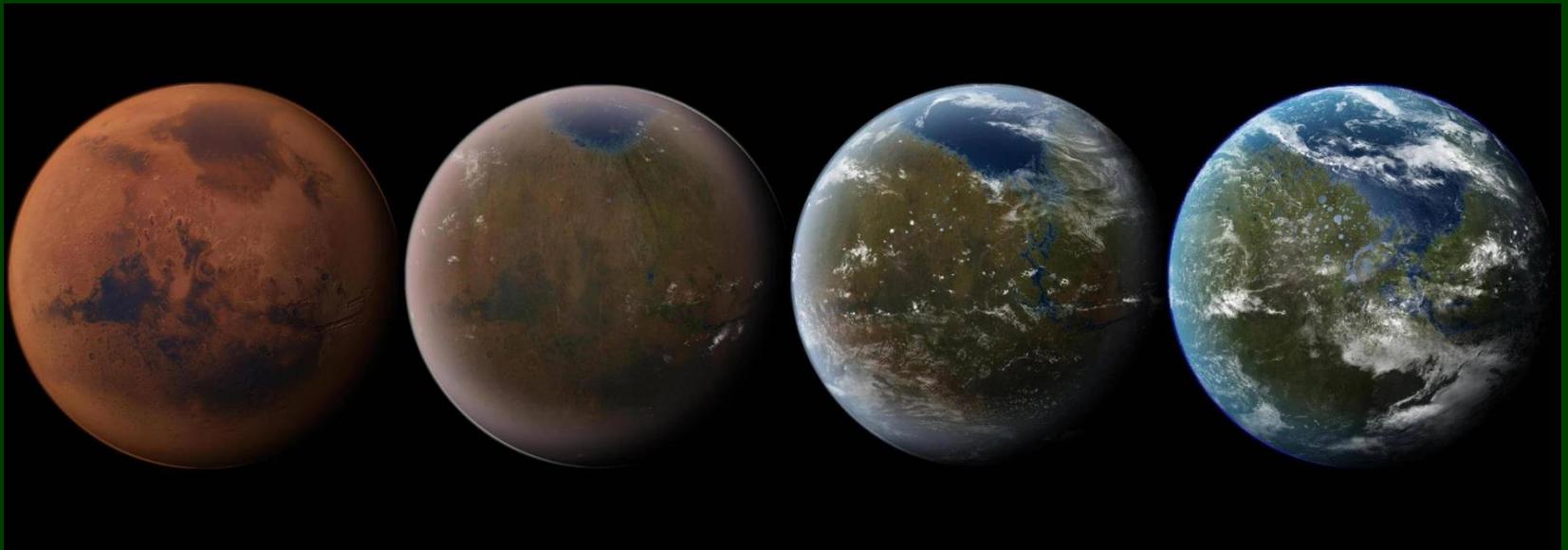


# A Simple, 3-Step Process to Terraform the Earth into a Habitable Planet



By Charles Paidock  
Secretary, Chicago Greens

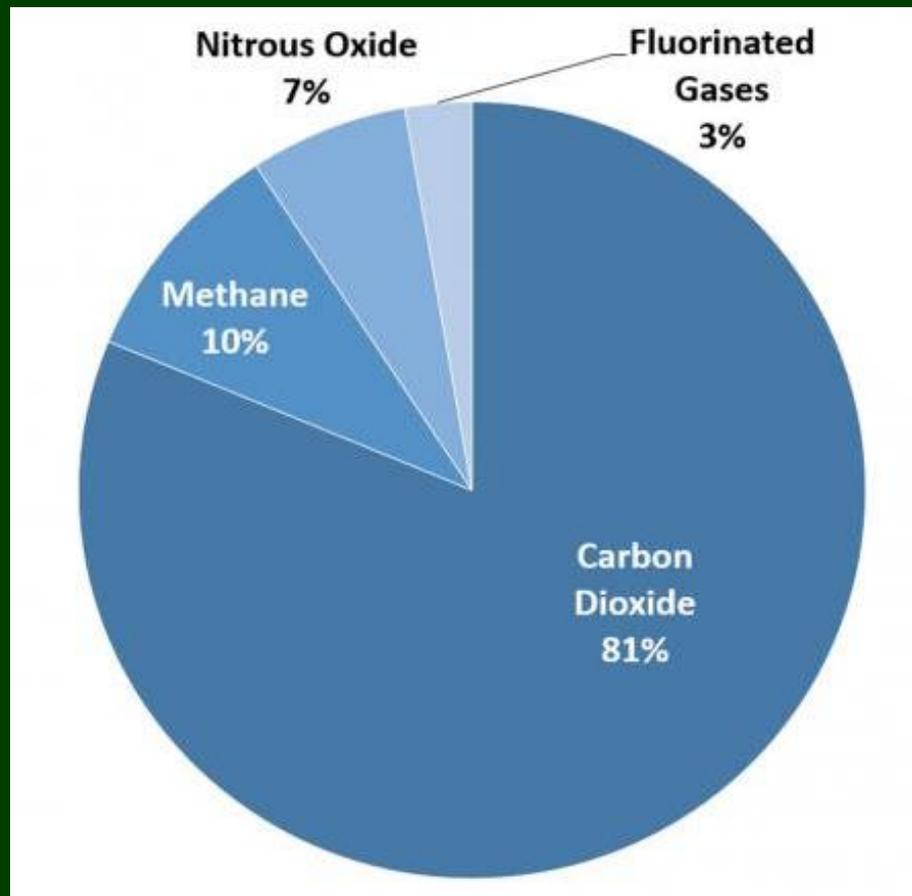
The hypothetical process of deliberately modifying the atmosphere of a planet to make it habitable for humans to live on

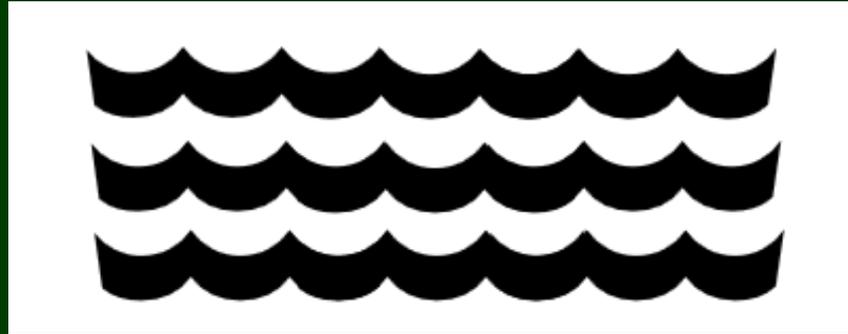


globally warmed

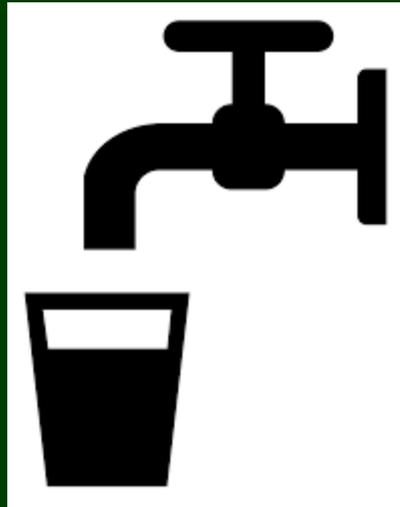
returns to normal

Problems persist with production of  
greenhouse gases  
primarily carbon dioxide and methane





Global fresh water demand will outstrip supply by 40% by 2030



There is little compliance with  
containment or control measures



**Transportation  
is the largest  
and fastest-  
growing  
source of U.S.  
greenhouse-  
gas emissions**

**2. Saudi Aramco** - The biggest oil company and the most profitable company in the world, the only multinational with profits in excess of \$100 billion, has the largest daily oil production in the world.

