

Seminole Tribe of Florida Climate Action Plan

Community Guidebook



Climate Resiliency Program

Letter of Introduction



The Seminole Tribe of Florida established a Climate Resiliency Program in 2021 to address the climate risks now and into future on tribal lands. We strive to include as many community voices as possible into our planning process and decision-making through outreach, surveys, discussions and events.

This year, the tribe was awarded a grant from the Bureau of Indian Affairs (BIA) to build a climate action plan. A climate action plan is a tool for guiding a community to take effective climate action through community-wide programs, projects, and policies. To create this plan, we need community and department input and support before bringing it to council for adoption.

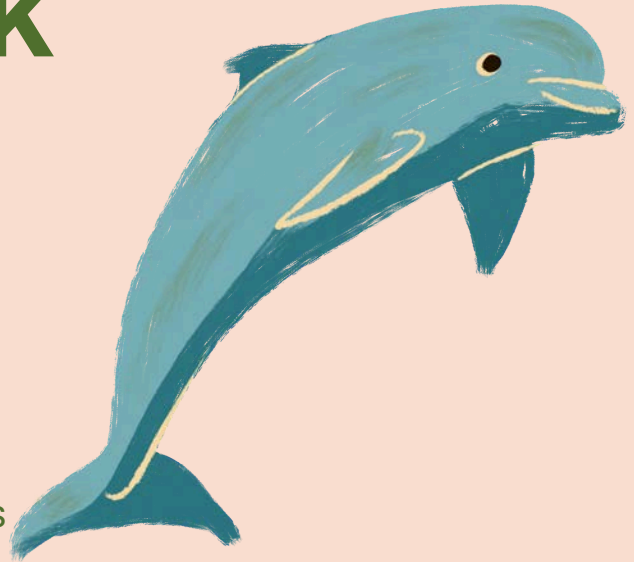
The purpose of this guidebook is to educate tribal members and staff on the climate changes witnessed by climate scientists and indigenous people around the world. We will then explore solutions, keeping in mind both the tribe's modern needs, and possible alignment with strategies Seminole ancestors used.

While we cannot change the global community's reliance on fossil fuels, the tribe can prepare for the changes that will come as our climate shifts. Scientists expect more hot days, extreme rainfall, droughts, and intense hurricanes as well as rising sea levels. We are already seeing these changes on our reservations. The tribe can prepare now for hotter days and ensure buildings are up to code for future projections of flooding. Also, preparing for the impacts of a changing climate to our food system is vitally important to ensure that tribal members have access to food in case of emergency.

You will see a survey in the back that we will use during the workshop. We hope to receive the opinions from as many tribal members as possible about which climate actions you want most. If you want to dig deeper, we would love to talk to you one-on-one on any of the topics surrounding climate change you are interested in. And please, let other tribal members and staff know about the Climate Action Plan, and encourage them to get involved.

Thank you for joining us!

Purpose of this Guidebook



This guidebook is meant to help facilitate conversations with Tribal members and staff on climate change causes and solutions. The companion survey allows space for tribal members to add comments to be included in the Climate Action Plan.

- **Background** Go over the basics of climate change - causes & risks associated with a changing climate
- **Feedback** Receive feedback on what information you found most interesting, and what you think STOF should be doing about climate change.

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01

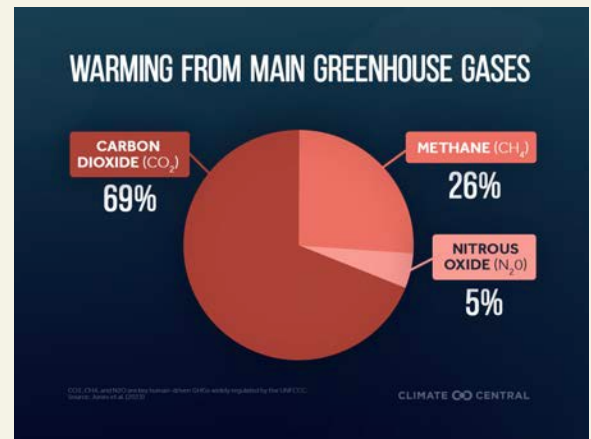
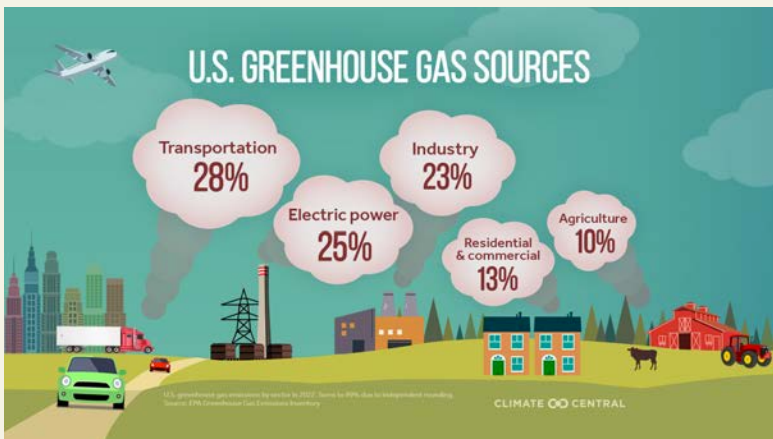
What is Climate Change?

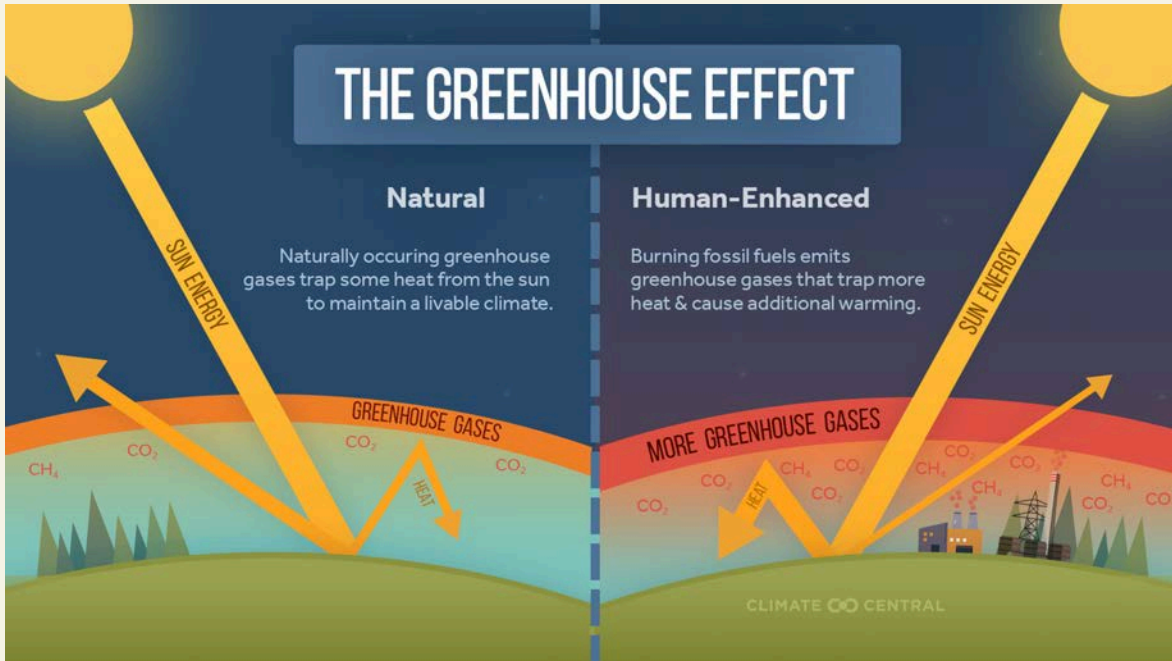
1.1 Climate Change

Climate change is the term used to describe the changing of global weather patterns from historical records. Another term you may hear when discussing climate change is anthropogenic climate change - ‘anthro-’ coming from the Greek word meaning humans, and ‘-genic’ coming from the Greek word meaning ‘producing’. Over the decades, there has been faltering public support for the validity of climate change science due mainly to propaganda from fossil fuel companies with advertisements meant to sow distrust. Still, over 99% of climate scientists agree that human use of fossil fuels are leading to catastrophic climate patterns.

