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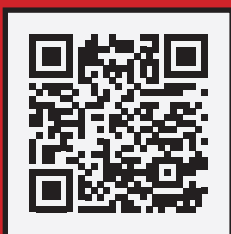
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A shrieking phone alert, the rushing of water down neighborhood roads, and the din of intensifying rain drops. The cacophony of a flash flood is distinctive and could be heard closer to home in coming years. With the threat of such a natural disaster increasing locally, Maryland recently funded a large-scale weather monitoring network designed specifically to assist during these catastrophes.

On Oct. 24, former Gov. Larry Hogan announced in a press conference that the state, in collaboration with the University of Maryland, College Park (UMD), will build a system of 75 real-time weather observation towers that together form the Maryland

Dr. Chris Fiebrich, Executive Director of the Oklahoma Mesonet, explains that the Mesonet system is constantly recording and sending out weather data to help inform community members. “The Mesonet network... report[s] environmental variables every five minutes... [so] we’re able to make a lot of products for different sectors, including the general public, [public] safety officials like emergency managers, farmers and ranchers, firefighters, and just different decision makers,” Fiebrich says in an interview with Silver Chips.

The Mesonet will also help predict regular weather patterns shortly before they occur, as the towers are closer to the ground than weather

freezing rain.”

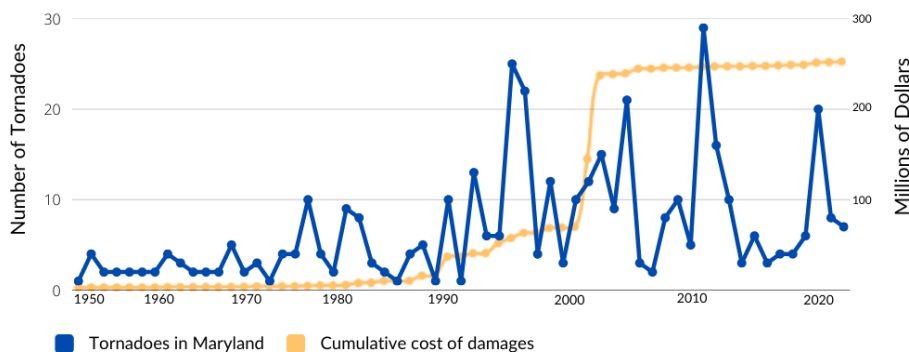
Flooding is a prevalent disaster risk in Maryland due to its lengthy coastline and major waterways, such as the Chesapeake Bay and Anacostia River.

In both 2016 and 2018, Ellicott City experienced “thousand-year rain events,” that led to the deaths of three people, as well as \$68.5 million in infrastructure damage and lost economic production in 2016 alone. Though these devastating events are rare, climate change is making them more common. ClimateCheck, an organization that assesses weather risks to property resulting from climate change, predicts that by 2050, Annapolis will experience an average of 1.4 inches of rain about twelve times per year—two more than the historical average of ten times.

Throughout the devastating events in Ellicott City, officials relied on multiple, contradictory methods of collecting rain data. National Weather Service radar estimated some 9.6 inches of rainfall during the 2018 flood, but some automated gauges recorded 13 to 15 inches. These inches can be the difference between minor street flooding and a National Weather Service flash flood warning.

The Mesonet is designed to eliminate these discrepancies. Towers will have the capability to measure air temperature, pressure, and humidity in addition to soil moisture and temperature up to one meter underground, giving flood-prone areas early warnings if soil will reject excess water and flood. The towers will provide uniformity in rain documentation, as they will implement the same data collection methods across different regions of Maryland.

Joey Krastel, a risk analyst at the Maryland Department of Emergency Management, explains how Maryland’s unique geography makes weather measurements more difficult. “Maryland is [a] very topographi



GRAPHIC BY TALIA EGNAL | DATA COURTESY OF NOAA

DISASTER DATA The number of tornadoes, as well as the cost of the damages they inflict, has increased in Maryland since 1950.

Mesonet. Twelve Mesonet towers should be up and running by the end of summer 2023 with the rest fully operational by 2024.

The towers will transmit data every five minutes to UMD, which will then share the data with the National Weather Service, state and county emergency management, and the national Mesonet network. The Maryland Mesonet’s towers will join 1,698 real-time stations forming mesonets in 26 other states.

satellites, improving characterization of the severity and probability of different types of weather events. “The Mesonet data... is closer to the surface [of the Earth], [so] it can help predict short-term weather,” Fiebrich says. “It can help identify... the areas that are most likely to have thunderstorms [develop]. It can help track a freezing line in the wintertime to identify if the precipitation [is] falling, [and] if it’s going to be rain or if it’s going to be sleet or if it’s going to be

Weathering the storm

BY TEDDY CURTIN AND TALIA EGNAL



ELIZA COOKE

cally and geographically diverse state, making us [one of] the hardest states in the area and maybe the country to assess risk for," Krastel says in an interview with Silver Chips. "The bay, the coastal plains, the ocean [all have] an impact on the weather patterns. We're a very big population center, so understanding our atmosphere a little better is very critical to what we do and... this monitoring system will definitely help with it."

"If there is a [weather] threat, the warning is going to come a lot quicker [thanks to the Maryland Mesonet]."

SARA BENDER

Suzanne Dorsey, Deputy Secretary of the Maryland Department of the Environment and the Chair of the Maryland Commission on Climate Change, needs novel tools like the Maryland Mesonet in order to accurately measure rainfall and send precise warnings to affected communities. "There are new weather [tools] that are being implemented across the state. [By] increasing the density of rainfall calculations, we can say, 'Oh, we had a microburst in this area, we know where that water is going to flow, [so] we're going to alert people downstream,'" Dorsey says in an interview with Silver Chips.

With more accurate tools and a better warning system, she believes the state can better serve vulnerable communities during extreme weather events beyond just flooding. Advance warning is also essential during other such severe weather occurrences like hurricanes, blizzards, and tornadoes.

Maryland is ranked third on a list of top tornado states by the Weather

Channel. Tornadoes are notoriously hard to measure: their wind speeds are intense, but they are short lived and have narrow paths that often do not intersect with wind speed measurement systems. Typically, tornadoes are evaluated based on the damage they leave behind. An otherwise deadly and destructive tornado, however, could hit a rural area, leaving little damage and its true severity underestimated.

When University of Illinois researchers looked at the National Weather Service data from 82 tornadoes, they found that many twisters were more powerful than their damage ratings would suggest. A study published in The Proceedings of the National Academy of Sciences reports that tornadoes were typically rated 1.2-1.5 categories too low.

When the average warning time before a twister is eight to ten minutes, any prior warning can help save lives, particularly in high-risk areas. The Mesonet towers are capable of precisely measuring wind speeds and transmitting that data to scientists within minutes, allowing them

to more accurately announce where a tornado is and how intense it will be.

Ultimately, senior policymakers hope that the Maryland Mesonet can provide more efficient and timely warnings during disasters due to the increased number and density of stations. "If there is a [weather] threat, the warning is going to come a lot quicker [thanks to the Maryland Mesonet] because [there's so many more] stations [and] they're so much closer

"We're a very big population center, so understanding our atmosphere a little better is very critical to what we do."

JOEY KRASTEL

together," Sara Bender, Director of Disaster Risk Reduction for the Maryland Department of Emergency Management, says in an interview with Silver Chips. "So the upfront better data [has the] ability to warn the public earlier."



Maryland's new Mesonet will improve real-time disaster response

Observations from orbit

BY SELA COLAVITO AND CALEB PLANK | ART BY SOPHIA LI

Located a 45-minute drive from Blair, the headquarters of the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA) are home to some of the world's leading climate research facilities. The federal government depends on these agencies' tools and insights to study the planet and, critically, understand the impact of human behavior on the climate for the sake of preserving the Earth's natural environment.

NASA

NASA's headquarters operates from Washington, D.C., but the agency has 10 major space flight centers nationwide working on projects that observe Earth from space, sky, and land to better understand how the systems of the planet interact. These include missions such as NASA's Plankton, Aerosol, Cloud, ocean Ecosystem (PACE) mission, which is set to

launch in 2024. According to the mission's official website, the PACE satellite will provide studies of ocean health by recording ocean color, aerosol, and cloud data from a sun-synchronous orbit.

The process of setting up projects like the PACE mission begins with scientists voicing their opinions. "[NASA] surveys... hundreds and hundreds of scientists around the world [to] determine... what they think is going to be most important [to study]," Blair alum Beth Weinstein, an Observatory Manager at the NASA Goddard Space Flight Center in Greenbelt, Maryland, explains.

Weinstein's job consists of overseeing missions like PACE and maintaining all the equipment used. "I'm in charge of the support system that supports the instruments as well as the interfaces to those and other items in the mission," she says.

Weinstein explains that the observatory team had to ask crucial questions to determine their goal. "What are the

requirements of building this mission? What is the design that meets those requirements? And then who is able to build the pieces of it that we need?" she recalls.

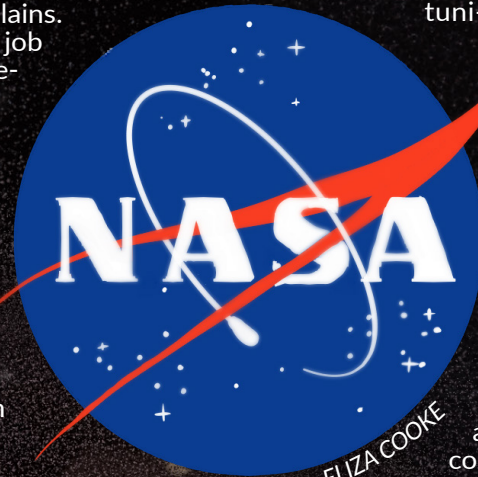
Before beginning the PACE mission, the observatory settled on the goal of investigating environmental shifts over time by examining phytoplankton, an organism that plays a central role in ocean ecosystems. The main instrument that Weinstein and her team use to view phytoplankton is the PACE satellite's Ocean Color Instrument (OCI). This tool gives

scientists an opportunity to see changes of color in phytoplankton from space. "There are thousands of different kinds [of phytoplankton] and we can see [them] from space because each one is a slightly different color in the electromagnetic spectrum,"

Weinstein describes. As the temperature of the ocean rises, the amount of phytoplankton increases, making the ocean appear more green and serving as an indicator of global warming.

Along with the OCI, the team also uses a polarimeter to survey the atmosphere through photos and data collection. "We circle the whole Earth every two days. Each orbit [lasts] 98 minutes. We are constantly scanning and taking pictures," Weinstein says.

After NASA collects the data, they publish it for researchers, companies, countries, and citizens worldwide to access. This gives everyone the resources to devise solutions to concerning trends that the data exposes. "Once scientists, govern



ELIZA COOKE

NASA and NOAA survey the sky and sea to guide climate legislation

ments, and whoever's studying or looking at the information [analyze the data], they'll put out findings that hopefully are actionable for governments," Weinstein explains. "What NASA does is... actually providing them with the data to see how our Earth is changing, how these different cycles affect each other, and what could possibly be done as a result of that."

NOAA

On Nov. 10 at 4:49 a.m., NOAA launched JPSS-2, a satellite equipped to provide a continuous stream of information about Earth's extreme temperatures and weather events, into geocentric orbit.

Greg Carbin, Chief of Forecast Operations at NOAA's National Weather Service, gives examples of recent atmospheric patterns that the agency has observed and emphasizes the new challenges it faces when it comes to predicting weather. "This season, we saw drought in the west, but we also saw a really active monsoon. A lot of thunderstorms in the southwest and in the interior mountain west [were] causing flooding situations," he says. "Even though the larger scale picture showed it was very dry and drought was a problem, you had these occasional events occurring."

At NOAA's Air Resources Laboratory (ARL) in College Park, there are a variety of climate measurement tools, including a refurbished van equipped to monitor greenhouse gas emissions. The van measures nitrate dioxide, nitrate oxide, and nitrogen dioxide—gasses that contribute to the ozone layer—as it drives around.

Additionally, the NOAA team has positioned air monitors along nearby highways that track exhaust from vehicles. Dr. Howard Diamond, di-

rector of ARL's Atmospheric Sciences and Modeling Division, explains how the lab was able to draw conclusions about the amount of carbon dioxide (CO₂) in the atmosphere over the course of recent years using these tools. "Worldwide, we put out about 38 billion tons of CO₂ a year, [but] in 2020 we put out 36 billion tons... so we could see, scientifically, these dips in traffic," he says in an interview with Silver Chips.

Beyond observational studies, NOAA scientists also simulate what the Earth will look like in the future

using computer algorithms.

According to Carbin, the radar information and surface observation

data from NOAA's satellites are fed into numerical models. "The

models are essentially just physical equations of how the fluid of the atmosphere behaves," he says.

"The algorithms that are processed by supercomputers

spit out the future state of the atmosphere, whether it's one hour in the future, 48 hours in the future, or even 100 years in the future."

With this data, the government can prepare for certain elements of climate change before they occur. The constant surveillance of the atmosphere will also ensure timely weather forecasts so that the government can take immediate action during weather emergencies.

Aside from serving the federal government, NOAA's databases also benefit the general public. The agency shares open-source information about its projects and research including well-informed statistics about the current climate situation.

As climate change becomes a political issue, information about the state of the Earth is often presented through a biased lens. Diamond speaks to the importance of having data available that reflects the sci-

entific facts. "I believe that it is essential to have completely objective information available so that both decision and policy makers, as well as the average citizen, can get such information with which to make unbiased and informed decisions about things—whether that is about what the weather tomorrow will be or how climate change is affecting the environment," he writes in an email to Silver Chips.

"NASA is a research institution and NOAA is an operational institution."

BETH WEINSTEIN

The bigger picture

While both agencies aim to understand changes in the environment and atmosphere, NOAA and NASA have distinct roles. Weinstein describes the difference between the administrations as long-term research versus day-to-day functions. "NASA is a research institution and NOAA is an operational institution," she says. "People do rely on NASA's data for their livelihood and things like that, but we're not promising the availability that NOAA's satellites need to be."

On the other hand, NOAA provides constant weather updates and information about atmosphere changes that affect citizens daily. The agency does this with satellites constructed by NASA that continuously survey the Earth.

These government organizations give leaders insight into how their decisions affect the environment and provide the basis for climate legislation. Regardless of which solutions are implemented by policymakers and touted by activists, the data that these agencies collect serve a crucial role in informing countries worldwide.



A cleaner Chesapeake

Community makes efforts toward bay conservation

BY AMEN LEMIESA AND DYAN NGUYEN

COURTESY OF THE CHESAPEAKE BAY PROGRAM

“I’m really passionate about the health of the [Chesapeake] Bay because I’m really passionate about environmental sustainability, specifically surrounding water conservation,” Brianna Akuamoah-Boateng, a junior and climate change activist at Poolesville, says. “I really feel the need to protect it from everything going on, especially with climate change and policies related to it.” Like many students, Akuamoah-Boateng has great appreciation for Chesapeake Bay but also concerns about its declining health.

The bay provides critical habitats for its 3,600 species of flora and fauna, recreational opportunities, and a key spot for fishing.

