

STUDENT VOICES PROJECT

9th Annual

Our ninth annual Student Voices Project brought in writing from 150 middle and high school students representing seven U.S. Friends schools, one international school, one public school, and four monthly meetings. We selected 12 honorees whose submissions are featured here. On *Friendsjournal.org*, we've also posted a full list of all 150 participants.

PROMPT

What has been your personal experience with climate activism and sustainability?



There Is That of God in Every Place

Ida Schenck (she/her)

Grade 9, dual enrolled at New Orleans Center for the Creative Arts and New Harmony High School, and Friends Meeting of New Orleans (La.)

I'm from New Orleans, Louisiana, but every summer, my whole family goes to Maryland—where my dad grew up—to visit my grandmother and go to Catoctin Quaker Camp. Sitting on the floor of my cabin one day, I was informed by one of my dear friends that the South actually has no Black people because it is so racist. Actually a majority of Black people live in the South, and my friend was echoing a common and dangerous stereotype. If northerners can dismiss the South as a “bad” place, then why not let it get torn apart by storms or cracked open and tunneled under by frackers, drillers, and pipelines?

According to the U.S. Energy Information Administration, 47 percent of the nation's total petroleum refining capacity is along the Gulf Coast. I've seen this firsthand. The land surrounding the Mississippi River from Baton Rouge to New Orleans, mostly home to working-class People of Color, is choked with oil refineries, shooting fire and spewing smoke into the air. We call this area Cancer Alley, for its cancer rate of 46 out of every

Illustration by mast3r



million people. Our coasts are losing land, too. Approximately a football field an hour of southern Louisiana disappears under water. The people of Isle de Jean Charles, already forced into the delta because of European colonization, are being forced to move once again. Their homes are literally disappearing under water as a result of climate change, a side effect of colonization. This is more than a problem of housing for a culture that is so tightly bound to the land through fishing, tradition, livelihood, and love; without the land, the culture would disappear.

We are fighting to keep the oil companies at bay. Resistance like the recent fight against the Bayou Bridge Pipeline that was built through the beautiful Atchafalaya Basin might have been successful had there been more outside support.

Our swamps and marshes, once full of elegant straight-backed cypress, through which I've steered a motor boat, are now open water and dead stumps. This is being made worse by saltwater invasion accelerated by the cutting and dredging of canals so that oil companies can haul their equipment. Building so many rigs and pipelines and extracting so much oil leaves the land waterlogged and collapsing in places. When this infrastructure inevitably breaks or explodes, as in the Deepwater Horizon Oil Spill of 2010, oil spews into the landscape, killing thousands of animals and contaminating the mud and root systems of this land where it is likely to stay forever.

I remember hearing the names of the 11 workers killed and seeing pictures of pelicans slick with oil dripping into their eyes and beaks, smothering them. These oil leaks and spills are not always stopped. A Taylor Energy oil rig about 11 miles off the coast of Louisiana has been hemorrhaging approximately 300 to 700 barrels of oil into the Gulf every day, with no effort and no money to stop it whatsoever. No one outside of Louisiana seems to know or care. This land is seen as disposable. A local engineer even devised a way to collect the spilled oil and recycle it, and the company actually sued him. Taylor Energy isn't even trying to clean up their mess. They know they can get away with it. This all might make it seem like the South and the Gulf Coast in particular is a lost cause, but this land and its people can be saved and are worth saving. This land is just as precious and the people are just as human as anywhere up north.

People assume that I'm eager to leave the South as soon as possible. I will not deny that it is frustrating to watch my state year after year come last on the good lists and first on the bad ones. It goes red in every election, just as dependably the sunburned necks of hordes of sweaty tourists that crowd the French Quarter. But I could never leave; I love the South: the insistent humid heat; the way people stop in the grocery store line to talk with strangers about what they're making for dinner; the resisting communities everywhere from Cancer Alley in Louisiana to an all-lesbian commune in Alabama; the way we support each other through hurricane after hurricane, joking through tragedy and laughing to live.

The climate crisis cannot be solved without the South. We know from practice how to pull each other up; brush ourselves off; and rebuild again and again, without losing our minds. We know how to slow down and take the time to sit and watch the world go by: a direct contradiction to the fast talking *go-go-go* of capitalism that has permeated the culture of most of the United States. While sitting in worship amid the early morning sounds of the Catoctin woods or hearing a hundred voices rise in song at night with the darkness around us and the light of the campfire in the center, I hope that the prejudice against the South is not bigger than our collective desire to preserve our homes and our lives. I hope that when the next attempt to steal this land's resources is inevitably made, the whole nation will rise up and fight against it: to fight for us.