**4. Volkswagen Group** - The biggest automotive manufacturer in the world, has operations in more than 150 countries while maintaining at least 100 production facilities in more than two dozen countries.

**7. Toyota Motor Corporation** - a Japanese company which produces around 10 million cars every year.

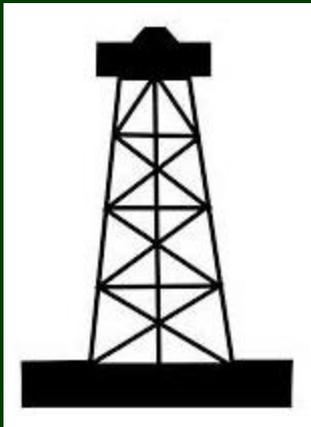
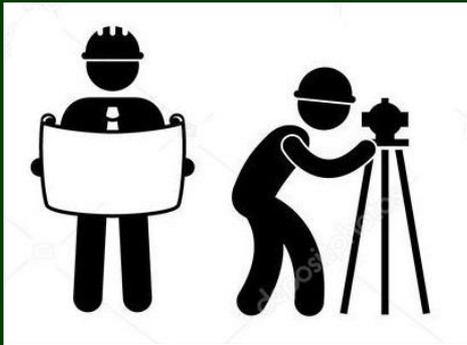
**8. Sinopec Group** - Chinese oil and gas company with 51 projects in more than 25 countries.

## Biggest Multinational Companies in the World

**11. Shell** - one of the biggest greenhouse gas producers in the world, operates more than 44,000 service stations globally.

**12. Exxon Mobil Corporation** - among the biggest companies in the world in terms of revenue.

Continued reliance on oil, pressure for more drilling sights and routes for running pipelines





Projected increases in temperatures, changes in precipitation patterns, changes in extreme weather events, and reductions in water availability may all result in reduced agricultural productivity.





Food is at the core of the Sustainable Development Goals (SDGs), the UN's development agenda for the 21st century.

# Incidence of food insecurity increasing



# What Can We Do to Mitigate this Situation?

How do we get clean air, water, and have an adequate food supply?



How do we get clean air, water, and have an adequate food supply?

Answer:

- foster the spread of or set in motion ecosystems, worldwide, with proven benefits
- repair the land that has been damaged, and put this acreage under cultivation

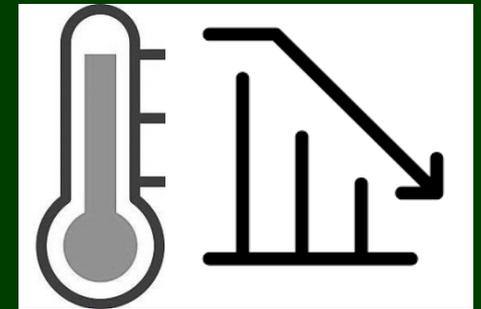


Natural solutions

with no reliance on technology  
which may or may not work,

require ongoing maintenance, and

replacement at some time when worn out



While we develop environmental policies  
all nations can agree upon for the future



We must repair the damage already done

# Methodology for Mng't of the Natural Infrastructure

8 habitats:

Polar, Tundra, Evergreen forests, Seasonal forests, Grasslands,  
Deserts, Tropical Rainforests, Oceans





# 1. Preserve and and Expand Rainforests Around the World,

(forests characterized by a  
closed and continuous tree  
canopy with moisture-  
dependent vegetation)

# and All US National Forests

## 2. Create Inland Wetlands

on floodplains along rivers and streams, where water covers the soil all year, or part of the year, especially during the growing season.

Provides clean water to streams, during periods of flooding or drought, and critical habitat for wildlife. As water moves slowly through a wetland, sediment and other pollutants settle to the substrate or floor of the wetland.

Due to their high levels of nutrients, freshwater marshes are one of the most productive ecosystems on earth.

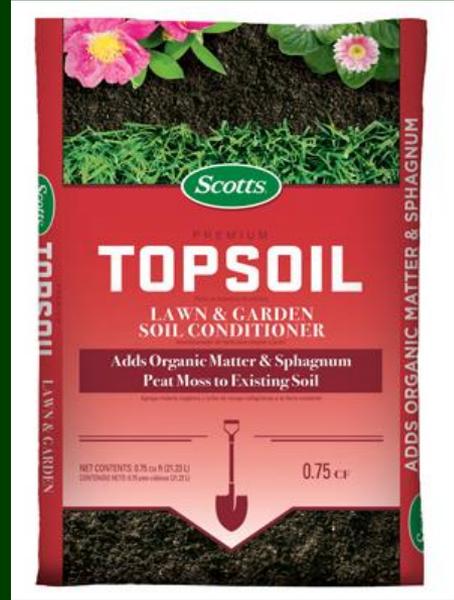


### 3. Manufacture Topsoil

with the highest concentration of organic matter and microorganisms, to spread on land to a depth of 1-5 inches. Little or no soil is usually used.

Materials used for growing mediums include: peat, food processing waste, wood products like bark and wood fiber, perlite, and recycled paper and cardboard. Other materials used include sand, vermiculite, and clays, and plant probiotics that promote root health.





There are a variety of soil mix combinations, but it is recommended using one that contains:

An organic component  
(e.g. peat moss, compost, bark)

