The Power of Ecosystem Restoration

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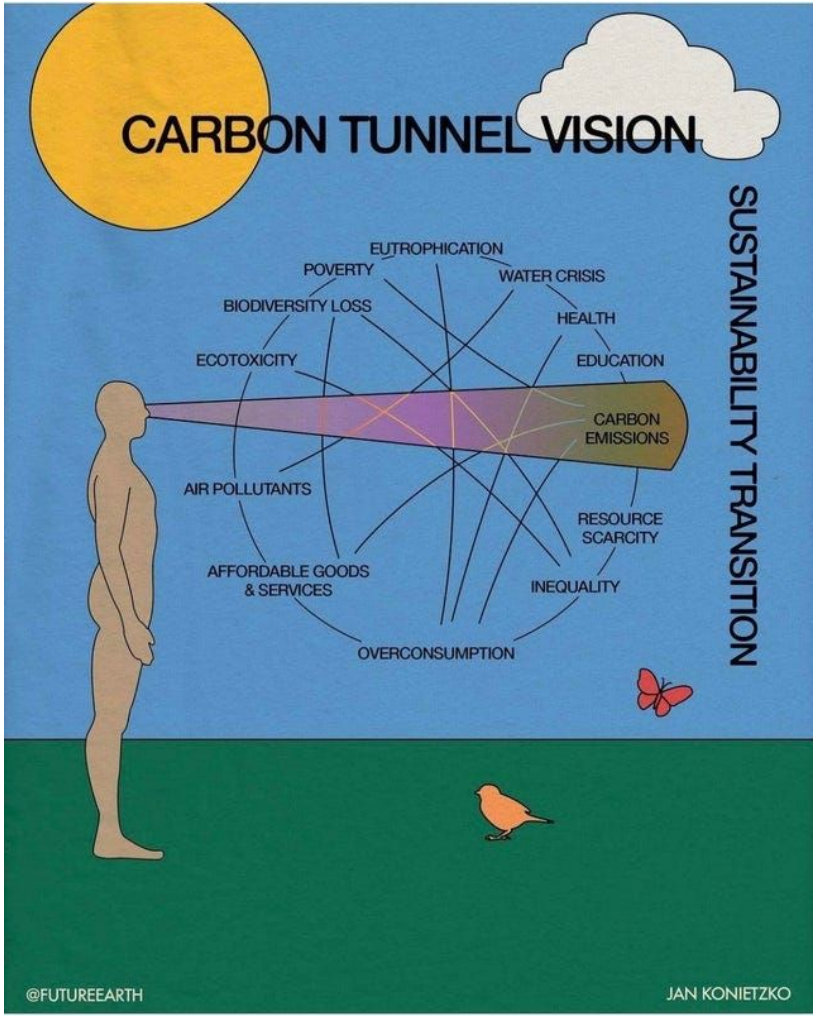
Loess Plateau, China

Biodiversity and Climate

- Biodiversity for a Livable Climate (Bio4Climate) works on education and advocacy for eco-restoration
- Understanding the **active** role of biodiversity in shaping the climate and conditions of life
- Shift from single focus on carbon to appreciating the **systems** that govern life on our planet