Running for a Better Future

Spencer Bluth (he/him)

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sea turtles' precious nesting grounds. Builders have had to excavate thousands of pounds of sand, rearrange protected areas, and drill through dunes. In addition to the beaches, dunes are critical for nesting sea turtles, providing protection from the wind. Some experts have estimated that the number of sea turtle eggs on Bald Head Island could be cut in half as a result of this new pipeline. This would not only be harmful to the environment but would drive sea turtles even closer to extinction.

Collectively, sea turtles can lay as many as 1,400 eggs a year on Bald Head Island's South and East beaches, which contain several nests. Sea turtles that hatch on Bald Head Island have a significantly higher chance of survival due to the shallow waters surrounding the island. This shallow water protects the young sea turtles from deep water predators. Sea turtles that hatch on Bald Head Island are twice as likely to make it to adulthood compared to the global average. The island takes several precautions to protect sea turtle nests. Some of the precautions include preventing people from driving on beaches, putting surveillance cameras and fences around the nests, and sending experts from the conservancy out to check on the nests.

The Bald Head Island Conservancy does much more than protect the beaches. The conservancy organizes programs and events that are designed to spread awareness and educate people about the endangered sea turtle population. They also raise money to fund sea turtle conservation efforts around the globe. The Turtle Trot is just one example of an event that they have organized to fund their many valuable efforts. The conservancy put up a strong fight against the pipeline construction. However, they were overpowered by the immense profits that the pipeline could produce. It is sad to see money being valued over the lives of animals.

Running in the Turtle Trot was just a small part in a long uphill battle. As I crossed the finish line, I felt great elation knowing that I had helped protect sea turtles. The Turtle Trot was a great demonstration of how stewardship could spark real action. The abundance of offshore dredging sites has sparked the creation of several pipelines that have disrupted sea turtle nesting grounds around the globe. With less than one out of every thousand sea turtles surviving to adulthood, every nest that is saved plays a critical role in saving the sea turtle population and contributing to the overall health of the oceans' ecosystem. Pipeline construction is not slowing down, putting sea turtles at an even greater risk of extinction. This is our time to step up and become stewards of these incredible creatures. So whether it's running in a race, not using single-use plastics, or protesting pipeline construction, ask yourself how you can help.

It was a brisk morning on Bald Head Island when I woke up knowing that there was an important task in front of me. I was going to run in the Turtle Trot, a 5K hosted by the local nature conservancy. The Bald Head Island Conservancy's sea turtle program works to protect the endangered sea turtle population, as well as educate people on how they can help. Sea turtles are essential for carrying several microorganisms on long migrations through the ocean. Bald Head Island is a nesting place for many of these sea turtles. Thanks to the conservancy, the beaches on Bald Head Island have remained a safe place for sea turtles to nest, until recently.

A new pipeline designed to carry cement and raw materials from an offshore dredging sight to the mainland is being built through South Beach.

The pipeline runs the entire length of the beach, interrupting much of the





The Unavoidable

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None of us ever thought that climate change would affect our lives, but as we grew older, that all changed. We have all noticed some sort of climate change activity. We know we are just two 12-year-olds in sixth grade, but we are both very mature and have strong opinions on climate change. Our earth is being destroyed, and we are the problem. Most people don't understand that in 50 years our earth will not be the same. We will be lucky if we are alive then. The best plan of action is our own lifestyles. It could be as simple as walking more or making sure you put your recycling in the recycle bin. These small changes won't just make you feel better but also will make our earth a better place.

If we don't make a huge change in our water usage, we could face drastic freshwater shortages in the future. Our population is increasing, which means there will be even more water usage. Studies show that by 2040 we will not have enough freshwater for our whole population. How can you save water? Well, you could turn off the water when brushing your teeth or washing the dishes, if you don't use a dishwasher. We know 2040 seems far away, but it really isn't; it is less than 20 years. If we want living creatures to still be living creatures in 20 years, then we have to make a change.

There is a certain place that resides in between the California coast and Hawaii called the Pacific Garbage Patch. This is an ocean of garbage and trash that is twice the size of Texas. The trash in the ocean breaks down into microplastics; these GHG emissions kill ocean organisms. One of these organisms is plankton, which removes carbon dioxide from the atmosphere. Whenever you take a walk on the beach, you can see trash and litter plaguing marine life and killing innocent sea creatures. We see this drastic change in the water quality in the ocean and the health of ocean animals. Nowadays, we barely see any marine life thriving on open beaches, and it is all because of us. If we want to continue to live in harmony with nature, we have to actually participate in change.

