-to manual for restoration agriculture strategies. It does have a fair amount of technical detail, but if you are a reader who would rather not take statements at face value and find yourself asking a lot of 'why' and 'how' questions (how is organic matter in the soil processed, and by whom (fungi, bacteria?), and why is increased carbon so important for plant health and nutrient dense foods?), then this book is for you! Some readers may find themselves skimming some of the heavy-duty science sections and concentrating on the case studies, where concepts and principles become personal. Either way, this book has a lot to offer.

*Dave Powell, EOC3 Board Member*





## New Plant Hardiness Zone Map Now Available

Recently, a new version of the national USDA Plant Hardiness Zone Map was released, the first update since 2012. The Plant Hardiness Zone Map is the standard by which gardeners and growers can determine which perennial plants are most likely to thrive at a particular location.

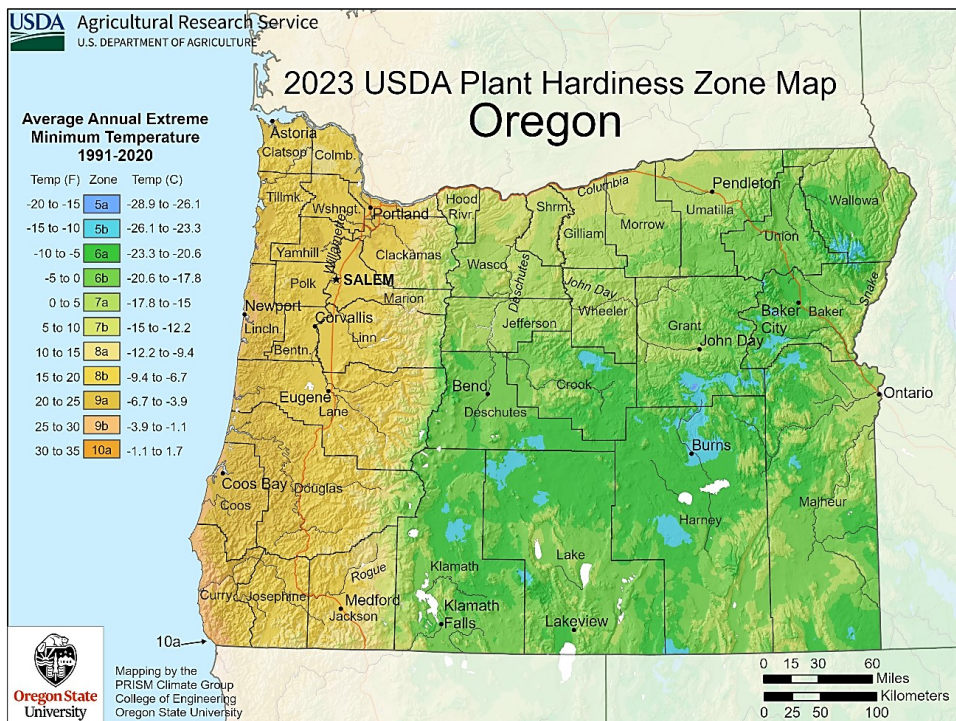
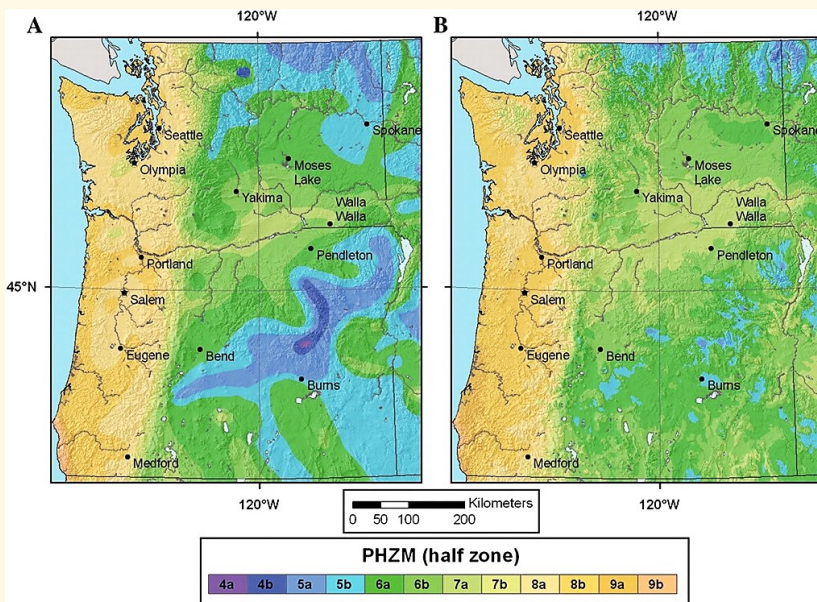
The Plant Hardiness Zone Map is based on average annual extreme minimum winter temperature, displayed as 10-degree F zones ranging from zone 1 (coldest) to zone 13 (warmest). Each zone is divided into half zones designated as 'a' and 'b'. For example, 7a and 7b are 5-degree F increments representing the colder and warmer halves of zone 7, respectively.

Zone numbers are typically listed with descriptions of perennial plants in catalogs and sales information produced by commercial nurseries, plant suppliers, etc. When we buy a perennial plant from a local nursery, it usually comes in a pot and has a plant tag attached to it. The plant hardiness zone is typically listed on that tag. (Normally, when we buy an annual plant in a pot, the plant tag will not include a plant hardiness zone because annual plants will not overwinter in our climate.)

A Plant Hardiness Zone Map serves as a general guide for growing perennial plants. Zones in this new edition of the USDA map are based on 30 years of weather data (1991-2020), reflecting the **average** lowest temperatures, not the lowest ever or possible. The reason that a plant hardiness zone map focuses on the lowest winter temperature is that it is viewed as the primary factor affecting survival and growth of perennial plants.

This means that a year with a rare, extreme cold snap, lasting just a day or two, could kill plants that have thrived happily for several years. Gardeners should consider that 30 years of past weather records do not provide a guaranteed forecast for future variations in weather.

The figure on left shows changes between the 1990 map (side A of the figure) and the 2012 map (side B) for the PNW region. This comparison seems to indicate more change between the 1990 and 2012 maps than a side-by-side comparison of the 2012 and 2023 maps (e.g., by visually comparing the side B 2012 map with the 2023 Oregon map, below).



The new national map for plant hardiness zones, 2023 version, can be found at <https://planthardiness.ars.usda.gov/home>

Thanks to Dave Powell for this contribution