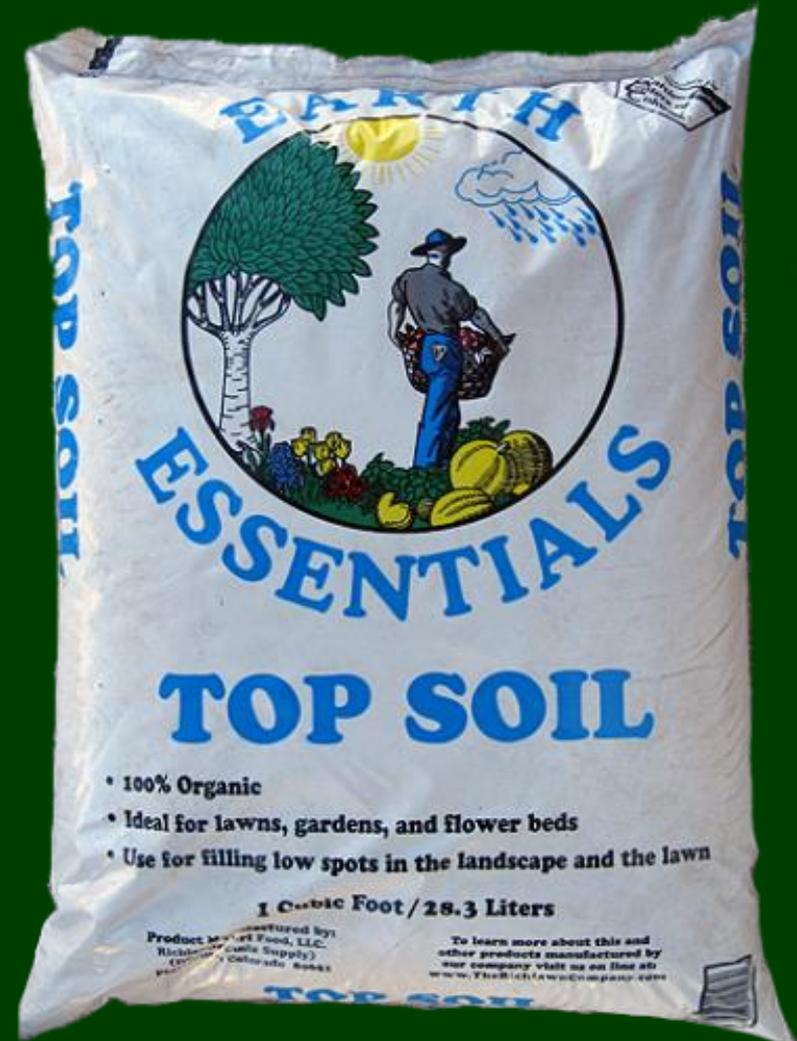
Vermiculite or perlite  
(to help retain moisture)

Sand

Nutrients

Limestone

Soil mixes might also contain a slow-release fertilizer, or moisture-retaining treatments like “hydrogels” or “water storing crystals.”



## Hydrogel in soil

Hydrogel in ground soil retains water and nutrients by plant roots, thus reducing the need for watering by 50 - 70 % for at least 5 years.





# One Day a Year



A special cellulose-based hydrogel called Polyter<sup>®</sup> claims it can absorb up to 500 times its initial weight in water.

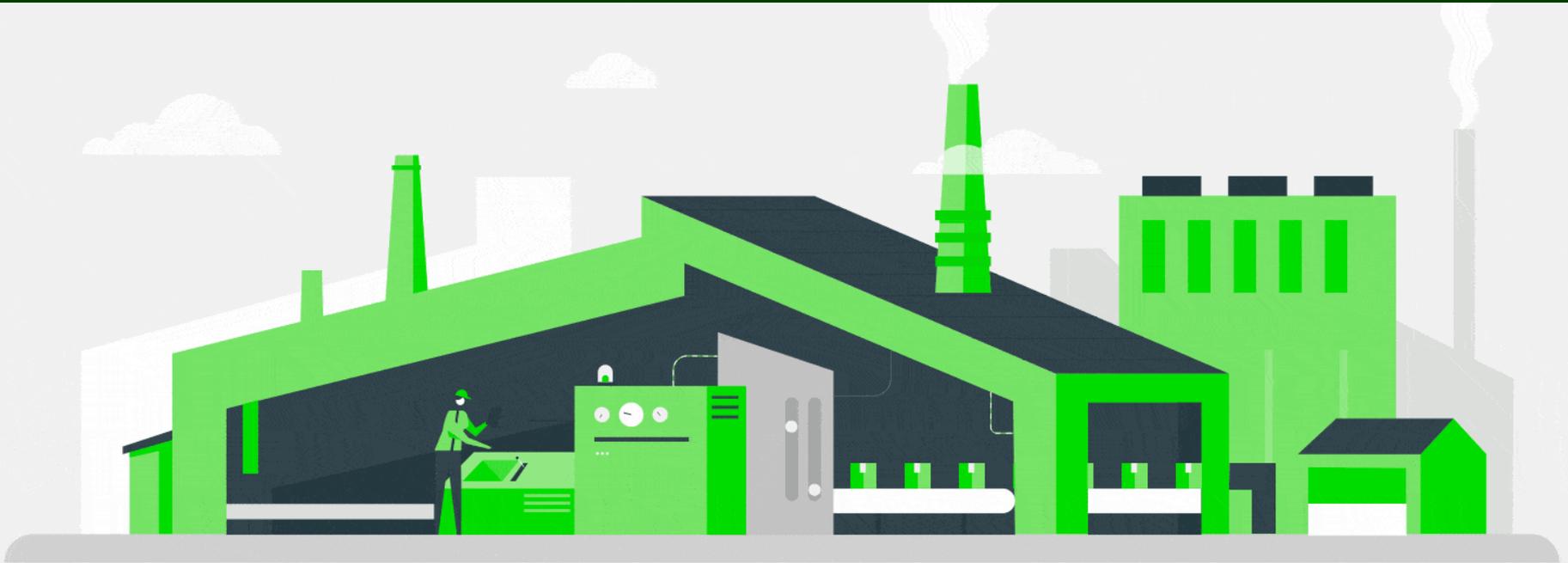
Special polymers developed in laboratories reach ratios of up to 1,500! Such a capacity to retain water explains why they're usually used in small amounts in agricultural applications. Usually, only a couple pounds or kg is enough for an entire field.

Theoretically, it should be possible to design water-absorbing polymers in such a way as to make it possible to never need to irrigate at all.

All that's needed is at least one day of natural rainfall in the year.

All the water on that single day of rainfall could be absorbed by the hydrogel embedded in the soil. As time passes, it would slowly be released to the plants around it.

A processing center for producing top soil should be established in each bioregion of the country by the US Dept of Land Management







culls, leaves, peels, skins, rinds, cores, pits, pulp, stems, seeds, twigs



**Moss** provides stabilization for plant ecosystems the world over (non-vascular) small herbaceous (non-woody) plants



Before



After





Nutrient  
Removal

“More  
Meadows”



# Climate Adaptation

Prairie grass root systems are drought resistant, hold soils in place, and absorb water.

“Native plant communities” form recognizable units that repeat over space and time.