According to the Chesapeake Bay Program, the bay’s condition is a vital part of life for Marylanders, affecting 18 million people. “The Chesapeake Bay’s ecosystem impacts the quality

of the air we breathe, the water we drink, and all that,” the Chesapeake Bay Program website states.

The bountiful waters of the Chesapeake are also essential to Maryland’s economy and have been the backbone of the local seafood industry since the 17th century.

Chesapeake Crab Co., a family owned and operated restaurant specializing in blue crab caught in the bay, is one of many businesses that rely on the Chesapeake. For manager Isabelle Renzi, “[the bay] has become very important since [her] father opened shop.” Her family restaurant catches and cooks crab daily on the Delaware River, which connects to the bay, during the April 1–Dec. 15 crabbing season.

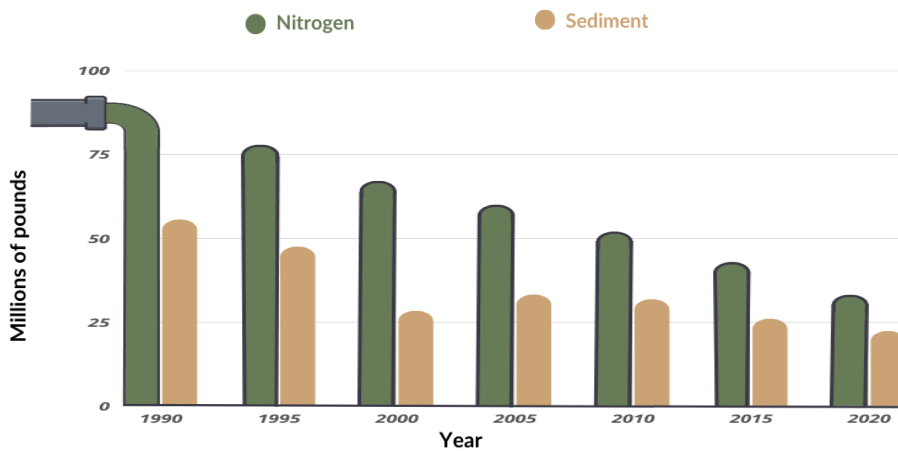
The Chesapeake offers not only economic benefits but opportunities to experience Maryland’s natural environment. “The bay provides a social

impact by giving people a place to unwind and reconnect with nature and very strong economic importance through things like the fisheries. It gives people the opportunity to fish, hunt, swim, and do all the recreational activities that make us human beings,” Akuamoah-Boateng adds.

During the COVID-19 lockdown, the bay also provided an escape for many Marylanders, including Blair English teacher Brandi Pundzak. “We used to go out a lot on [a friend’s] boat... especially during the pandemic,” Pundzak says. Unfortunately, during her many boating trips, Pundzak saw visible evidence of the bay’s declining health, including rising water levels and debris like dead fish and trash.

A survey conducted by the Chesapeake Bay Program from 2018–2020 highlights a drop in water quality from 33.1 percent to 29.6 percent, with

Nitrogen and Sediment Content in the Chesapeake Bay



GRAPHICS BY AMEN LEMIESA AND DYAN NGUYEN
DATA COURTESY OF CHESAPEAKE PROGRESS

improvements in water quality necessary for more than 70 percent of the bay’s estuaries. Cole Amaral, a junior sailor at Blair, echoes Pundzak’s frustrations around the bay’s health. “I see dead fish floating by all the time. I see trash. It’s really dirty. It’s muddy and brown. It’s just overall disgusting,” he says.

The Chesapeake Bay’s cleanliness has been a concern for decades due to factors such as pollution, overfishing, and habitat destruction. Jake Solyst, a Communications Specialist at the Chesapeake Bay Program, emphasizes that the effects of agricultural runoff are significant and detrimental to the health of the Chesapeake. “A significant portion of the pollution that comes to the Chesapeake Bay comes from agriculture, so we help farmers put in practices that reduce runoff that comes from their land,” he says.

Federal and state programs spent a total of \$1.7 billion during the 2022 fiscal year toward the entire watershed’s conservation. In May 2022, the EPA announced \$25 million for the Chesapeake’s restoration through the National Fish and Wildlife Foundation, split between reducing nitrogen and sediment pollution and protecting native oysters, blue crabs, and other keystone species.

However, money is only part of the answer. The bay also needs volunteers who want to help protect and restore the natural habitats and resources in its watershed.

Volunteer opportunities include, but are not limited to, watershed cleanups with local organizations—such as the Alliance for the Chesapeake Bay—that regularly host cleanups in the community. Education and

outreach opportunities also exist, such as the Chesapeake Bay Foundation’s Volunteer as Chesapeake Stewards program, through which volunteers teach schoolchildren about the bay’s ecology and inform the public about conservation efforts and ways to reduce pollution.

Other organizations offer further watershed cleanup opportunities. “The Alliance at the Chesapeake Bay has something called Project Clean Stream [where] you host your own cleanup [and work on] a stream with a bunch of litter,” Solyst says.

Knowing where to start can be overwhelming for volunteers, but Akuamoah-Boateng highlights where her volunteer work began. “I got in touch with a lot of opportunities for environmental sustainability, and [after] I heard about the Chesapeake Bay Foundation, I started working in their student leadership program which has given me a lot of tools and opportunities to grow.”

Just a mile south of Blair’s campus lies the nearest volunteer opportunity, Sligo Creek. During the annual Sweep the Creek initiative, hundreds of locals gather to walk the eight-mile length of Sligo Creek to help clean it up and safeguard its water and wildlife. Sligo Creek and local streams all connect to the bay, so efforts to ensure their health will eventually trickle down to the Chesapeake.

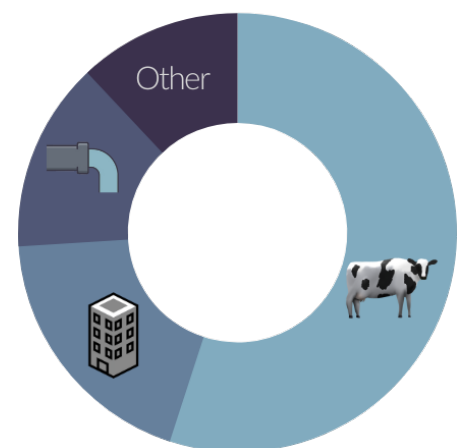
Blair biology and horticulture teacher Courtney Mason has participated in Sweep the Creek and encourages others to do the same. “All of the creeks around us end up eventually in the Chesapeake Bay. We can have an impact by doing local cleanups and participating in [projects like Sweep the Creek],” Mason says.

Volunteering for local initiatives is not the only way individuals can help the bay’s health. Every year, hundreds of millions of pounds of fertilizer is applied to lawns throughout the watershed. As a result, the bay and its tributaries frequently suffer from poor water quality due to excess particles found in runoff fertilizer, such as nitrogen, phosphates, and sediments.

According to Environment Maryland, states in the Chesapeake watershed will need to lower nitrogen levels in bay waters by 30 percent and phosphorus by eight percent to achieve a clean, sustainable Chesapeake. To reach such reductions, homeowners should abide by blackout dates for applying fertilizer, avoid using excessive amounts, and plant more trees and shrubs to catch runoff.

Raising awareness and volunteering to protect the Chesapeake is essential to preserving the natural environment that the community cherishes. “I think a lot of people, even if they don’t know it, move to this area, live in the area, enjoy this area, because of the water...” Solyst says, “whether that’s actually going out on the water, kayaking, looking at the wildlife, or just driving past it.”

2021 Sources of Nitrogen/Sediment pollution in the Chesapeake bay



- Agriculture (55%)
- Development (19%)
- Wastewater (14%)
- Other (12%)

GRAPHIC ART BY ALEXANDER LIU

La comida en efecto

La comunidad latinx en relación con la comida rápida y orgánica

POR ESTEFANY BENITEZ GONZALEZ

Según la definición del Departamento de Agricultura de los Estados Unidos (USDA), cuando un alimento es orgánico, se cultiva sin usar ciertos tipos de químicos o aditivos. Los alimentos orgánicos procesados contienen sólo ingredientes orgánicos (o al menos el 95% de sus ingredientes son orgánicos). En los Estados Unidos, las tiendas de comestibles locales ofrecen algunos productos con un sello del USDA, lo que significa que el producto es orgánico.

También hay productos "saludables" que consumen las personas en los Estados Unidos que no tienen que estar etiquetados como orgánicos. Si bien hay alimentos orgánicos o "saludables", según el CDC (Centro para el Control y la Prevención de Enfermedades) ha informado sobre la salud de los residentes de los Estados Unidos y dentro de estos informes revelaron datos sobre la población hispana. Estos informes se basan en el resumen del año 2021, cuando la población hispanos/latinos era de 62,1 millones de, es decir, el 18,7 por ciento de la población total. Se informó que el 44,8% de los hombres y el 46,8% de las mujeres mayores de 20 años en los Estados Unidos son hispanos con obesidad.

Una nutrición sana y equilibrada se ha visto afectada por muchos factores en la comunidad Latinx que ahora se reflejan a través de los informes realizados por el CDC. Muchos inmigrantes latinos/hispanos necesitaban un mejor entorno o una forma de vida económica. Con esta necesidad,

muchos deciden perseguir el sueño americano. Lamentablemente, esto significa que se ven obligados a decirle adiós a la nutrición orgánica, barata y accesible.

En los Estados Unidos se ha estimado que habrá alrededor de 199,755 negocios de restaurantes de comida rápida en 2023. En Langley Park, un área concentrada en Takoma Park, Maryland, hay aproximadamente 17 restaurantes de comida rápida. Martina Villatoro, residente de Silver Spring, Maryland y originaria de El Salvador, trabaja en el campo de la construcción. Villatoro comenta que "Diría que es una gran diferencia cuando yo vivía en El Salvador, vivía en un pueblo fuera de la ciudad y por eso lo que comía era muy orgánico. Para empezar, teníamos una finca detrás de la casa donde tenemos maíz, frutas, limón, tomates, todo, hasta gallinas por huevos". Aunque Martina describe su experiencia de hace 16 años, visita a su familia y aún cuenta cómo su familia continúa proporcionando nutrientes de esta manera.

A pesar de que en sus países no siempre tienen muchos recursos para comprar alimentos, siendo esta una de las muchas razones por las que muchos vienen a los Estados Unidos, se pueden hacer tales comparaciones de nutrientes, dejando al descubierto que la alimentación en sus países de origen suele ser más saludable.

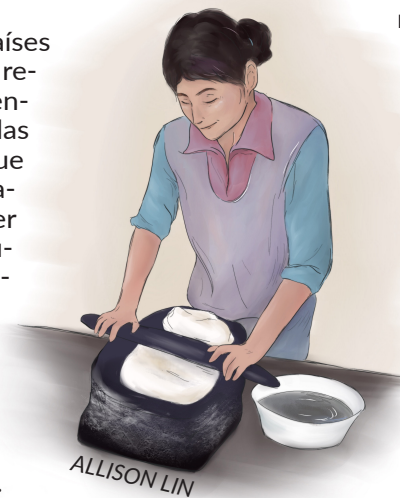
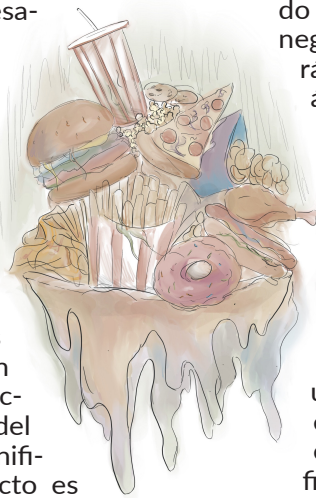
Cuando muchos inmigrantes vienen de otro país, no siempre pueden comenzar un jardín. Muchos comienzan sus vidas en Estados Unidos en un complejo de apartamentos. Este cambio de dieta se refleja con el tiempo. De acuerdo con los informes que ha realizado el CDC, los recién llegados pasan por

varias transiciones, desde aprender sobre muchas sucursales nuevas de comida rápida hasta comprar alimentos en una tienda de comestibles local.

Según el CDC, entre 2013 y 2016, el consumo de comida rápida fue mayor entre los adultos afroamericanos (42,4 %) en comparación con los adultos blancos (37,6 %), los asiáticos (30,6 %) y los negros. Los adultos hispanos consumieron un 35.5% de comida rápida.

El consumo de comida rápida en los últimos 30 años ha aumentado, lo que podría ayudar a explicar por qué los problemas de salud relacionados con esta se han vuelto más comunes. Martina nos cuenta su razón para comprar comida rápida, "Pero aquí tienes que trabajar hasta tarde y a veces no tienes la opción de cocinar, así que muchas veces tengo que comer fuera, como en el restaurante la Pupuseria Vanessa, un puesto de comida que es muy similar a la comida que cocino en casa, pero a veces pido comida de McDonalds, especialmente para el almuerzo, eso me da un poco de energía, pero no creo que sea saludable".

La implementación de ingredientes orgánicos en la industria de comida rápida ha mejorado mínimamente. Sin embargo, por ahora, lo que impulsa todo esto es la economía, poniendo en desventaja a la comunidad latinx, que tiene que ahorrar en gastos aunque esto signifique perjudicar la salud.





CORTESÍA DE JANET RUMBLE

Mercados en combate con el cambio climático

POR
AXEL HENRIQUEZ

Imagina que eres el planeta. Has estado dando vueltas alrededor del Sol por lo que se siente como mil millones de años. Sin embargo, recientemente te sientes un poco más caliente de lo normal, como si tu temperatura hubiera aumentado treinta y tres grados Fahrenheit más de lo que fue 200 años atrás. Esto es, exactamente, lo que está sucediendo con nuestro planeta.

Según el Departamento de Agricultura de Estados Unidos, que es encargado de desarrollar y proteger las leyes federales relacionadas con la agricultura, la silvicultura, el desarrollo económico rural y la alimentación, la agricultura representa aproximadamente el 11.2% del carbono producido en los Estados Unidos en 2020, siendo el quinto grupo más grande en la producción de carbono en los Estados Unidos.

Una razón por la que puede haber niveles tan altos de polución en la agricultura es que, a diferencia de otros productos, la comida solo se puede usar una vez y muchas veces se des-

perdicia.

Bien existen personas que no creen en el cambio climático, también hay grupos que se dedican a mejorar este aspecto del mundo. Cada día hay acciones que se pueden implementar para ayudar al planeta. Esta es una de las ideas de un mercado de agricultores: Crear un lugar donde las frutas y verduras son más frescas ya que vienen directamente de la granja local. Según la universidad de Columbia, algunas razones para ir a un mercado de agricultores es que “El argumento más básico de por qué la comida local es mejor para el medio ambiente es que viaja una distancia más corta para llegar a ti”.

Lauren Goldberg, la directora ejecutiva de Crossroads Community Food Network, está encargada del mercado de agricultores en Langley Park, abierto de 10:30 am a 2:30 pm todos los miércoles de abril a noviembre y que vende comida de granjeros de menos de 125 millas.

Las personas que van al mercado de crossroads son mayormente inmigrantes, especialmente de Latinoamérica. Esto es lo mismo para los vendedores. Algunas formas en que el mercado de agricultores ayuda a la comunidad es “aceptamos WIC y Snap para aquellas familias que lo tienen, e igualamos dólar por dólar para que los consumidores tengan más poder adquisitivo” explica Goldberg.