In our hometown of Cinnaminson, New Jersey, the weather has drastically changed. We used to get the "leftovers" of the tornados and hurricanes, but now we have actually experienced one. Heavy participation causes more floods and higher rising sea levels. The burning of fossil fuels is the primary cause of all of this. These gasses and coal are burning through the ozone layer, causing more heat to come in. When we were younger, we would love the spring weather and how it was the perfect temperature. Climate change, however, has turned the spring weather into summer weather, sometimes making spring excruciatingly hot.

We don't have much time. We are racing against this awful change, and if we don't act on this soon, climate change will win. By 2050, there will be more plastic in the ocean than fish. That is absolutely insane. By 2040, there won't be enough freshwater for our whole population. That is terrifying. We are experiencing more hurricanes and tornadoes. We still are very fortunate that we don't get as many as the more southern states, and ours don't cause as much damage, but it is still pretty scary. This is all happening so quickly, and it is hard to take it all in. We have to make a change, and this change has to be quick.



The Worth of Water

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One hundred and fifty thousand deaths every year, but who is the attacker? Three hundred thousand species of animals and plants die every single year. Can human beings be responsible for this great tragedy? Climate change, global warming, and weather crises are the death threats, but what caused them? Over the years this unpleasant issue has haunted us. In 2020, a flood lasted three days in Germany, killing 220; it swept away buildings and homes. This was caused by human beings burning fossil fuels, which made a powerful and rapid rain over summer. In Texas, a deadly hurricane in 1900 formed because of a sudden rise in water depth caused by global warming. These unfortunate events follow us. With goals and achievements, we can try to put a stop to them. Global warming is a huge factor that affects the world in many ways. This essay will shed light on the causes of global warming and its major effects on the world; it will also discuss climate activism and sustainability.

Global warming and climate change are caused by many different factors. Human beings are the biggest factor of them all; the smallest actions can lead to the biggest disasters. Human activities—such as burning the fossil fuels of oil, gas, and coal—release carbon dioxide that heats the planet. According to the Environmental Protection Agency (EPA), the United States produces 33 percent of its emissions through transportation, which is bad for the environment, as a huge amount of the carbon emission is trapped in the atmosphere and causes global warming. Moreover, throwing out trash causes 18 percent of the nitrous oxide gas emission. Additionally, using nitrogen-rich fertilizers for plants can be 300 times worse than carbon dioxide, and comprises 63 percent of the total amount of nitrous oxide in the atmosphere. In conclusion, global warming is caused by many different things.

Global warming affects the world in many different ways, including the environment and us humans. Global warming plays a big factor in farming: farmers would have difficulty growing their crops due to water shortage and changes to the rainfall pattern, affecting the timing of the plants' growth, as would heat waves and sudden floods. Moreover, the difficulty of growing crops affects us humans, reducing food availability and thus making food more expensive. Additionally, the death rate and illnesses will increase, since temperature change and added humidity increase the possibility of many deadly diseases. Global warming affects the habits of animals, too: animals that live in cold places, such as polar bears and seals, will not be able to survive due to the melting ice. To sum up, global warming affects all living things in many ways.

Climate activism helps us find solutions that can help reduce global warming. The Natural Resources Defense Council suggests multiple, helpful solutions, including reducing the amount of transportation: using one vehicle instead of two, carpooling, or even taking a bus. Another way to reduce global warming is to speak up and spread awareness. It seems like a task that's too easy, but speaking up can help people join and hold hands, one by one, to help reduce global warming. People can also stop wasting food, water, and electricity. We can also start to generate electricity using the sun or hydroelectric power. One of the most important things to do is to reduce, reuse, and recycle.



It's important to try and come out with less waste. All in all, people should work together to follow these solutions to save the world from global warming.

To conclude, global warming is a huge issue with many causes and effects, and there are many ways to help reduce it. Human beings are the main cause of global warming, with their disinterest and their burning huge amounts of fuel. Humans waste food, water, and electricity, adding to the heat bit by bit. On the other hand, the effects of global warming are huge: if the ozone layer is destroyed, no one can survive it. However, humans can try to prevent that by working together and getting each other to drop wasteful habits. People should learn and help before it's too late. As Benjamin Franklin once said, "When the well is too dry, we know the worth of water."



Procrastinating with Pollution

Jodi Bright-Walck (she/them)

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I like to go on walks along a creek near my house. Occasionally I'll see some trash in the water, usually plastic bottles or containers, sometimes filled with unknown liquids. My mom would make scheduled times to clean up trash in our town. I never wanted to go; I wanted to do what I wanted to do. "Maybe later?" I would say. I knew it was the right thing to do, but would it really help that much? Why waste my energy on something I didn't want to do? My mom was always the optimistic type though, and disappointing her didn't seem like an option. So I went. The walks would be long, and my legs would get tired walking around for hours, picking up things we hadn't put down. We would come back with big filled bags and have to wash our hands to get the germs off.