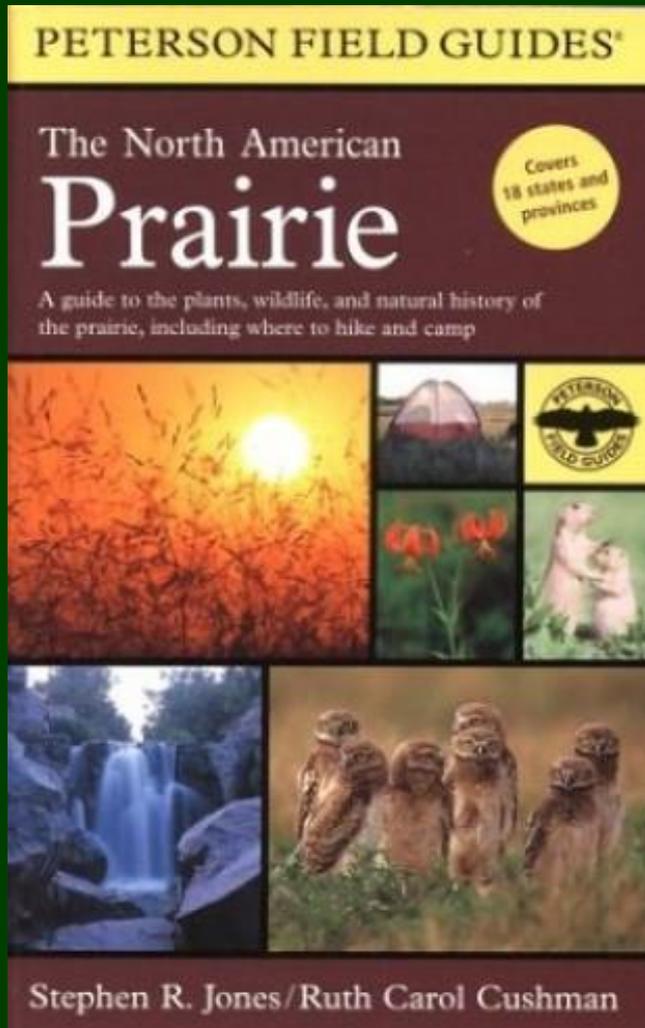
suitable to land with  
low fertility

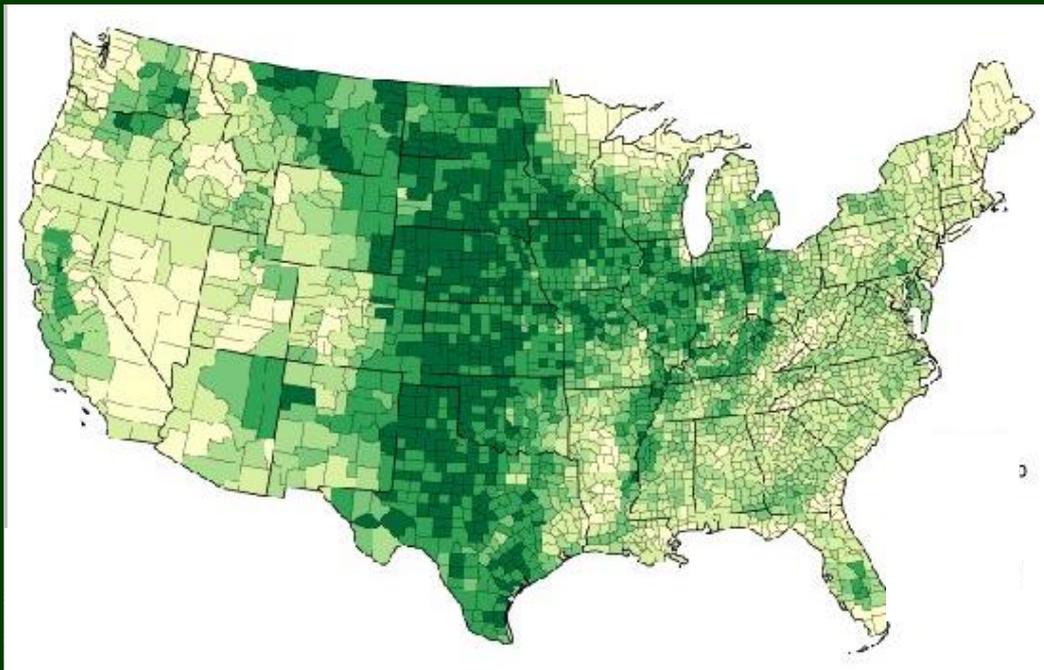


How to  
Create a  
Meadow

<https://youtu.be/9vSkI9fHW70>

Grasses grow at the stem, seasonal fires remove the litter layer, which allows water and nutrients to penetrate the soil.

