Ohio Woodland Carbon

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OHIO FARM BUREAU

Ohio Farm Bureau is a grassroots membership organization that is committed to supporting our farm and food community. With offices in 87 counties, OFBF is the states largest general farm organization.

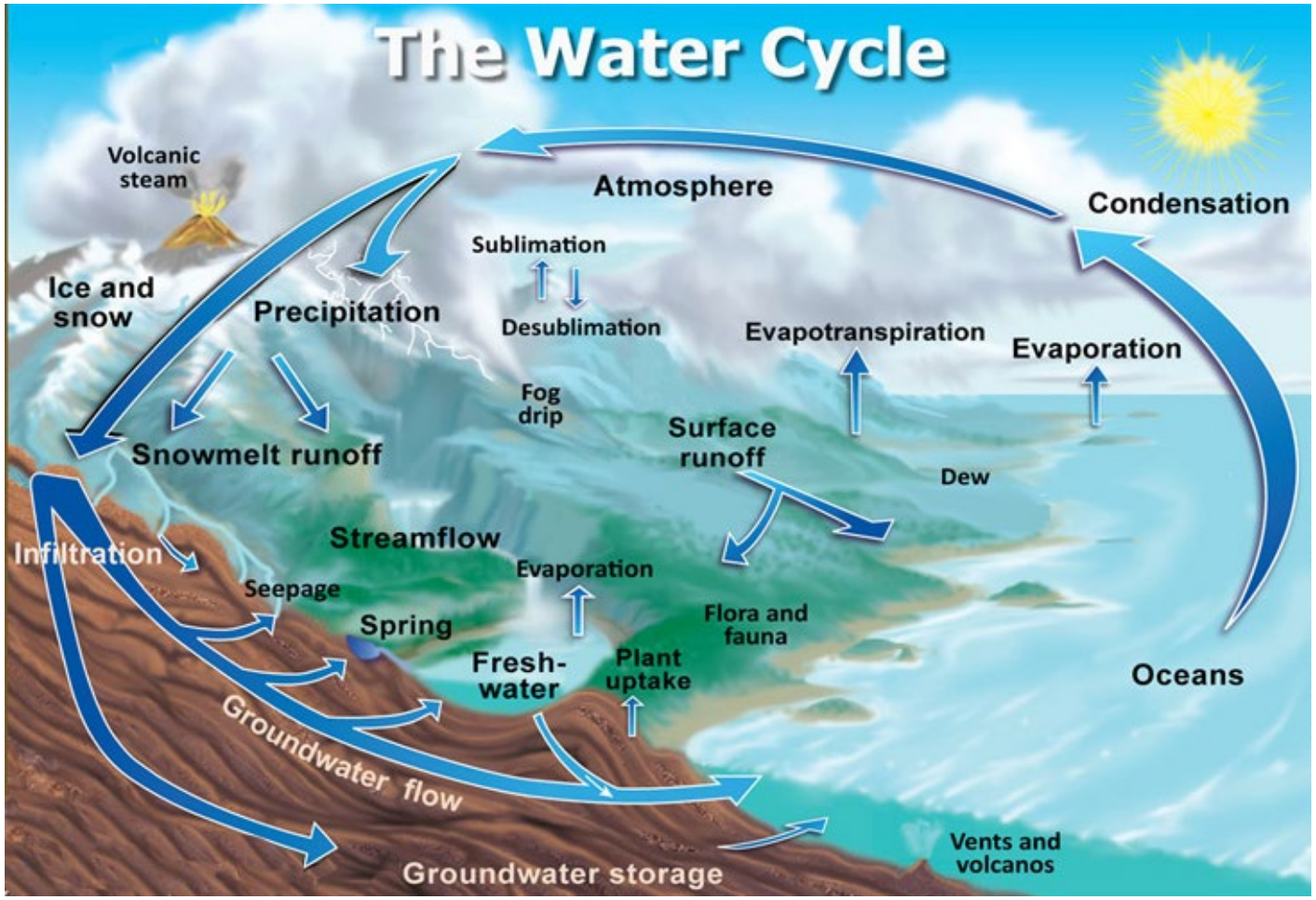
Climate Ramifications

- If you were born after February 1985, you have never experienced a cooler than average month for the planet!
- The U.S. experienced four separate flooding events in a 5 week stretch in summer of 2022 that each qualify as 1-in-1,000 year rain storms
- 40 people died in Kentucky

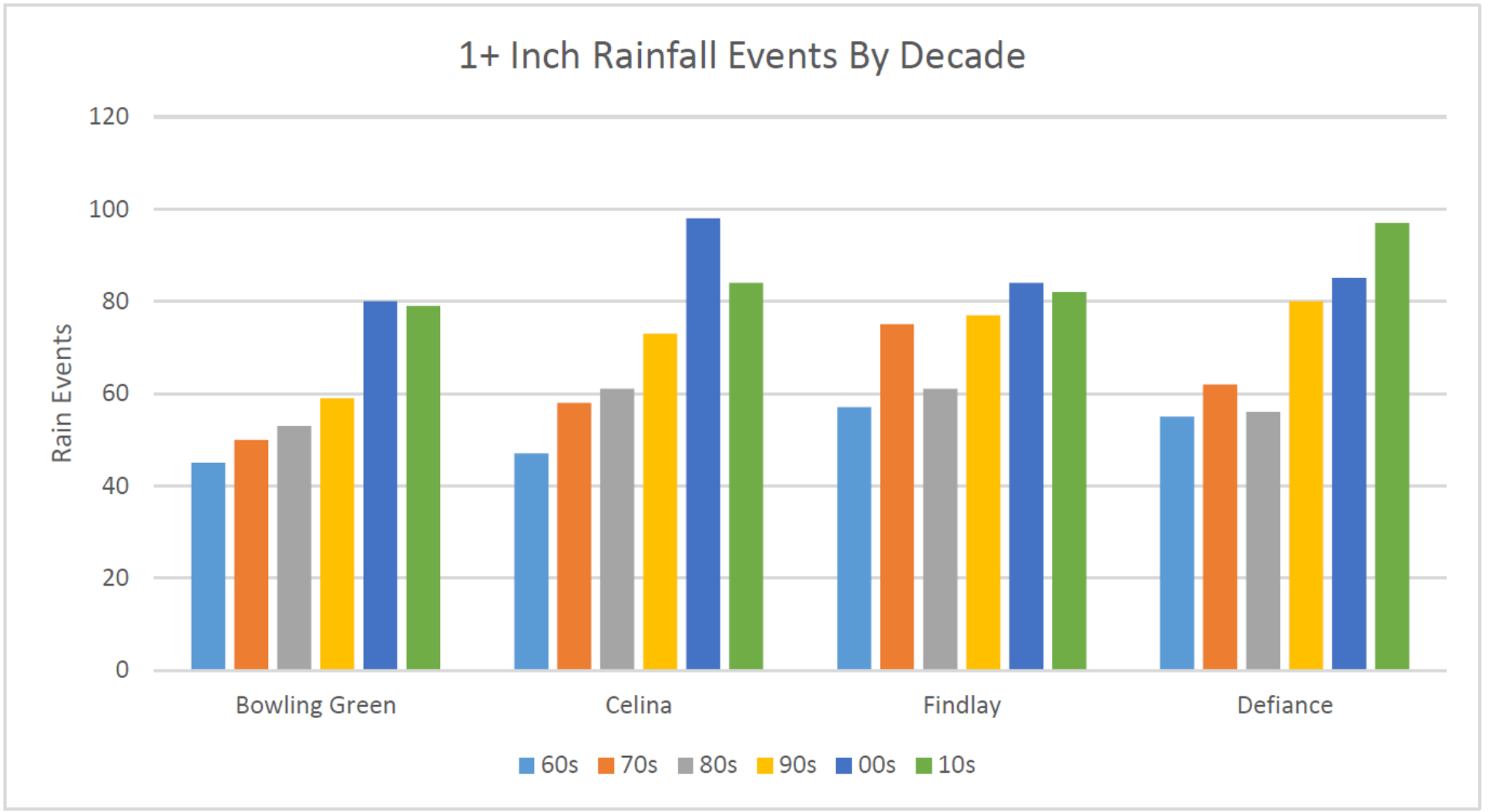
- **Water Vapor** is not a force of climate change but is a feedback