CARBON TUNNEL VISION
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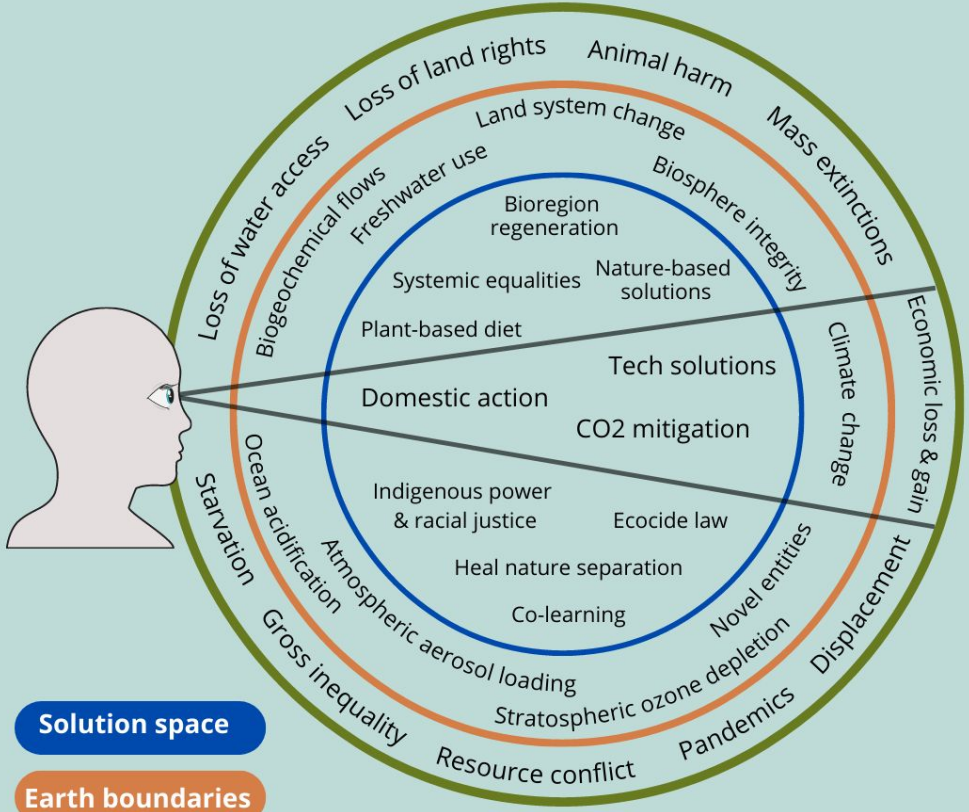
Earth crisis blinkers

