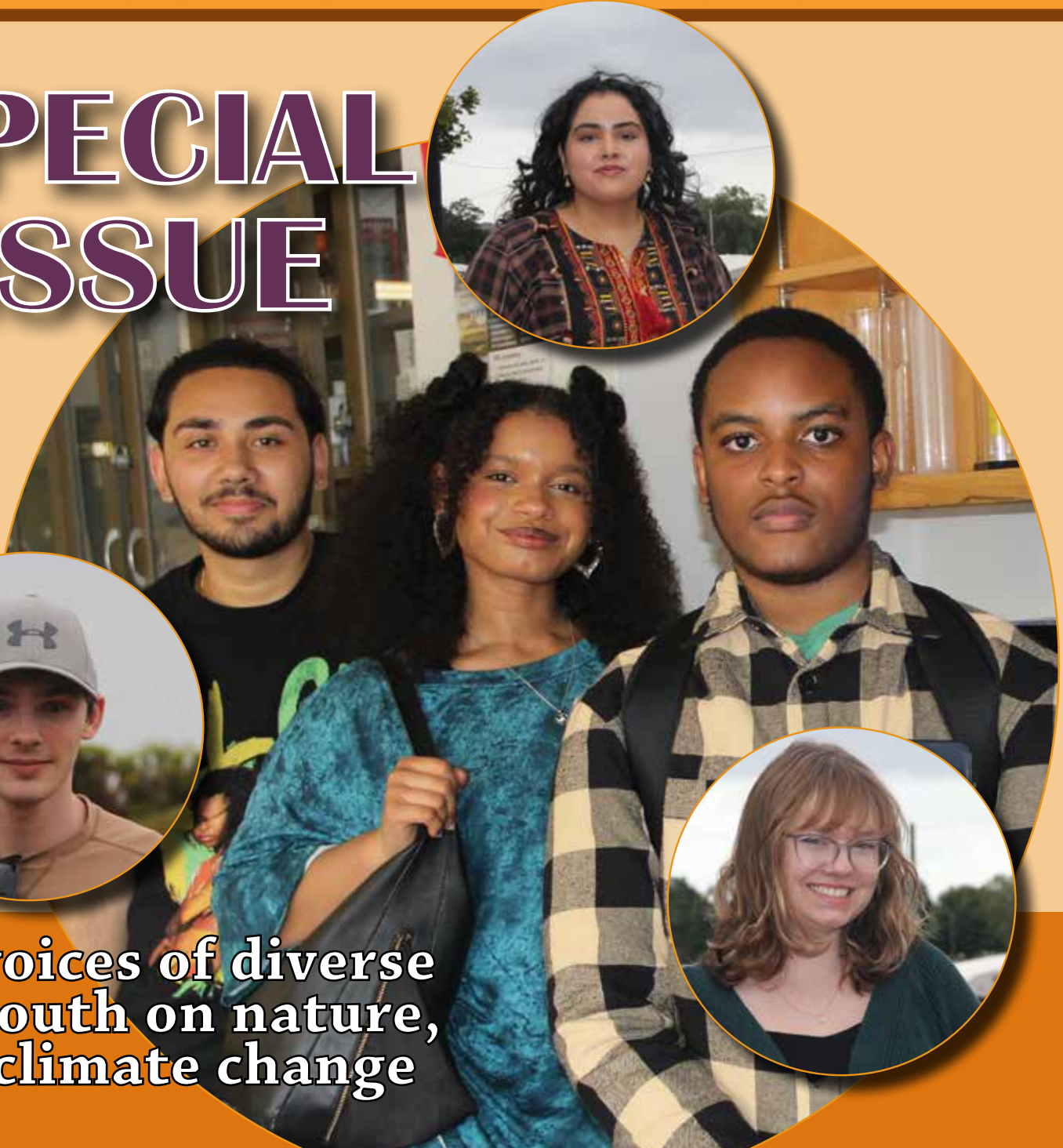




WRACKLINES

WHERE CONNECTICUT MEETS THE SOUND

SPECIAL ISSUE



**voices of diverse
youth on nature,
climate change**

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From the EDITOR

Let's talk about climate change.