La razón por la que el mercado de agricultores solo está disponible de abril a noviembre, según Lauren, “es porque mucha de la comida es de la temporada.” Lauren abandonó la idea de cambiar el mercado a la tarde “Tratamos de tenerlo en la tarde, pero no tanta gente vino como se esperaba”.

Cuando uno mira en las fotos del mercado de agricultores, se observa

que no solo es un mercado de donde las personas van a comprar comida orgánica, sino también es un lugar en donde uno puede divertirse con muchas oportunidades para que las personas hablen y pasen el rato al aire libre.

Otra forma que el mercado de agricultores ayuda a las comunidades es que les da la oportunidad de probar la comida de nuevos lugares, y les da a las personas más oportunidades para obtener la comida más fresca y que tiene más nutrientes.

Las principales ventajas de comprar en un mercado, en comparación a un supermercado, de acuerdo a Goldberg, son que “el dinero no va a una compañía de la que no conoces el motivo y en cambio, va a alguien que va a ayudar a su comunidad”.

La forma más importante en que un mercado de agricultores es bueno para el planeta, según Goldberg, es que “Cuanto menor sea la distancia que recorra el alimento, mejor para la planta”. Goldberg recomendó que los estudiantes se involucren en el mercado de agricultores, explicando que, “les dan las oportunidades para obtener sus horas de servicio comunitario. Solo necesitas registrarte en línea”.

Aunque el problema del calentamiento global es serio, lo mejor que se puede hacer es tratar de minimizar su efecto para las generaciones futuras y una forma de hacer esto es yendo a mercados de agricultores.

No es un problema que pueda ser solucionado individualmente, sino que se debe solucionar por todos poniendo de su parte. Cuantas más personas intenten vivir su vida de forma más ecológica, más posibilidades habrá de que se mejore el planeta.

CULTIVATING THE FUTURE

BY MANDY GUO AND ELIZA WARREN

Charles Koiner passed away in 2019 at the age of 98, but left behind a legacy of creating one of the first urban sustainable farms in Silver Spring. Even after Koiner's passing, his passion for farming continues to benefit the local community.

Koiner was a Maryland native who, in 1979, began farming on the acre of land in his backyard, now coined Koiner Farm. The farm continues to operate and provide vegetables to the community today through a conservation easement—a legal agreement with the government that guarantees private property rights—established by the Charles Koiner Conservancy (CKC) in 2019.

Koiner Farm is not the only farm of its kind anymore. With just over six years until climate change becomes irreversible, farms that share Koiner Farm's sustainable agriculture model have emerged as a possible path toward a greener future.

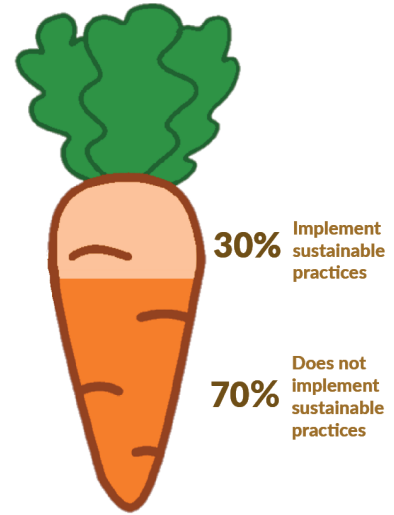
Agriculture as a whole began approximately 12,000 years ago when humankind first shifted from living in small hunter-gatherer tribes to more advanced and permanent farming societies. However, in recent centuries, traditional agriculture has transformed into an industry of mass production, leading to a slew of environmental consequences.

The farming industry's use of fertilizers increases nitrous oxide in the atmosphere, contributing to the greenhouse gasses that cause global warming. Excess water from farms—known as runoff—contains significant levels of nitrogen-filled fertilizer that microbes break down, releasing nitrous oxide into the atmosphere in the process. Additionally, traditional farming lowers soil quality through tilling, which physically breaks up dirt and causes it to release the carbon it had previously kept sequestered into the atmosphere.

Due to these drawbacks, sustainable agriculture—an alternative approach to farming which aims to meet the world's current needs while protecting the land for future generations—has become increasingly popular.

Summer Roark, the Science Department Chair at Blair, explains how sustainable farming benefits the Earth and its inhabitants by reusing natural chemical com-

Implementation of sustainable farming practices on U.S. farms

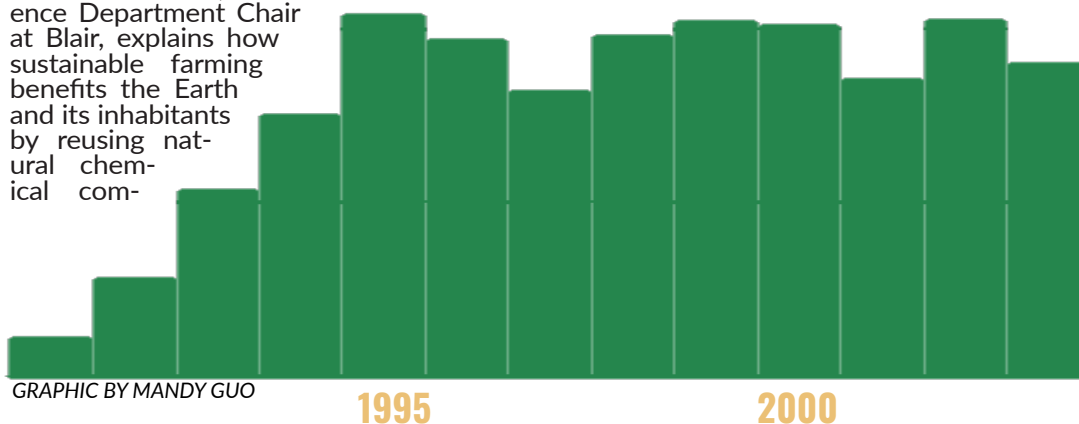


pounds. "Sustainable farming... allows farmers to compost and put nutrients [that they do not otherwise use] back into the land," she says.

Koiner Farm utilizes composting to maintain its sustainability. The farm operates a community composting program through which neighbors can deliver their compost to the farm whenever they like. Composting also cuts down on methane emissions, which account for 16 percent of all global greenhouse gas emissions, by decreasing the amount of waste that would otherwise end up decomposing and generating methane in a landfill.

However, Koiner Farm has experienced difficulties with its composting program because rodents have been attracted to the smell of decomposing food. "If [the rodents are attracted to the farm because of the smell], even if they can't get into a compost bin, they're just [going to] go into your garden beds," Kate Medina, the Executive Director of CKC, explains in an interview with Silver Chips.

To solve this issue, Koiner Farm uses a popular sustainable agricul-



ture technique called bokashi, which originated in ancient Korea and was perfected in Japan. Instead of relying on chemicals, bokashi uses a bacteria called *Lactobacillus* to ferment compost so that it is no longer appealing to rodents. “Bokashi saves us from [attracting rodents] because it’s a fermentation process [and deters rodents],” Medina explains.

Composting is just one example of how Koiner Farm practices regenerative agriculture—a type of farming that many sustainable farms use to improve soil quality. Such farms focus on utilizing the natural characteristics of their land rather than using chemical pesticides and fertilizers to optimize their food output. “We have to really maximize the growth potential of our small space, so regenerative farming helps us do that by ensuring that nutrients remain [in the soil],” Medina says.

Keeping its soil healthy also furthers Koiner Farm’s positive effect on the environment and makes it a carbon sink—any system that absorbs more carbon than it releases. “[Maintaining nutritious soil] has a huge climate impact... sequesters more carbon... and [creates] a carbon sink for pulling carbon out of the atmosphere,” Medina explains.

J. Arbuckle, a professor of sociology at Iowa State University and a director of the Iowa Farm and Rural Life Poll, believes that agriculture will only support future generations if current farmers refrain from farming techniques that damage the environment. “We desperately need to get away from using fossil fuels because of climate change, so any system that relies on degrading soils [or] degrading the atmosphere is really [pushing] future generations to an unstable society,” he says in an interview with Silver Chips.

Arbuckle also shares how unsustainable agriculture can lead to water pollution. “The primary crops that are grown [in Iowa are] corn and soybeans, and those are very prevalent across the U.S.,” he says. “Corn uses a lot of fertilizers and pesticides, which can and do find their way into ways and water quality issues.”

The pesticides can also harm pollinators such as butterflies and honeybees, which are essential to the ecosystem, by damaging flowering plants.

Another popular regenerative farming method that Koiner Farm utilizes is crop rotation—the practice of planting different crops on the same plot of land over time. Crop rotation benefits the productivity and sustainability of farms because it increases soil fertility and health, allowing for a higher yield of crops without pesticides.

“Any system that relies on degrading soils [or] degrading the atmosphere is really [pushing] future generations to an unstable society.”

J. ARBUCKLE

“One thing that we know and [has] been known for millennia is that rotating many different crops in the same field over a period of years reduces risk of breaking pest cycles, reduces weed pressure, [and] increases soil health because you have lots of different kinds of plants treating lots of different kinds of bacteria,” Arbuckle explains.

He also details how crop rotation can have a more positive impact on farms and the environment compared to monoculture, which is the consistent cultivation of only one crop on a plot of land. “When you have large monocultures in the same field year after year, that makes it vulnerable to a lot of things, particularly pests and diseases. When [pests and diseases] arise, oftentimes the way we deal with that is by spraying chemicals that are toxic to those pests,” Arbuckle says. “But over time, those pests can build up resistances to those and so then they have to figure out other ways to [get rid of the pests] or spray more [chemicals],” he continues.

Koiner Farm also features high and low tunnels—cylinder-shaped structures with fabric or polyethylene plastic covers—to protect

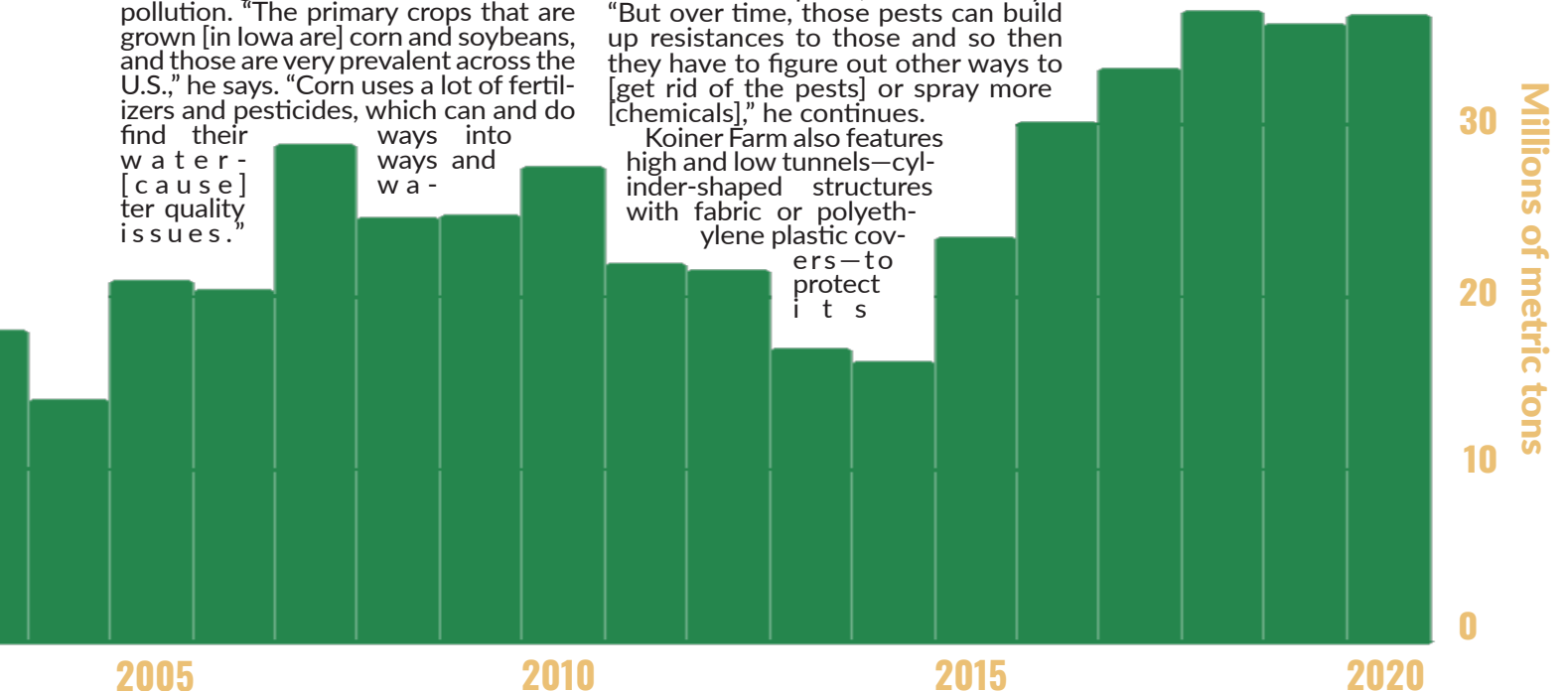
crops from insects and provide a healthy growing environment. These tunnels create miniature greenhouses for crops and warm the soil beneath them, allowing for the crops to grow through colder weather.

A study done by the Virginia Cooperative Extension, an agricultural outreach program run by Virginia Tech, Virginia State University, and the U.S. Department of Agriculture, showed that the tunnels allowed for increased yield in an eco-friendly manner and improved soil health while freeing farms from using insecticides.

Koiner Farm, in addition to being more climate-friendly than a traditional farm, may also be more profitable. A Forbes Magazine study reported that sustainable farms can generate up to 78 percent more income than traditional farms long-term because they require less external input such as fertilizers and pesticides and can market their products at a higher value due to their environmental and health benefits.

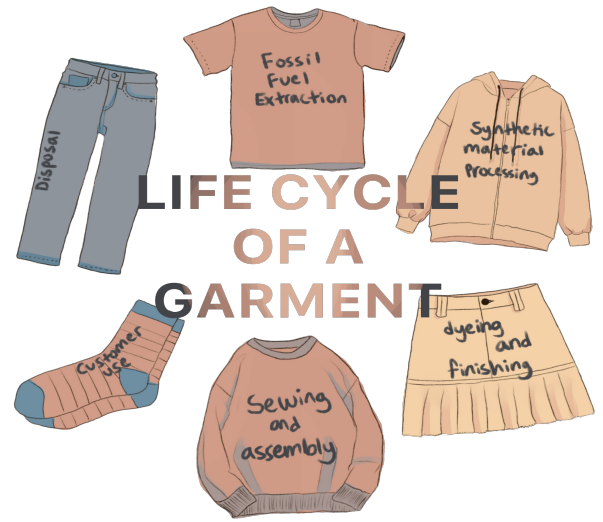
Roark holds the opinion that farms could not only benefit from partaking in sustainable agriculture, but that Blair could too. “[Blair has] enough land here that we could be growing our own [food] and we could start farming,” she said. “We [wouldn’t need to] bring in food [for] the cafeteria anymore [because Blair students] could cook [and sell what they grew]. We could have a farm stand.”