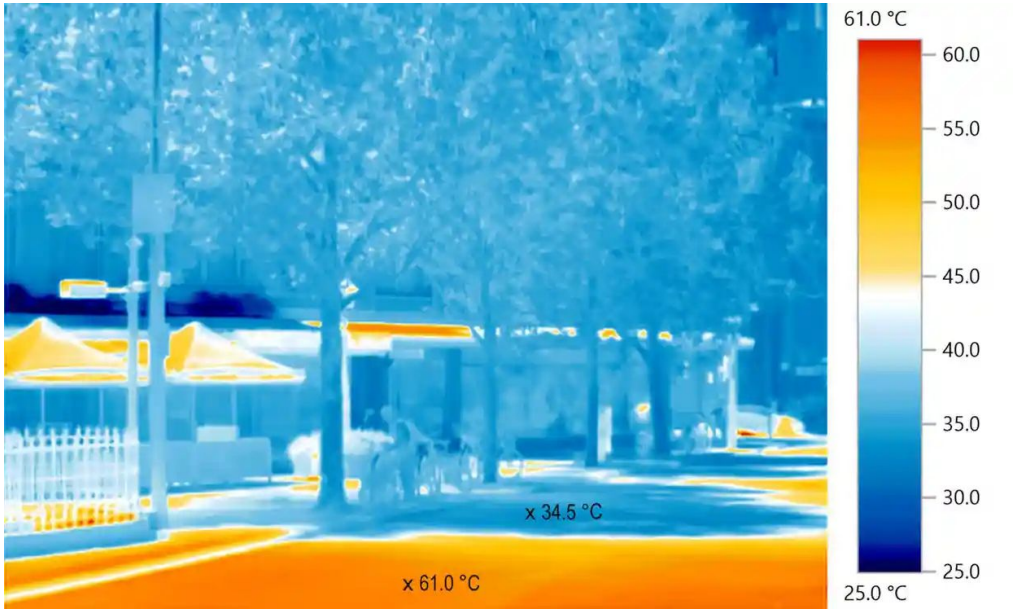


Society, Economics, and Our Current Culture

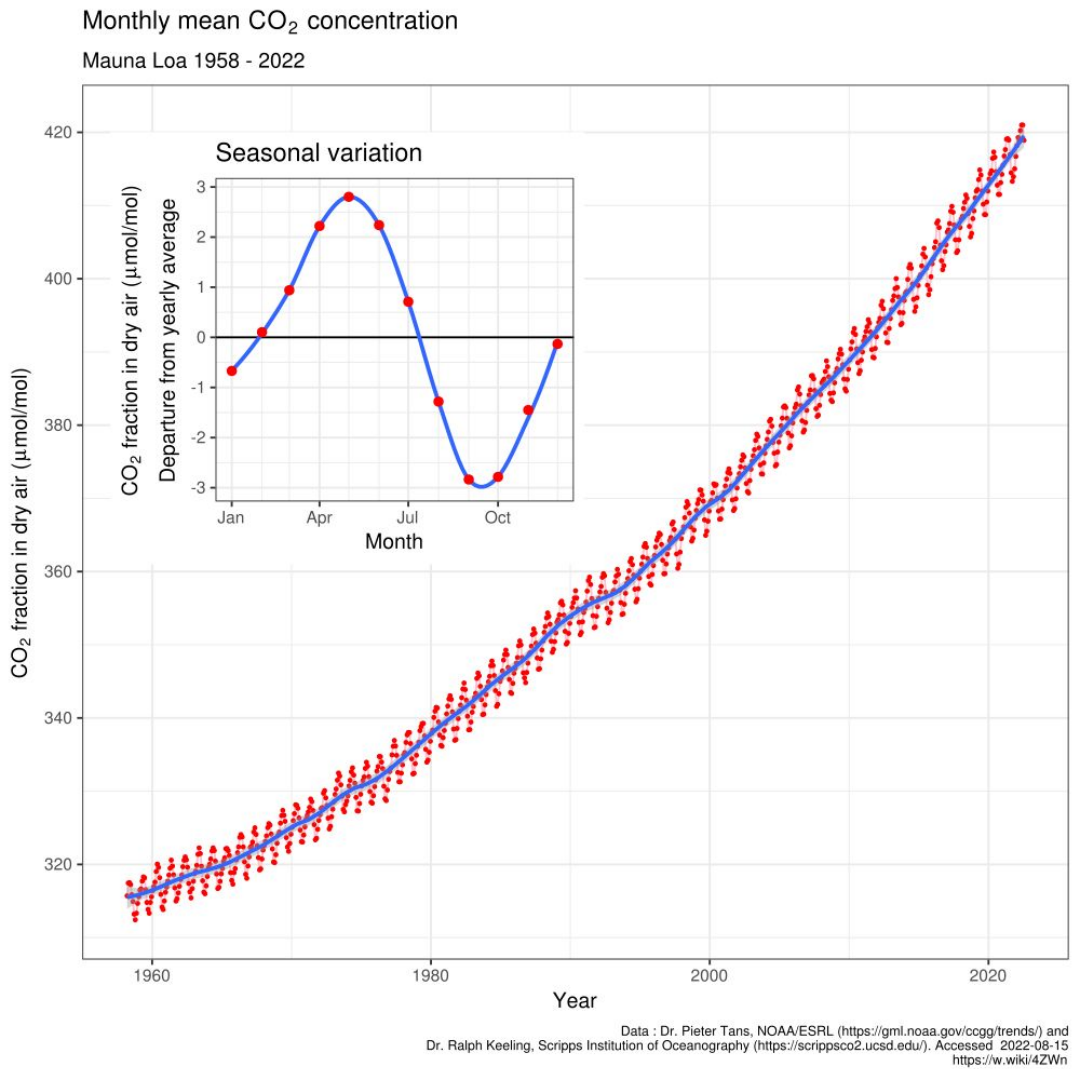
- Extractive vs. Restorative lifestyle
- Separation from nature vs. participation in the living Earth
- Living for right now vs. Living for seven generations

Global Warming requires a Cooling Solution

- Nature keeps the Earth cool and buffers extremes



- Emissions reductions without restoration vs with restoration



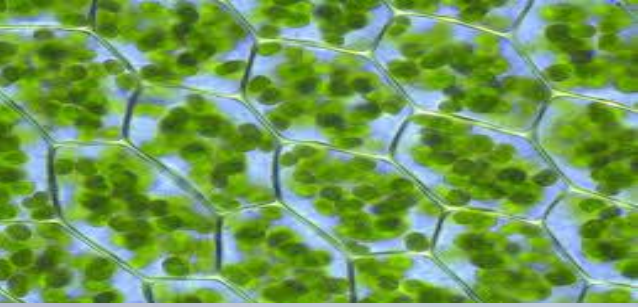
The CO_2 problem -- and the solution

The blue line from 1958 to present shows the accelerating accumulation of CO2 in the atmosphere.

The seasonal variation (inset) shows the power of nature to remove CO2 during the growing seasons – how do we support those activities?