1.2 Fossil Fuels

Fossil fuels, including coal, oil, and natural gas, are non-renewable energy sources made from the remains of plants and animals from millions of years ago. Once oil is extracted from the ground, usually at the expense of the natural environment, it is refined in factories to create gasoline, plastics, paints, synthetic clothes, and cosmetics. Burning gasoline releases carbon dioxide (CO₂) into the air. Methane (CH₄), also known as natural gas, is another more potent fuel, capable of trapping 10 times the heat of CO₂. Both methane and CO₂ are greenhouse gases.





1.3 Greenhouse Effect

What is the greenhouse effect? Our planet is surrounded by a layer of heat-trapping gases that act similar to a garden greenhouse. Rays from the sun, as shortwave radiation, are able to penetrate through the greenhouse's glass roof, but when they are converted into longwave radiation, they cannot escape through the structure, trapping the sun's energy as heat. Our planet's atmosphere does the same thing, but as we burn fossil fuels we are essentially thickening the glass and trapping more heat than ever.

Under historical conditions, CO₂ in the atmosphere enables life on Earth to exist as enough heat was trapped to create a comfortable temperature. As the industrial revolution unfolded and humans used more energy, massive amounts of CO₂ were released into the atmosphere, throwing off the fragile balance and trapping more heat than ever recorded.

1.4 CO₂ and Global Temperature

There is a strong correlation between the temperature of our planet and CO₂ in the atmosphere. As CO₂ rises, so does temperature.

The last time our planet had this much CO₂ in the atmosphere was 3 million years ago. The planet was about 35°F hotter with sea level about 30 feet higher during this time period.

Already, we are experiencing rising temperatures and increased frequency of heat waves. Plants and animals have temperature limits and by using fossil fuels we continue to warm our planet into an unsafe place for all. In Florida, many tribal members mention south Florida being hotter now than when they were growing up.

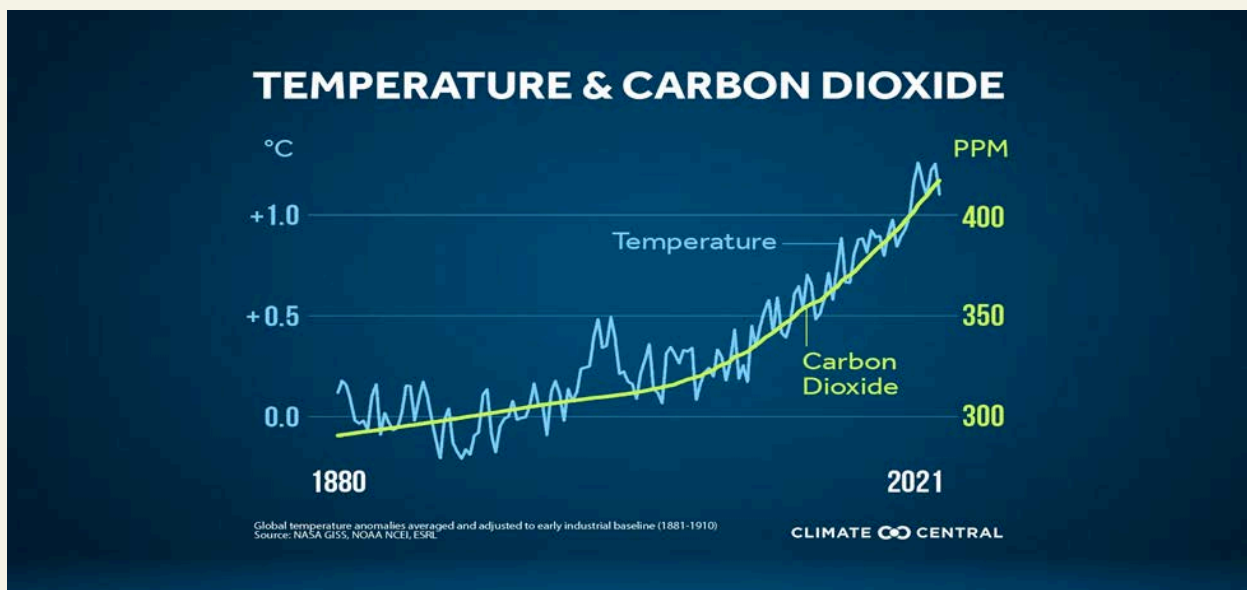


Figure 3. The correlation between temperature and carbon dioxide



1.5 Tracking Carbon Dioxide

Our planet's temperature has fluctuated in the past, what makes this time any different?

Even though our planet's climate changed in the past, throughout human history the climate has been relatively stable. Through ice core data, scientist know that for the last 800,000 years the concentration of CO₂ remained around 220 ppm (parts per million). When the industrial revolution began in 1840, you can see a sharp uptick of CO₂ on the graph.



Figure 2: Graph from NASA on the historical record of carbon dioxide levels on Earth for the past 800,000 years. Carbon dioxide was measured through a combination of data collected through air pockets found in ice cores from glaciers and modern instruments.