It's been a year since we did that. Our schedule is pretty full now; we don't have a lot of extra time on our plates, and I guess I can't focus on helping the planet because I have to learn about stuff I'll probably forget in the future. Honestly, I don't know. I don't think I know enough about this topic to say enough useful things about it. And that's a problem. The fact is that there is something slowly killing our planet and environments, and we don't even learn enough about it in school. Well, to tell the full truth, I did learn about the climate in school; that's one reason I'm here, why I'm writing this. But even though I don't feel I know every little detail about climate change, I know how the earth is increasingly getting hotter each year, and places are experiencing floods, droughts, and forest fires. People are affected by this. Maybe not you, maybe not me, but I can tell that the winters were getting warmer. When the temperature was reaching up to 56 degrees Fahrenheit in the middle of February, it felt like summer.

I can understand on a personal level that procrastination is a horrible monster. But putting off something that will not only have a big impact on the human race but on all the other animals and living things we have on this earth, as well as our ecosystem, is not a responsible thing to do. Whenever I procrastinate about something, I always think, "I'll do it later," or I think of some excuse not to do it. But for something that is destroying our earth? We need to think now. We need to realize now. We need to act now, because now is the only time we have.



On the Power of Community in the Climate Movement

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(before I eventually found out that ozone has little to do with climate change). I quickly became burnt out from this form of activism. Why was I trying to find solutions when people had degrees, awards, or platforms to do the same?! As I watched the world innovate, it became clear that a lack of solutions wasn't the issue.

I began to question why most people are so passive about this issue. Was it because we couldn't understand its severity? Was there an instilled feeling of inevitability that prevented us from acting? It became woefully clear that we have the resources required to solve the issue and the general knowledge to prevent it. Global populations are not passive by default but are made passive by harmful misinformation and rhetoric. Those who understand how deeply our earth and the communities that inhabit it are suffering have been fighting for change, but at the end of the day, the ones hurting our earth are fighting harder. Fossil fuel and corporate lobbyists reward politicians who forget their duty to constituents. This political bribery and propaganda became prominent in the Trump era in which I have grown up. Powerful people oppose change and work so hard to uphold oppressive systems. Thus, issues seem distant or nonexistent, and eventually, we run out of time. As I grow up, this notion terrifies me just as much as the tornadoes did when I was little.

I often think about the current state of the environmental movement and the direction I envision it moving toward. It is disheartening when we get carried away by the notion of individual actions “amounting to something more” and fall into Big Oil's attempts to scrutinize our every action, demanding that we unplug our phones or go vegan because hey—“it's up to you!” It is up to you, but more so, it is up to us.

There are two types of activism I resonate with most, both having to do with community. The first type is climate strikes. School strikes and protests are a phenomenal way to meet genius organizers and passionate creatives within the movement, plus they are a super-powerful example of collective power. I'm active with Fridays for Future, and helped organize a Global Strike this March in Washington, D.C. We mobilized over 500 people that day.

The second type of activism that I find crucial is mutual education and proactive media. The climate movement lacks

In the past decade—but especially the past two years—it has become indisputably apparent that change can only be fostered through collective will. We are called to act together, to be a good neighbor, and to create communities. It is the collective who strives to fight corruption that is present when a system turns counterclockwise. We are enlightened by the truth that it is only through our contagious passion that a thought becomes an ideology and an action becomes a movement.

There is a very distinct form of childhood empathy that initially sparked my passion for climate justice. I watched and learned how natural disasters demolished the earth. I became keenly aware of the reality that our future might be compromised. I think every kid is a little scared of global warming. My activism at first shined through in various forms of STEM-related projects I would tackle. I was obsessed with designing hydrogen cars or learning about renewable energy and ozone molecules



powerful and persuasive rhetoric in the media, and it is pretty much impossible to have the passion required to join the movement if you do not have a basic understanding of its importance. So I started *Ecosystemic*, a biweekly environmental justice magazine (seasn-ecosystemic.org). Students submit stories, opinion pieces, artwork, narratives, interviews, poetry, and more. The climate movement is devastatingly underreported and oversimplified, and we want to combat that. But we can't only describe issues; we must also provide opportunities for people to act. We have to be proactive and educate ourselves and our communities. Education inspires. Through *Ecosystemic*, I want to empower high school students by providing direct opportunities to act based on the information we provide. I want narratives not just to exist on a screen, but on a stage, in a classroom, or wheat-pasted all over a city. We can only hope that is where the publication will go. It is a new and necessary form of media and education, and we need it now more than ever. *Ecosystemic* is a community, and we have a great base of subscribers and over 200 cumulative contributors who add to our collective efforts every day.

