



Climate Conversations

Plant Trees for Cleaner, Healthier, Cooler Air

St Mark's Creation Care Ministry

October 2024



Agenda

- **Land Acknowledgement:** Saint Mark's Cathedral acknowledges that we gather on the traditional land of the first people of Seattle, the Duwamish People, who are still here, and we honor with gratitude the land itself and the life of all the Coast Salish tribes.
- Opening Prayer
- Benefits of Trees
- Selecting Trees
- Discussion
- Planting and Caring for Trees
- Sharing and Q&A
- Closing Prayer

Opening Prayer

Living God, we gather in your presence to worship you.

May our worship join with all creation's, praising you according to its kind.

We celebrate the beauty and importance of the trees that you have made.

May the worship of our hearts be reflected in the worship of our lives, so that we enable the trees of the field to clap their hands, and the trees of the forests to sing for joy; through Jesus Christ our Lord,
Amen



What Trees Can – and maybe Cannot - Do

- Earth's forests absorb 16 billion tons of CO₂ per year, though land clearing, wildfires and burning wood emits 8 billion tons
 - Forests absorb 20% of CO₂ from humans
- Earth has as many as 3 trillion trees
- Planting advocates say massive tree-planting could offset emissions & draw down CO₂
- Scientists say planting 1 billion trees could capture 205 gigatons of carbon, reducing atmospheric carbon by about 25%
- Scientists say poorly designed projects could waste money & goodwill, focus on numbers of seedlings & not keeping trees alive



What Benefits do Trees Provide?

- As trees grow, they remove carbon dioxide from the air
 - Trees store carbon
 - Trees release oxygen
- Trees also
 - Offer shade
 - Block winter winds
 - Attract & provide habitat for wildlife
 - Purify air
 - Prevent soil erosion
 - Clean the water
 - Add beauty



Trees Face Challenges

- More than 17,000 species are at risk from rapid global change
- Climate change can influence natural disturbances that threaten forest health
 - Insect outbreaks, invasive species, wildfires, and storms (EPA)
- Some species, such as fruit trees, evolved to live in more stable conditions
 - Last year, Hudson Valley farmers may have lost 90% of their stone fruit and Georgia lost 90% its peach crop



WA DNR https://www.dnr.wa.gov/sites/default/files/publications/rp_fh_wadnr_barkbeetle.pdf

Trees in the Bible

- Other than people, trees are mentioned more than any other creation in the Bible
- Genesis 2: The LORD God made all kinds of trees grow out of the ground—trees that were pleasing to the eye and good for food... The Lord God took the man and put him in the Garden of Eden to work it and take care of it.
- Proverbs 27:18 Take care of a fig tree and you will have figs to eat



Seattle Tree Planting Framework

- Protect existing trees
- Why plant more trees?
- What to plant
 - Planning for now, and the future
- How to get trees
- Where to plant
- When to plant
- How to plant
- Caring for trees



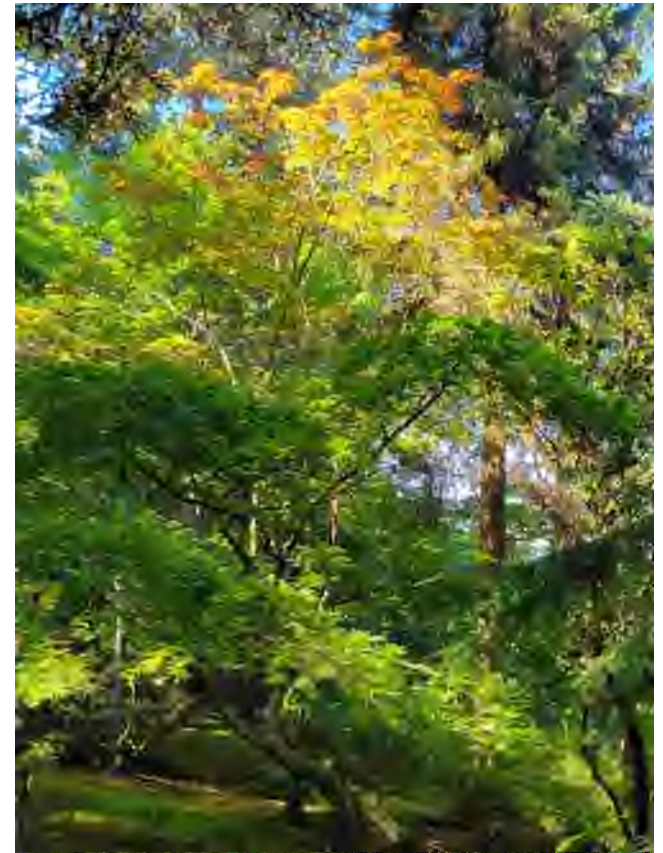
Why Plant Trees?