02

Impact of a Changing Climate





2.1 Warmer Land

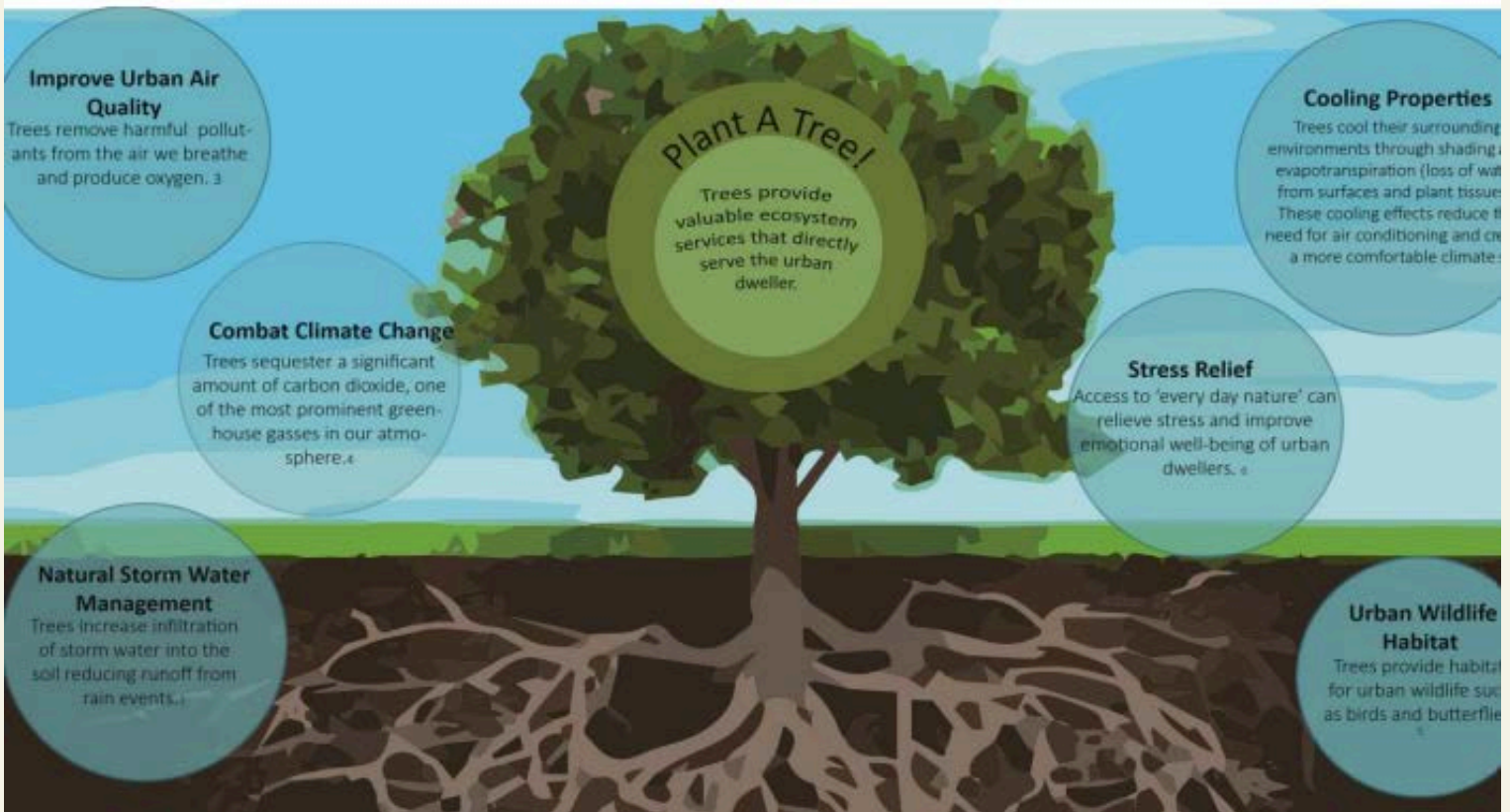
The warming of our planet is causing climatic shifts all over the world. The most dramatic changes are seen at our planet’s poles as those areas are heating up four times faster than the rest of the planet, a process scientists refer to as Arctic amplification. The Twaites glacier in Antarctica (known as the ‘doomsday’ glacier) has the potential to enact catastrophic environmental changes for coastal communities as it melts.

Closer to home, we notice the changes too. Energy from our sun trapped by greenhouse gases is heating up our atmosphere at unprecedented rates causing more extreme temperatures. More deaths occur through extreme heat than any other weather-related risk.

Here on STOF lands, heat will continue to rise throughout the century. So while we had only had a few extremely hot days every year as children, we now have 2-3 months straight of dangerous temperatures. Without bold action to reduce air pollution, the next couple of generations of Seminole children will have even twice as many “danger days”.

<i>Extreme Heat in Seminole Reservations</i>					
Heat + Humidity = Feels Like above 105°F					
Reservation	County	Historically 1971-2000 average	Midcentury 2036-2065 average	Late Century 2070-2099 average	WITH BOLD ACTION TO REDUCE POLLUTION
Immokalee & Naples	Collier	16	108	149	84
Big Cypress	Hendry	8	89	138	62
Trail	Miami Dade	7	88	138	60
Hollywood & Coconut Creek	Broward	5	80	132	52
Tampa	Hillsborough	4	77	127	52
Brighton	Glades	4	74	126	47
Lakeland	Polk	3	68	120	43
Fort Pierce	St. Lucie	3	63	117	38

Data are drawn from the July 2019 report, Killer Heat in the United States: Climate Choices and the Future of Dangerously Hot Days. Union of Concerned Scientists <https://www.ucsusa.org/resources/killer-heat-interactive-tool>



National Center for Smart Growth

One possible solution that the tribe can enact now to reduce the effects of heat is planting trees.

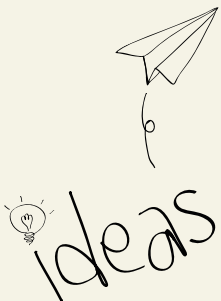
Trees cool down areas significantly.

Think about a time you spent outside on a hot day, when you trying to cool down. You probably went to the shade of a tree instead of standing in the sun.

Much like when humans sweat to cool down, trees have a mechanism called evapotranspiration where they release water from their leaves in order to cool down, which in turn cools the surrounding area as well.

Since it takes time for a tree to grow to full size, the earlier we begin planting more trees, the better!

Where do you think the next generation will walk, sit and gather together? Let's make them something beautiful!



2.2 Warmer Oceans

Our oceans are the largest heat sink on the planet, and without their ability to absorb heat from the atmosphere, we would experience temperatures much higher than we currently are. However, heat is not the only thing that the oceans absorb from the atmosphere – they also absorb 30% of all carbon dioxide emitted annually, making them critical to mitigating climate change. But this comes at a steep price.

As the oceans absorb more carbon dioxide from the atmosphere they are becoming increasingly acidic, which has devastating effects on marine life. Florida is affected, as we are home to the only coral reef system on the continental United States and the third largest in the world. Our reef provides shelter, safety, and food to millions of species of marine life.

Healthy coral reefs are also a natural defense against destruction by storm surge by absorbing massive amounts of wave energy during storms and preventing surge from pushing further inland. Not to mention, Florida's coral reefs are a large source of economic prosperity to the state through activities such as fishing and eco-tourism.

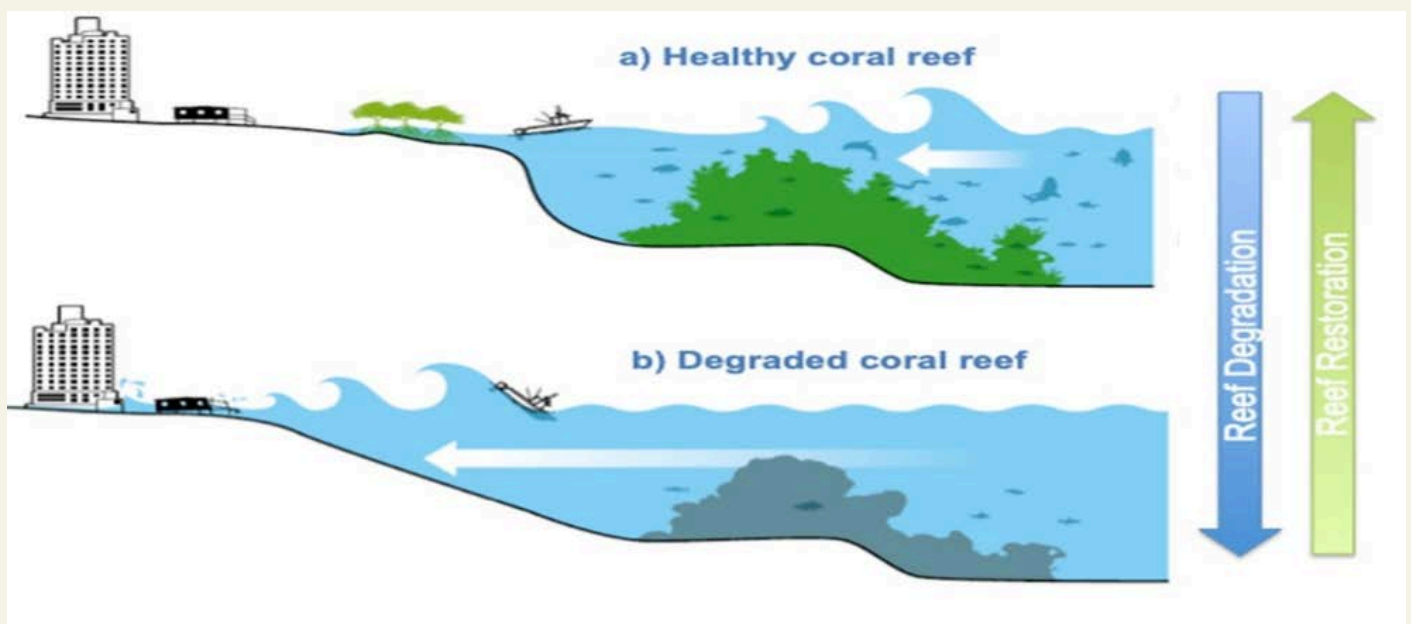


Figure 5. Depicting how a healthy coral reefs protects against storm surge. (University of Miami EcoReef)



2.3 Hurricanes

Hotter oceans also cause bigger and stronger hurricanes.