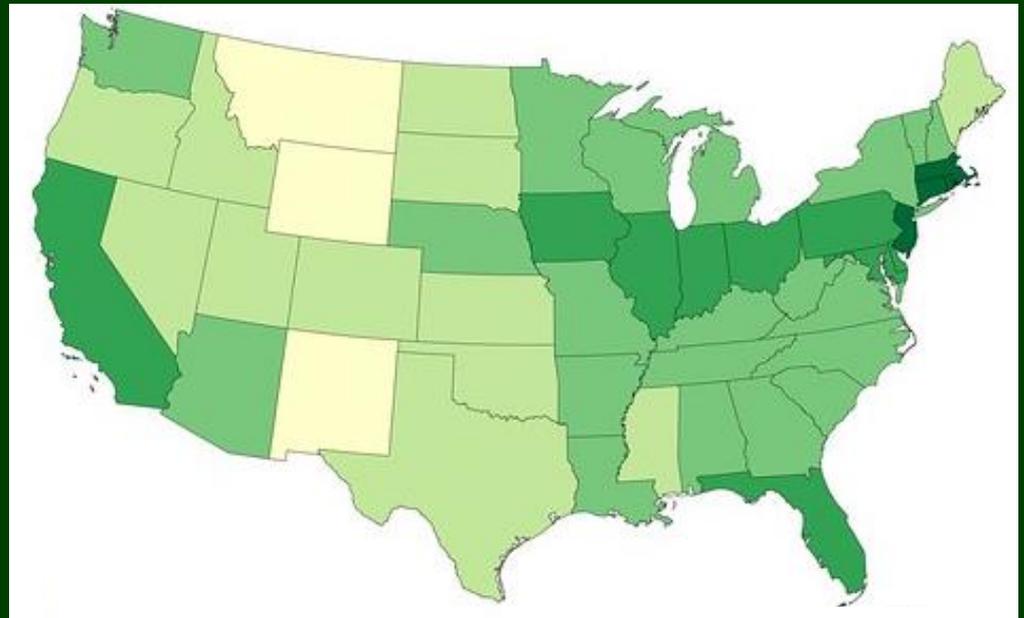




Loss of Our Food Supply

Concentration of  
Arable Farmland US

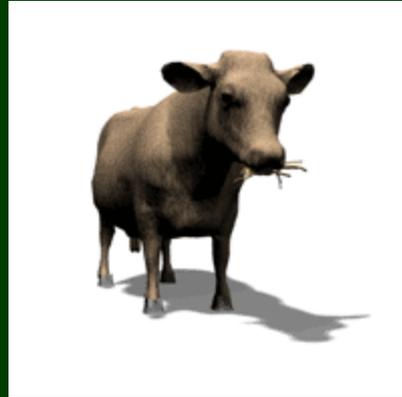
Value of Farmland

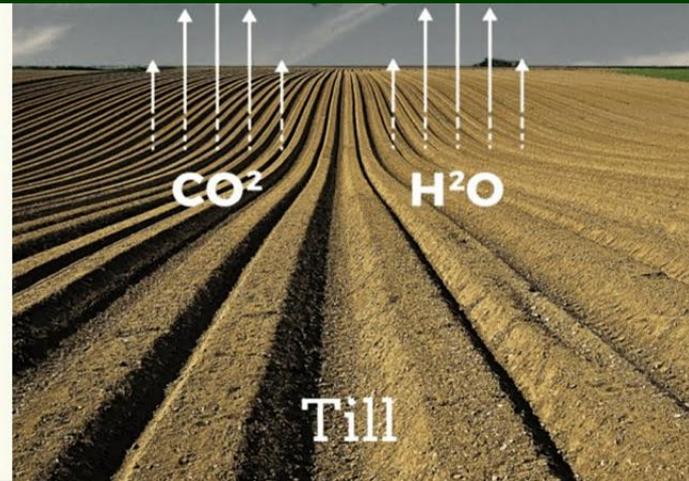
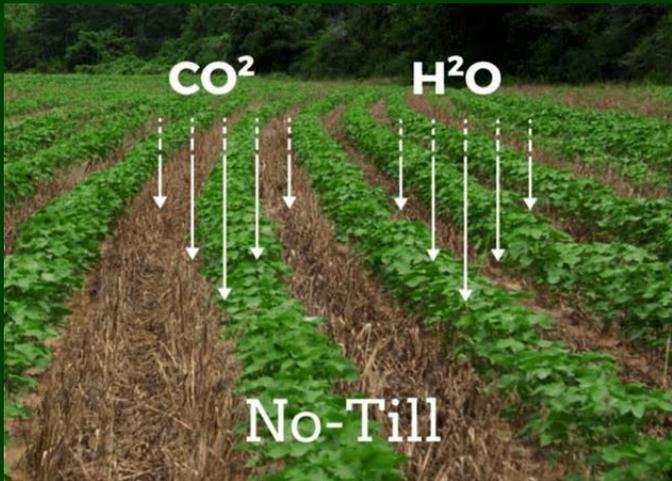


Creates Opportunities for New Farm Operations, e.g., small, specialty cash crops

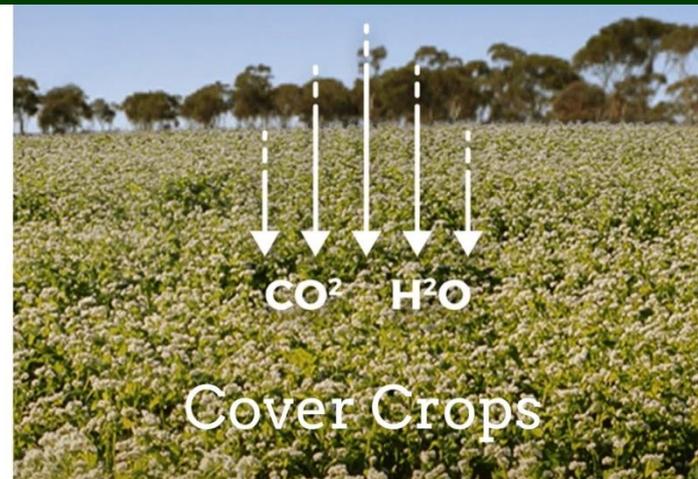
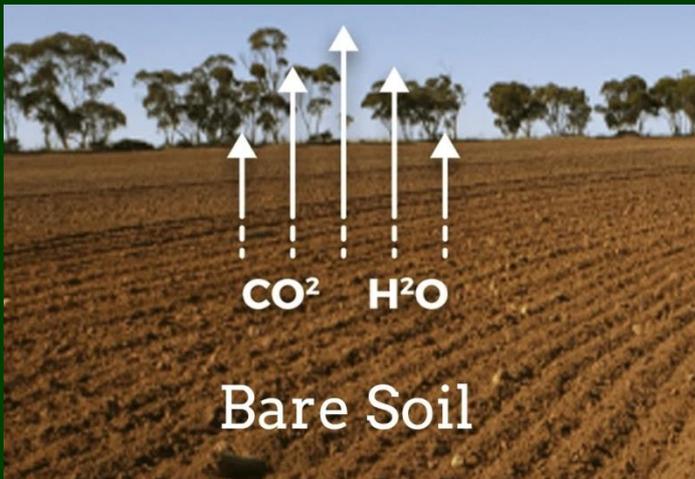


# The Price of Meat and Dairy Products will Plummet due to Increased Acreage for Pastureland





# Regenerative Agriculture



“How Australia is Regreening its Deserts Back into a Green Oasis” YouTube 2022  
for an emerging Asian market for food





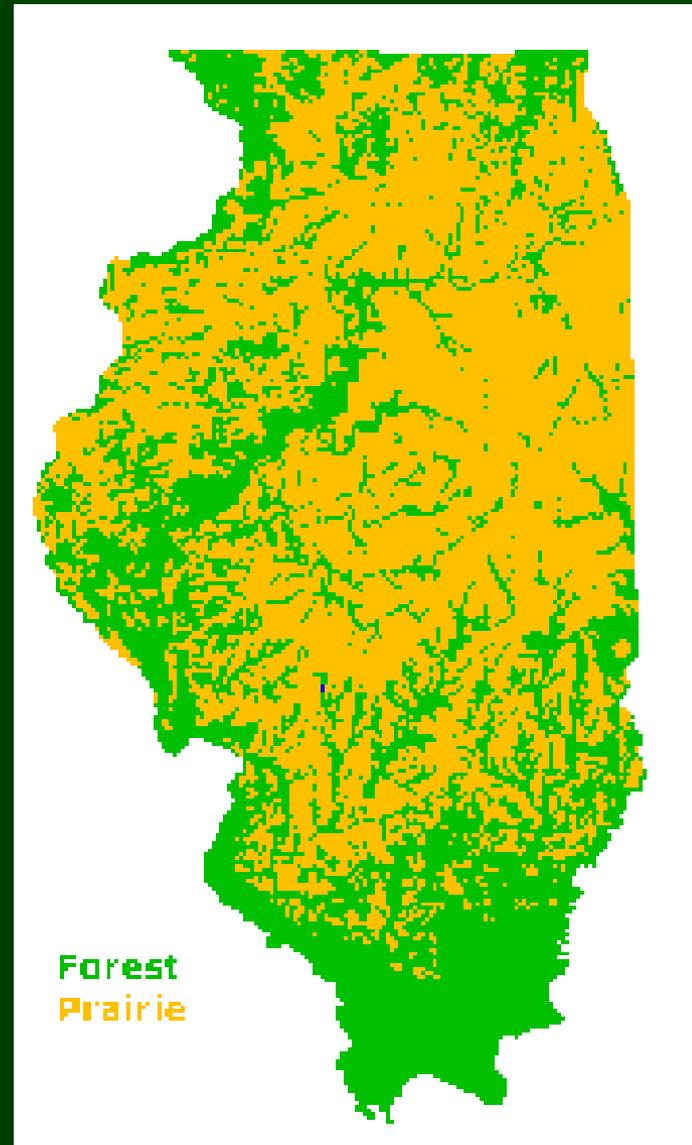


**Self-Driving Farm Robot Uses Lasers To Kill  
100,000 Weeds An Hour, Saving Land And  
Farmers From Toxic Herbicides**

Railroads move millions of tons of raw materials used to produce fertilizer each year. One rail tank car carries enough to fertilize 770 acres of corn, or approximately one farm.