There is a great deal of stress in protecting something as obscure as the future or responding to something as powerful as a natural disaster, but we lift that burden when we work as a community: a persistent, powerful, and passionate community.



The Little Things

Milla Rasic (she/her)

Grade 8, Carolina Friends School in Durham, N.C.

When I was younger, my entire family traveled to an island off the coast of Charleston, South Carolina, every year. The following was an experience that I will always remember. On a particular day, I was walking with my father along a wooded trail when something caught my attention. There was a blue trash bag under a branch; it was wet, soggy, and covered in dirt. We walked over to it and picked it up. Mud coated my hands, and water made a sludgy liquid: it was disgusting. The soil left on my hand didn't bother me as much as the fact that someone put that plastic bag on the ground without regard to where it would end up. When I walked away, I remembered seeing a video that showed a sea turtle with a plastic straw stuck in its nose. Seeing someone had left behind this plastic bag that could cause similar harm to

ocean life angered and disgusted me. Since then, I have been picking up trash that I see on the ground.

Every year, my school holds a service day. All the adviser groups choose something that helps the environment for service day. Because I love helping out my community and wanting to make the world a better place, this is something I look forward to. There is one instance in particular that has stuck with me. During one service day, my group chose to work in the woods behind a grocery store. The area looked like a normal wooded area at first, but I soon found out that it was an abandoned spot where people coping with homelessness camped out. I was shocked at the amount of trash I saw. There was an old barbecue grill covered in beer. Trash was everywhere. This place was like nothing I had ever seen. My heart went out to the people who lived there, but I also felt disgusted that there was nothing in place to help prevent a buildup of trash in the woods where animals live. I spent the rest of the day clearing up the woods because I wanted to help as much as I could. I filled several bags with garbage. Tents were removed, and we even found a teeter-totter made of branches from fallen trees that might have been played on by people who had camped there. It was never the same for me after we finished. Whether it's service day or not, I always try to help however I can.

As another way of helping the environment and reducing trash, students at my school decided to carry a small bag around the school for a week to see how much waste could be reduced. My own bag held all of the trash that I brought to school for lunch and snacks. Seeing the amount of trash I produced every day allowed me to try to change how much trash I was sending into the world. In all of my classes, I still carry it around with me and use as little plastic as possible. This also benefits my community.

A few years ago, my family and I went to a lake about an hour from our house. When I arrived, the lake wasn't swimmable. Plastic bags, beer bottles, old food cans, and other trash were everywhere. The scene left me speechless. Trash covered the surface of the lake. It was almost impossible to see the water. A man was distributing large trash bags with small kayaks, and I offered to help. After I received my bag, I saw many people getting in boats to help clean up the lake. We were given a net to help us fish out the trash. We spent an hour and a half cleaning up, but once we were finished you could see the water again.

Although I can't single-handedly stop climate change or prevent littering, I can help clean up the environment and raise awareness. In the future, I would like the world to strive toward producing less trash, because if we can do that, then we can protect the environment. I hope that I can make a difference and plan to keep trying to support the community as best I can. I do believe we can change, and by doing these little things, we can stop climate change.



My Experience with Climate Change

Finn Purvis (they/them)

Grade 6, Carolina Friends School in Durham, N.C.

My experience with climate change has been pretty massive. When I first heard about climate change, I must have been in preschool because I don't even remember when I first thought about it. Late second grade is when I realized how much of a massive problem this is. At the very beginning of third grade, I joined a small climate activist group with my friends. It was called EPG (Eco Preservation Group), and I remember we had notoriety for constantly having protests at school. We would walk around the enormous lower school main building and chant stuff like "There's only one Earth!" and "Stop the fires!" When the group heard that there were two huge protests in Chapel Hill and Durham, we were over

Climate change is the whole other pandemic that we've been trying to solve for many years; well, not solve but convince people to stop. It has melted glaciers, destroyed homes, flooded buildings, and so much more. Climate change is—if you don't already know—the effect of greenhouse gasses (mainly carbon dioxide) on the atmosphere. Greenhouse gasses are very important to our atmosphere, as they trap in heat. Climate change, however, is horrible because there is too much heat being trapped. Even a slight 0.1 of a degree warmer, which you might not even feel, could kill entire species of animals, as they have adapted only to particular conditions. Therefore, in summary, climate change is the result of greenhouse gasses in the atmosphere trapping too much heat and causing the temperature to rise faster than animals can evolve.



the moon, and that would be an understatement! We eventually started protesting even longer for practice, and it inspired more than half the school (including teachers) to go on strike and protest. Since my school (Carolina Friends School) is so awesome, we went to one of the protests for a field trip, bringing homemade signs and holding them until our arms were ready to fall off. We even got on the news! From then on, I vowed to reduce my carbon footprint.