In 2024, we saw the formation of two hurricanes hit Florida back-to-back. Hurricane Milton became the 2nd strongest hurricane over the Gulf of Mexico in history, strengthening from a Category 1 hurricane to a Category 5 hurricane in just 24 hours. Thankfully, when Milton made landfall, it weakened to a Cat 3, but ultimately still inflicted widespread worry, damage, and devastation.

Hurricanes gather their strength from the heated top layer of the ocean, with cooler water typically resting directly below the warm layer, which limits a storm's ability to grow and strengthen. But as the ocean temperature increases, the warm layer of water is extending deeper into the ocean's thermocline (the layers of water in the ocean separated by density and temperature), providing storms with a limitless amount of energy to grow.

This is a major reason why we are seeing an increase in hurricane size and strength.

Bonus question:
Can you guess why hurricanes do not form within 5° of the equator?

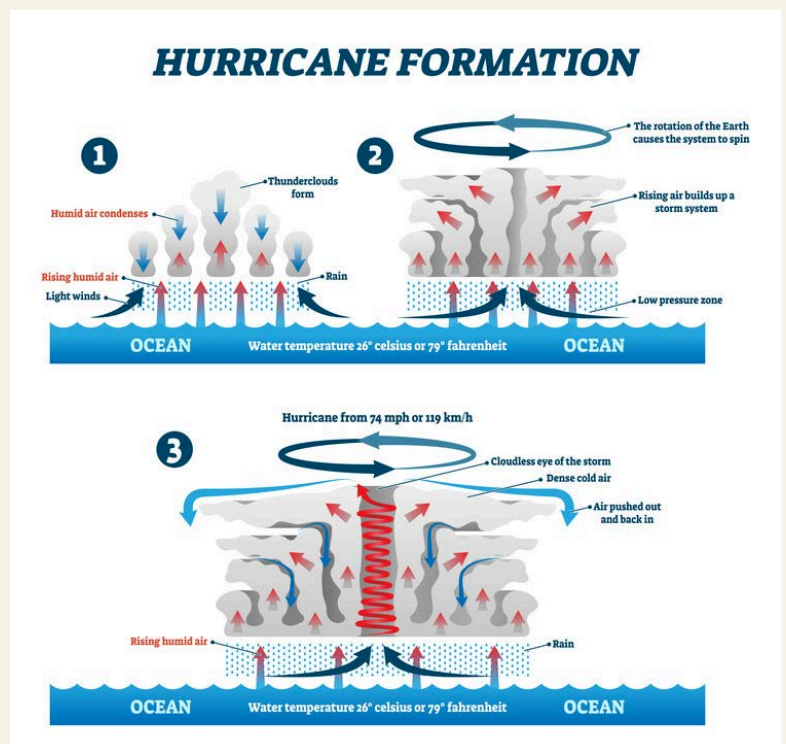
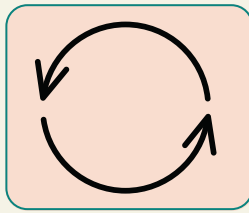


Figure 6. Hurricane Formation



2.4 Feedback Loops

There are many climate feedback loops that work to amplify or reduce the effects of climate change.

One feedback loop is the water vapor feedback loop:

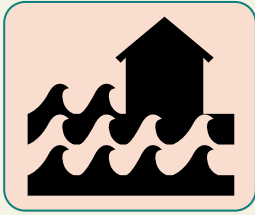
As temperatures increase, our atmosphere can hold more water.

- Water vapor also acts as a greenhouse gas, further exacerbating warming.
- A warmer atmosphere can hold more water, causing intense rainfall events.

The interplay between these two factors causes a ‘positive feedback loop’.



Recall the rainstorms Hollywood, FL experienced in June of last year when nearly two feet of water fell in just 24 hours.



2.5 Flooding

In South Florida, we've already experienced greater amounts of flooding events. For the Lakeland community, Hurricane Milton created lakes throughout the community, scaring some homeowners. In Hollywood, we've experienced non-hurricane storms, known as rain bombs, that generated devastating flooding throughout Broward County and made travel difficult for days afterwards.



As sea levels rise, many coastal cities are starting to debate where to send the incoming water - with no real 'winners' coming up in the end. These decisions affect inland communities too, because water managers can't send water toward the ocean if coastal communities are already flooded.

According to the Unified Sea Level Rise Projection by the Southeast Florida Regional Climate Change Compact...

South and Central Florida should be prepared for 92 inches (almost 8 feet) of Sea-level Rise in the next 100 years

The South Florida Water Management District estimates future drainage infrastructure performance and ...

They expect the entire system to fail at just 3 feet of sea-level rise, anticipated within the next 50 years

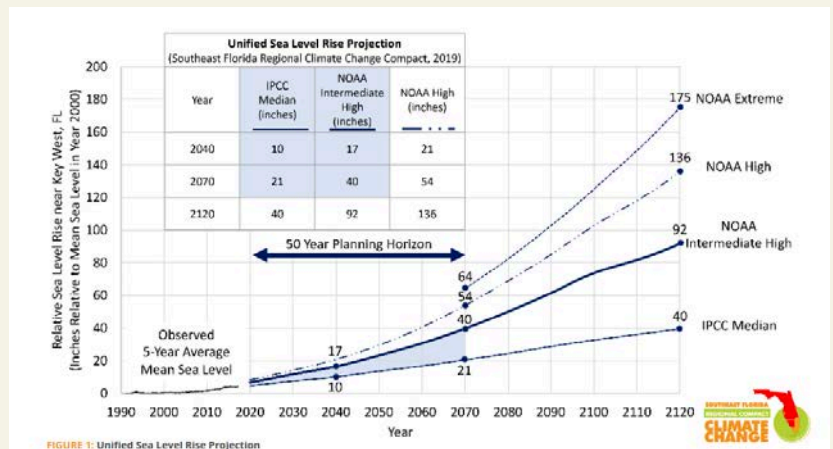


Figure 7. Unified Sea Level Rise Projection 2019

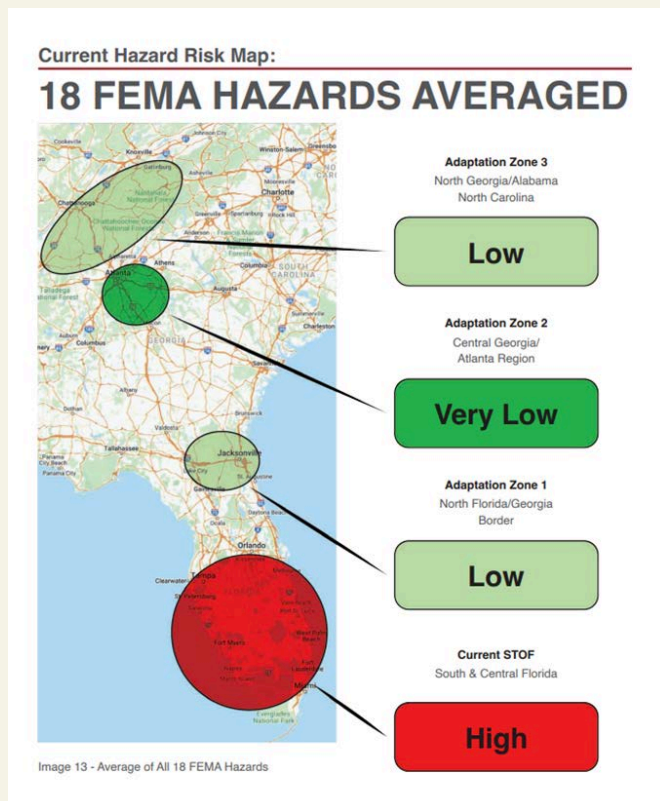
Climate Resiliency Program



Locally, extreme rainfall events are projected to increase 10-15% by 2100

One solution is restoration projects that focus on replanting native plants. There are many types of these **Green Infrastructure**: coral reef restoration, sand dune and mangrove plantings, integrating oyster beds into sea walls...