- Every 1°C = 6-7.5% increase in water vapor

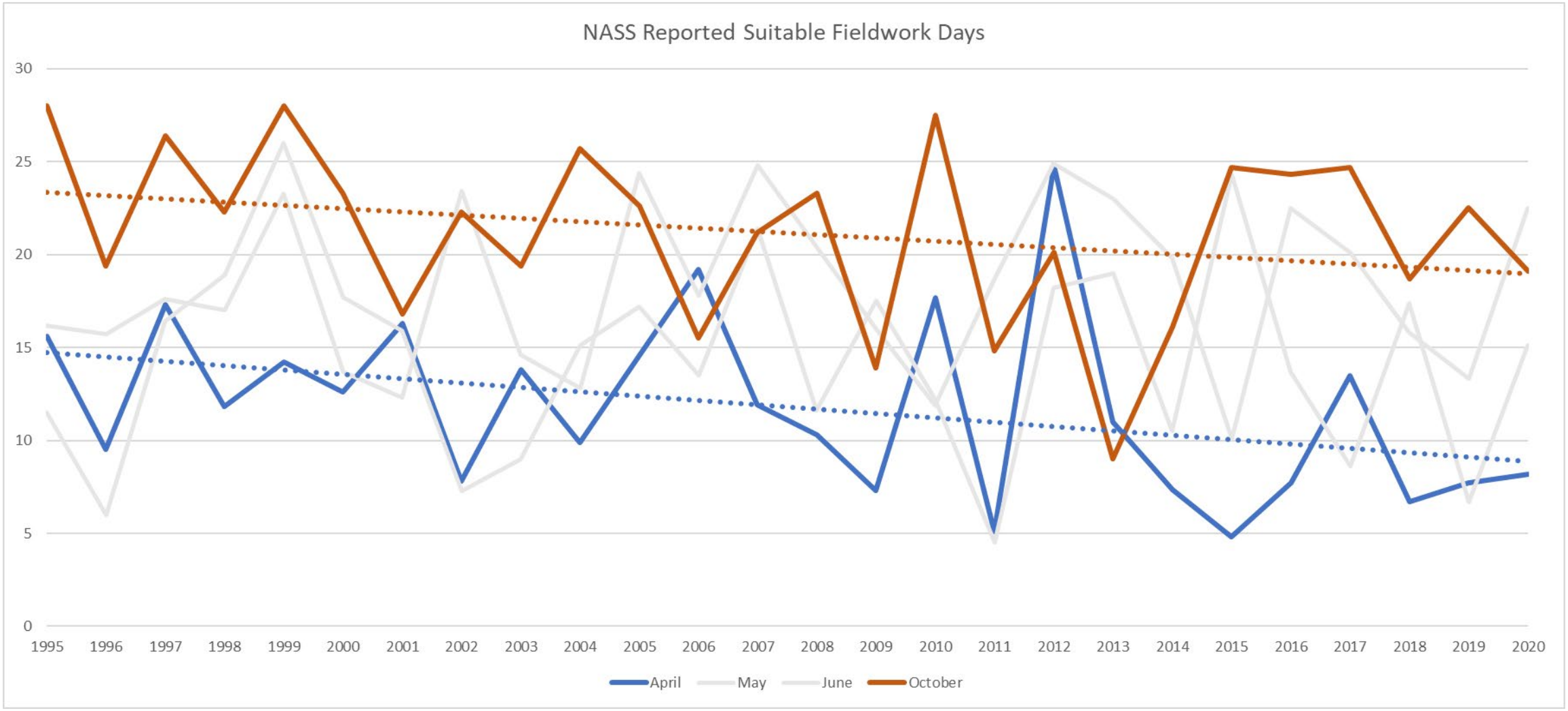
- Increased evaporation → Rapidly intensifying drying periods as well