U.S. METHANE EMISSIONS FROM AGRICULTURE COMPARED TO 1990 LEVELS



A fashionable facade

BY JULIA LIAN AND SOPHIE YOHANNAN



The deception and ambiguity surrounding sustainability in the clothing industry

Green. Eco-friendly. All-natural. Sustainable. Organically made. 100 percent recycled materials. These buzzwords decorate countless tags and labels in clothing aisles today. But what do they actually mean, and can shoppers trust their legitimacy?

The fashion industry has seen growing interest in environmentally-conscious clothing, especially in the last decade. Consumers want to buy clothes that are less harmful to the planet, and many brands appear to have hopped on board. But not all of these companies put their money where their mouth is. The incentives of profit and public approval have given rise to a phenomenon known as “greenwashing”: the deceptive practice of advertising an exaggerated degree of eco-friendliness.

Although many companies do not clearly communicate what qualifies their products as eco-friendly, “green” clothing generally refers to garments that are produced without harmful chemicals or dyes and are made of recycled or natural materials such as cotton, linen, and wool. Unfortunately, most of the clothing made today falls short of these standards: polyester, nylon, and other synthetic materials account for 62 percent of fabrics used in garments.

One company that has made tangible steps toward fashion sustainability is outdoor apparel brand Patagonia. Audrey Stanton, a freelance writer

covering topics such as mental health and climate change, explains that there are still trustworthy brands out there. Stanton considers Patagonia a “beacon of hope within the fashion industry,” as the company provides lifetime repair guarantees, is working toward using 100 percent renewable and raw materials in its clothing, and exclusively uses renewable energy to power its U.S. stores.

“[They are] just trying to hide the real issue that is going on, which is overconsumption and consumer-based holidays and consumer-based society.”

NIA ROBERTSON

Patagonia made headlines this past September when founder Yvon Chouinard and his family transferred their ownership of the company to a climate change-focused trust, dedicating all company profits to the fight against climate change in a letter titled “Earth is now our only shareholder.” In addition to Patagonia, brands such as Reformation, Levi’s, Girlfriend Collective, and Eileen Fisher are also working to minimize their carbon footprints.

These companies not only support green organizations and produce more sustainable clothing, but

also provide specific facts and claims about their brands unlike most fashion companies. Furthermore, they often go the extra mile by powering their stores with renewable energy and communicating transparently about their supply chains and practices.

Meanwhile, brands like Lululemon and Pretty Little Thing, as well as H&M and Zara—the two apparel manufacturers with the highest sales in the world—tend to make vague or hyperbolized claims about their sustainability and often back them up with little to no evidence. For example, H&M was recently sued for making inaccurate sustainability claims about their Conscious Choice line and clothing recycling program. Conscious Choice garments, which H&M claims to be made with “at least 50 percent of more sustainable material,” have been accused of including up to 100 percent polyester.

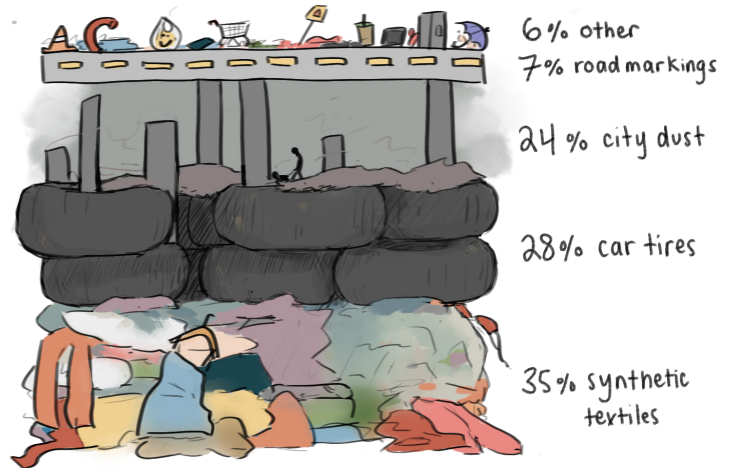
H&M also touts its use of recycled polyester from Polyethylene Terephthalate (PET) bottles, despite the fact that converting bottles to textiles reduces the number of times they can be recycled and ultimately accelerates the plastic’s path to the landfill.

Although it may seem difficult to determine whether brands are truly environmentally conscious or simply printing appealing claims on their tags, there are many telltale signs of both genuine sustainability and greenwashing. Companies tend to be



TEXTILES The number of textiles that are generated each year compared to the number that end up in a landfill each year nationwide.

MICROPLASTICS Synthetic textiles make up 35 percent of microplastics in the ocean.



GRAPHICS ART BY MIA LEVINGS AND MINA RICOTTI | DATA COURTESY OF TEXTILE VALUE CHAIN, EARTH.ORG, AND THE IUCN

more reliable “if [they] get more specific about the breakdown of the fabric content and how it’s made, where it’s made, and more details,” Stanton explains.

Additionally, certifications from organizations such as B Corporation or Fairtrade are usually signs of a legitimately sustainable brand. These organizations all implement extensive criteria through brand assessments, agricultural practice evaluations, and information transparency.

On the other hand, brands often greenwash by promoting buzzwords like “eco-friendly,” “recycled,” or “sustainable” without using evidence or statistics to back them up. “If a brand is really vague with their wording, then they’re probably not telling you something,” Stanton explains.

Furthermore, sustainable clothing lines are usually marketing tactics that lead consumers to believe that brands are eco-friendly, but specific ranges of clothing are often a minuscule portion of a company’s inventory and do not negate the environmental consequences of its regular collections. Meanwhile, companies with genuine motives work to ensure all of their clothing is sustainable.

Many brands also market their “eco-friendly” packaging instead of cutting down on unsustainable clothing. Because packaging accounts for such a small percentage of a company’s total production, changing it is an easy fix that customers will see when

they buy. However, labels don’t acknowledge that packaging accounts for a negligible portion of the entire fashion industry’s footprint.

Thus, it is no surprise that the fashion industry is a huge contributor to greenhouse gas emissions, responsible for an average of 10 percent of all emissions annually according to the World Economic Forum. According to CNN and Fashion Revolution, dyeing clothes causes 20 percent of all water pollution while synthetic textiles account for 35 percent of microplastics found in the ocean.

The production of artificial textiles requires harmful chemicals, such as formaldehyde and dioxane, which are known hormone disruptors and carcinogens. In addition, clothing production has doubled since 2000 to keep up with rising demand while the number of times that consumers are wearing each piece of clothing has decreased by 36 percent.

Although these statistics may seem grim, new sustainable fashion trends and innovative technologies could help steer the industry to be more climate conscious. In 2020, California company AirCarbon discovered a way to create carbon-negative leather, while other companies have experimented with living algae to create clothing that sequesters carbon dioxide from the environment.

Consumer habits also play a role in environmentally friendly fashion. According to CNBC, thrifting, for ex-

ample, has skyrocketed in popularity in recent years, thanks in large part to teenage shoppers. Not only has thrifting gained attention for its vintage style, it also reduces demand for new garments by keeping old clothes out of landfills. Online resale platform Thredup reports that the secondhand clothing market is expected to grow 127 percent by 2026 as a result of thrifting’s recent increase in popularity.

Senior Nia Robertson acquires most of her clothes from secondhand stores and is skeptical of many clothing brands’ claims to be green. “[They are] just trying to hide the real issue that is going on, which is overconsumption and consumer-based holidays and a consumer-based society,” Robertson contends. “Until I think I see some actual numbers and some actual impact on our environment... that these particular initiatives may have, then I don’t really trust them at all.”

There is no cure-all to the fashion industry’s environmental offenses, and no company is perfect, but there are practices that brands can adopt to limit their carbon footprint, such as producing garments of higher quality and lower quantities and adopting legitimately sustainable materials. “There is no one silver bullet to this problem,” Stanton says. “I think if companies can be constantly trying to push themselves... that gives me confidence in those companies.”



ABJINI CHATTOPADHYAY

Canary in a coal mine

D.C.'s Ward 5 bears a disproportionate burden in the climate crisis

BY **ANDRE PARKER AND KYLA SMITH**

“A Brentwood neighbor that I talked to said ‘I haven’t opened [the] windows to my home in over 10 years,’ and that is in part because of the air quality and the stench,” Washington, D.C. Ward 5 Councilmember Zachary Parker says. While areas of D.C. with greater proportions of Black Americans and other minorities have dealt with environmental hazards like poor air quality for decades, wealthier and whiter sectors are spared the brunt of industrial zoning and pollution.

An October 2021 study published in the journal *GeoHealth* finds that majority-Black neighborhoods in east and southeast D.C. like Brentwood, Eckington, and Ivy City see more than four times as many deaths from ailments like stroke, lung cancer, and heart disease stemming from air pollution compared to wealthy or west D.C. neighborhoods like Capitol Hill, Chevy Chase, and Georgetown. This study attributes health risks in these boroughs to increased levels of PM2.5, which refers to atmospheric particulate matter (PM) that has a diameter of less than 2.5 micrometers and reveals that the people most impacted by PM2.5 air pollution in Washington, D.C. are those living in wards 5, 7, and 8—three of the four majority Black wards in the city.

Much of northeast D.C.’s Ward 5 is devoted to commercial and industrial interests. The historically Black neighborhood of Brentwood alone houses a garbage truck company, a recycling center, and an asphalt plant. “Ward 5 for a very long time has had much of that [industrially-zoned] land, which means we have more factories, we have more businesses, we have more concrete and the like,” Parker explains. “We shoulder the majority of the city’s industrial space, which bears consequences for climate health in our ward.”

For instance, D.C. Mayor Muriel E. Bowser’s 2021 plan to construct a bus terminal would have spanned four acres across the 1600 block of W Street and house 230 buses in Brentwood. In October that year, Brentwood residents sued the district, arguing that the plans would further burden the neighborhood, which already suffers from environmental dangers.

This lawsuit is reminiscent of a 2012 case against D.C. in Ward 5’s Ivy City, where the city planned to build a tour bus depot. Activist group Empower D.C. filed the suit, claiming the depot would threaten residents’ health. The judge ultimately ruled in favor of Empower D.C.

As such, Ward 5 has for decades

been consigned to host Washington, D.C.’s industrial projects. “I do agree that Ward 5 historically has been a dumping ground, and... I want to see us expand the industrial space equitably across the city,” Parker says.

Ward 5’s racial demographics reflect the idea that poor or Black communities should endure the city’s industrial demands at the cost of their citizens’ health. “We know in this city that Black residents have a shorter life expectancy, and these types of factors contribute to that: air quality [and] noise and light [pollution],” Parker says.

In addition to these types of pollution, the impact of Washington, D.C.’s heat has also become more severe. According to the National Oceanic and Atmospheric Administration (NOAA), D.C.’s summer days in 2021 saw an average temperature of 79.5 degrees Fahrenheit, marking a notable increase from 2001’s average summer temperature of 76.5 degrees—a three-degree jump in just 20 years.

“[Ward 5 shoulders] the majority of the city’s industrial space which bears consequences for climate health in our ward.”

ZACHARY PARKER

While all of D.C. is impacted by hotter weather, some areas known as urban heat islands—places where an overabundance of buildings and pavement absorb and reflect the sun’s rays—see temperatures up to 20 degrees higher than those of greener neighborhoods nearby. Conversely, places with more trees and green space are better suited to handle extreme heat.

In D.C., neighborhoods like Ivy City are greatly impacted by this phenomenon due to the excess urban development and lack of natural spaces within their borders. “You will see the urban heat island effect amplified as a result of systemic issues and long-term planning or lack of planning in certain areas,” University of Maryland Assistant Professor Maria Molina explains.

Of D.C.’s top 20 heat island districts in 2021, seven were in Ward 5. Although Wards 7 and 8 are not considered the hottest districts, they remain the most vulnerable to the negative effects of heat due to socioeconomic factors including unemployment, age, and income.

“In D.C., we were surprised by the clear boundary between green spaces and developed areas. The National Arboretum and areas of Ivy City and Brentwood contain a difference of 10 [degrees Fahrenheit] within just a few city blocks,” Vivek Shandas, a Portland State University professor who co-led a project for NOAA mapping temperature data in D.C. and Baltimore, told the *Washington Post* in a 2018 article. He emphasized that excess asphalt and concrete such as that found in Ivy City’s many roads, parking lots, and buildings is the greatest factor contributing to the urban heat island effect.

There have been temporary solutions for dealing with heat islands, such as building cooling centers with water features around the district for residents to escape the heat. While Parker acknowledges those programs, he continues to advocate for taking a sustainable approach for Ward 5 to address its issue with heat islands.

“We have to plant more trees; we have to have more malleable concrete and sidewalk pavements... Ward 5 has lost the greatest amount of green space [of all D.C. wards] over the last 10 years,” Parker says. “A large part of that is due to the development that has happened in our ward, and so we have to compensate as we’re building more and developing across the board that we’re accompanying that with more parks and green space entries.”

According to Preshona Ambri, Coordinator of D.C.’s Environmental Justice Coalition, because climate change impacts areas that face environmental injustice harder, some residents feel they do not have the resources to adequately respond to these events. “Many folks don’t know what to do. I’ve been one of them. I know community members who have tried even reaching out to the city, to the city officials, or via 311, for example, to file complaints that are going on in the neighborhood... [and] not [receiving] the response that actually supports their community,” she says.

Ambri believes that policymakers have the responsibility to address the immediate concerns of constituents disproportionately affected by climate change. “Listen to people who are impacted. People aren’t just here wanting to be heard for no reason—if they’re complaining, it’s because it’s a lived experience,” she says. “Acknowledge that they’re not a burden—they’re actually your responsibility.”

Are disruptive climate protests effective

PRO



BY DELLA BAER
AN OPINION

In 1914, suffragette Mary Richardson pulled out a meat chopper at the National Gallery in London and approached Diego Velázquez's painting "Rokeby Venus," slashing the canvas multiple times to protest the arrest of suffragette leader Emmeline Pankhurst. In October 2022, more than a century later, two climate activists with the organization Just Stop Oil echoed Richardson's act of defiance by throwing tomato soup on Vincent van Gogh's painting "Sunflowers" in a demonstration against new fossil fuel licensing.

Climate change is a unique social issue which will eventually affect everyone on the planet, and disruptive protests have been key components of social movements throughout history. They will once again prove an essential tool in the fight against the climate clock.

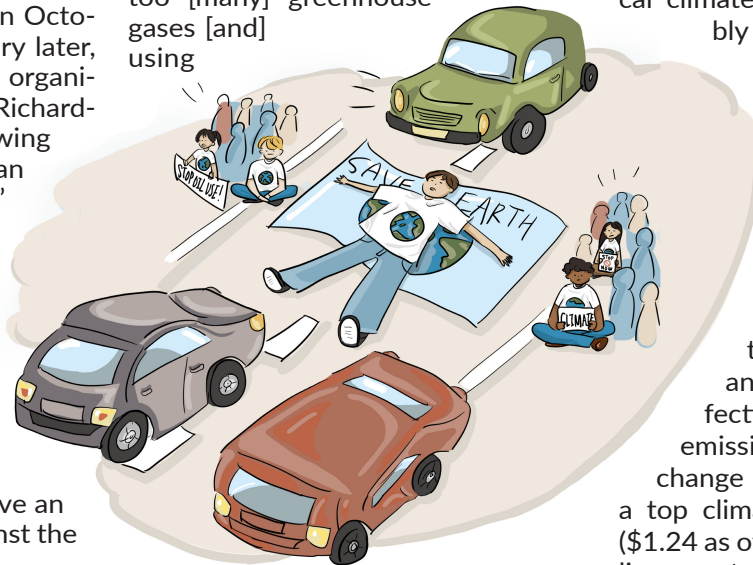
According to the United Nations Intergovernmental Panel on Climate Change, global temperature rises will exceed two degrees Celsius within the coming decades unless greenhouse gasses are vastly reduced, resulting in more frequent extreme weather events such as floods, hurricanes, and heat waves.