It is important to note, that while these projects can help slow storm surge, they cannot stop flooding from **Sea Level Rise**. That, we know, **will continue for millennia**.



Another solution to this problem that communities need to consider is a **managed retreat** from the coast, meaning that people move inland.

As a tribe, we do not choose where our trust lands are. But we do choose where we buy new land.

As a community, we will need to have some hard conversations to create a **viable long-term strategy**.

Figure 8. STOF Climate Risk and Opportunities Across Lands Report

2.6

Fire & Drought



As climate change heats up Florida, the risk of wildfires could double by mid-century. Extreme temperatures and drought exacerbated by climate change could continue to make more fuel for large wildfires that burn out of control.

Take the case of Hurricane Michael for example –in 2018, the category 5 hurricane ripped through Florida, downing millions of trees in its path. The downed trees were perfect fuel for three simultaneous wildfires that burned more than 30,000 acres the following fire season.

It is important to be aware that in Florida, we experience fire season in April and May. Hurricane season directly follows fire season, extending from May until October.

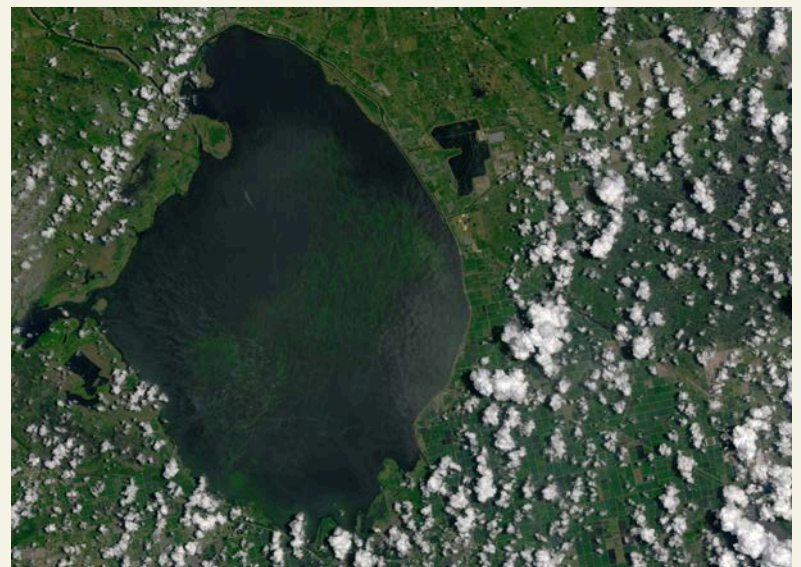
2.7 Lake Okeechobee and Drought

Lake Okeechobee is also impacted by drought conditions. When we enter a drought, water levels in the lake drop. If the water levels drop enough, fish, wildlife, and vegetation can be negatively impacted.

At lake levels of 8.0 to 9.5 feet, South Florida Water Management District is unable to deliver the allotted water entitlements to the Brighton and Big Cypress reservations.

Also at the 9.5 feet level, Stormwater Treatment Areas no longer receive enough water to sustain wetland plants that remove nutrients from the water. This results in costly restoration infrastructure and water south is compromised.

When water levels in Lake O are critically low, the Everglades are at a high risk for muck fires, which can permanently destroy Everglades habitat and threaten human life.



Muck fire: type of wildfire that occurs in wetlands and smolder underground, rather than burning above ground, and can persist for extended periods

2.8 Invasive Species



Due to our sub-tropical climate, Florida is a hotspot for invasive species. Release of nonnative pets remains the primary source of introduction into Florida’s ecosystems, exacerbated by Florida’s pervasive culture of exotic pet shows.

Climate change makes Florida’s ecosystems even more hospitable to invasive species, and allows species to expand their range into more regions within the state.

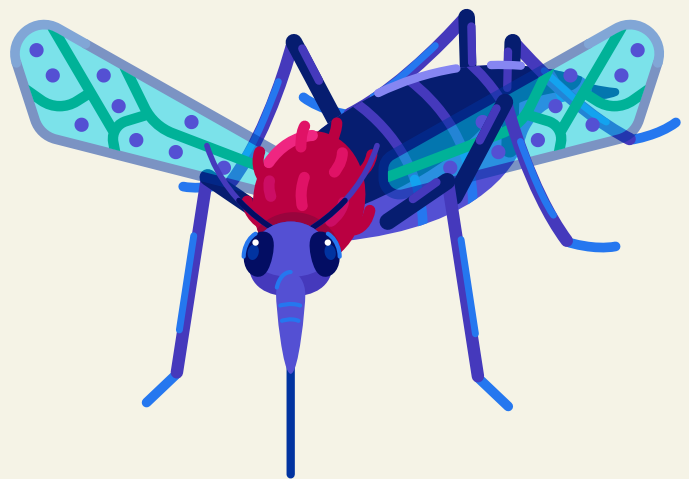
Invasive species can also carry diseases that eventually transmit to our native wildlife, such as the lungworm infection in invasive pythons.

Other climate change impacts, such as more frequent droughts and fires, increase the vulnerability of Florida’s ecosystem to invasive plants too.

2.9 Disease

Vector-borne diseases, diseases that are spread to humans and animals from vector such as mosquitos or tick, are set to increase with a warming planet.

As northern areas become warmer, mosquitoes and other blood-carrying insects can extend their range and timing of their life cycle, causing higher incidences of diseases such as West Nile Virus, Dengue, and Malaria.



03

Climate Anxiety & Action



3.1 Change, It's Our Turn

Many climate scientists warn that soon climate change will be a threat to human well-being and planetary health. We are reaching tipping points that will make it harder to reign in run-away climate changes unless humans limit the amount of greenhouse gases released into the atmosphere. To live a sustainable life which is less fossil fuel dependent - we must alter our energy, industry, transportation, community planning, and agriculture.

Learning that all the systems require widescale changes can be overwhelming, but people and organizations have made great changes in short periods of time before.

- **Ozone Layer** The Kyoto Protocol was the most successful climate compact to date, that resulted in the banning of CFCs, the chemical compounds responsible for tearing a hole in the ozone layer.
- **Silent Spring** Rachel Carson rang the alarm on the devastating use of pesticides and DDT. DDT is now banned in the United States due to its harmful impact on wildlife and biodiversity.
- **Panthers** Florida Panther populations have increased in the last few decades from 25 individuals to over 200.



3.2 Building Wiser

Many older cities around the world have low carbon emissions due to the way they were built (before the industrial revolution). We can look to these tried-and-true ideas for building with people in mind.