RAINFALL TRENDS



SUITABLE FIELDWORK CONDITIONS: OHIO

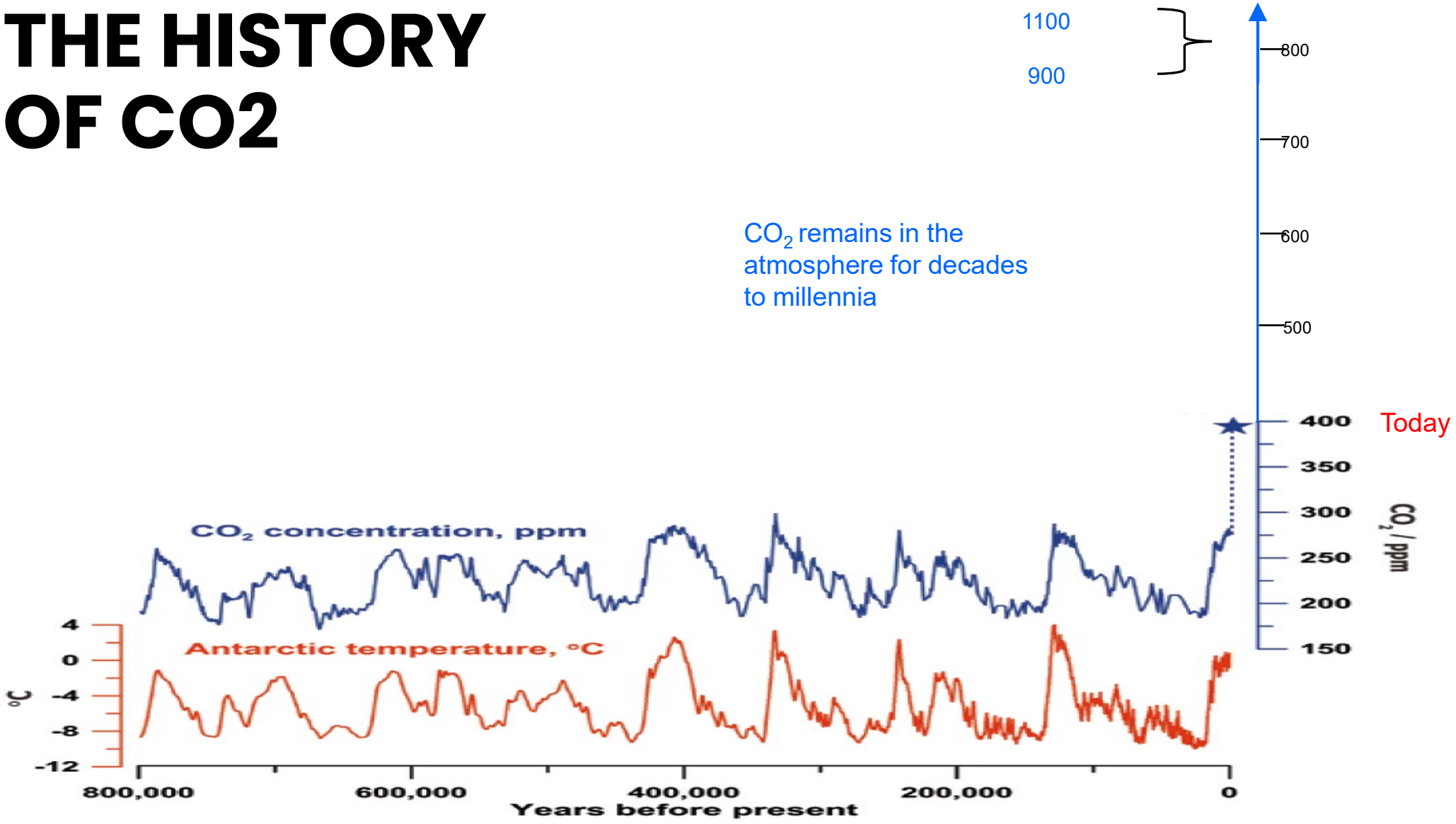


THE HISTORY OF CO2

1100

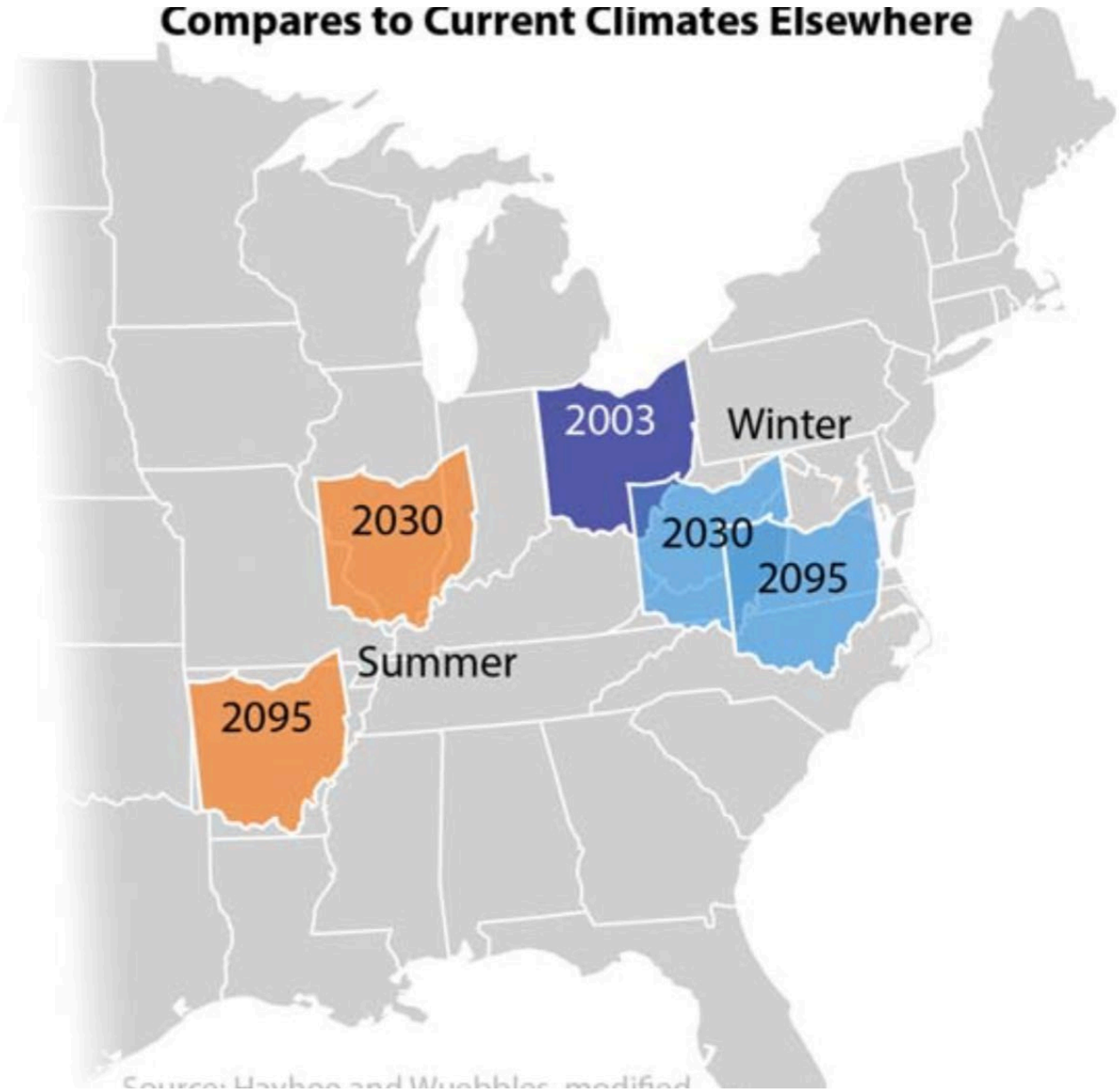
900

CO_2 remains in the atmosphere for decades to millennia



WHAT IF THIS IS OUR NEW NORMAL?

- Longer Growing Season
- Warmer Temperatures (Winter and at Night)
- Higher Humidity
- More Rainfall
- More Intense Rainfall Events
- More Autumn Precipitation