# US National Forests



# 300,000 Carloads of Wood Shipped Annually



# Need to Restore Forests Lost to Fire



“a tree farm is not a forest”





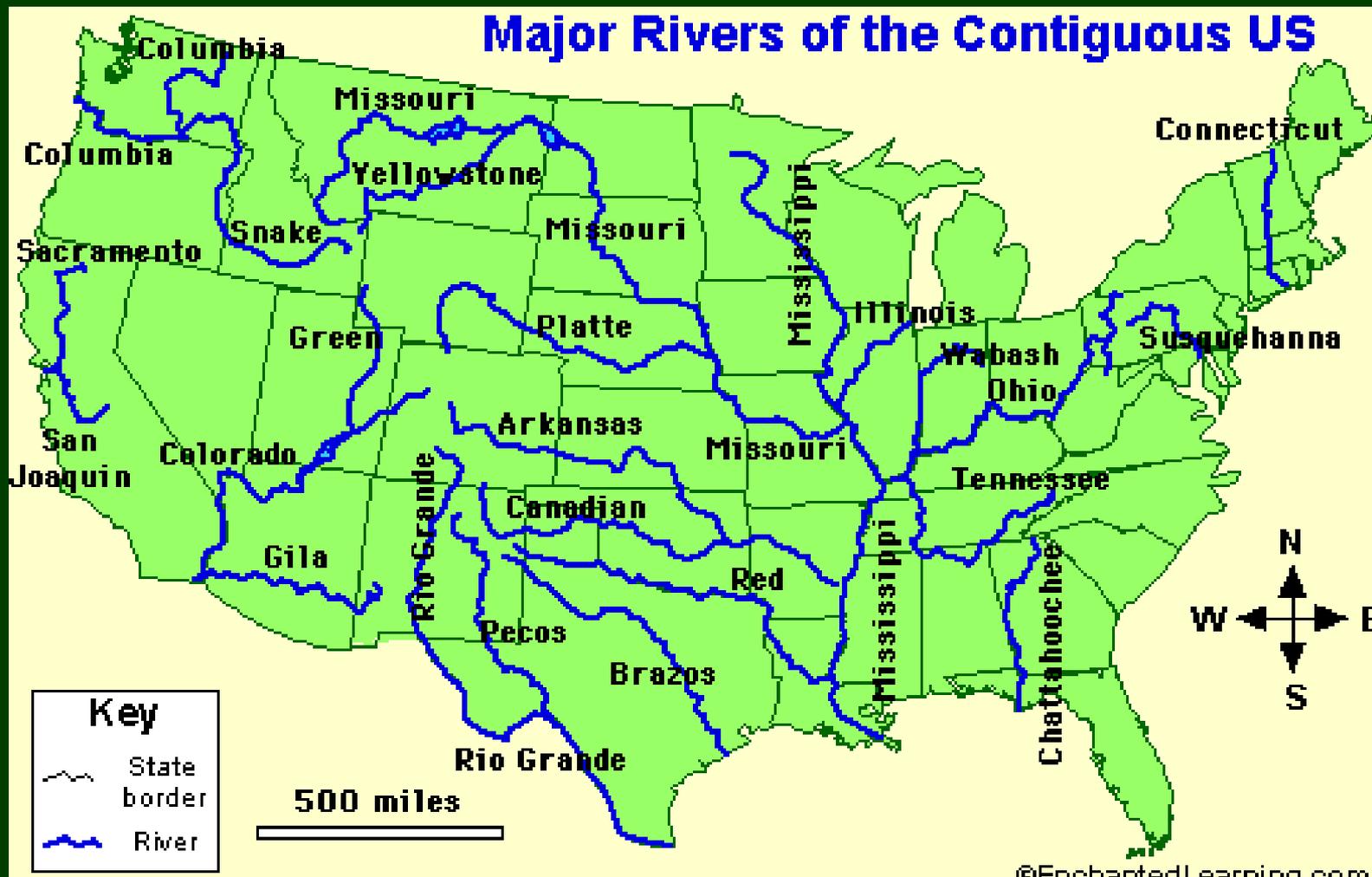
# GMO Trees



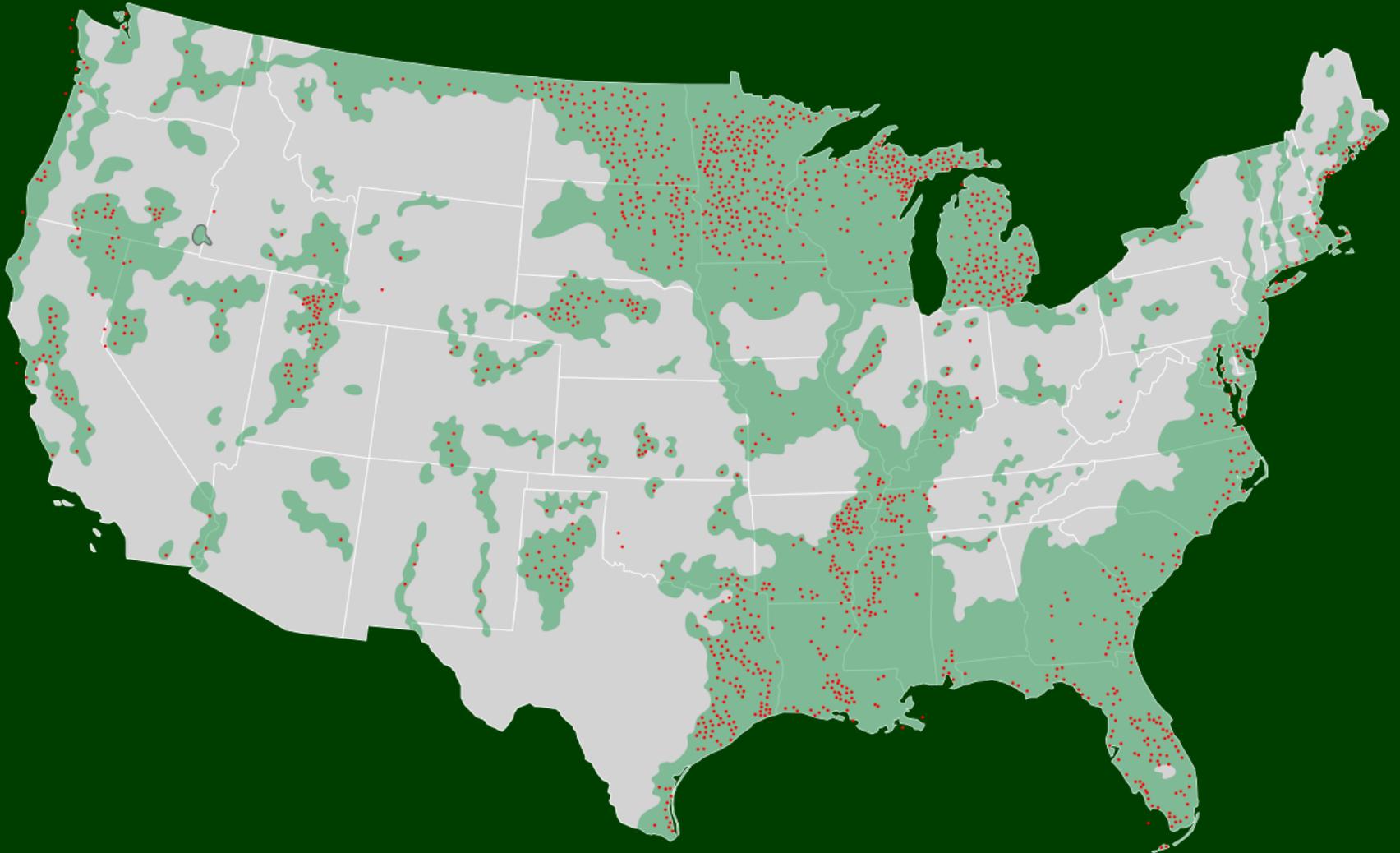
Marauding insects have become a leading threat to the nation's forests over the past decade, a problem made worse by drought and a warming climate