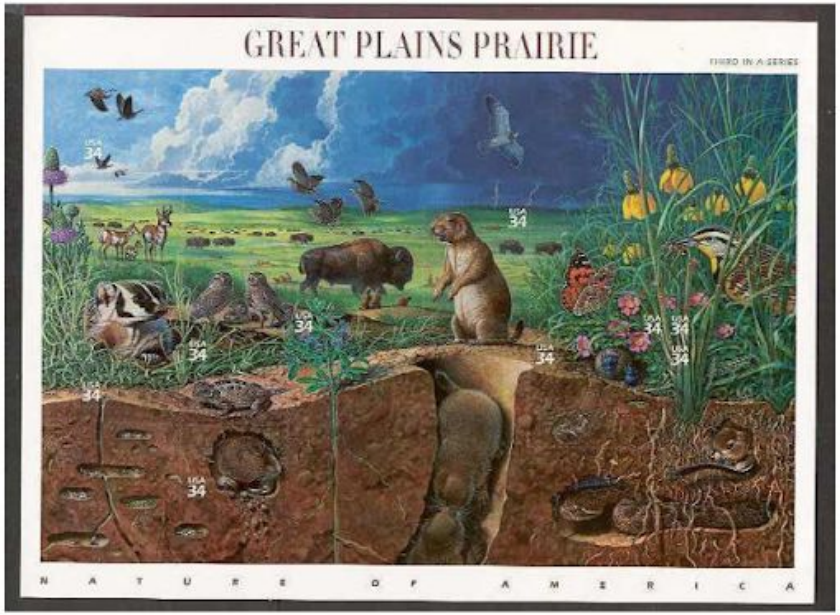
Techniques and Guidelines

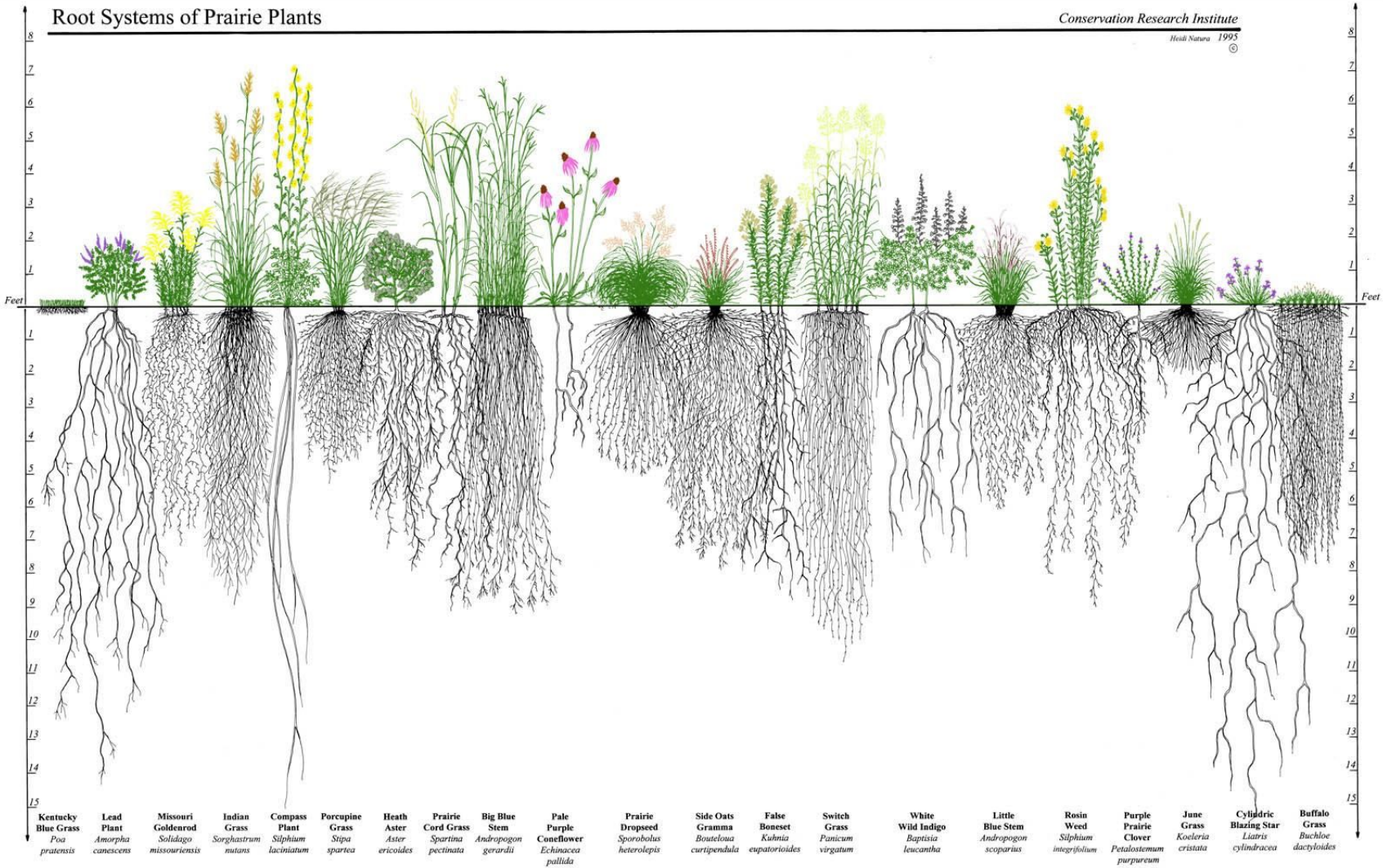
- Transition to **regenerative agriculture**
  - Improve soil health, Increase biodiversity, Improve habitat
  - Decrease pressures of floods and droughts; restore the “Small Water Cycle” and increase cooling with revegetated lands
- Restore freshwater and coastal **wetlands**
  - Carbon sequestration, wildfire buffering, biodiversity haven
  - Living shorelines that mitigate damage of extreme weather and natural disasters
- Halt deforestation - protect and restore the Earth’s **forests**
- Increase trees & canopy in **urban areas**; green roofs and pocket forests
- Invest in **soil health** to retain water, nutrients, and carbon
- Follow the wisdom and leadership local communities, especially Indigenous peoples and other marginalized groups