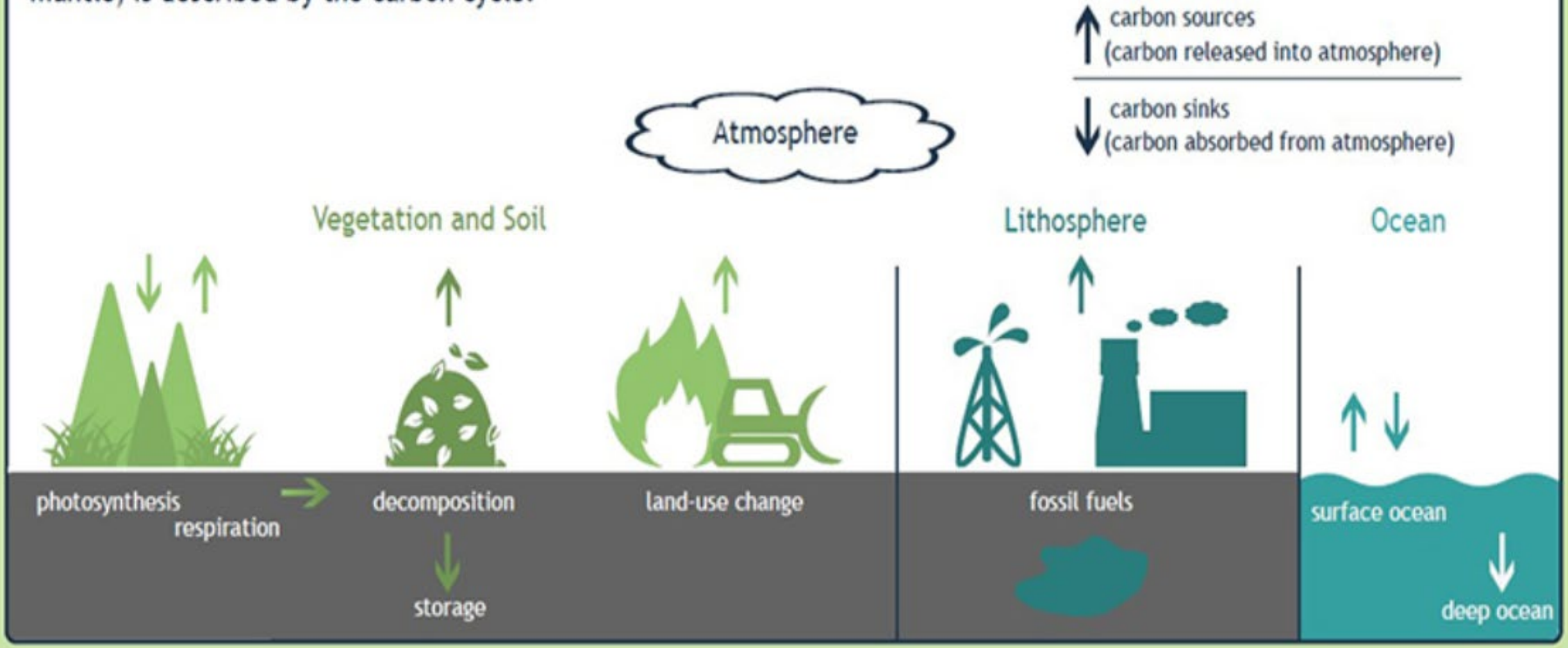


Carbon and Forests

- Carbon is one of the most abundant elements on earth and serves as the building block for all life
- Carbon is found in many things:
  - In living and dead organisms
  - As carbon dioxide gas in the atmosphere
  - As organic matter in the soils
  - As fossil fuels and sedimentary rock deposits
  - In multiple forms in oceans
- The process of governing carbon fluctuations in these different areas are complex and variable and have substantial impact on the planet

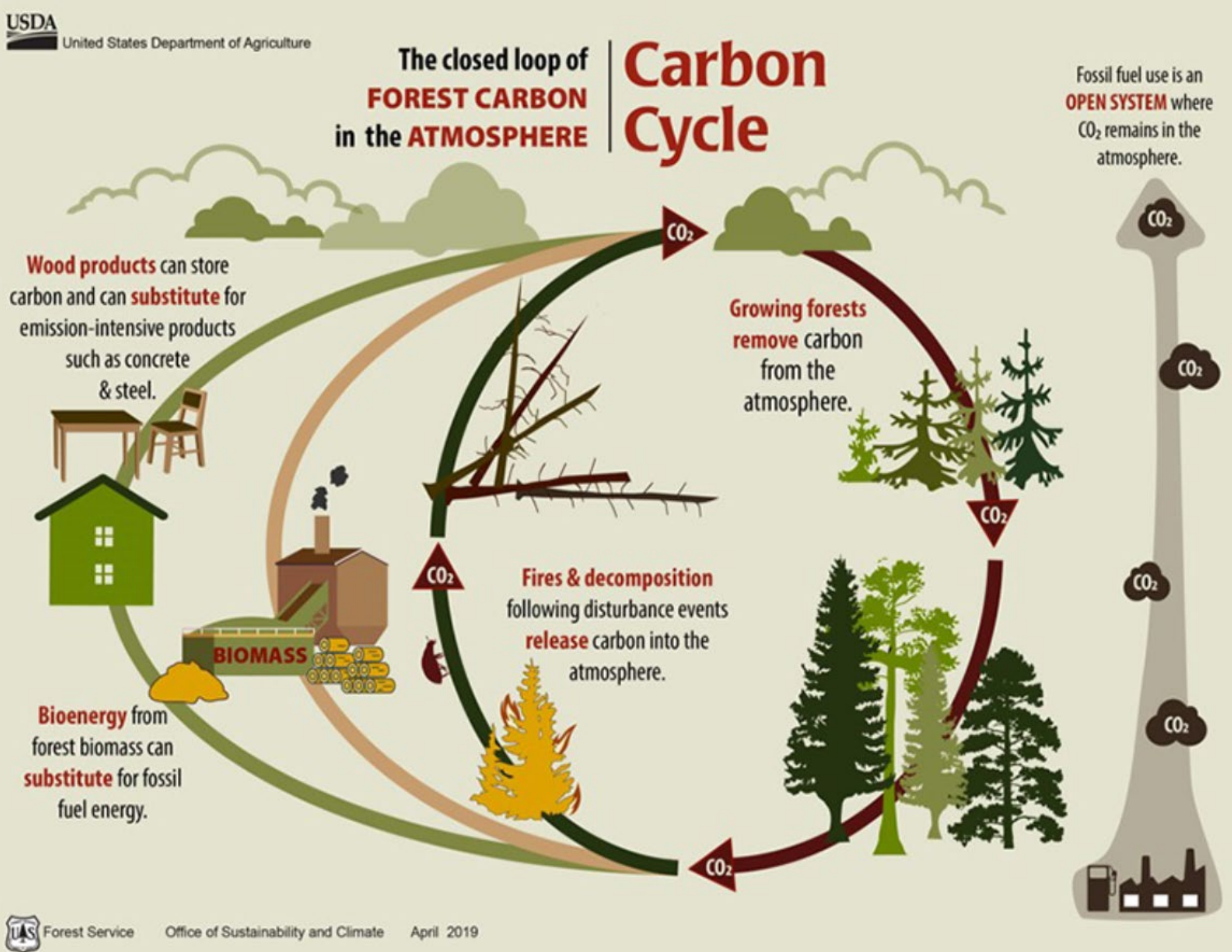
Carbon Cycle

The movement of carbon through the atmosphere, ocean, vegetation, soil, and lithosphere (Earth's rocky crust and upper mantle) is described by the carbon cycle.