Seminoles built the same way in the past, valuing people over cars. Consider what makes corn dance such a fun event- we are all walking distance from each other out there with easy access to food and nature, and we rely less on cars. Building closer resembles our traditional ways of living and does not have to be a past-down memory. Having walkable communities doesn't just lower our reliance on fossil fuels, it also benefits us in ways that create a healthier and more equitable community.

3.3 People First

Consider the difficulties someone with disabilities may face when moving around your neighborhood. Would a wheelchair user be able to get to their neighbor's house safely? How easy is it for them to be a part of the community? The freedom to move throughout a community with ease is a luxury that no one should be excluded from.

A holistic approach to community planning can offer greater independence for a variety of people, including kids, people with disabilities, and elders.



This kind of action relates to climate resiliency because **walkable communities reduce reliance on fossil fuels**, as well as provide health and social benefits across the community.

3.4 What is Food Sovereignty?

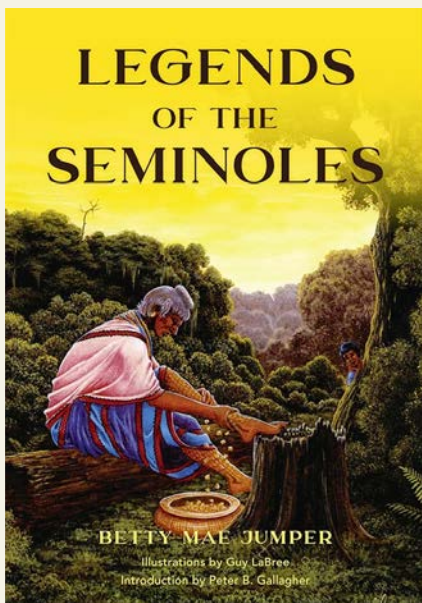
After water, food is the most important aspect of our lives, but not many people know the fragility of our food system. Floridians learn a part of the vulnerability of our food system during hurricane preparation and aftermath. During the Covid-19 pandemic, we all saw how easily the global food system could be disrupted.

- Reduced seed diversity** Large companies decide what to grow, which has reduced seed diversity significantly.
- Pests and storms** Increased stressors reduces plant viability and success
- Livestock** Reduced crop production leads to higher feed costs for livestock

Most cities in the US only keep enough food on hand for residents for **3 days**

In comparison, tribes in the Haudenosaunee Confederacy are working to keep their traditional practice of having enough food for **7 years**

Many of our Seminole women cared for gardens before European contact and up until the 1970s. Small community gardens offer us a chance to reconnect to our traditional foods while overseeing how food is grown and nourishing our soil. How we grow food is important to the continued existence of good soil for future generations.



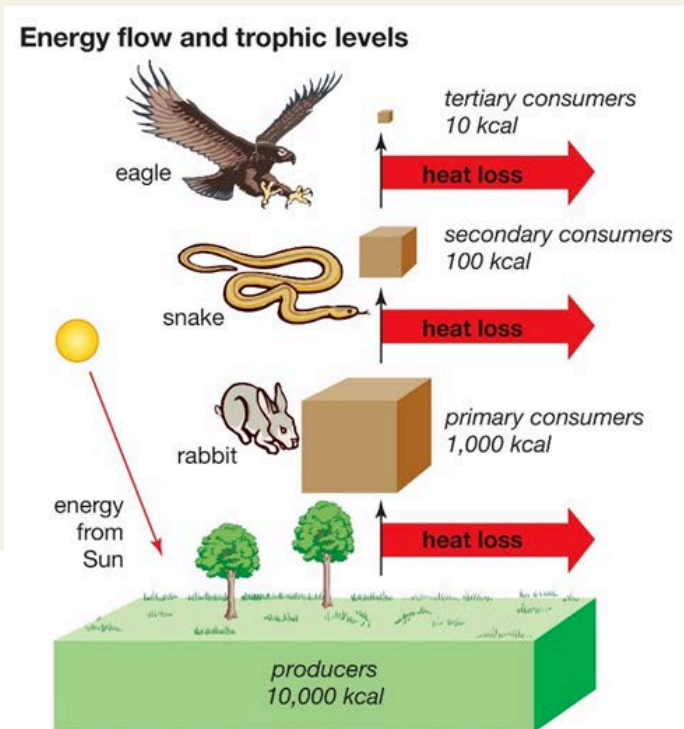
Native Corn

We must remember the importance of corn. Corn was the foundation of our ancestor's food and created a population explosion for the Americas. Our entire ceremony thanks corn for its life-giving properties. Native corn offers more nutrition than yellow GMO corn. To have a healthy diet and planet, we must look to plants again. Think about how amazing it would be to have Seminole corn back on all our plates again.

3.5 Walking on Sunshine

how to eat efficiently from the land

Plants convert energy from the sun into tissue which gives a certain number of calories. When an animal consumes a plant, it converts a small portion of the plants calories into muscle and tissue. But like an engine, the process of energy conversion is not perfect with much of the energy being lost as heat. When eating an animal, even less of that energy is transferred to the consumer.



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Figure 9: Trophic levels shows the position an organism occupies on the food web. This figure shows that there is massive energy loss as you go higher up the food chain. Energy is lost through heat due to the inefficiencies of converting energy through different consumers.

3.6 Making Room for our Relatives

Raising animals for human consumption requires a tremendous amount of resources. Did you know that livestock and humans are 96% of all mammal biomass on Earth? That means only 4% of mammals left are wild. Likewise, 71% of bird biomass on our planet are the birds humans raise for food.

Animal agriculture is the number one reason for deforestation globally. In Brazil, many Indigenous people fight for their lives against encroaching cattle and soy farms (80% grown for livestock)¹. If we all stopped eating animal products, 75% of farmland could be freed up for reforestation. But even if you don't stop eating all animal products, just reducing the amount of beef you consume will save forest from being converted into farms.

Instead of industrial animal agriculture, a **more sustainable practice** would be for the world to switch toward **small scale hunting and fishing**. For that we would need a system change and healthier lands and water.