Here are a few things I think we can all do to help our earth:

1. Recycle! This one is obvious, but it had to be said! Recycling old objects and turning them into something amazing helps reduce a massive amount of fossil fuel emitted.
2. Eat less red meat! This is pretty straightforward. Listen, I know all of us love a McDonald's burger every once in a while, and that's ok! But try to reduce the number that you consume. Not only does this help prevent animal cruelty, but this helps prevent climate change as well! Funnily enough, a big part of greenhouse gas emissions comes from cows farting: yes, cows farting. Because their farts (and ours) contain methane, a greenhouse gas that acts similar to CO₂, every time that happens, a tiny bit of gas is released into the atmosphere. Now, since there are so many cows—around one billion—and since they are so big, they release a lot more methane when they fart. And that doesn't count the billions and billions that have been slaughtered so people can have those McDonald's burgers. So, reduce the amount of red meat you consume! Simple!
3. Speak up! There are so many useless factories and other buildings and practices that are horrible for the climate, and so if we want them to go, we need to speak up! Post online; make a blog; tell people you meet; and overall, just spread awareness.



Generation on Fire

Heidi Jacobs (she/her)

Grade 6, Westfield Friends School in Cinnaminson, N.J.

Imagine this: you wake up to suffocating smoke and desperate wails of your children trapped in their room. You are helpless as you watch the fire burn all around you. You reach for the doorknob to rescue them, but it sears your skin. . . . It is too late.

This is happening to Earth; we just refuse to believe it, and the worst of it is that we humans are solely to blame. We are the ones who have caused a 1.07 degree Celsius global temperature rise. We are the ones who dump a truckload of plastic into the ocean every minute. We are the ones warming our seas to the equivalent of an atomic bomb going off every second.

Why? We see ourselves as separate from and dominant over Earth. This is the tragic folly of the Anthropocene era. We are disastrously

disconnected from Earth and its place in the cosmos. We approach Earth with how we can conquer it, control it, and profit from it: not how to respect and sustain it for a thousand years forward.

They say “ignorance is bliss,” but I fail to see the bliss here. Many people do not understand or believe the reality of climate change. We must educate the citizenry and hold our elected officials responsible for action.

I have recently worked with political leaders for planetary defense and climate research, and participated in the Planetary Society's Day of Action. The Planetary Society is a nonprofit organization dedicated to planetary studies, space education, and advancements in space science. The Day of Action is a day for Planetary Society members to advocate for

increases in federal budgets dedicated to science and technology.

As a resident of New Jersey in the United States, I met with the staff of Senator Cory Booker, Senator Robert Menendez, and Congressman Donald Norcross. I asked for budget increases to NASA for science research and for broadened STEM education.

While many think of space science as separate from earth science, we must remember that the study of Earth is a key science mission of NASA. NASA researches the impacts of climate change, such as rises in sea level, frequency and severity of storms, and atmospheric increases in greenhouse gasses.

NASA understands climate change in the context of what has happened on other planetary systems over the billions of years our universe has existed. For example, NASA has researched Venus and its climate, weather, and atmospheric conditions, as well as the process that occurs there. This process, called the runaway greenhouse effect, provides a clear example of what might happen here on Earth if we continue to pollute it. The runaway greenhouse effect is a continuous cycle of warming that once triggered cannot be reversed.

On Venus, this effect was triggered when oceans evaporated because of the planet's close proximity to the Sun. The carbon dioxide stored in the water was released into the air, and it built up in the atmosphere. This caused sunlight to be absorbed and released inside Venus instead of being reflected. Because of the thick atmosphere, once this sunlight that carried heat was absorbed, it was trapped. As more sunlight and heat were trapped, Venus got even hotter. This cycle continues to heat Venus into the fiery ball it is today.

If we continue emitting carbon dioxide and other greenhouse gasses at the rate we are now, this event, known as a tipping point, could occur on Earth as early as 2030. I will be 21 years old. Unlike Venus, it will happen on Earth not because of our location near the Sun, but solely because of human greed and the failure to embrace science and to act.

As a Planetary Society advocate, I promote the development of science technologies to help Earth avoid the same fate as Venus. For example, MOXIE (Mars Oxygen In-Situ Resource Utilization Experiment) is a technology developed for NASA. MOXIE converts carbon dioxide to oxygen and is currently one of the many science instruments on the Mars Perseverance rover. MOXIE, while initially developed to test oxygen production in a thin Martian atmosphere, if successful, could be re-designed and implemented on Earth to counter the carbon dioxide expelled into our atmosphere.