# Potential Wetland Locations



# Existing Wetland Areas in the US

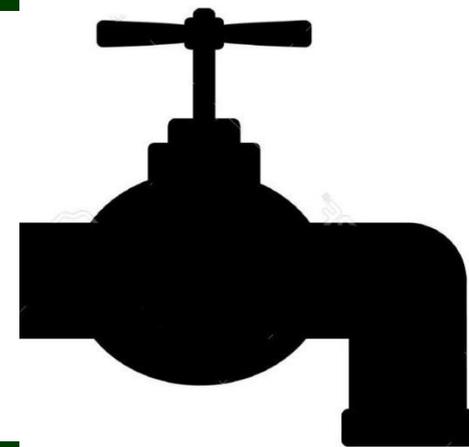
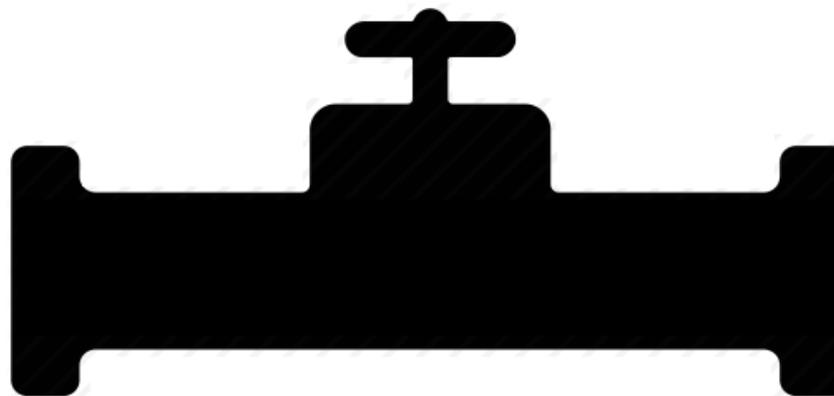


# Chemical Detoxification

Many pollutants are washed by rainfall into wetlands, which includes fertilizers, pesticides, grease and oil from cars and trucks, and road salts.



The roots of wetland plants bind and remove as much as 90% of sediments present in runoff.

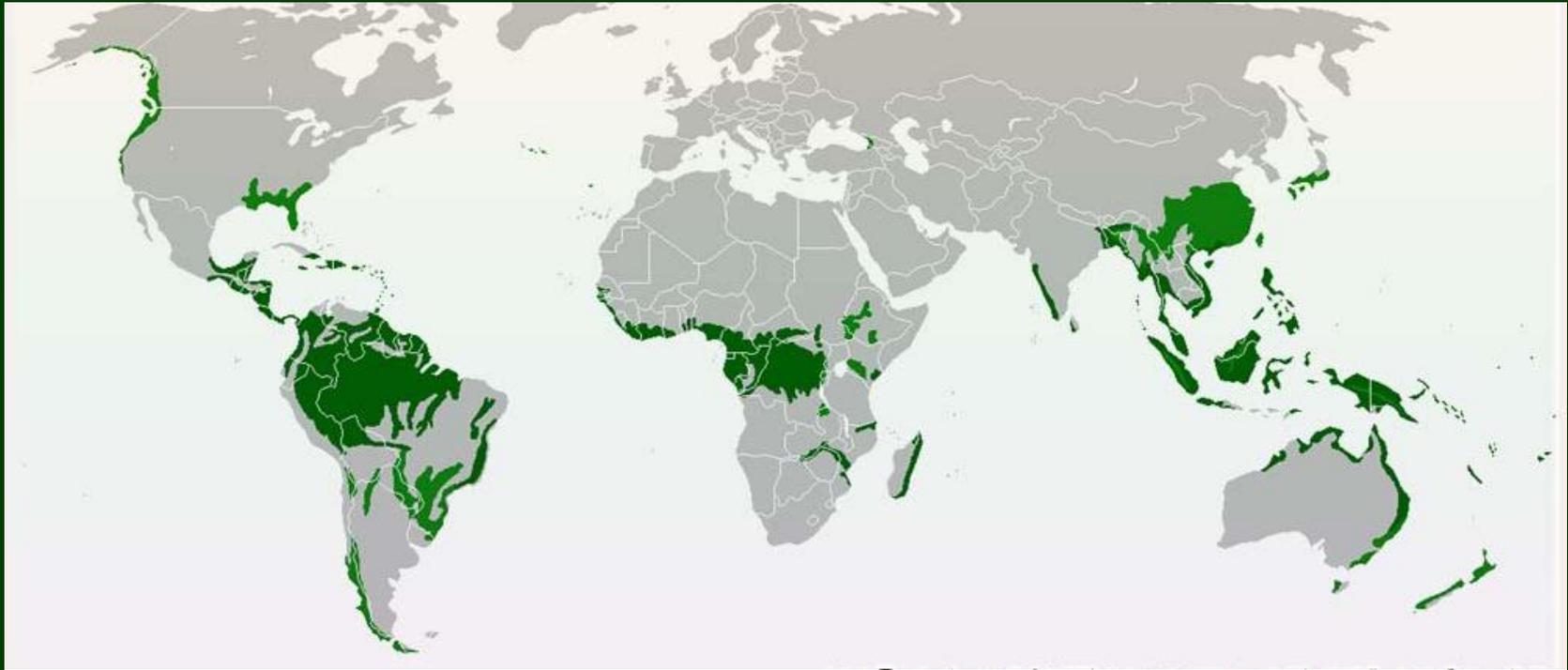


Filtration of Impurities

# Rainforests of the World

Rainforests are Earth's oldest living ecosystems, with some surviving in their present form for at least 70 million years.

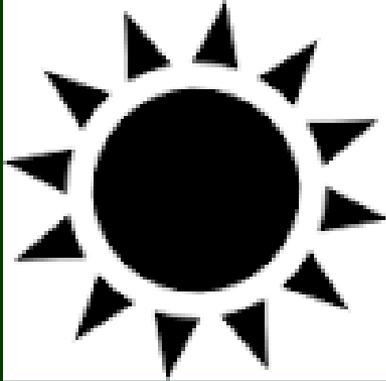
Rainforests cover less than 3 percent of the planet.