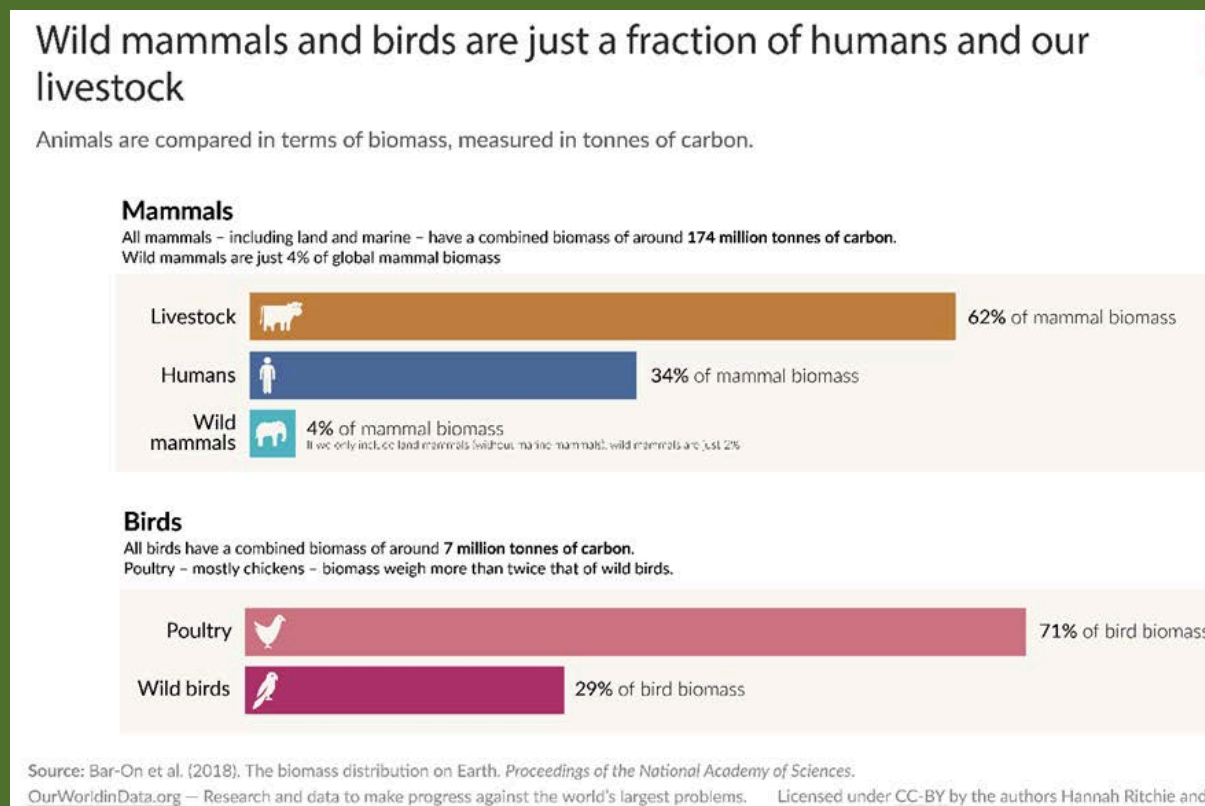


Figure 10: Biomass of all mammals and birds on Earth.

3.7 Solutions



Making the switch from traditional, fossil fuel powered energy sources to renewable energy sources is another avenue the tribe could take to reduce overall carbon emissions. **Solar Energy** is the best renewable energy option for Florida due to our high number of sunny days.

Updates to the energy grid would promote greater efficiency. Storage batteries and microgrids can safeguard against interruptions in energy distribution by the utility. In this case, **energy security and stability are a life and safety issue**, as power outages can occur in the summer months when extreme heat days are common.



I SPY with my little eye, A SOLAR MYTH

Are you able to spot the myths about solar energy when you see one? Play this game to find out!

Solar is Renewable

Solar is a good Investment

Solar Energy is Reliable

Solar is More Expensive

Risks from electric and magnetic fields is high

If I have Solar, I cannot connect to the Grid

Production of panels causes more Pollution than other energy types

Panels need a lot of Maintenance

Solar panels can Damage your roof

Solar makes the surrounding air Hotter



TRUE or FALSE

If I have Solar, I cannot connect to the Grid



Solar is More Expensive



Panels need a lot of Maintenance



Solar panels can Damage your roof



Solar makes the surrounding air Hotter



Production of panels causes more Pollution than other energy types



Risks from electric and magnetic fields is high



Solar is Renewable



Solar is a good Investment



Solar Energy is Reliable



If you are connected to the grid and do not produce enough power for your home at a given moment, you still get all the power you need. Your utility meter will run forward. Later, if you produce more energy than you need, the extra energy will go into the grid, and your meter will run backward. The balance is what you pay the utility for. This is called "Net Metering".

Solar panels are safe for your roof, and require very little maintenance.

Solar panels on a roof do not make the air or building warmer. Both the earth and PV panels have an albedo of 0.3 (measure of how much solar radiation is reflected). Fresh asphalt is only 0.04. When humans pave over green spaces, albedo decreases, meaning that more solar radiation is absorbed. Disturbing land is making the earth hotter.

Solar panels create a lower exposure to the electromagnetic field than most household appliances, such as televisions and refrigerators.

Unlike fossil fuel energy sources, solar panels do not produce harmful emissions. They convert sunlight that shines every day into clean energy we can use.

Solar panels are reliable, long-lasting, and come with warranties. Meanwhile, utility bills go up every year, even though service is unreliable during storms (even on sunny days in the rural rez).

Solar energy costs a lot less too!

04

Propaganda & Climate Justice



4.1 Climate Justice

Climate resiliency goes hand-in-hand with climate justice.

Climate justice recognizes the disproportionate impacts climate change has on marginalized communities. A major topic in climate justice is that the main polluters of the world are ultra-wealthy, with some billionaires contributing more carbon emissions annually than some small nations.

The richest 1% of the global population account for more carbon emissions than the poorest 66% of people, according to a report by The Guardian. Yet, while the 1% pollute the most, they are simultaneously the most shielded from the effects of climate change.

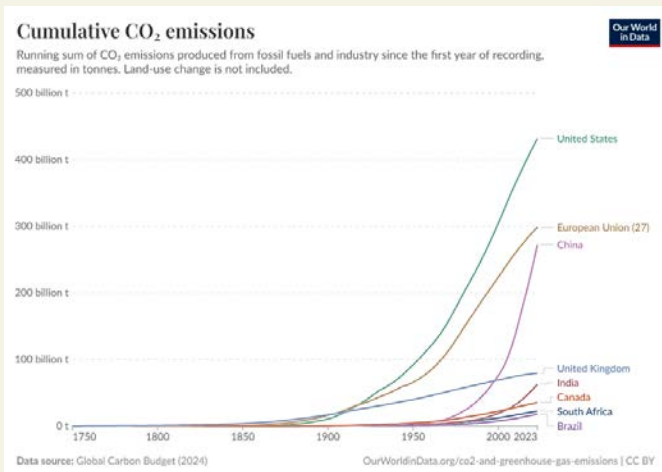


Figure 11: Graph of the total emissions from major contributors. The graph shows that the US has contributed the most greenhouse gases compared to any country.

This disparity has sparked global debates of climate reparations being owed by the large polluters (like the United States and China), to nations that hardly contribute to global emissions - yet feel the effects of climate change more directly (such as island nations like Tuvalu who are already having to leave their land due to rising sea levels).



Feelings into Action

In the next section we discuss propoganda and how different industries shaped the way society has perceived climate change since the 1970's. When learning about these disinformation campaigns, note what feelings arise within yourself. Feelings of anger against corporate greed are justified, and can be transformed into action.

4.2 Corporate Marketing

Fossil fuel industries and automotive companies first uncovered that the combustion of coal could result in global climate changes and extreme weather events **in the 1950s**.

The research continued into the 1960s and 1970s, as the oil and auto corporations continued to uncover the horrifying reality of impending climate change with skillful accuracy. Rather than bringing their findings to light and enacting change for the protection of humanity, Big Oil companies rushed to cover-up their findings and delve into purposeful propaganda campaigns aimed at **deceiving the American public** on the validity of concerns raised by scientists over anthropogenic climate change.



Chicken Little

In 1991, Informed Citizens for the Environment, an organization funded by the coal industry, created the “chicken little” ad. The advertisement claimed that the evidence supporting climate change was weak and open to debate.

Figure 12: Advertisement from Informed Citizens for the Environment.



4.3 Plastic Disinformation

The most famous group that Big Oil companies created was **Keep America Beautiful**. While, Keep America Beautiful has since evolved into a legitimate operation working to protect the environment, their roots began as a group that sowed doubt on the cause of and solutions for climate change. The group now acknowledges their history, and has examples of their previously deceptive advertising up on their website. The most famous advertisement was the **'crying Indian ad'** from the 80's showing a driver throwing litter on the side of the road and an 'Indian' man crying one tear for the pollution.