- Planting trees offsets carbon emissions and reduces climate change
- The beauty of trees
- Calmness amidst nature
- Planting trees around your house can save you money
 - Shade cuts air conditioning usage
 - Trees can cool a city 10° F by shading homes, sidewalks and businesses
 - Evergreens near your house serve as windbreaks
 - Habitat for birds



Protect Existing Trees

- Maximize the health of trees in your garden
- Prune to enhance the health of the tree
 - Avoid non-essential pruning such as topping trees and cutting too much
- Mature trees may need watering if there is a drought
- Consider engaging an arborist who prioritizes conservation and tree health



What to Plant

- Right tree, right place
- Consider size at maturity, growth rate, form, shape, barriers such as power lines
- Native trees
- Site conditions such as light, sun, wind, soil hydrology and drainage
- Maintenance plan
- City restrictions
- Aesthetics such as color and blooms
- Fruit tree or not, deciduous or evergreen
- Resources
 - KCD and other agencies
 - Libraries
 - Nurseries



Plant for the Future

- Climate change is changing what to plant
 - There are half a million redwoods in the UK and about 80,000 mature redwoods in their native range in California
- Consider seedlings from warmer & drier areas to grow trees already adapted to the expected future local climate
- Douglas firs from California could help Washington's forests better adapt to future climate conditions

Photo Source: NNRG/UW https://www.nnrg.org/wp-content/uploads/2019/12/Petersen_climate_impacts.pdf

Select drought tolerant species where possible



Douglas-fir



Grand fir



W. white pine

Plant species from other regions? (assisted migration/managed relocation)



Plant to Care for Creation

King County suggests:

- Low-maintenance trees maximize carbon absorption
- Disease-resistant species do better without fertilizers and equipment
- Faster-growing trees store the most carbon during their first decades
 - Big leaf maple, black cottonwood, cascara, Oregon ash, Pacific willow, red alder, Douglas fir, Sitka spruce, black hawthorn, western crab apple
- Long-lived trees can keep carbon stored for generations (1200 yrs) without releasing it in decomposition and can grow to 200-260 feet
 - Western hemlock, western red cedar, Douglas fir, Sitka spruce



How to Get Trees

- Seattle Trees for Neighborhoods (August or later)
- King County Conservation District Native Bareroot Plant Sale (November)
- Non-profits
 - Propagation Nation & others
- Plant tree seeds or shoots -
https://www.linkedin.com/posts/olawale-kolawole-751a3514_home-children-family-activity-7182286047358136320_cje/?utm_source=share&utm_medium=member_android
- Nurseries



Discussion & Breakout Session

Questions:

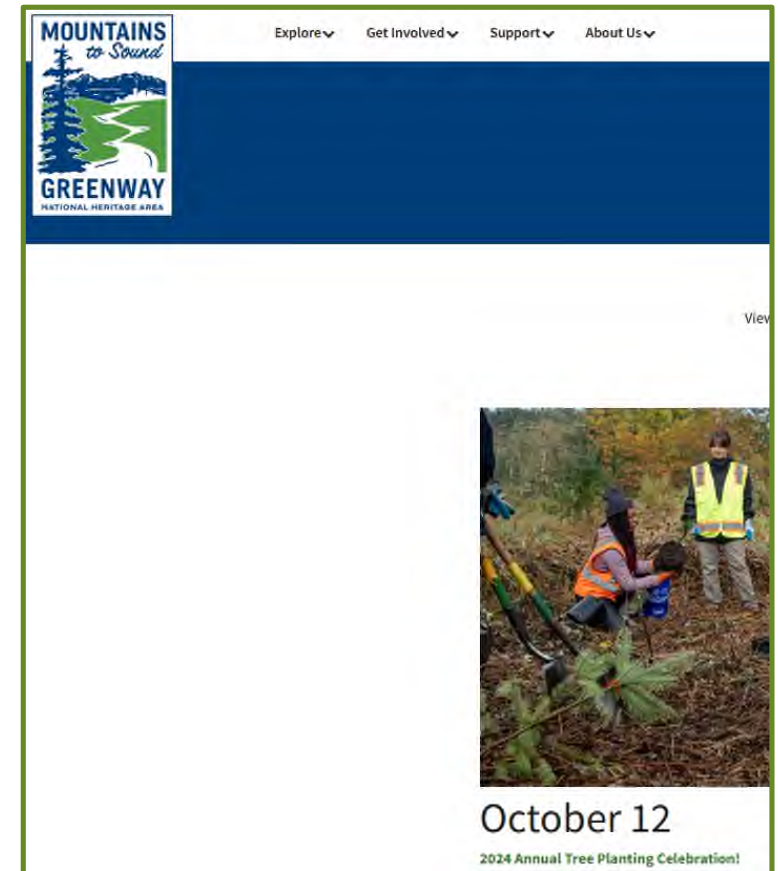
- What are your views on the importance, or not, of tree planting?
- What experiences have you had with selecting trees?
- Where do you get trees to plant?



Where to plant trees

- Consider available space, surrounding structures, overhead power lines and underground utilities
- Choose a space to match the needs of the tree
- If you don't have a garden, join community groups to plant trees
 - St Mark's greenbelt
 - Seattle Parks <https://www.seattleparksfoundation.org/events/>
 - Green Seattle Partnership
 - King County [events](#)
 - Mountains to Sounds
 - ... and more

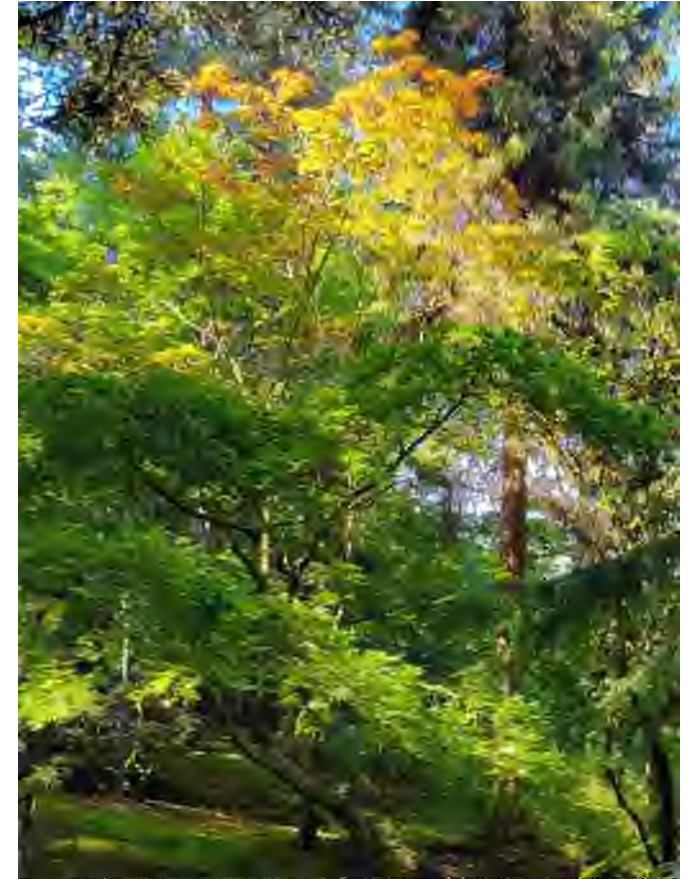
Key Source: City of Seattle, <https://www.seattle.gov/trees/planting-and-care>