The two degree rise will also cause a drastic rise in sea levels, directly impacting the four million people living in U.S. coastal cities. However, immediate efforts could prevent temperatures from rising upward of four degrees Celsius, and disruptive protests

serve as a crucial call to action.

Throwing soup on paintings is, of course, not the only form of disruptive demonstration. Declare Emergency is a part of a global coalition of climate organizations including Just Stop Oil that engages in other types of radical climate demonstrations within the U.S. Many of Declare Emergency's actions involve protestors blocking roads and holding up banners demanding that President Joe Biden declare a climate emergency.

Nora Swisher is a volunteer with Declare Emergency who has been involved in multiple D.C. demonstrations. Swisher explained that more traditional, lawful forms of climate protest have not proven effective at curbing emissions. "Environmentalists and related campaigns have been [protesting lawfully] for decades... and we're still emitting way too [many] greenhouse gases [and] using



fossil fuels," she said in an interview with Silver Chips.

After Declare Emergency's July 4 demonstration, which blockaded the Capital Beltway's inner loop at the Colesville Road exit, Fox News anchor Jesse Watters interviewed a member of the organization live on national television. While Watters portrayed Declare Emergency as villains, organizers were pleased with the national attention. "They read our statement in its entirety on air to millions of viewers, so we considered that a win," Swisher said.

Locally, the Silver Spring chapter of Sunrise Movement, a national youth climate organization, engages in activism to advocate for social and environmental justice. On June 28, 2021, Sunrise activists blockaded the White House entrance to pressure Biden to pass climate legislation.

Blair alumna and former Sunrise Silver Spring co-coordinator Celeste Basken believes that disruptive climate protests can be a way for young people to garner political attention for their cause, as they lack other options for civic engagement. "[Sunrise] is known for these big attention-grabbing initiatives to try to get people to pay attention to the climate movement, especially because a lot of the people involved are kids [who] aren't necessarily even old enough to vote."

Research also supports that radical climate protests are demonstrably more effective than less disruptive alternatives.

When nonprofit, Social Change Lab compared radical climate organizations to climate charities, they concluded that Extinction Rebellion and Sunrise, two radical climate organizations, were respectively 12 and six times more cost-effective at reducing carbon emissions by impacting policy change than Clean Air Task Force, a top climate charity. For every £1 (\$1.24 as of Jan. 28) Extinction Rebellion spent on advocacy, the organization effectively prevented the release of 13 metric tons of carbon dioxide.

In order to prevent a rise in global temperatures as high as four degrees Celsius, national leaders must impose regulations on fossil fuels and work to actively remove carbon from the atmosphere. Politicians will not even come close to accomplishing these essential actions if we avoid disruption and allow them to continue with business as usual. As Swisher put it, "We're running out of time to do things in a nice and proper way," she said.

at achieving their intended purpose?

CON



BY RAUNAK BANERJEE

AN OPINION

As governments continue to drag their feet while the planet burns, radical and disruptive protest might seem like the only remaining option. But such riotous dissent turns action on climate change—something that should be universally agreed upon—into a polarizing issue that diverts attention from sustainable policies to tomato soup on paintings.

Disruptive climate protests utilize radical and provocative action in order to raise environmental awareness. For example, in October, an organization called Declare Emergency blocked the I-495 beltway for 45 minutes, and seven activists were arrested as a result. In December, more than 10 members from another organization known as Last Generation briefly obstructed a runway in Munich International Airport in Germany, before all members were arrested.

However, one of the most controversial and well-known organizations that specializes in this type of protest is Just Stop Oil, a nonprofit environmental activist group founded last February. One of their most widely publicized demonstrations took place at the National Gallery of London on Oct. 14, when two representatives from the group glued themselves to the wall and threw soup onto Vincent van Gogh's painting "Sunflowers" while shouting questions at onlookers.

These protests not only fail to garner support for the environmental movement, but they also prove to be more detrimental than beneficial.

According to a survey by the University of Pennsylvania, approximately 46 percent of respondents reported that the attempted destruction of art decreased their support for environmental causes, whereas 13 percent of respondents stated the opposite. Another 40 percent said that the protest had no effect on their opinion at all. In other words, for every person that supported the protests, there were six people who either did not care or condemned such demonstrations.

Emma Laviolette, a junior who is part of the Fridays for Future chapter of Blair's Green Club, personally does not support disruptive protests because she believes they divert attention from the issues at hand. "I wouldn't say that's the type of disruption that we [environmentalists] look for," she said. "People were talking more about the [soup on the] painting than actual climate policy."

Indeed, disruptive climate organizations rarely address the significant causes of climate change

directly. Rather, they decide to focus resources on throwing food on paintings, vandalizing buildings, blocking roads, or committing other crimes unrelated to climate change. For example, only one of Last Generation's more than 370 protests targeted a climate-related subject—an oil refinery—where they interrupted around 90% of oil flows from Poland to Berlin.

However, even this demonstration

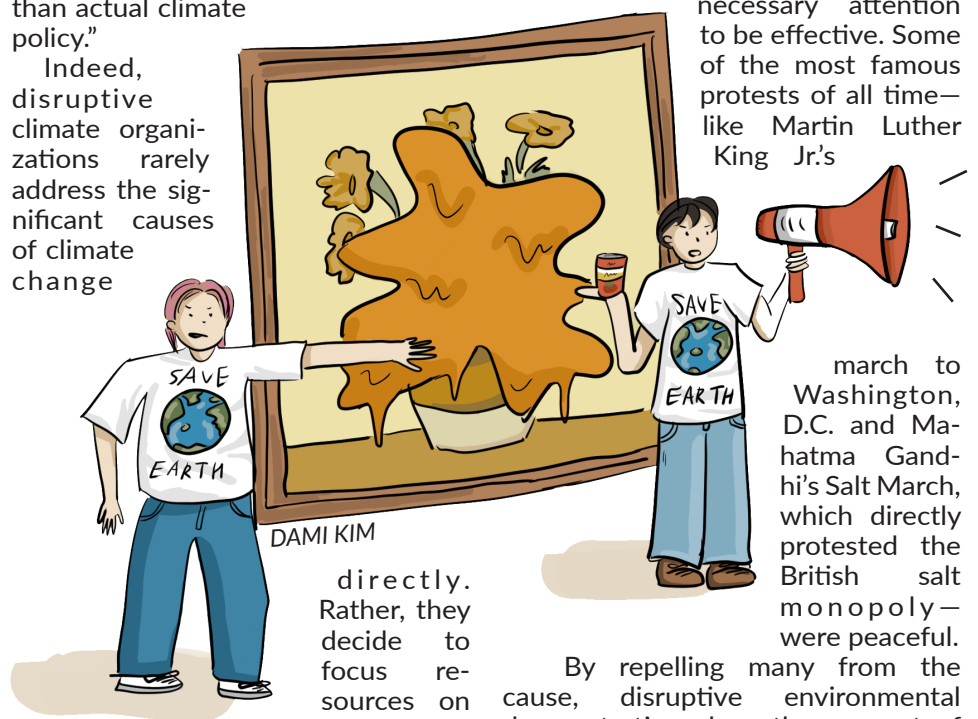
hurt the climate cause, as it led police to raid the group and label them as a criminal organization. Overall, this act of disruption further alienated the government—the entity most capable of implementing environmental protections—and painted Last Generation in a negative light.

Disruptive climate protesters also claim that their demonstrations get more publicity than nonviolent protests, but such press only gives the public the idea that these movements are a nuisance and deters many from supporting them. "It kind of just defeats the whole purpose because when people [are] angry at the [activists themselves], they still turn that anger towards the actual movement itself, which is not the goal at all," Laviolette said.

Furthermore, history has shown that peaceful protests can garner the necessary attention to be effective. Some of the most famous protests of all time—like Martin Luther King Jr.'s

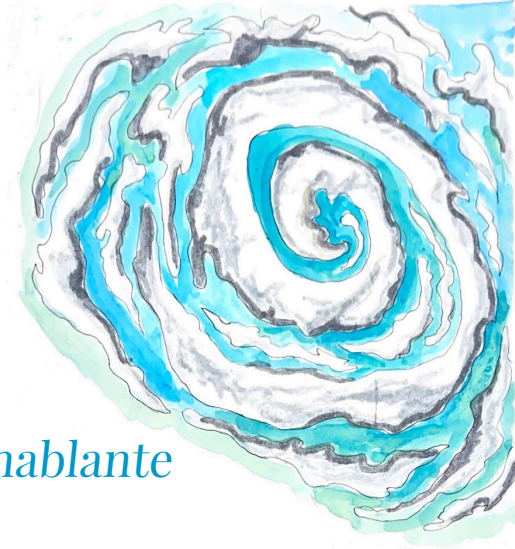
march to Washington, D.C. and Mahatma Gandhi's Salt March, which directly protested the British salt monopoly—were peaceful.

By repelling many from the cause, disruptive environmental demonstrations lose the support of the people and thus cannot pressure governments to enact tangible change. Climate activists should instead prioritize peaceful and focused protests. "I think we should focus more on nonviolent actions [to raise awareness for climate change]," Laviolette said, "because I feel like those would get people to resonate with us more and empathize with the cause more."



DAMI KIM

La grave consecuencia de desastres naturales en el oeste



Tres huracanes que afectaron al mundo hispanohablante

POR JASON YOUM

Los huracanes son una de las grandes fuerzas de la naturaleza que se originan de pequeñas tormentas pero pueden llegar a ser grandes y destructivas. En 2022, hubo cuatro huracanes que tocaron la tierra de Nicaragua, México, Puerto Rico, y la República Dominicana. Actualmente, la gente se recupera de los impactos de estos huracanes, que se están fortaleciendo debido al calentamiento global.

En 2022, hubo tres huracanes que impactaron a algunos países hispanohablantes. El primer huracán, que se llamaba *Fiona*, dañó muchas partes de Puerto Rico y la República Dominicana a mediados de septiembre. Menos de un mes después, el huracán *Julia* tocó tierra en Nicaragua. Y el huracán *Lisa*, un raro huracán de noviembre, afectó las costas de Belice y México. Las tres tormentas mataron a más de 120 personas e infligieron aproximadamente 5.900 millones de dólares en daños.

“Me levanté a la una de la mañana, y los vientos se sentían fuertes... era muy intenso”, dijo John Mejía Torres, un ciudadano de Bayamón, Puerto Rico. A pesar de que el huracán *Fiona* pasó al sur de su ciudad, las lluvias y vientos fuertes todavía azotaban su área. “Fue mi peor experiencia [de tormentas] desde el huracán *María*”.

Afortunadamente, Mejía Torres estuvo preparado para la tormenta. “Estaba en la universidad, chequeando mi celular, y vi noticias

del huracán”, recordó. Tuvo unos tres días para prepararse, así que fue “a la tienda a comprar las cosas necesarias, [incluyendo] botellas de agua, para durar una semana o más [sin] luz”. Además, escuchó a los meteorólogos locales y le contó a su padre sobre el peligro.

El huracán tocó la tierra durante la noche, y Mejía Torres describió que “vientos de tormenta tropical y también lluvia fuerte vinieron”, pero al mismo tiempo, aprendió de las noticias que el sur [de la isla] sufrió el impacto más fuerte... “Aunque fue difícil, los [daños] no fueron horribles [en] mi área”.

El apoyo de las organizaciones ha acelerado los esfuerzos de recuperación. “Vinieron la guardia nacional para ayudar a la gente... proveyeron refugio y [mantuvieron] orden,” Mejía Torres mencionó. “También, vi en la tele que FEMA llegó al sur”. Relaciona su experiencia con la del huracán *María*, que devastó a Puerto Rico en 2017. Después de *María*, casi todo su barrio fue destruido, y voluntarios de FEMA, la guardia nacional, y la Cruz Roja proporcionaron alimentos, agua, refugio, y también previnieron el asalto de las tiendas locales. “No había tanta gente durante el huracán [Fiona], pero eso es porque *María* era peor”.

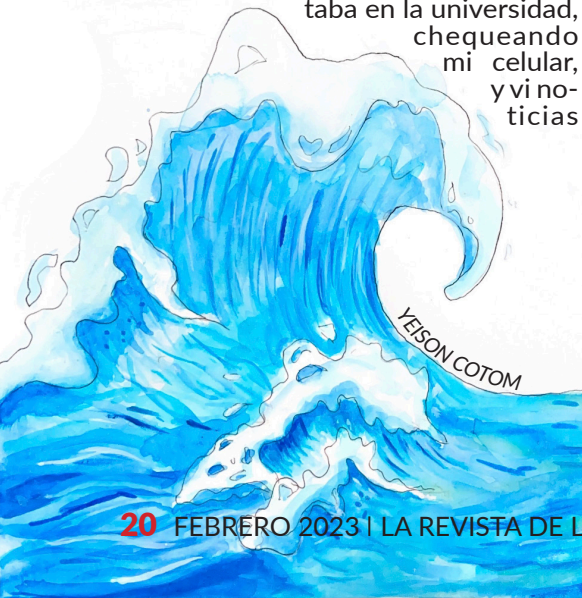
A pesar de que la comunidad de Mejía Torres se salvó de daños mayores, ese no es el caso para todos. Desafortunadamente, los científicos han encontrado una conexión entre la intensidad y cantidad de huracanes y el calentamiento global. Según la NOAA (Administración Nacional Atmosférica y Oceánica), los océanos se están calentando, y el año 2021 fue el sexto más cálido del registro de temperaturas a nivel global. Este calor, según el Centro Nacional de Huracanes, la agencia gubernamental que rastrea huracanes y advierte a los ciudadanos, alimenta los motores de calor de los ciclones tropicales. Cuando los océanos son más cálidos, las tormentas tropicales obtienen más

energía, así que se intensifican más.

El aumento de las tormentas tropicales tendrá un impacto serio en las vidas de los afectados. La Casa Blanca informa que los eventos climáticos extremos son cada vez más costosos: El número de desastres naturales que costaron más de 1.000 millones de dólares durante la década de 1980 (ajustados por inflación) era 29, pero este número saltó a 165 durante la década de 2010. Además, a causa del crecimiento de la población, más personas serán afectadas por los huracanes. Esto significa que más personas perderán sus casas, pertenencias, y comunidades. A largo plazo, sólo una tormenta tropical puede causar dificultades económicas para toda la vida, y desafortunadamente, muerte.