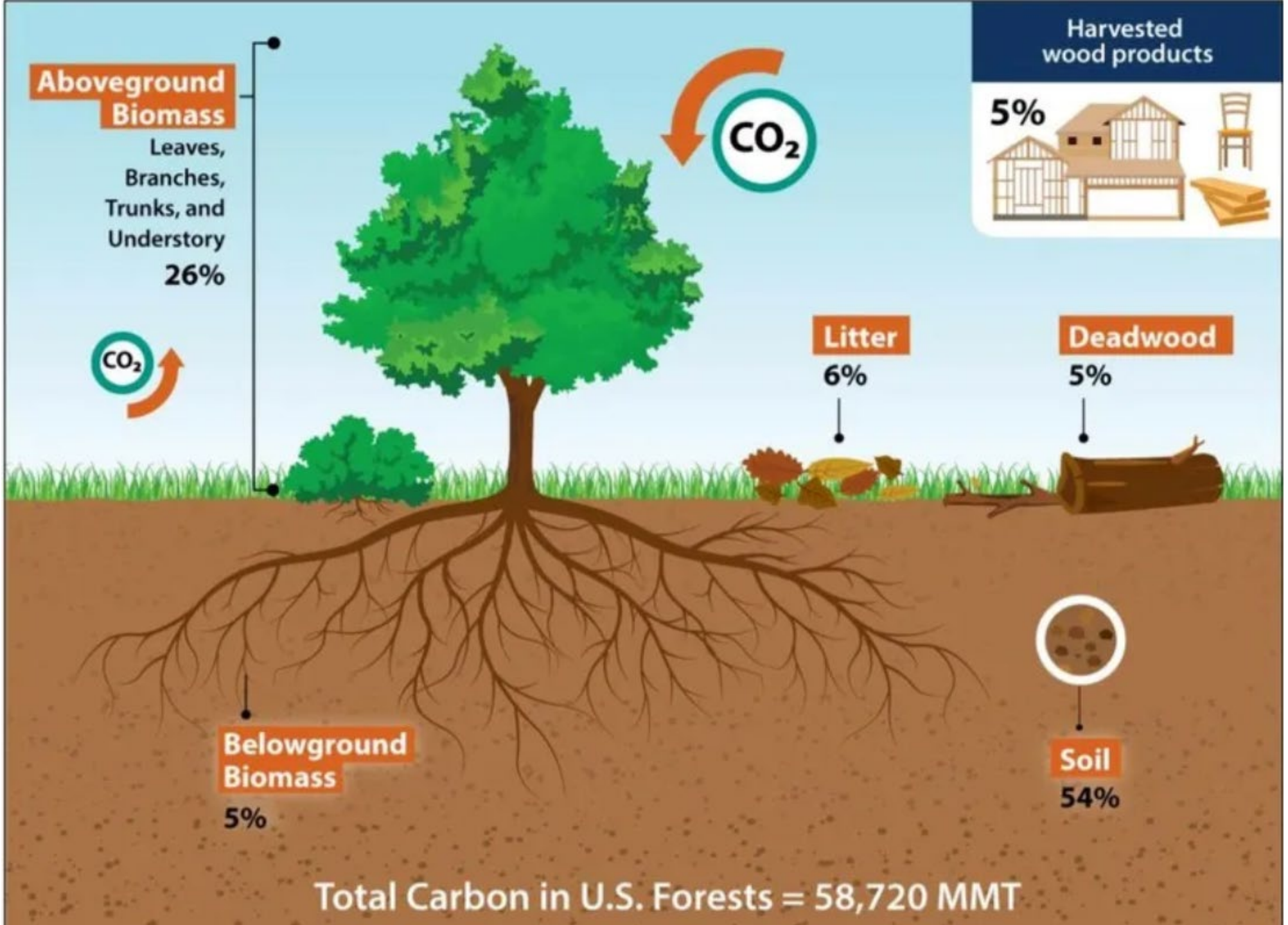
Carbon and Forests

- Forests are a critical component of the global carbon cycle
- Forests are constantly absorbing and releasing carbon dioxide
- Forests sequester carbon from the atmosphere for use in photosynthesis
- Carbon sequestration rates are greater in younger (20-70 year old) forests, when growth rates are highest
- Carbon resides in forests in different places for different amounts of time


USDA
United States Department of Agriculture
The closed loop of
FOREST CARBON
in the ATMOSPHERE
Carbon Cycle
Fossil fuel use is an
OPEN SYSTEM where
CO_2 remains in the
atmosphere.
Wood products can store carbon and can substitute for emission-intensive products such as concrete & steel.
Growing forests remove carbon from the atmosphere.
Fires & decomposition following disturbance events release carbon into the atmosphere.
BIOMASS
Bioenergy from forest biomass can substitute for fossil fuel energy.
CO_2
Forest Service
Office of Sustainability and Climate
April 2019

Forest Carbon Pool

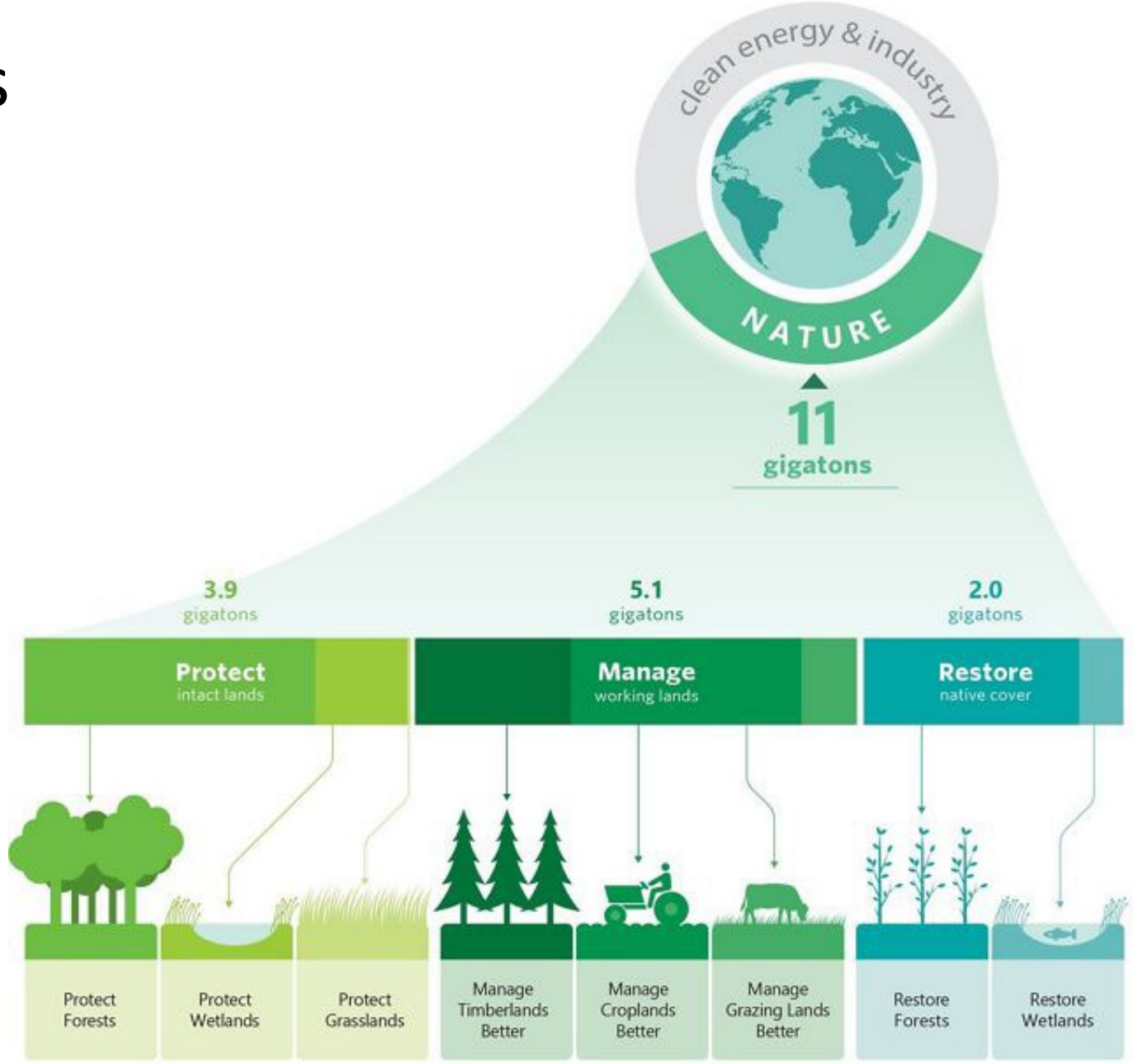
- Factors that influence the amount and proportion of carbon in each pool are:
  - Forest age
  - Species composition
  - Natural and human disturbances
  - Soil characteristics
  - Land-use history
- Important and overlooked carbon pool is wood products
- Wood products store carbon and are a more carbon beneficial product when compared to concrete, steel and plastics


Aboveground Biomass
Leaves, Branches, Trunks, and Understory
26%
CO_2
CO_2
Harvested wood products
5%
Litter
6%
Deadwood
5%
Belowground Biomass
5%
Soil
54%
Total Carbon in U.S. Forests = 58,720 MMT