Six young writers have started the conversation with their essays in this special issue. They are three students from the High School in the Community in New Haven, and three from the UConn Avery Point campus in Groton, where Connecticut Sea Grant is based. All are recipients of Connecticut Sea Grant's Voices of Diverse Youth Scholarship, an initiative to introduce the perspectives of a new generation to the *Wrack Lines* audience. They have important stories to tell about how they see climate change impacting their lives now and in the future. I'm incredibly proud to have their essays in the magazine.

Now I invite you to join the conversation, with your own perspective reshaped not only by these essays, but also by the work of Ayana Elizabeth Johnson, a marine biologist and author of the newly published *What if We Get It Right? Visions of Climate Futures*. On her fourth stop of a 20-city book tour this fall, she came to Avery Point to discuss the challenges of climate change and her book alongside Sally McGee, director for climate and strategic initiatives at the Connecticut Chapter of the Nature Conservancy. Speaking to an audience of about 100 people, they offered thought-provoking and inspiring insights from their work and experiences.

When I first heard about Johnson's book, I was eager not only to read it myself, but also to use it to create a sense of community around the difficult topic of climate change. We can all become overwhelmed and paralyzed when we think about the challenges we face. Disengaging can look like the more appealing option. But that's not the way forward.

"There is a lot of anxiety," Johnson said during her talk. "But it is not a viable option to just give up. We have to look for solutions and respect our place in this web of life. There is going to be a lot of humility required for the next phase of our species, because we're all just a bunch of flailing goofballs. But my goal is just to be useful, to be a welcomer of others to this work, because we need all their skills."

Her book takes a unique perspective on climate change. In it, she spends just 4½ pages summarizing the current and future impacts of climate change, and the next 400+ pages attempting to answer the question she asks in the title. It's one that implies that success is possible—not perfection, not paradise, but a sustainable future for people and wildlife. How would we get there? Drawing from interviews with various experts, poems, artwork and her own writings, she presents possible answers to that question.

And, as she said during her talk, many answers, many actions are needed, at all scales—personal, local, national and global.

"We need a million, billion small important things," she said, "because climate change is everything. You can fix the place you work. You can do something in your town. There is room for so much creativity in this."

So here is one of those small important things you can do. Join me and my Connecticut Sea Grant colleagues in this new community by reading *What If We Get It Right* then come to one of the book discussions early in the new year. The first will be at 10 a.m. Jan. 11 at the Groton Public Library, 52 Newtown Road, the second will be at 10 a.m. virtually on Jan. 14, and the third will be at noon at the North Branch of the Bridgeport Public Library, 3455 Madison Ave. To register, visit: <https://seagrant.uconn.edu/?p=12342>.



Judy Benson
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Ayana Elizabeth Johnson, author of *What If We Get It Right? Visions of Climate Futures*

Cover: Recipients of the Voices of Diverse Youth Scholarship, clockwise from top, are: Farwa Mohsin, Dominic Moore, Elena Smith, Eden Torres, Seth Kinter and Isaiah Sosa. Photos: Judy Benson

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Choosing to help the environment

UConn students pick up litter on Pine Island offshore from the Avery Point campus during the "Messing About in Boats" event on Sept. 13. Photo: Judy Benson





An eye-opening nature experience in my parents' village

By Farwa Mohsin



Farwa Mohsin, one of six winners of Connecticut Sea Grant's diverse youth scholarship. Photo: Judy Benson.

I never expected to move to my parents' homeland, Pakistan, at age 11, but that's exactly what my mom, siblings, and I did. My father stayed behind because leaving his job wasn't an option due to financial responsibilities. My parents immigrated to America in 1997, and my siblings and I were born and raised in America. The move was a sudden choice made by my parents so my siblings and I could reconnect with family, and most importantly the village in which my parents lived.

The move was difficult, but living in Pakistan for a year is an experience that stays with me as a fond memory. It profoundly reshaped my relationship with nature, as well as my awareness of the impacts of climate change.

My parents were raised in a small village in Punjab, a province in Pakistan. They have told me many stories of how they grew up in Punjab, living close to nature. My dad lived in a mud house, which kept the house cool when the weather was hot and warm when it was cold. He also described how my grandmother would often plaster the walls with cow manure to keep the house walls strong. When I heard this as a child, I wasn't too keen about moving to Pakistan. But our family house there was no longer made of mud. A well-built, two-story modern one had replaced it. So, we had a comfortable home in Pakistan, but there were many instances when we had to get used to the sudden change of environment.