Entonces, ¿cómo podemos detener o mitigar los huracanes? Desde 1962 hasta 1983, el gobierno estadounidense hizo un proyecto que se llamaba *Project Stormfury*. El proyecto trataba de debilitar los huracanes volando hacia ellos y desprendiendo yodo de plata, un gas que se creía que debilitaba las nubes de tormenta. Sin embargo, no hubo impactos significativos, y el experimento fue terminado. Los científicos están tratando de solucionar este problema, pero al mismo tiempo, hay acciones que toda la gente puede tomar. Cerrar y proteger con tablas las ventanas son acciones simples que pueden salvar daños a la propiedad. Y cuando el huracán está cerca, quédate adentro, lejos de las ventanas, en una habitación segura.

Después de los vientos fuertes y las lluvias torrenciales de los huracanes *Fiona*, *Julia*, y *Lisa* el año pasado, las comunidades hispanohablantes se están recobrando con la ayuda de ambas organizaciones grandes y amigos cercanos. Desafortunadamente, lo cierto es que la ferocidad y cantidad de los huracanes solo subirá debido al calentamiento global, entonces tendremos que pronosticar mejor las tormentas tropicales para advertir a las personas antes y salvar vidas.



Las políticas en Latinoamérica

POR
SAMANTHA FREY

El cambio climático se trata de manera diferente en los países de Latinoamérica

Más de 40 ciudades latinoamericanas han firmado planes para invertir en sistemas de transporte de energía limpia. Latinoamérica tiene un potencial enorme de energía renovable y está solamente creciendo. La mitad de su energía viene de lugares renovables como el sol y el viento, en comparación con el resto del mundo; trayendo solamente veinte por ciento de su energía de fuentes renovables.

Mundialmente, el acceso a los recursos renovables como carbón y petróleo está decreciendo. Con su carbón en Venezuela y su petróleo en Chile, Latinoamérica podría obtener dinero exportando sus recursos en el futuro próximo. Por otro lado, según la organización Cepal, las acciones de unos líderes latinoamericanos enseñan que se están enfocando en el futuro a largo plazo, implementando políticas y programas como el Acuerdo de Escazú, fundado por las Naciones Unidas. El Acuerdo de Escazú es un pacto entre 12 regiones de Latinoamérica y el Caribe, tratando de proteger el medio ambiente e involucrando la voz pública en esas decisiones.

Cuando pensamos en la naturaleza de Latinoamérica, muchos se imaginan la selva Amazónica de Brasil, las cascadas de Costa Rica, o las palmeras de Puerto Rico. Sin embargo, muchas veces, los tipos de turismo tradicional están seguidos por deforestación, polución, y pueblos desgarrados. Estos momentos de naturaleza son preservados con el sistema del ecoturismo.

Durante el verano de 2022, William Ashford viajó a un pueblo pequeño en Costa Rica, prosperando con su sistema de ecoturismo. En una granja donde cultivan café, plátanos, y las semillas de cacao. Sus métodos de cultivo involucran usar los árboles naturales y plantar árboles nuevos de cacao. Esto significa que no necesitan limpiar un bosque para tener tierra de cultivo, lo cual es un proceso degradante para los ecosistemas del bosque porque sacar los árboles conduce a la erosión de la tierra. Esta erosión dificulta el cultivo de hortalizas, y el ciclo de degradación continúa. Por otro lado, usar la tierra y trabajar alrededor de los árboles en el campo forma un ecosistema eficiente y sostenible para seguir sus cultivos.

Enseñar la granja a turistas y viajeros es una manera de colectar dinero, pero también una forma de educación. Los granjeros nativos introdujeron a Ashford a las plantas

nativas, las prácticas sostenibles, y las tradiciones de cultivo.

Aunque hay progreso desde hace muchos años, ya existe mucho daño para sanar. Según el National Geographic, es estimado que en los últimos 50 años, el veinte por ciento de la selva amazónica ha desaparecido: esto es por causa de muchos factores, pero una gran parte es el gobierno priorizando la economía de madera y óleo sobre la sustentabilidad y el preservación de la ecosistema de los miles de animales y plantas que viven en la selva Amazónica.

Con las inundaciones, las lluvias extremas, los incendios forestales, y las mega sequías, el cambio climático es evidente en toda Latinoamérica. Uno de los eventos más devastadores fueron



los incendios en Brasil. La selva Amazónica, referida generalmente como los "pulmones de la tierra", se llenó de humo, llegando a lo que muchos científicos llaman "el punto de no retorno".

Luiz Ignacio da Silva fue nombrado presidente de Brasil en octubre de 2022. Su campaña se enfocó principalmente sobre los derechos humanos y la protección de la selva Amazónica, diciendo que "El mundo espera que Brasil vuelva a ser líder en el enfrentamiento de la crisis climática y ejemplo de país responsable en maneras sociales y ambientales". La selva Amazónica fue víctima de deforestación; algunos dicen que fue por causa del presidente anterior, Jair Bolsonaro. Durante las elecciones, Bolsonaro criticó las máquinas de

votación electrónica del país e insinuó que no aceptaría una derrota. Sin embargo, da Silva tenía éxito y prometió una revisión ambiental de la política gubernamental en una escala que rivaliza con el Green New Deal propuesto por los Estados Unidos.

Manuel Rodríguez Becerra, el primer ministro del medio ambiente de Colombia, ayudó en el proceso de adoptar una taxonomía verde nacional. Como el primer país del Hemisferio Occidental en tomar este paso, Colombia es reconocido como un líder en el camino de sustentabilidad, comprometiéndose a reducir el 51

por ciento de sus emisiones de gases de efecto invernadero para el 2030 y trabajando para lograr la neutralidad de carbono para 2050.

"Debemos dar esperanza a las generaciones del futuro", dice Becerra. "Y esa esperanza está en cambiar nuestras maneras de producir y consumir".

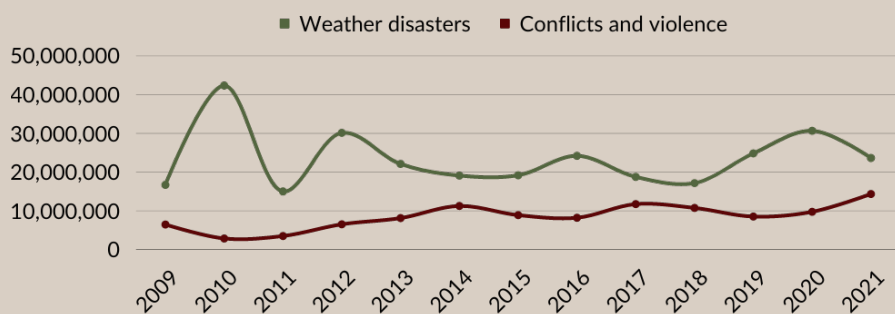
Gabriel Boric es un político chileno del partido de izquierda, Apruebo Dignidad. Boric ha enfocado su campaña como presidente en el medio ambiente y en asegurar relaciones más amistosas con otros países latinoamericanos, diciendo que "cuando hablamos sobre cambio climático, no es solamente un problema medioambiental. Debemos enfocarnos en los elementos estructurales de nuestra sociedad, significando cambiar nuestro camino de desarrollo". Boric asumió el cargo con su Vicepresidenta y ambientalista Francia Marquez en marzo de 2022. Con la mentalidad que deben tener los políticos junto con los expertos y científicos en su proceso, los dos han trabajado para instalar reglas estrictas y responsabilizar a las empresas para reducir sus emisiones y polución.

Desde el pasado y hasta el futuro, los países de Latinoamérica van a luchar por sus derechos humanos. En este momento, esos derechos dependen del clima. Si no tenemos la Selva Amazónica, no vamos a tener aire puro para inhalar. Si no protegemos a nuestros ciudadanos con planes y agradecimientos, sus vidas van a empeorar. Líderes latinoamericanos como da Silva, Becerra, y Boric inspiran cambios cruciales para el futuro del medio ambiente, aumentando la esperanza para un futuro exitoso.

Driven out by disaster

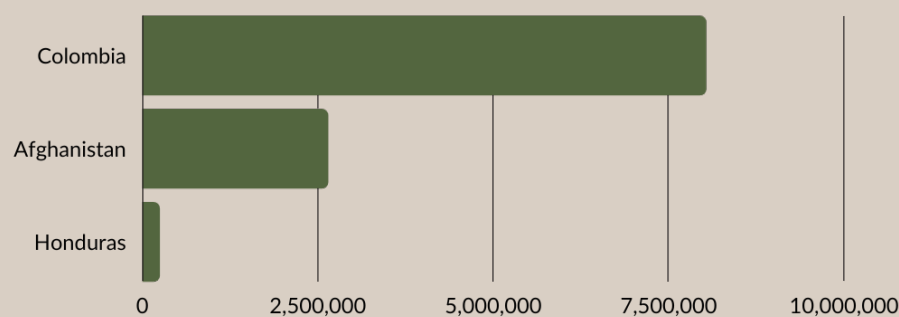
BY ILA RASO AND CATE SAURI

Internal displacements due to conflicts and violence compared with weather disasters, 2009-2021



DISPLACEMENT COMPARISON Climate-related disasters and other climate impacts have displaced a much greater number of citizens than conflict and violence have.

Internally displaced persons (IDPs) of concern to UNHCR in three countries, 2020



GRAPHICS BY ANNIE GAO AND ILA RASO
DATA COURTESY OF THE UN REFUGEE AGENCY

DISPLACEMENT IN MILLIONS Colombia, Afghanistan, and Honduras are designated as “climate hotspots.” The UNCHR has tracked the levels of internally displaced peoples across all three nations throughout 2020.

Hurricane Ian ravaged Florida’s southwestern coast when it struck on Sept. 28, 2022 as a torrential Category 4 storm. Sustained winds of around 115 mph fueled a storm surge that hit Fort Myers at a record height of 7.26 feet, and surges stretching up to 18 feet above ground level struck other coastal cities along the U.S. eastern seaboard.

Nearly four million residents across the state lost power, and recovery costs have drained Florida’s resources. The estimated death toll across the state reached 148, and thousands have had to relocate indefinitely following the devastating storm.

Anne Curtin, a Florida resident, witnessed the storm while staying at her niece’s home in Naples. “The water was racing down the street and coming up toward the front door. [My niece and sister] started taping the door, but [the water seeped through],” she explains.

Back at Curtin’s own house in Naples, the surge’s impacts were just as damaging. Sand pulled ashore by the storm overtook Curtin’s condominium, and although “engineers inspected [the unit] and declared it safe” long before Ian ever made landfall, the hurricane soon proved more dangerous than anticipated. “The sand and the water took over—it all went into the pool [and] destroyed all the bushes. There was sand everywhere—in the driveway, the social room, anything that was lower than the first floor,” she recalls.

Curtin persevered through relocation, rebuilding, and uncertainty throughout the trials of Hurricane

lan. “I’m thrilled to tell you that I’m okay,” she says.

This experience of leaving home as nature takes over is not limited to the Gulf Coast. On the outskirts of the Caribbean Sea, the U.S. Virgin Islands have also dealt with increasingly catastrophic hurricanes over the past decade.

Sandra Jacobs, Blair’s Human Services Professions Academy Lead Teacher, has extended family members living throughout the Virgin Islands who have experienced these intense hurricanes firsthand. Although they have been able to successfully rebuild thus far, no one is sure how long repairs can be sustained before a permanent relocation is necessary. “With the climate changing, if [the next hurricane is] intense or even more intense, how well will we be able to recoup?” Jacobs says.

These storms have left long-lasting impacts on the communities and the landscape of the U.S. Virgin Islands. Even two years after Irma, the damaging effects on the islands are still prominent. “To viscerally see the aftereffects of a hurricane [a year later], it’s almost surreal,” Jacobs says.

The tangible impacts of climate change are present today through the growing climate refugee crisis. Natural disasters have pushed thousands out of their homes, and this forced displacement will only persist as human-induced climate change amplifies environmental impacts across the globe.

The dire effects of climate change have consistently forced more people from their homes than armed conflict in the past decade, according to the United Nations (UN), and future years are slated to see that number rise.

“The number of weather, climate, and water extremes are increasing and will become more frequent and severe in many parts of the world as a result of climate change,” World Meteorological Organization (WMO) Secretary General Petteri Taalas says in a WMO Report. An annual report released by the Institute for Economics and Peace states that by 2050, nearly 1.2 billion people could be displaced by climate impacts worldwide.

This grim prediction is particularly pressing for those who live in climate

hotspots—parts of the world where natural disasters are most likely—as they lack the necessary resources to adapt and recover from extreme weather events. In Afghanistan, nearly all 34 provinces have been hit by at least one climate-related disaster in the past 30 years—this, coupled with longstanding political conflict that has killed and injured thousands and decimated nationwide resources, has greatly hindered the country’s ability to support those hit hardest by recurring floods and droughts.

By mid-2020, more than 2.6 million Afghans were internally displaced. An additional 2.7 million were officially registered as refugees, many living in neighboring Pakistan and Iran. Afghanistan is not the only example of a struggling climate hotspot, however—in El Salvador, Panama, Honduras, and Burkina Faso, high levels of violence and poverty in combination with devastating droughts drives displacement.

“You can sort of see the directionality where climate [change] is leading to [an] ecological ecosystem tipping point—where it’s no longer able to support the economy that those communities rely on.”

ERIC CHU

The culmination of these social factors alongside climate-related disasters leads to a gradual degradation of agriculture, jobs, and homes. “Those [socioeconomic] changes can be attributed to climate change, but the way that it compounds makes livelihoods, food security, [and] shelter security worse,” Dr. Eric Chu, Co-Director of the Climate Adaptation Research Center and Assistant Professor of Community and Regional Development at the University of California, Davis, says in an interview with Silver Chips.

While this may seem like a far-away issue for those living in highly developed nations outside of climate hotspots, rising climate refugee numbers have impacts globally.

Areas repeatedly battered by climate change-induced catastrophes are forced to depend on nations with more extensive resources and infrastructure, making climate refugeeism a global issue.

Further, because developed nations like the U.S. contribute the most to climate change through their unsustainable emissions, smaller countries facing more frequent climate disasters now turn to them to address the climate refugee crisis. “Fiji tells Australia, ‘Hey, your responsibility is to take our communities that can no longer live on our island because it disappeared due to your polluting industries over the past 100 years,’” Chu explains.

However, industrialized countries claim that damage incurred from climate change is not a viable reason to allow more refugees into their borders. “[Developed nations] have spent many, many years... digging at this refugee language because they’re saying, ... ‘It’s difficult to directly attribute climate change to loss of land and livelihood [in the past]. You can’t really call [them] climate [refugees] because, [for example,] the Fijians are moving to Australia because of its economic impacts,’” Chu says. As these highly-resourced nations rationalize the climate refugee crisis in this way, the core issue of climate change is ignored.

The millions forced to leave their homes due to intensifying natural disasters are thus caught in the crossfire as political leaders tackle the social and economic implications of admitting refugees into their nations.

The homes lost and lives upended by the climate crisis today are no figment of a future 50 years from now—this is a current problem. The effects of Earth’s changing climate are felt by the millions who have been displaced by extreme natural disasters, and the consequences do not end there—climate change is altering daily life across the globe for everyone.