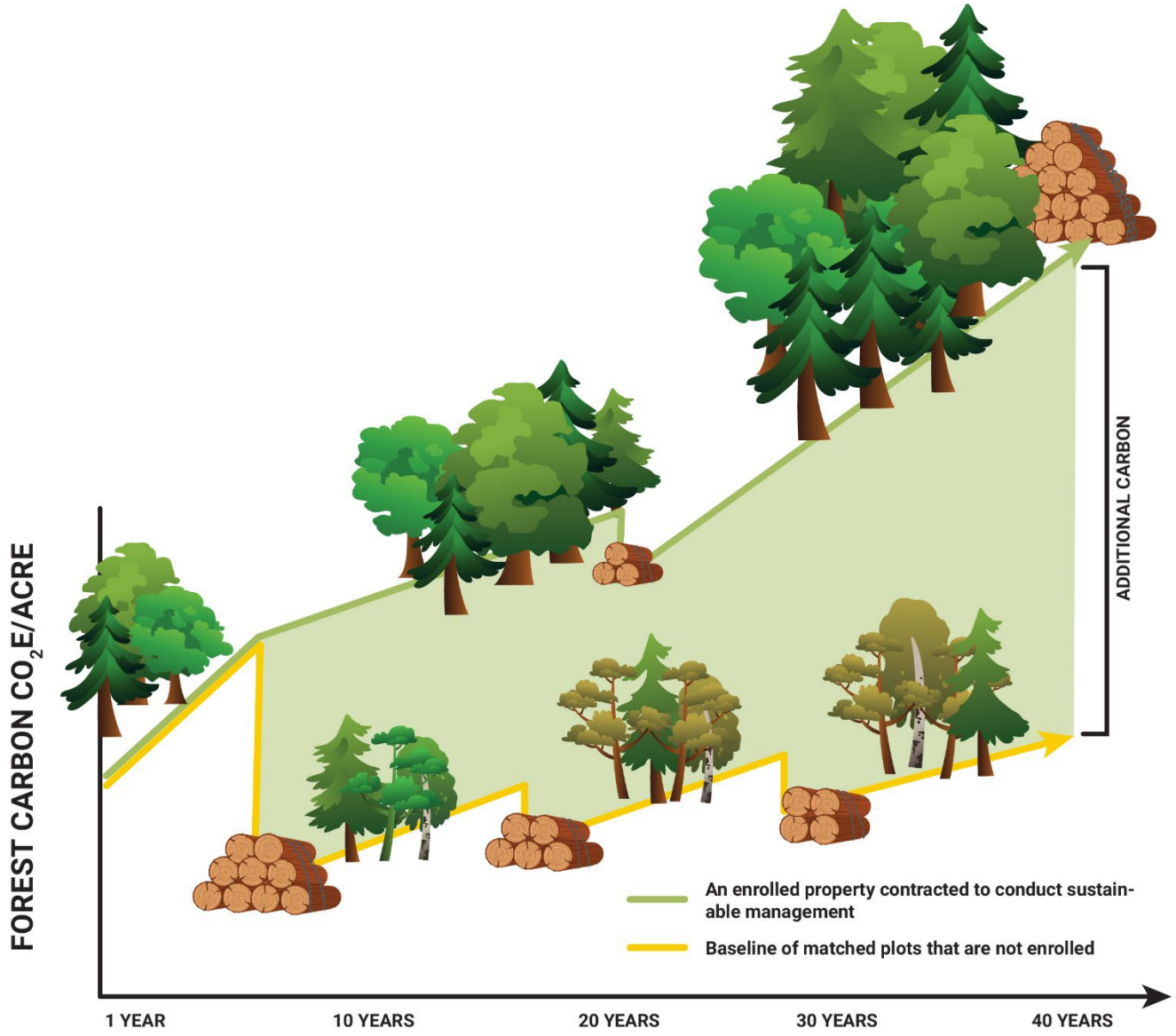
Natural climate solutions

By protecting, better managing, and restoring natural systems, we can increase the capacity for carbon sequestration.

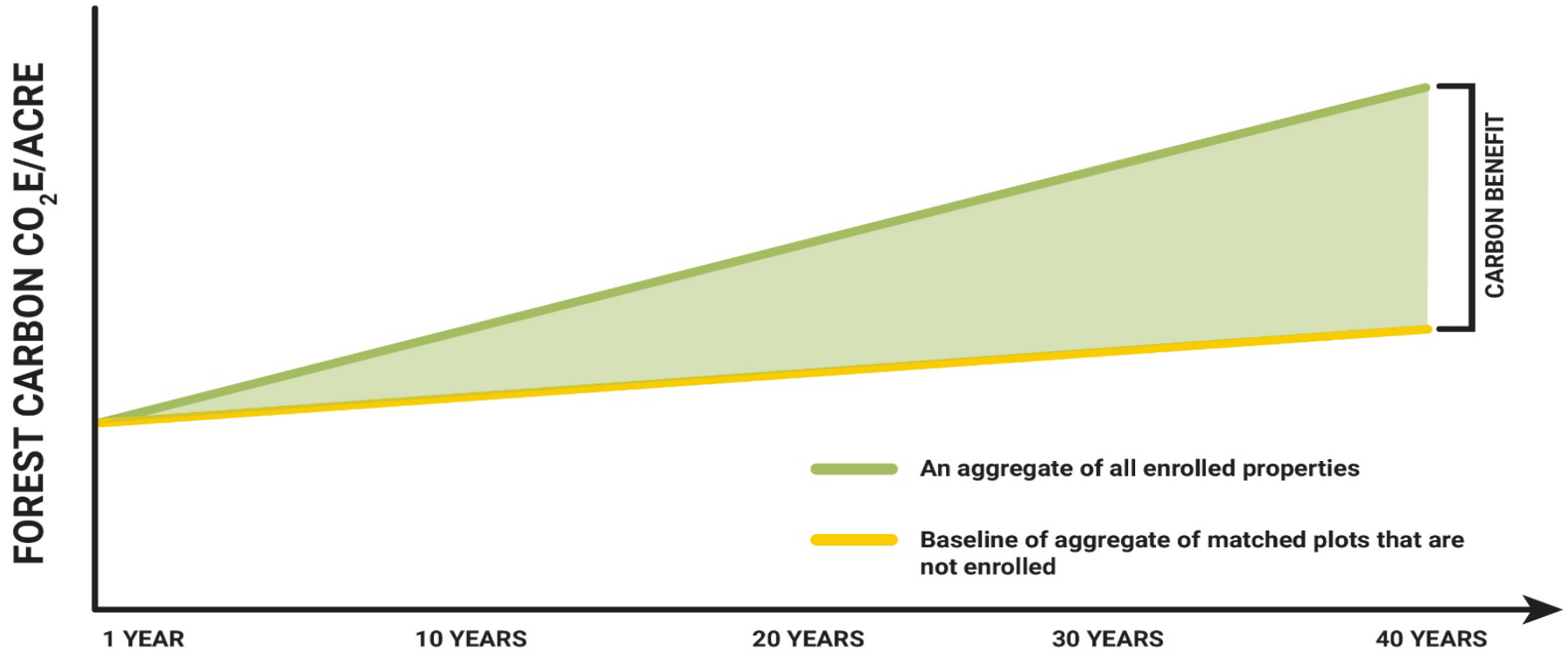
Forest carbon projects are designed to increase carbon storage in nature and in natural products.