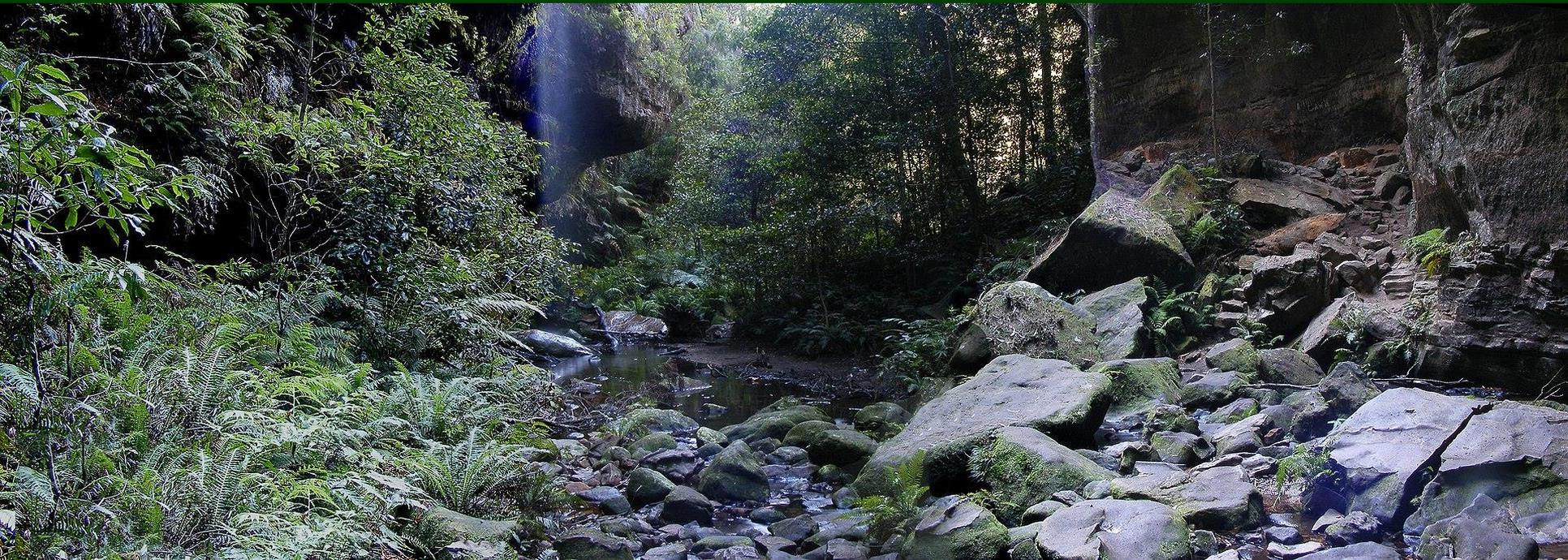
Of the approximately 14.5 m sq kilometres of tropical rainforest that once covered Earth's surface, only 36 % remains intact.

Just over a third, 34 %, is completely gone, and the last 30 % is in various forms of degradation.

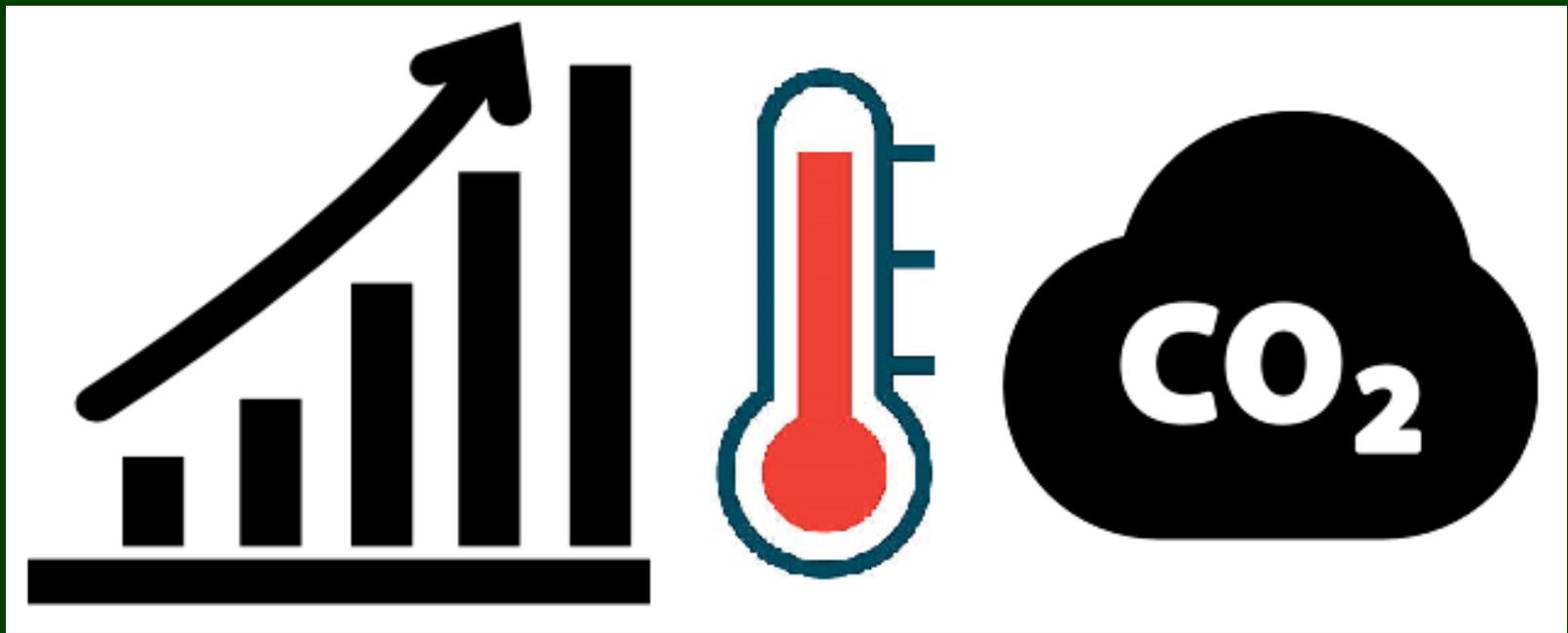




The forest floor of a rainforest, receives only 2% of the sunlight - only plants adapted to low light can grow in this location.



One acre of forest can absorb 4.5 to 40.7 tons of carbon dioxide and produce four tons of oxygen. The capture is enough to offset the annual carbon emissions produced by driving your car 26,000 miles.



# Government

world-wide intervention and implementation of this plan is necessary for preservation of the planet





**Earth 2030  
If we do nothing**



**You are hereby invited to be a point person in your  
Congressional District as part of our  
"Adopt-A-District" for the  
Earth Bill campaign  
Illinois Districts Open**



Question Submitted to Each of You: Are you going to advance Chuck's plans to save the earth?

1. Yes, it is well thought-out and I am convinced this is what we need to do, and quickly.
2. Maybe later, since I have other things to do right now.

# Incident upon return of starship USS Enterprise

**“Captain, our sensors indicate it is an uninhabited planet with no apparent life forms, a high surface temperature, and an atmosphere of CO<sub>2</sub>”**



# Thank You for Coming!