Since we lived in a small village, walking was our main means of transportation. We moved to Pakistan in mid-summer, so the heat was unbearable, sometimes going over 100 degrees Fahrenheit. Walking in such heat would leave us sweating and fanning ourselves. Despite this, the walks were enjoyable because we passed plowed open wheat fields, the greenery of the grass and trees, and the open blue sky surrounding the fields. The fields did not always exude the most pleasant

smells, but the heavenly scenery made up for it. The open fields were even more magnificent when the sun set and the sky above us intensified all the reds, oranges, and yellows of the sunset. The walks through the village became a delightful habit.

Although the walks past the fields were an enjoyable outdoor experience, walks in the alleyways were not. The alleys had open drainage where dirty wastewater flowed and litter was dumped. The drains ran alongside both sides of the alleyway, making walking difficult as we tried to navigate with the dread of accidentally slipping into the open gutter. But this was not the only difficult obstacle to overcome walking through our village.

As our stay progressed, the weather grew cooler. Instead of the searing heat of the sun, there were more rainy days. The rainy days had both benefits and drawbacks. With the rain came strong winds that swayed the palm trees as the days began. Overhead, the clouds would gather in the sky, ready to release raindrops. Then came the drizzle, feeling cool and calming on our skin. Eventually, it would start to pour, sending us inside. The rain was lovely to watch from the windows, but the aftereffects were not.

Facing Page: In September 2022, Mukesh, 11, stands outside his house in Rajar village in the Mirpur Khas District of the Sindh Province in Pakistan, while all the surrounding area is filled with floodwaters. Pakistan endured severe monsoon weather in 2022, with rainfall 67% above normal levels. © UNICEF/UN0698662/Zaidi

From the window, I saw some of the neighboring kids jumping and running barefoot in the rain in the alley. They were enjoying the rainy weather to its fullest, not caring that their feet were getting muddy or that they were getting drenched. I wanted to be as carefree as the kids playing outside in the rain, so I asked my mom if I could join them. However, my mom refused, telling me that eventually, the rainwater would accumulate and flood the alleyways. As the alleyways started to flood, the water rose up to the kids' knees, and they retreated to their homes. The wastewater of the open drainage system and the rainwater were now mixed as the water kept rising, creating a flooding mess. With the alleyways flooded, there was no way to go outside the house without being submerged waist deep in floodwater.

When the rain stopped and the flooding subsided, a muddy mess was left behind from the dirt roads. The mud stuck to the tires of all the vehicles driving through, creating a muddy splash as they passed. While walking, mud stuck to our shoes, and the bottoms of our trousers became soiled with muddy splash marks. Although the aftereffects of the rain certainly created a mud-spattered mess, we were still able to maneuver through our days. After all, we had things to do, so wherever there was a huge puddle of water or a small muddy pit, we would jump over it and prepare for the next obstacle ahead. It wasn't the most comfortable of environments, but it gave me a new perspective. While the extreme heat and flooding I witnessed have long been a part of life in Pakistan, both conditions are becoming more intense and more frequent due to climate change, according to the United Nations Development Programme.

My whole life I had lived in America, so I was accustomed to the environment, nature, and climate in Connecticut where I lived. The move to Pakistan allowed me to have a new experience with nature that had some similarities to America, but was unique in many ways. While I was living in America, I was a homebody who only went outside to play sometimes. In Pakistan, I was always out and about. I experienced nature and climate hand-in-hand as I walked around and explored my village. I came to appreciate how mesmerizing and beautiful nature can be once you spend more time in it, but it can also be harsh, mostly due to the changing climate. I have experienced the changing environment not only in Pakistan through the intensifying heat and

flooding rains, but also in America through the destructive hurricanes, specifically Superstorm Sandy. We lost power for days, due to a downed power line, and the harsh winds and pouring rain didn't help, which caused disarray in our daily lives. Superstorm Sandy was certainly a destructive force of climate change.

I believe that as we admire nature around us, we should take note of how the climate is changing. I also believe in advocating and working toward a cleaner environment to help our climate. Acknowledging progress is also an important way to maintain hope. For example, my village in Pakistan now employs cleaners who pick up litter in the gutters and roads daily. We all should enjoy and love nature, but to do this we must also recognize the changes our climate is going through so we can make the necessary changes in our actions.