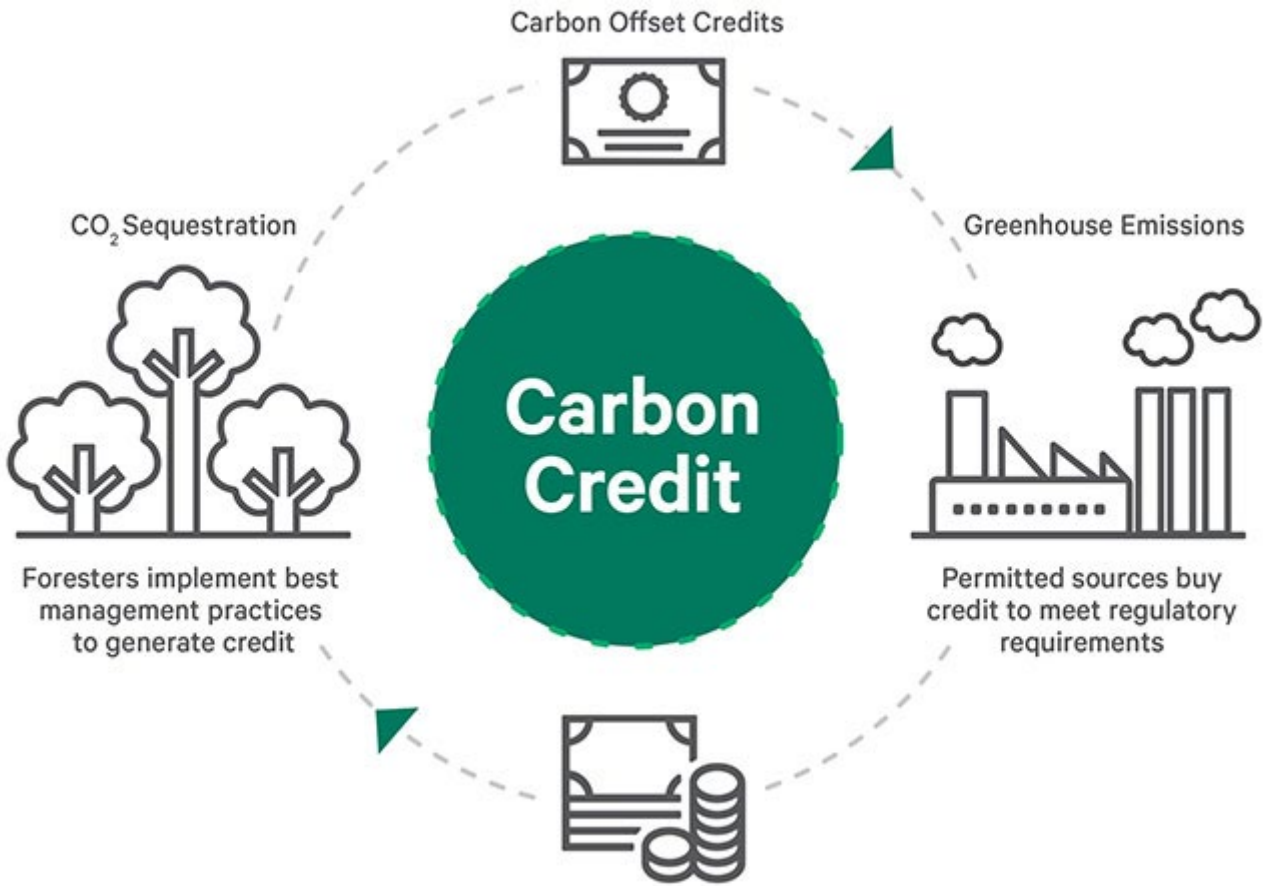
Carbon benefits calculated by **comparing enrolled properties** that are employing improved forest management **to a baseline** – *similar properties not enrolled in the program*.



Carbon Benefits Through Time



Carbon Benefit Used to Create Carbon Credit



Carbon Project Developers in Ohio

Developer	contact	Notes
Family Forest Carbon Program	www.familyforestcarbon.org	20 yr contracts, 30 acre minimum, harvest limits
Forest Carbon Works	Forestcarbonworks.org	25 yr contract, 40 acre minimum, harvest limit, FSC certification
Finite Carbon/ LandYield	landyield.com	40 yy contract, 40 acre minimum, 20 yr harvest deferral, *not yet enrolling*

Selling Timber vs. Selling Carbon

Selling	Who Pays Landowner	For	That Go to a
Timber	Logger	Trees	Mill
Carbon	Project Developer (TNC/AFF)	Limiting and/or deferring timber harvest	Carbon registry

Another Analogy: Payment for Practice

Program	Who Pays Landowner	Revenue from	Benefits
EQIP	USDA NRCS	Taxes	Water quality,TSI, wildlife habitat
Carbon project	Project Developer (TNC/AFF)	Carbon offset buyer	Climate through mitigation

Family Forest Carbon Program

American Forest Foundation

Family Forest Carbon Program - Goals

A new carbon program from the American Forest Foundation and The Nature Conservancy that supports family forest owners in improving forest health and addressing climate change, by helping owners of small forest parcels access carbon market opportunities.

The Nature Conservancy
Protecting nature. Preserving life.

American Forest Foundation

The Family Forest Carbon Program

The landowner signs a 20-year contract, and receives payment (~$200/acre) in exchange for transferring carbon ownership to the project developer for 20 years. The forester engaging with the landowner receives a one time payment.

Payments are guaranteed even if carbon market prices decline.

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For Landowners

Funding

Provides incentivizes to implement specific forest management practices that have been scientifically enhance carbon sequestration.

Support

Connects enrollees with natural resources professionals to provide technical assistance during site visits and through forest management plans.

Sustainability

Balances multiple benefits of forest management including timber production, enhancing wildlife habitat, and protecting water resources.

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Growing Mature Forests *Practice*

- Allow forest stand to mature by retaining highest quality trees
- Limited harvest or thinning allowed within sustainable guidelines
- Result - more valuable timber, more carbon, and improved habitat after 20 years