At 12 years old, I am faced with the dangers of increased forest fires, rising seas, and unbreathable air. I have many reasons not to trust my fellow humans, especially those responsible for ignoring science and leading us into this fire, and yet I have hope that person by person, fact by fact, change will come, but only if we can learn to value life over profit and follow science. This is why my faith tradition is science.

Science is a constant quest for truth. We seek answers to questions about our world, the cosmos, and our place within it. While this is not a belief in an anthropomorphic deity or any overarching God, the core principles remain. My faith in science guides me.

How can we not burn down our home? How can we avoid the sufferings of my children and my children's children? We must follow the Seventh Generation Principle (based on an ancient Haudenosaunee philosophy) and act with a mind to seven generations into the future.

To succeed in reversing impending peril, my generation must rise, act, and lead. I have faith that my generation will be the generation of change, of truth, and of a thousand personal actions rooted in science and pursued with hope.





Where Do We Go from Here?

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take comfort in the antiquity of the earth: the millions and billions of years it has over us; how even the few millennium we have of human history are only the thinnest, uppermost layer of all that has happened on the crust of the earth, not to mention all the action inside and around it. All these years so carefully studied and recorded, ruins and manuscripts collected and pondered over, only tell a fraction of a fraction of the life on this planet, and even this much is incomplete.

And this planet, this ancient being supporting almost all that we can see, hold, and feel is so miniscule in age, mass, and so much else compared to all the other things out there. We inhabit a universe that is billions of light-years wide, and apparently ever-expanding, that contains hundreds of billions of galaxies

in which there are an even more incalculable number of stars.

And yet, in all of these incredibly grand existences, I still find myself in awe of the little things. Of course the microorganisms and atoms that make the world go round are astonishing (the crazy molecules drawn on boards in chemistry class and all the forces represented by variables in equations). Also astonishing are those things that aren't necessarily integral for the continuation of life or the semi-stability of the universe, but which add up to much more, such as the small elements of nature along the edges of human development: moss creeping along cement and dusty little birds on telephone wires. I know all this is impermanent, and meant to be, but it doesn't seem like it can be solely our decision for when it is cleared away.

I grew up listening to the almost nonsensical statistics of everything out there that could destroy our planet. I read from books, world records, and fun facts for second graders and tried to imagine that kind of magnitude: how the sun could explode and eat away our entire solar system in eight minutes, how a black hole could pick us apart until our atoms floated in a place of infinite gravity. I never thought about the threats that came from our very own atmosphere, emitted from cars, the buses I took to school, and the many trucks that brought me the plastic-wrapped apple slices and bagels that I ate at after-school programs where we learned about the endangered animals far away that could be saved when we switched off the lights.

These were simple actions to overcome incredible obstacles that we didn't know about and couldn't understand.

Even now, the statistics and studies blaring from televisions seem more overwhelming than the entirety of the universe: the meters gained by seas expanding from the melting of glaciers; the acres burned, plowed down, or paved over; the number of homes lost; the lives lost; and the rising extinction resulting from our expansion. There is one voice in my head that I try to ignore: the one that points to the ancientness of our planet, not as a reason to protect it but as an excuse to ignore the consequences of my actions. *Haven't we seen this all before? Our world has been iced over, melted down again, filled with noxious gas, and covered in lava; aren't these cycles of destruction and recreation just the way it works?* This voice is an excuse to not delve into the truth of what's going on, what's permeating every inch of this earth and every being on it. But all the previous changes in nature happened over thousands or millions of years due to natural fluctuations in temperature or atmosphere or, at the most extreme, from volcanic explosions or visits from comets and asteroids. But this present danger has been released from machines of our own making and wasteful habits that could have been stopped. Do we really want to be the ones who brought this on ourselves?



Climate Change and Sports

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Sports play a big role in my life and will continue to throughout my lifetime. They help to keep me healthy. Sports can have positive effects on people. Sports can help spread awareness about issues like climate change, police brutality, and racism. Because they can reach a wide audience, famous athletes can spread awareness about issues by talking about them. Many athletes care about climate change. Climate change is happening all around the world. It is caused by the heating up of the atmosphere. The atmosphere heats up from high levels of carbon dioxide that come from burning fossil fuels. The carbon dioxide traps the heat from the sun. Because it is hotter, the weather varies more and gets worse. There are more weather events like tornadoes, hurricanes, floods, snowstorms, and droughts. These weather events affect everything, even sports. Sports activities can

also contribute to climate change.