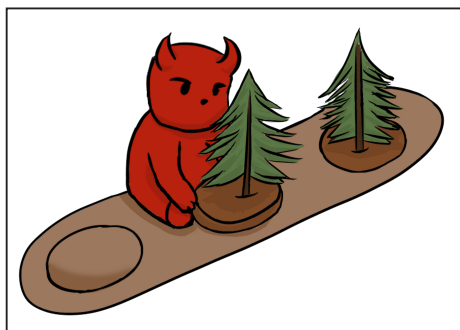
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Q How green is Blair?

Sachini Adikari Nora Pierce Eliza Cooke

This year, Blair is seeking recertification from the Maryland Association for Environmental & Outdoor Education as a “green school,” a title it has held since 2012. The application process involves collecting information and evidence of the school’s sustainability practices, projects, and education, begging the question: how green is Blair?

On June 28, MCPS adopted a new sustainability policy that “commits the school district to cut greenhouse



gas emissions by 80% by 2027 and 100% by 2035 compared to 2005 levels” in accordance with Montgomery County’s Climate Action Plan, which was introduced in 2021. MCPS will act on the policy by implementing more electric and fuel-efficient school buses, increasing solar and other renewable energy production, and improving waste reduction programs like composting for a greener school system.

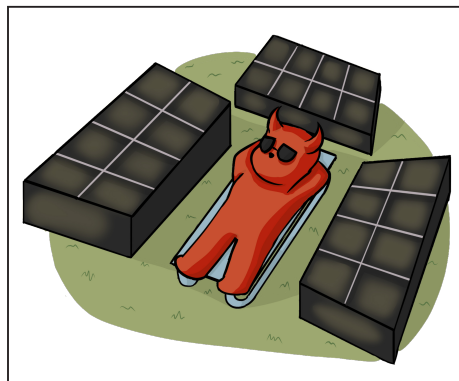
However, Blair lacks green features such as solar panels, green roofs, and bioretention gardens that are installed at many other high schools, and also has not implemented the geothermal systems using the Earth’s natural heat to regulate inside temperatures at Gaithersburg, Paint Branch, and Richard Montgomery.

In addition to a lack of sustainable infrastructure, recycling at Blair does not meet goals set by MCPS. According to data compiled by MCPS’s School Energy and Recycling Team, Blair’s average annual pounds per person (PPP) of recycled paper and commingled recycling combined was

1.48 and 1.04 in the 2021–2022 and 2022–2023 school years respectively thus far, falling below MCPS’s average annual high school PPP of 1.75 and goal of 2.00 PPP. MCPS uses each school’s recycling data to provide performance feedback and utilizes recycling trucks equipped with onboard weighing scales to record PPP.

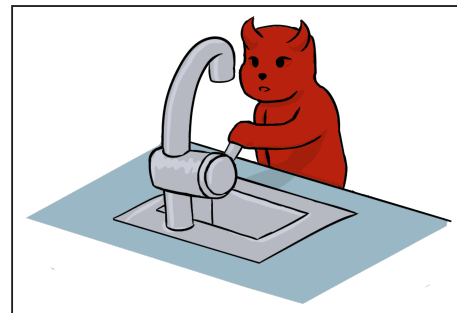
To address this issue, Blair’s Green Club is conducting an audit of the school’s recycling practices this year, visiting each classroom and documenting whether or not it has been equipped with the proper trash and recycling bins. So far, the audit has found that many classrooms are missing bins, especially commingled recycling bins and desktside trash bins. “We have over 3,200 kids here... With all these students, we’re generating a lot [of waste] and we’re not dealing with it in the best way,” senior Green Club Vice President and head of the recycling audit committee Collin Ford says.

If a recycling bin is mixed with trash, the entire bin is contaminated and all of the materials must be placed in the trash. Alimamy Sesay, a building service worker at Blair, explains that trash and recycling have to be separated before being placed in the compactor. “Otherwise, when you go to the compactor, it [will] jam... We have to call in the maintenance guy to come and fix it before we can use it again.”



Another factor that affects Blair’s sustainability is food waste. MCPS

requires every student to take a fruit or a vegetable when eating school lunch, but Christine Blanton, Blair’s cafeteria manager, believes that this policy results in high food waste. “You can say ‘get [a fruit or vegetable],’ but [the students are] not going to eat it. It’s going to go to waste.”



Throwing away food essentially wastes the energy and water that it takes to produce, transport, and package it. In 2021, the EPA estimated that U.S. food loss and waste accounts for 170 million metric tons of carbon dioxide (CO₂) equivalent each year, “equal to the annual CO₂ emissions of 42 coal-fired power plants.” In order to limit its climate impact, MCPS should provide every school with only the food required to fulfill its students’ needs.

Food waste isn’t the only sustainability concern for the cafeteria. Blanton explains that the kitchen’s energy usage is very high due to food warmers. “Once we cook food and we [prepare] it, it has to go on the warmer to hold the food up to a certain temperature.” In 2022, Blair used 2,066,097 kilowatt-hours of electricity, equivalent to the annual electricity consumption of 174 homes.

While there isn’t one solution to Blair’s climate concerns, Ford stresses the need for teachers to lead by example when it comes to keeping Blair green. “For mainly teachers, it’s important to set an example. If you’re the only one in the classroom, so be it, do whatever you want. But if you’ve got a class full of students, set a good example for them.”



Weight of the world

The crushing reality of the climate crisis

BY VIVEKA SINHA

As climate change worsens and global warming threatens the future of the Earth, eco-anxiety—the chronic fear of environmental doom—is becoming a significant mental health concern for young people worldwide. The ongoing nature of this existential crisis causes severe stress and mental anguish.

In the past, a climate disaster would strike and then end. “But with unfolding, recurring, and new events related to climate change, the damage doesn’t stop,” Thomas Doherty, a practitioner whose focus is environmental psychology, tells the American Psychological Association. In fact, 75 percent of respondents in a survey of 10,000 young people across 10 countries feel that “the future is frightening” due to climate change.

Despite working to promote environmental action and sustainability her whole life, Heather White, an environmental lawyer and eco-anxiety expert, credits her kids with inspiring her to explore the perspective of different generations on climate change. “Where are the baby boomers? Where’s Gen X? Where are the Millennials? You can’t leave the climate crisis all on our shoulders. We feel so alone,” White says, recounting her daughter’s concerns.

White is worried about a New York Times survey of nearly 2,000 young adults between ages 20 and 45 in which one third of respondents who have had or expect to have fewer kids than they wanted attributed their choice to climate change. “It’s one of those wake-up calls... Because of the climate crisis, young people don’t want to bring other people into the world,” White says.

Breanne Aylward, a Ph.D. student studying eco-anxiety at the University of Alberta’s Climate Change and Global Health research group, explains that eco-anxiety is a natural response to our rapidly changing planet. “These feelings are merely a sign of attachment to our world. Having emotions about climate change is the normal response,” she says.

Madison Cooper, a master’s student working with Aylward, agrees, adding that she often feels eco-anxiety herself. “I was taking all these classes about the environment and climate change and there weren’t very many solutions that we were being told. It was just all doom and gloom and that got scary and over-

whelming and sometimes even felt a little bit hopeless,” she says.

Given that eco-anxiety is a common reaction to the climate crisis, therapists are responding accordingly. Lise Van Susteren is a general forensic psychiatrist with expertise in the physical and mental health effects of climate disruption. When asked if there are enough mental health resources to help deal with environmental distress right now, she tells *Silver Chips*, “Not. Even. Close. I have been working to advance a subspecialty in climate and mental health [in the American Psychiatric Association], because before long, everyone is going to be feeling the... climate distress.”

For many young people such as Cooper, climate-aware therapists are a helpful resource to help manage eco-anxiety. “I see a climate-aware therapist and I find that helps in processing the emotions. Overall, just spending time with people that understand the feelings that I’m experiencing,” Cooper says.

Beyond therapy, Van Susteren suggests that every school have a climate council as a safe space for students to discuss feelings of eco-anxiety. “Oftentimes, I hear young people say that they can feel lonely with their thoughts. That’s a problem, and every school should have... a place where kids can gather and openly speak about their fears and their anger because they feel abandoned [and] betrayed,” she says.

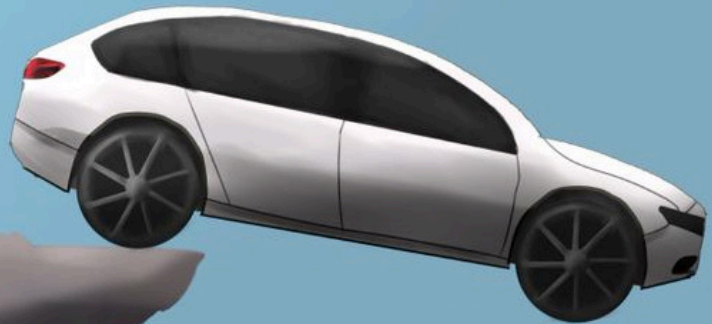
White corroborates the importance of communication between generations. “Young people need to talk to older generations about how they feel about the future,” she says. She published her book “One Green Thing,” inspired by her daughter, in April 2022. In doing so, White hopes to inspire young people to take up a regular habit of sustainability—one green thing.

“By doing a daily practice, you can help shift the culture. It’s not about your individual carbon footprint... The idea is that we can drive the [cultural] change that’s necessary for big global policy and market solutions to work,” she explains. White believes that practicing sustainability in daily actions will not only work toward reducing climate change, but will also alleviate eco-anxiety. “One of the reasons why we feel anxiety is because the issue is so overwhelming,” she says, “[so] taking action and having a sense of agency [is helpful].”

THE DARK SIDE OF RENEWABLE ENERGY

Electrification is not the fix-all to climate change

BY **SASHA VESENSKY**
AN OPINION



ALEXANDER LIU

Renewable energy: the bright future of our planet. Electric cars idyllically whirring past windmill farms. Nearby, glass buildings shoot for the clouds, trees blossom on every balcony, and animals scamper through the city. But outside of the cities, mines bore deeper and deeper into the Earth, their workers slowly poisoned by toxic materials, and vast fields of scorching hot solar panels trap the sun's heat like a greenhouse. This may feel like an exaggeration, but as we embrace a future powered by batteries and solar panels, we cannot afford to ignore problems with electrification that are becoming more and more prevalent.

The biggest issue with expecting batteries in our lawnmowers and cars to solve climate change is the climbing environmental cost of mining critical metals like lithium, cobalt, and copper.

In 2021, electric car sales across the world nearly doubled to 6.6 million from the previous year. As the popularity of these vehicles rises, both the demand for lithium and the price climb as well. But in countries like Chile, which holds 58 percent of the world's lithium reserves, the impact of mining on the local area can be detrimental. According to a 2020 report published by the United Nations Conference on Trade and Development (UNCTAD), lithium mining in Salar de Atacama, Chile uses up 65 percent of the area's water—water that local farmers and the area's ecosystem rely heavily on.

Perhaps even more problematic is mining's human toll. Many lithium miners suffer from severe health issues due to their work. "Breathing lithium dust or alkaline lithium compounds irritates respiratory tracts and prolonged exposure to lithium can

cause fluid to build-up in the lungs, leading to pulmonary oedema," UNCTAD reports.

The push for batteries is also fueled in part by child labor. The Democratic Republic of the Congo (DRC) holds about 3.5 million metric tons of cobalt—another element crucial to batteries—in deposits that account for over 50 percent of total reserves in the world.

According to the U.S. Department of Labor, 70 percent of the world's cobalt is mined in the DRC, and about 15 to 30 percent of that is mined in smaller artisanal mines where child labor is more prevalent. UNCTAD reports that illegal child labor in the DRC is not expected to end until 2025.

Another of these mines' many flaws is a long-term concern—quality of materials—which is compounding mining's negative impact. Philip Bog-

donoff is a co-founder and Board Treasurer for the Washington, D.C. chapter of Biodiversity for a Livable Climate, an organization working to slow climate change through nature-based solutions. According to Bogdonoff, as demand for copper—another element used in batteries and most other forms of renewable energy—rises, the quality of mined materials will decrease. “Most of the planet has been explored for copper. Most... mines start with the best quality ore, which requires the least amount of energy to extract and refine,” he said. “[However], we have exhausted the sweet spots. We’re now working into poorer quality ores... which require more energy [at a time when] energy costs are likely to go up.”

Bogdonoff’s statement is corroborated by a report from S&P Global, which states that electric vehicles use 2.5 times more copper than traditional combustion engine vehicles. Because many countries aim to reach net zero emissions by 2050, copper demand is set to increase over 82 percent by 2035.

Of course, the batteries in electric vehicles are not the only products that use copper. Solar panels also heavily utilize the element and bring problems of their own: rising prices. According to Bogdonoff, increasing demand and decreasing copper availability will eventually make solar panels inaccessibly expensive.

“You may be able to spend \$15,000–20,000 to put solar panels on your house [this year]. The average lifetime of those systems is about 20 years. In 20 years, you’re going to need to replace it if you still want to have electricity,” he said. “My rough guess is that it’s going to cost 10 times as much to replace it, maybe even more. At that point, I think for most people, a \$100,000–150,000 system is going to be out of reach.”

Another problem with solar panels is the heat that they generate. When the sun beats down on a solar panel, it will only convert about 20 percent of the light into electricity, and the other 80 percent of the energy will warm the panel, trapping that heat. And in order to power an entire society, vast fields would have to be covered in solar panels, creating a “heat island.”

On the other hand, trees and plants have cooling power. Aside

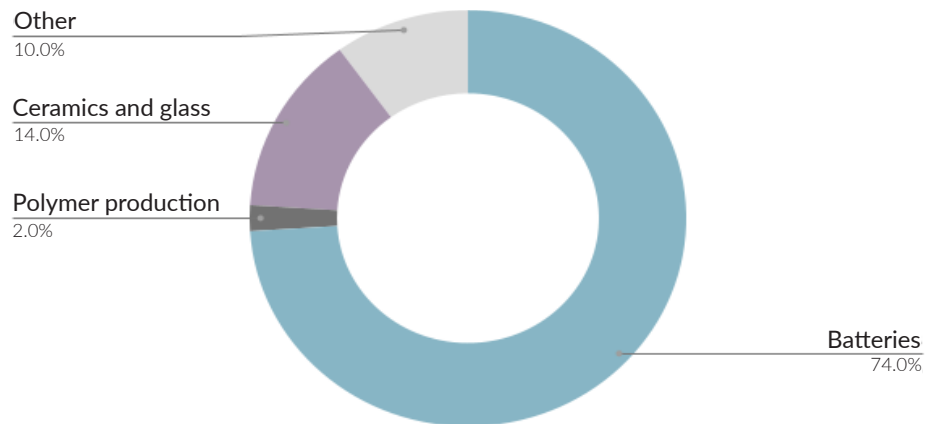
from simply providing shade, there is also a process that takes place known as “evapotranspiration,” which is essentially a plant sweating and using the sun’s energy to evaporate that sweat. The plant takes water from the

of the U.S. that is available for forest restoration, and once the forest matures, it will be able to capture two thirds of human-produced carbons.

Thus, the difficult truth about saving the environment is that there is

Lithium use by product in 2022

According to the U.S. Geological Survey “Mineral Commodity Summaries 2022”



GRAPHIC BY SASHA VESENSKY

ground and converts that water into steam, utilizing 40 to 70 percent of the sun’s energy that it absorbs. The steam then carries heat up into the atmosphere until it condenses and cools and much of the heat radiates to space.