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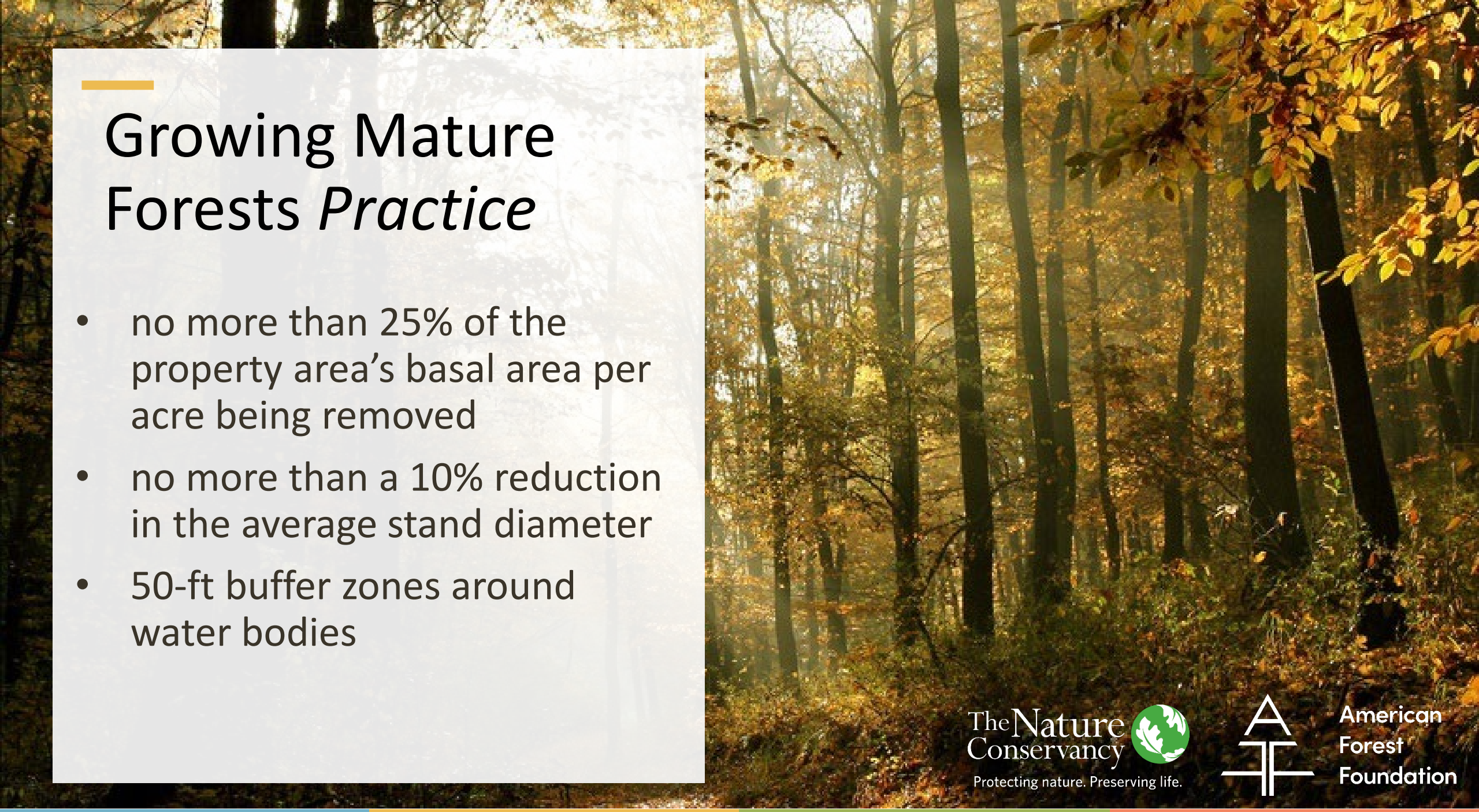
Growing Mature Forests *Practice*

- no more than 25% of the property area's basal area per acre being removed
- no more than a 10% reduction in the average stand diameter
- 50-ft buffer zones around water bodies



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Technical Support from Forest Professionals

- Compatible with AFTS, CSP, OFTL, CAUV, and (most) EQIP, but not right for every landowner
- Forest management plan tailored to landowner's goals and program requirements
- Guidance for timber stand and forest health improvement

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Real, High Integrity Carbon Credits

- Created new forest carbon accounting methodology that increases both high quality and credibility.
- AFF and TNC remain committed to continual program improvement and refinement

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Enrolling Land in the Family Forest Carbon Program

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Landowner Eligibility

- Private landowners with at least 30+ contiguous forested acres within an eligible county (Appalachian Plateau Region) **in early 2024**
- Forests originating from natural regeneration (plantations are ineligible)
- No existing legal restrictions on timber harvest activity (local ordinances, conservation easement)
- Additional eligibility criteria tied to the specific practices

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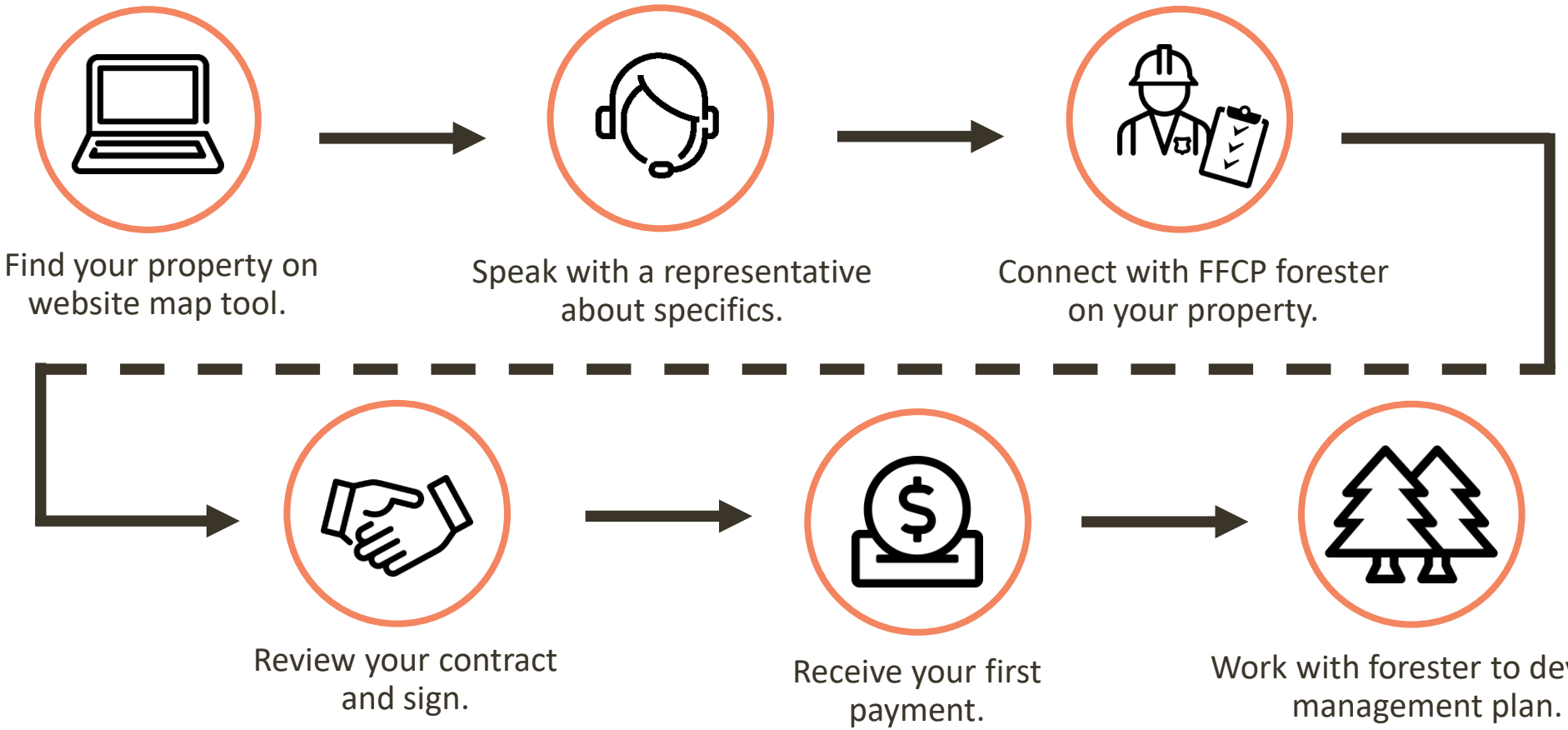
How to Enroll



Get started at www.familyforestcarbon.org

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Questions?

Tom Rooney, Sustainable Forestry Director, The Nature Conservancy

Tom.Rooney@tnc.org

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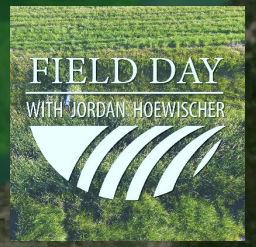
QUESTIONS?

For More Info Visit:

Website - ofbf.org
Email – jhoewischer@ofbf.org

Podcast – Field Day with
Jordan Hoewischer



OHIO FARM BUREAU EST. 1919