In September 2022, children play in floodwaters in Umerkot District, Sindh Province, Pakistan. © UNICEF/UN0698963/Zaidi



A white-tailed deer stands in a field at the edge of a forest. Photo: U.S. Fish and Wildlife Service

Seeing the environment's beauty and problems, with help from a deer and a lizard

By Dominic Moore



Dominic Moore, one of six winners of Connecticut Sea Grant's diverse youth scholarship. Photo: Judy Benson.

Dominic Moore is a senior at the High School in the Community, a charter school in New Haven. While the school is in the inner city, New Haven does have many tree-lined streets he enjoyed walking as a kid or seeing while helping his dad fix a house that his uncle bought. The towering trees felt like a true forest when he was a boy. Unfortunately, there is also a lot of garbage on the streets, so he tries to do his share of picking it up.

To me, the outdoors has always been the pinnacle of beauty. When I was younger, it felt like my second home.

My family's backyard in New Haven was my playground. We had a pool, trampoline and bikes. My siblings and I spent hours a day soaking up the sun and enjoying the outdoors. Though I don't spend as much time outside now, I still find moments to relax and look up at the sky, appreciating the clouds and sun.



Two encounters with wildlife during my childhood stand out as significant experiences in shaping my connection to nature. Both happened during a family trip to visit relatives in Houston, a city that is seeing increases in flooding and extreme heat being fueled by climate change. The juxtaposition of positive memorable interactions with wildlife alongside increased awareness of climate change impacts sharpens both my love for nature and a sense that making a major shift towards renewable energy must become our priority to preserve what we can.

My family loves traveling, always enjoying a good road trip. On one of these journeys, when I was about 11 years old, we were driving from Connecticut to Texas to visit my cousins, aunt and uncle. After about eight hours on the road, nature called with urgency. No rest stops were in sight. I told my parents, and we pulled off the highway and stopped by a patch of bushes.

I got out of the car and searched for as much privacy as I could find. Just as I was finishing, a deer crept out from the bushes. Though confused, I was also interested, as I had always thought deer were too shy to approach humans. But this one had a reason—it had a plastic bag caught around its neck. My parents got out of the car to help. The deer was taller than I was (not like I was very tall to begin with), so it took their combined effort to remove the bag. Once freed, the deer darted back into the darkness. It's a story that I often talk about with my siblings. I was grateful we were able to help the deer,

but also sad that someone's carelessness about their trash had almost caused it to choke.

Eventually, we reached Texas, a place known for its size and heat. The intense temperatures made outdoor activities more challenging than fun. Staying in Houston with our extended family, the air conditioning was like the lifeblood, keeping all the residents comfortable. Even in the heat, Texans are active, participating in road races and bike rides. My cousins were gearing up for a road race with one of their friends, and even though it was very hot, my mom decided to join in. I tagged along, not wanting her to struggle alone.

About a mile in, the combination of heat and bugs took its toll on me. I found shade under a tree and took a break, while my mom and the rest of the runners continued. The day was clear and calm, with clouds scattered across a blue sky. As I rested, I felt tiny legs crawling on my feet. Looking down, I saw a small lizard with sharp scales and a brownish-red hue. I wasn't frightened by lizards, so when I saw this one, I wasn't scared.