Work with allies

- Harness the power of photosynthesis
- Foster living soil
- Partner with wildlife




Root Systems of Prairie Plants
Conservation Research Institute
Heidi Natura 1995 ©
Feet
Feet
Kentucky Blue Grass Poa pratensis
Lead Plant Amorpha canescens
Missouri Goldenrod Solidago missouriensis
Indian Grass Sorghastrum nutans
Compass Plant Silphium laciniatum
Porcupine Grass Stipa spartea
Heath Aster Aster ericoides
Prairie Cord Grass Spartina pectinata
Big Blue Stem Andropogon gerardii
Pale Purple Coneflower Echinacea pallida
Prairie Dropseed Sporobolus heterolepis
Side Oats Gramma Bouteloua curtipendula
False Boneset Kuhnia eupatorioides
Switch Grass Panicum virgatum
White Wild Indigo Baptisia leucantha
Little Blue Stem Andropogon scoparius
Rosin Weed Silphium integrifolium
Purple Prairie Clover Petalostemum purpureum
June Grass Koeleria cristata
Cylindric Blazing Star Liatris cylindracea
Buffalo Grass Buchloe dactyloides

What does success look like?

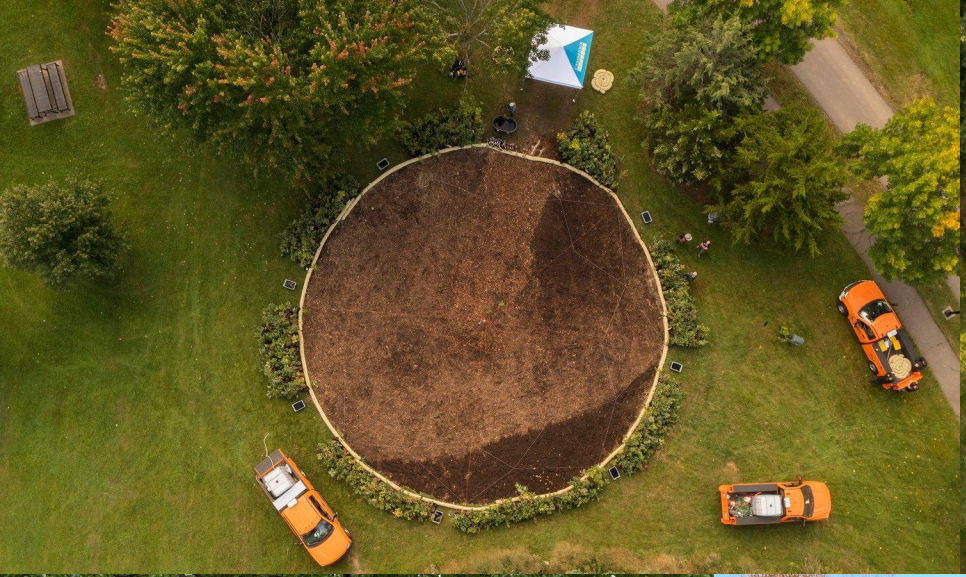
Indicators:

- No bare ground
- Polyculture over monoculture
- Streams running clear after rains
- Biodiversity rebounding
- Ecosystems increasing their complexity
- Community owned and led solutions

Regeneration is more than ecological

- Opportunities to address economic, political, racial, social, cultural, and communal regeneration
- Physical and ecological resilience ⇔ Economic and community resilience

“That which has been damaged can be healed.” - John Todd, restoration ecologist

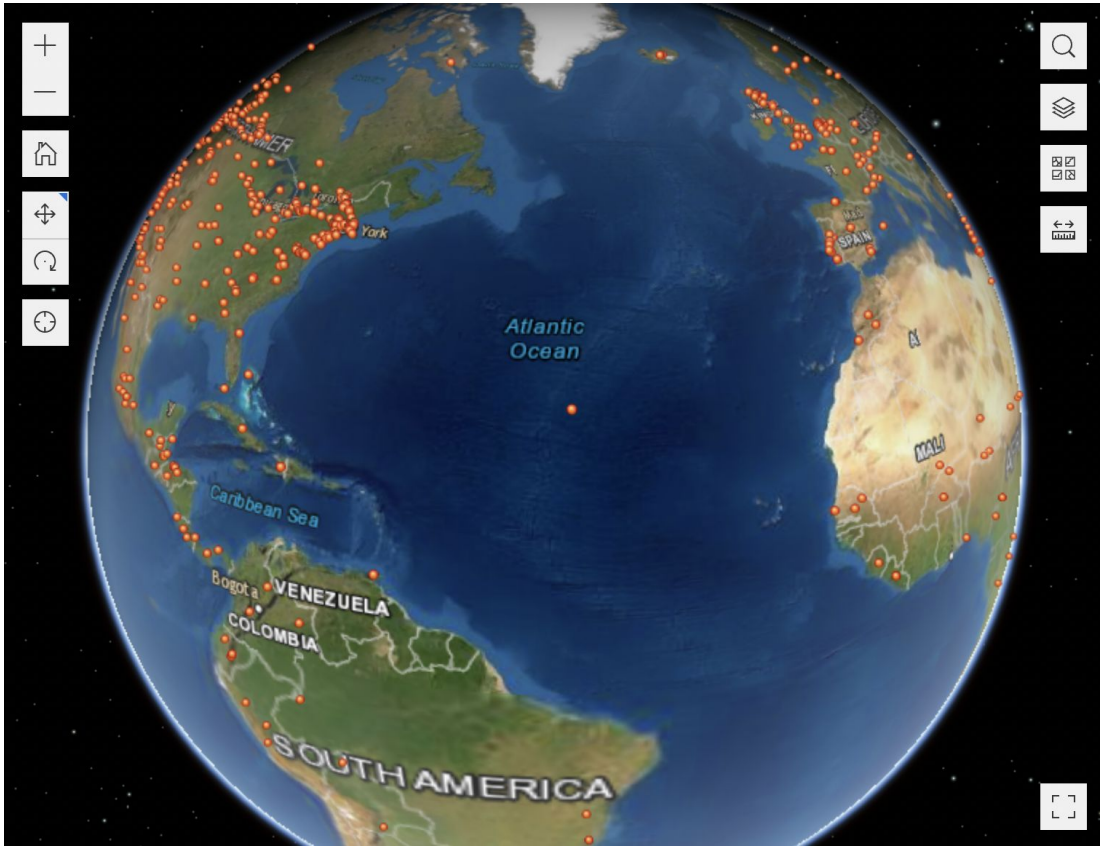


Limits to Growth

- We need to live within the Earth’s and Nature’s boundaries
- From linear growth to living in cycles
- Regenerative action can be taken by anybody, for everybody
    - From Wisconsin to Andhra Pradesh to Silver Springs



Put your eco-restoration on the map!



Big Map to Save the World:
https://experience.arcgis.com/experience/40da4f30e90f4578b84cb9f4353308a6

“The Great Work of Our Time”

… to cool the climate, make water and food available, increase health, resilience, biodiversity, and the power of people and communities

UNITED NATIONS DECADE ON
ECOSYSTEM
RESTORATION
2021-2030

Thank you!