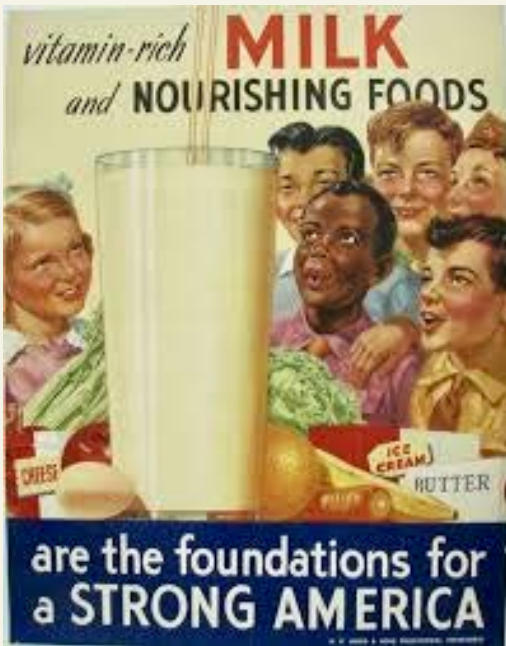
Before petroleum products (such as plastics) were readily available, people used glass or aluminum containers. These containers were reusable and recyclable. Many small businesses were created surrounding the collection and cleaning of these containers. During the switch to one-time use products, consumers had to learn to throw away plastic containers. What was once considered unnecessary and wasteful, was now retaught through propaganda to be "convenience" and "luxury".

Don't Buy the Hype - it's not actually recyclable

Plastic manufacturers knew from the beginning that their product was not recyclable. Every reuse of plastic degrades the quality of the product and uses more energy to convert into recycled plastic. Plus, it only prolongs the time slightly until that plastic reaches the landfill.

Plastics can stay in ecosystems for up to 500 years, even when you can't see it anymore. The only solution to plastic waste is to stop using plastic.

THE
SOLUTION
IS LESS
POLLUTION



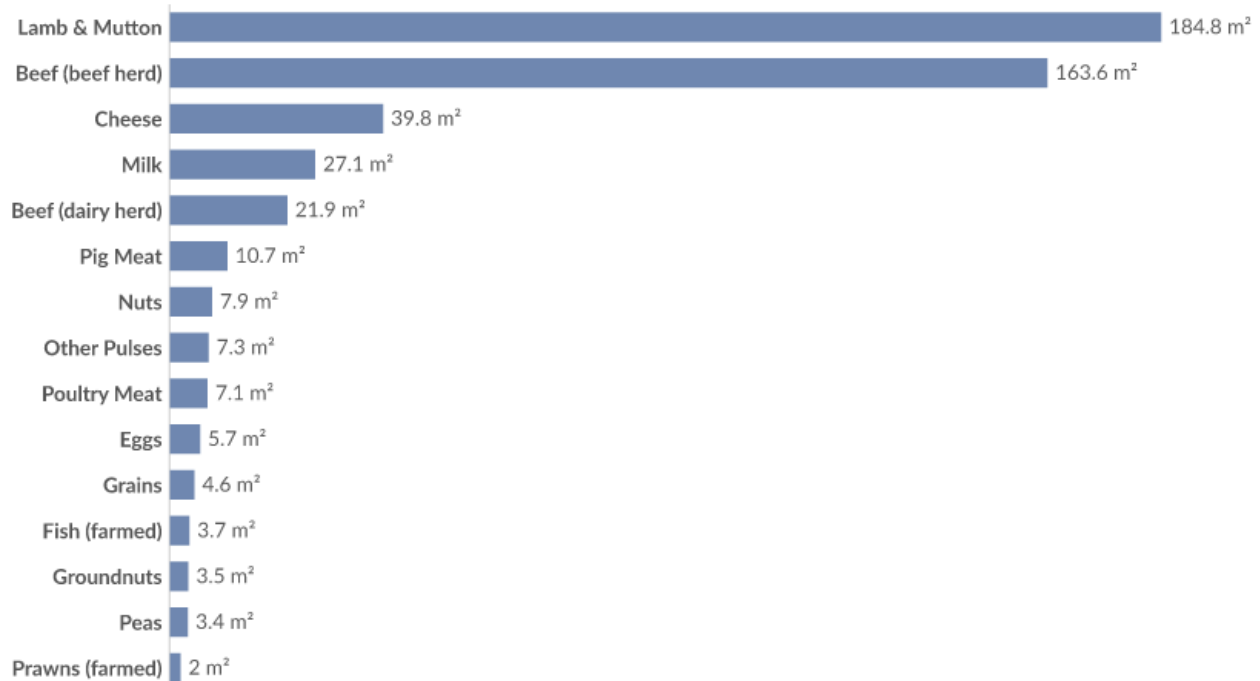
4.4 Beef & Milk Marketing

In 1989, the Environmental Protection Agency held a meeting to address concerns about methane release from cattle. But much like the oil and plastic industry, the cattle industry made plans to sway public opinion. Cattle create $\frac{1}{3}$ of all methane emissions², contribute to ecosystem diversity loss, and is the number one cause of deforestation globally. The beef industry lobbied politicians, created ads to sway public opinion, and conflated the science that showed a correlation between decreased health and cattle products.

Land use per 100 grams of protein

Our World in Data

Land use is measured in meters squared (m²) per 100 grams of protein across various food products.



Data source: Joseph Poore and Thomas Nemecek (2018). Additional calculations by Our World in Data.
 OurWorldinData.org/environmental-impacts-of-food | CC BY

Figure 13: Graph of different protein sources' land uses measured in meters squared from the website "Our World in Data"

4.5 Emotions

Learning about climate change, its impacts, and the prospective changes that resiliency requires can be overwhelming. It is important to acknowledge these feelings, and not let them paralyze you into inaction. Always know that you are usually not having a reaction that is completely unique to you, and that other people feel the same fear, anger, or anxiety that you may be feeling.



Some Seminole Tribal Members are in the PBS Film “Good Natured” which talks about climate grief and finding hope through inspiration and action.

4.6 Individual Action

There are many things that we can do individually to help the planet. **The most impactful individual actions are those that collectively begin to shift the system to change.** One example is the recent availability of plant-based meal choices everywhere, because of how many people began to consume less industrially-sourced animal products. Other individual actions you can take to drive system change include:



- talking to others about climate change
- voting for politicians that value protecting communities from climate change
- calling representatives to ensure their policies include actions that reduce CO2 emissions
- driving and flying less
- buying an electric vehicle
- installing solar panels
- planting a garden with native and edible plants
- buying less products, especially plastic products



Show up to a community meeting to help your tribe plan for a climate resilient future!

05

Resources



Climate Resiliency Program

1. Ourwordindata.org
2. A newly surfaced document reveals the beef industry's secret climate plan -
Vox article by Kenny Torrella
3. Indigenous Climate Resilience Network
4. NOAA Sea Level Rise Tracker
5. NASA Climate Webpages
6. Climate Central.org
7. Allen, Davis, et al. "The Fraud of Plastic Recycling: How Big Oil and the plastics industry deceived the public for decades and caused the plastic waste crisis." (2024).
8. Merchants of doubt: How a handful of scientists obscured the truth on issues from tobacco smoke to global warming, by Naomi Oreskes and Erik M. Conway
9. IPCC Reports (can be found online)
10. Sea Level Rise Projection Guidance Report, by SE Florida Climate Compact
11. World Economic Forum Report on Climate Reparations
12. Guardian Report on Pollution gaps between economic classes
13. The Climate Reality of Tuvalu, the sinking island
14. The Heat Will Kill You First: Life and Death on a Scorched Planet, Jeff Goodall
15. Indigenous Food Sovereignty of the United States, Restoring Cultural Knowledge, Protecting Environments, and Regaining Health, by Devon A. Mihesuah (Editor), Elizabeth Hoover (Editor), Winona LaDuke (Foreword)
16. Braiding Sweetgrass, by Robin Wall Kimmerer
17. The End of Night, by Paul Bogard



Keep in Touch

If you have any questions about the contents of this guidebook or want to contribute more to the Climate Action Plan, please reach out to the Climate Resiliency Program.

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