<https://mtsgreenway.org/get-involved/volunteer/volunteer-events/>

When to Plant Trees

- Autumn is the best time of year to plant a new tree in Seattle
 - Trees benefit from fall and winter rains and develop a strong root system
- A new tree needs time to develop a system of roots and acclimatize before the intense weather of winter
 - Plant as early as possible in fall



How to Plant

Insights from the City of Seattle

- Remove the tree from the pot
- Locate the root flare
- Redirect the roots outward
- Dig a hole
- Place your tree in the hole, trunk flare above ground
- Fill in the hole
- Water your tree
- Mulch
- Stake, if needed

Video (Seattle): <https://www.youtube.com/watch?v=IRCUATTcfyw>



Video: https://www.linkedin.com/posts/olawale-kolawole-751a3514_home-children-family-activity-7182286047358136320-cje/?utm_source=share&utm_medium=member_android

How to Care for Trees

- Water
 - 15-20 gallons twice a week
 - Hose, watering bag or bucket
- Weed
 - Remove competing plants
- Prune
- Mulch with a 3"-4" layer of wood chips
 - Keeps weeds away, conserves water, and protects the trunk



<https://www.seattle.gov/trees/planting-and-care/mulch>

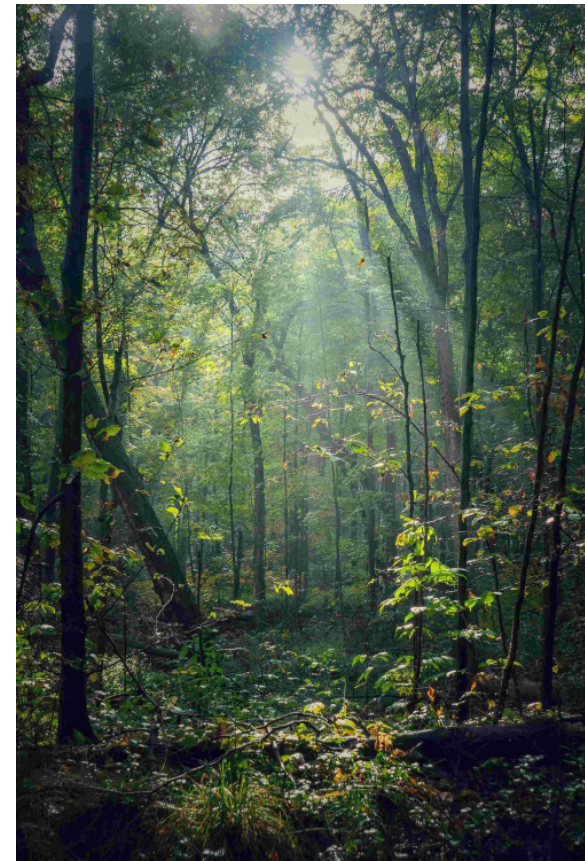
Enjoy Time in Nature



Sharing, Discussion and Q&A

Questions

- What do you need to do to decide whether to plant trees?
- If you will plant trees, when and where and how will you plant them?
- What experiences have you had with planting trees?



Make a Difference

The creation of a thousand forests is in one acorn -
Ralph Waldo Emerson

A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people - Franklin D. Roosevelt

Closing Prayer

We thank you Lord for trees, for tall trees that tower over us, for trees we can climb, and for tiny seeds that grow into huge forests.

We thank you for the colors of leaves in autumn, for fruits and nuts that we love to eat, for shade and shelter, for fuel and firewood.

Lord we are sorry for the ways we destroy so many trees, in the name of war or progress or just because we are greedy. We are sorry for the damage this does to wildlife and to the poorest of our neighbors around the world.

Help us to stop the deforestation that is driving so many species to extinction.

We dedicate ourselves anew to caring for trees and forests as part of our worship of Jesus, by whom and for whom all things were made. Amen