“Nature solved all of this—building infrastructure, recycling nutrients, solar power, wind power, etc. [It] solved this problem a long time ago, and we should learn how to work with nature.”

PHILIP BOGDONOFF

Large-scale movements to regreen our Earth can move us toward a cooler, climate-stable future. For instance, a single healthy tree has the cooling capacity of 10 air conditioners running for 20 hours each day. Imagine the cooling power, then, that would result from replenishing the billions of trees that have been wiped out across the globe. According to the Swiss Federal Institute of Technology Zurich, there is currently land the size

no way to do it without more drastic alterations to everyday life. We humans are creatures of comfort and would love to believe that we can save the Earth by buying an electric car and installing solar panels. But the longer we wait and ignore the problems connected with these forms of renewable energy, the more we dig ourselves into the hole of climate destruction and consign our planet to soon irreversible damage.

It’s not that electric cars and conventional renewables are worse than what we have at the moment—it’s that they are not the be-all and end-all solution to our climate crisis. We need to invest in more than renewables by reforesting swathes of bare land, relocating food production, starting permaculture food forests—edible forest-like gardens, often with nuts, berries, and edible vines—as well as recycling human waste to give back nutrients to farms.

“For me, the message [is that] we should be looking to work with nature,” Bogdonoff said. “Nature solved all of this—building infrastructure, recycling nutrients, solar power, wind power, etc. [It] solved this problem a long time ago, and we should learn how to work with nature.”

¿Que hace la comunidad Latinx sobre el cambio climático?

POR GISELLE ZELAYA



CINDIS HERNÁNDEZ

Las comunidades latinx están invertidas en el movimiento climático, pero se enfrentan a una plétora de barreras. Cuando se trata de sostenibilidad, los latinx tienden a ser los mejores conservacionistas, pero la realidad es que muchos aspectos de la sostenibilidad son inaccesibles para grupos marginados. El cambio climático afecta gravemente a la comunidad hispana tanto dentro de los Estados Unidos como en los países latinoamericanos.

Más de la mitad (55%) de los latinoamericanos en Estados Unidos viven en tres estados que ya están experimentando graves efectos relacionados con el cambio climático: sequía histórica en California, calor récord en Texas y aumento del nivel del mar e inundaciones en Florida. Además, es más probable que los latinos trabajen en las industrias que se ven profundamente afectadas por los efectos del cambio climático, como la agricultura, la manufactura y la construcción. Trabajadores agrícolas, socorristas, trabajadores de la construcción, y paisajistas están expuestos a largas horas afuera en temperaturas peligrosas. Uno de los efectos más graves del cambio climático es la migración masiva y el desplazamiento de la población desde el Caribe y Centroamérica. Las personas hispanas/latinx más vulnerables están huyendo de sus naciones nativas a medida que los eventos climáticos se vuelven más frecuentes debido al calentamiento global. Este es el resultado de una serie de factores, incluida la escasez de empleo, alimentos y vivienda, todos los cuales son causados en parte por el deterioro de los ecosistemas regionales. Desde 2014, una sequía en la costa del Pacífico de Centroamérica (a menudo conocida como el "corredor seco") ha destruido los cultivos y ha puesto en peligro los medios de vida de los agricultores en Guatemala, Honduras y El Salvador.

Debido a que la comunidad latina se ve afectada tan fuerte y directamente por el cambio climático, que alrededor de ocho de cada diez hispanos estadounidenses (81%) dicen que abordar el cambio climático global es una de las principales preocupaciones o una de varias preocupaciones importantes para ellos personalmente.

Las comunidades latinx han aprovechado la cultura de la conservación. En los Estados Unidos de hoy, los latinos conservan no solo debido a la precaución económica, sino también porque muchos hogares latinos de bajos ingresos residen en comunidades de primera línea donde experimentan directamente las consecuencias de la contaminación. Desde la reutilización de papel de aluminio, llevar bolsas de supermercado a la tienda y el intercambio de recursos con miembros de la familia extendida por razones culturales y económicas, las comunidades marginadas son algunas de las mejores conservacionistas del mundo porque no pueden

darse el lujo de no serlo. Con demasiada frecuencia, pasamos por alto a los 20 pasajeros en el autobús porque creemos que el ecologista es la persona que conduce el vehículo eléctrico. En una entrevista con Jared Zurita, un estudiante de undécimo grado en Northwood High School dice que su familia es, "el tipo de familia que reutiliza bolsas de plástico, como si vamos a megamart, reutilizamos esas bolsas de plástico".

Aparte de la conservación, la vida sostenible y el consumismo consciente pueden ser inalcanzables para las familias de bajos ingresos. La verdad es que muchas personas no pueden permitirse el lujo de la sostenibilidad. La fuente que su proveedor de energía está utilizando probablemente no sea su principal problema si le preocupa poder pagar sus facturas cada mes. Lo mismo ocurre con los alimentos que se han producido de manera responsable u orgánica. Con frecuencia, las preocupaciones de asequebilidad eclipsan las preocupaciones de sostenibilidad. En un artículo escrito por Fabiana Copelli, ella dice, "Si alguien está luchando para pagar suficiente comida para sí mismo o su familia, ¿cómo podemos

"Las comunidades latinas en todo el país ya enfrentan y continuarán enfrentando graves impactos del cambio climático."

MARCO SIMONS

esperar que puedan pagar alimentos sostenibles? Si alguien está luchando para sobrevivir día a día, ¿cómo podemos esperar que se preocupe por las generaciones futuras? Para la clase trabajadora, el concepto de sostenibilidad es a menudo una ocurrencia tardía; 'Cuando los desafíos de la educación deficiente y la injusticia social consumen la vida diaria, a menudo no queda capacidad mental para pensar en las necesidades del mañana'".

También es importante reconocer la brecha de información que la comunidad hispana está recibiendo. Las poblaciones latinas en los Estados Unidos son más susceptibles a los riesgos ambientales y con frecuencia carecen de acceso equitativo a los recursos y precauciones de seguridad. Marco Simons, un consejero general en Earthrights International, explica que, "Las comunidades latinas en todo el país ya enfrentan y continuarán enfrentando graves impactos del cambio climático, y creo que también hay, ya sabes, alguna evidencia de que las compañías se dirigen, ya sabes, a las compañías de combustibles fósiles y servicios públicos que se oponen a una acción significativa sobre los mensajes de cambio climático, a varias au-

diencias, incluida la comunidad latina para tratar de difundir información errónea sobre lo que se necesita sobre la acción climática. Hay, por ejemplo, anuncios y mensajes en español que promueven lo que creemos que son mensajes engañosos o falsos como, ya sabes, cosas como la necesidad de gas natural como una solución amigable con el clima." Esta falta de información creíble aísla a los latinx y los pone en desventaja.

Las organizaciones están luchando por la justicia climática para la comunidad latina, pero necesitan promover su compromiso con la comunidad directamente. El Latino Climate Justice Framework Project, una alianza de 23 organizaciones, está pidiendo a los líderes políticos que incluyan las prioridades climáticas específicas para los latinos en el plan *Build Back Better* y más allá, incluido el financiamiento para información culturalmente apropiada sobre el medio ambiente, un mejor acceso a la respuesta de emergencia y atención a las crisis relacionadas con el cambio climático en las Américas. Aunque estos son grandes esfuerzos, una encuesta nacional de votantes latinos realizada por la firma de investigación de opinión Latino Decisions reveló que más del 76% de los encuestados nunca han sido contactados o alentados por una organización ambiental a tomar medidas en nombre del medio ambiente. Por lo general, los latinos no se movilizan simplemente por un movimiento o una causa. Lo hacen para mejorar sus medios de vida y el futuro de sus hijos. Por ejemplo, organizaciones como Tamales y Bicicletas, un grupo con sede en Minneapolis que utiliza bicicletas para fomentar el empoderamiento cultural entre los jóvenes latinos y hacer campaña por la justicia ambiental y alimentaria en sus comunidades, están impulsadas por el deseo de mejorar los estilos de vida. El mejor método para que las organizaciones principales lleguen a los latinos es colaborar con grupos latinos regionales, identificar desafíos locales y trabajar juntos para encontrar soluciones. Un grupo que ha hecho esto es el Consejo de Defensa de los Recursos Naturales, que amplió su trabajo de justicia ambiental al asociarse con organizaciones locales basadas en la comunidad latina para lograr objetivos mutuos como mejorar la calidad del aire y proteger a los niños de los pesticidas.

Sobre todo, la comunidad latina tiene el deseo y la necesidad de un cambio importante. Es hora de que la comunidad priorice la educación sobre la sostenibilidad y que se involucre con organizaciones ambientales que están dispuestas a ayudar. A fin de cuentas, es nuestra responsabilidad ser el cambio que queremos ver en el mundo.



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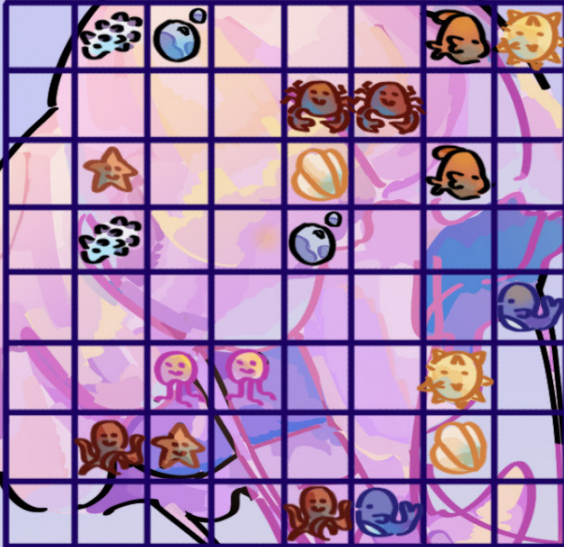


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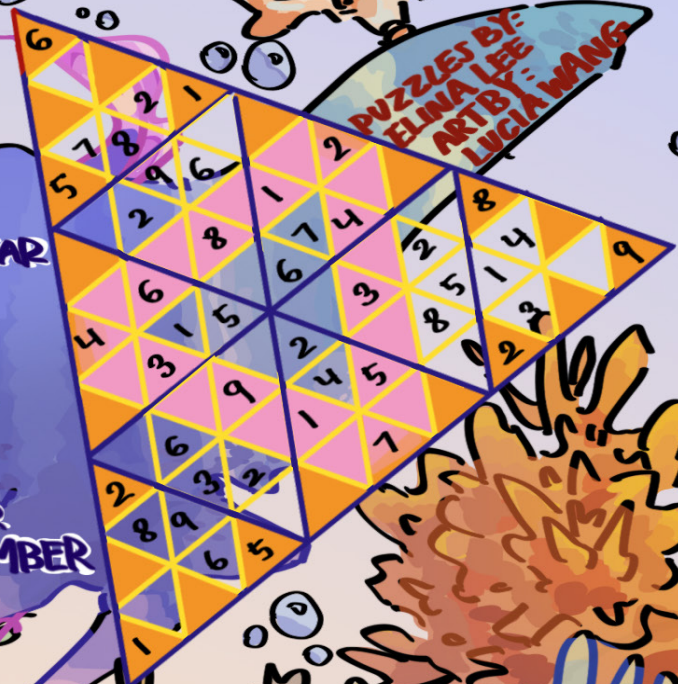
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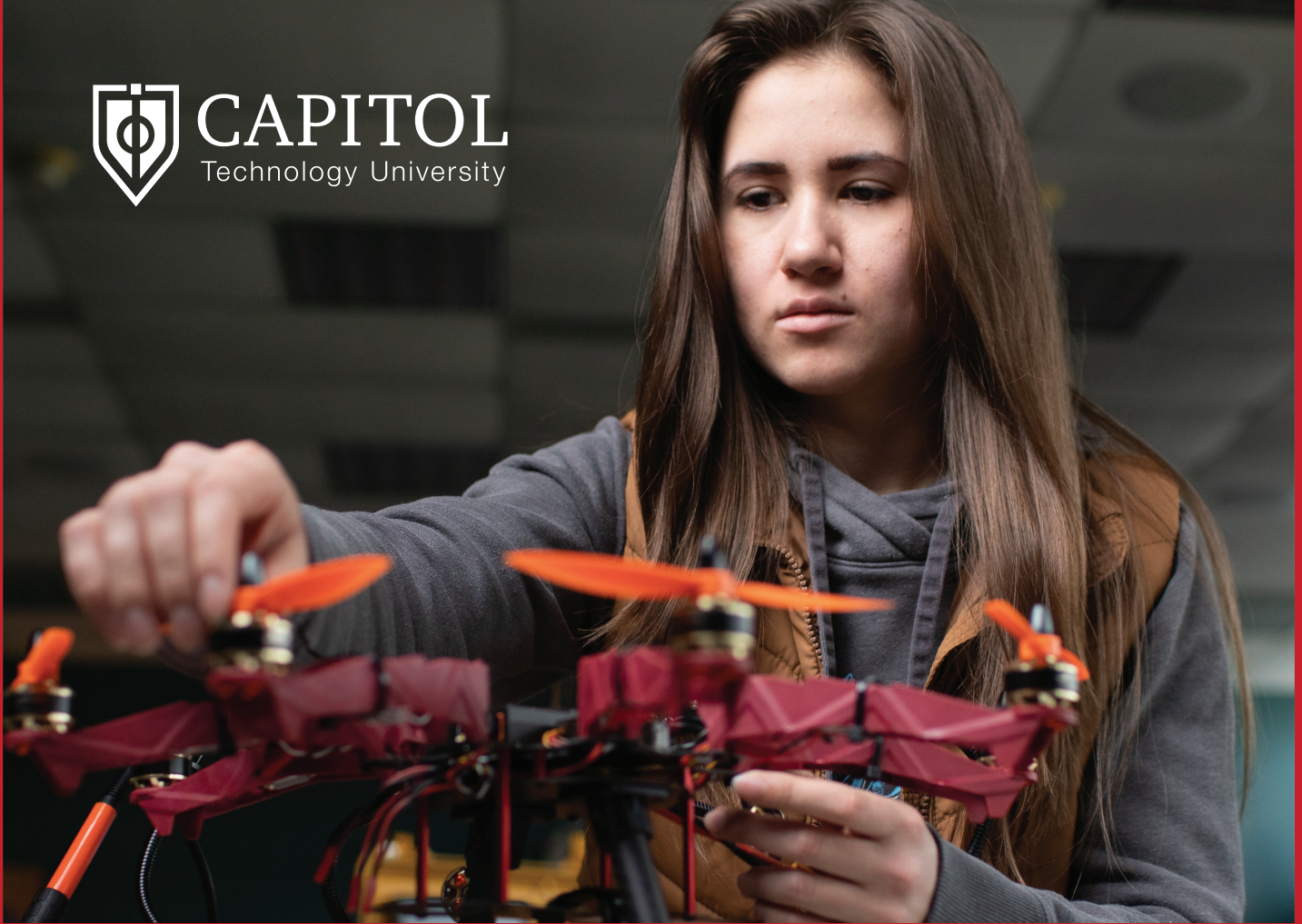
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