There are lots of ways that sports contribute to climate change. A lot of fossil fuels are burned and carbon dioxide is released because of sports activities. For example, football games are played in big arenas that use lots of energy from fossil fuels. Also, many people drive their cars to football games and other sports events, which adds more carbon dioxide to the atmosphere. Teams fly to different cities in jets, which release a lot of carbon dioxide. Making equipment also takes a lot of energy, which releases carbon dioxide. The problems with sports and climate change happen at all levels including youth, high school, college, and professional sports. I still want to continue playing sports, even though it could have a negative impact on the climate

Climate change can have a negative effect on sports. Extreme weather can cancel sporting events if they are held outdoors. Hurricanes and tornadoes can damage areas and playing fields. Floods and hurricanes can damage golf courses. Drought and high temperatures can make it difficult to practice and play outdoors. When it is really hot or cold, fans are less likely to go to the games. This can impact me because I could not go to games or watch them. I would not like games to be canceled.

With all the problems that sports have with climate change, it is hard to figure out what to do. Should we just stop playing sports altogether? Should we stop being fans who go to games? We need to find ways to reduce the burning of fossil fuels and decrease carbon dioxide emissions. It is really important that we are all active in using clean energy and reducing fossil fuel emissions. We all want sporting events to continue because they are important to the economy. This is important to me because I play sports a lot and will continue to. I will not act on this, but I think that teams should drive more and not fly as much to games.





Coping with Eco-Anxiety as a Climate Activist

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On a daily basis, anyone following the news is confronted with headlines about the climate crisis. For example, one recent story from the *Washington Post* was titled “2021 brought a wave of extreme weather disasters. Scientists say worse lies ahead.” As a young climate activist, I applaud this reporting and the unrelenting efforts news sources are making to educate the public about this incredibly pressing issue. On the flipside, as a young person fighting for the future of our planet, I am often surrounded by messages of doom and gloom. Some days, it feels like everyone in the world is working against me and my future. Don’t get me wrong, I love the work I do; it brings me so much joy and, more often than not, hope. But it can also be incredibly overwhelming to know the realities of the climate crisis and have no idea what the future will actually bring. Is

everything my fellow activists and I are doing enough? Will that big bill be passed? Will I and all of the other young people around the world even get to see the future we’ve dreamed about our entire lives? Personally, I have noticed that when I get frustrated by seemingly careless politicians and the generally insufficient efforts of adults in power, I start to place way more weight than is necessary on my small individual actions.

In the grand scheme of things, I know that it’s not going to make much of a difference if I leave the oven on for an extra minute, or if I let one banana get so old that I just have to get rid of it, but these little things can really stress me out if I’m not careful. So many people all over the world—whether they’re involved in the movement, are directly impacted by the crisis, or anything in between—are experiencing some form of climate anxiety, and these feelings are incredibly valid. I’ve been told so many times to “just stay positive” or that “it will all work out.” But, in all honesty, that just makes me feel worse. It’s not okay. These are desperate times, and many of our leaders aren’t doing nearly enough.

Fortunately, there are many ways you can help yourself cope with all this stress. One of the most essential parts of dealing with climate anxiety is acknowledging your feelings instead of dismissing them. The climate crisis is scary and unlike anything many of us have ever faced, so you have every reason to feel what you’re feeling. The start to managing your emotions is accepting them. After you’ve done that, you can also make a big difference by talking to people about the stress that you’re feeling. You don’t need a therapist to do this, especially since climate anxiety is so common. The key is to find people who can relate to what you’re going through. If you are involved in the movement, I can guarantee that many of the activists you work with have experienced similar emotions and will want to talk about it. Just getting everything out into the open, and knowing that you’re not alone is critical.

I also think that it is super important to take breaks from all the doom and gloom and spend time doing other enjoyable things. Connecting with nature for example, even if just for a few minutes, allows me to step back and appreciate the amazing world I work so hard to protect. Lastly, if you aren’t doing this already, embrace your anger and fear for the future by taking action! There are so many opportunities to get involved, and there really is something for everyone within the movement. I don’t know where I’d be without my activism and the community of amazing people I’ve met through my work. Seeing so many people come together and fight for this issue that I’ve dedicated my life to is remarkable. Every single one of you gives me hope for a better tomorrow.

So while 2022 will likely bring many more discouraging headlines, the climate movement is a powerful one, and as long as we don’t sweep our anxiety under the rug, nothing can bring us down. It is important to talk about the issue of climate anxiety so it doesn’t become a barrier between us and confronting this challenge of a lifetime.

This essay first appeared in *Ecosystemic*, a publication from SEASN (the Student Environmentalism and Sustainability Network).