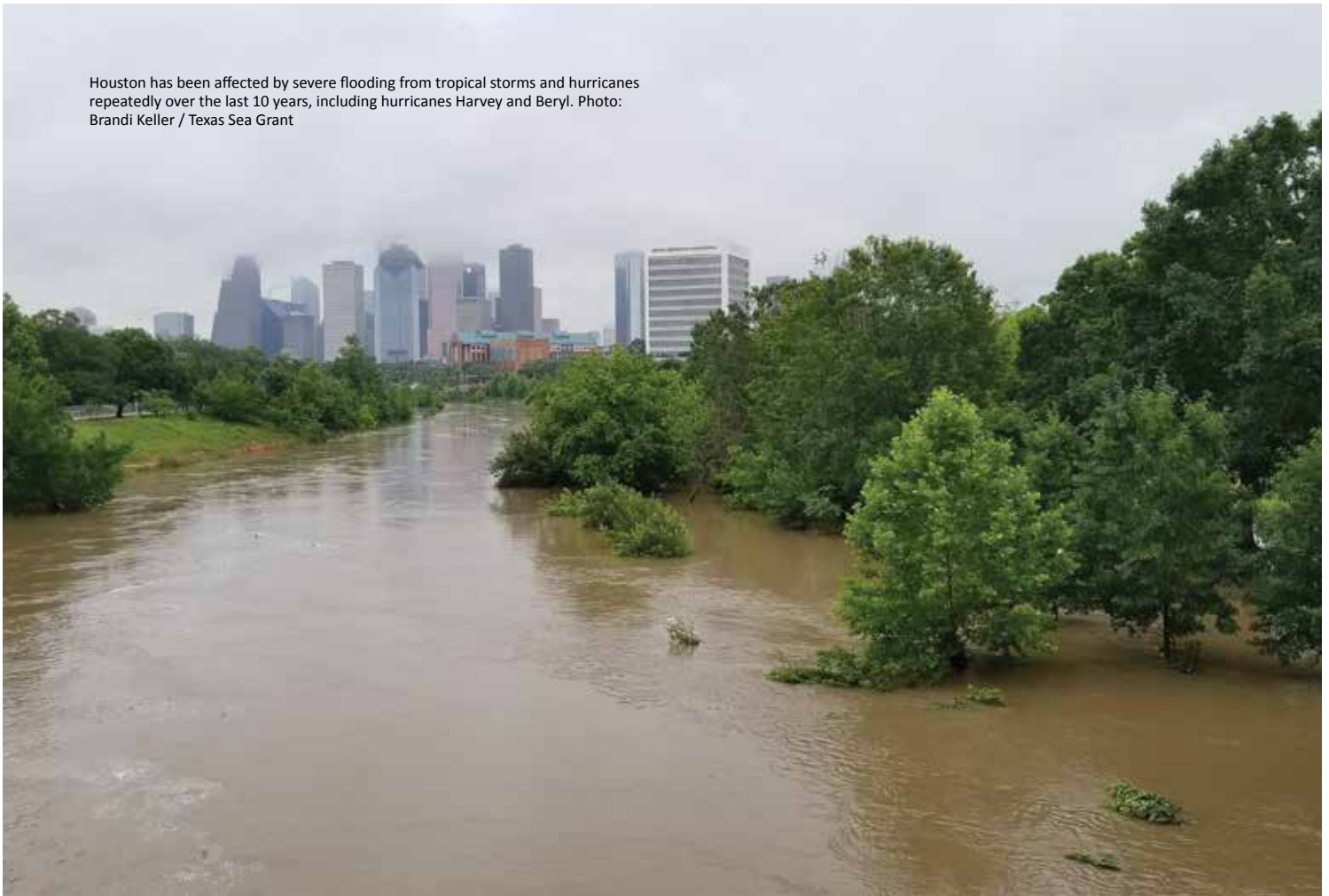
I decided to name him Birt. He seemed to enjoy my company, sitting beside me as if engaged in conversation. When I extended my hand, Birt climbed aboard and rested gently in my grasp. I hurried to catch up with my dad and sisters, Birt in hand.

When I finally reached them, I introduced them to my new friend. My older sister wasn't thrilled about Birt's presence, and

A recent severe drought left a lake in the city of Sugar Land, Texas, 20 miles from Houston, completely dry. Photo: Brandi Keller / Texas Sea Grant



Houston has been affected by severe flooding from tropical storms and hurricanes repeatedly over the last 10 years, including hurricanes Harvey and Beryl. Photo: Brandi Keller / Texas Sea Grant



sadly, I had to let him go. I remember crying real tears that day. I hoped my dad would let me keep Birt, but caring for a lizard would have been too much for me at the time.

Though most of my nature experiences are from my younger years, nature continues to evolve, and so does my perspective. At age 10, a walk around town seemed like a boring chore, but as I've grown older, I've come to appreciate nature's wonders. After reflecting on these two experiences from my boyhood, I took a walk around my neighborhood. My mom has always said we are fortunate to live in a safe area where we can enjoy the beauty of nature.

During my walk, I passed by the track field near Hillhouse High School. A bit farther was a lake where I'd heard rumors that alligators and even piranha have been seen there. While on my walk I encountered a gray squirrel with a very skinny tail. As I slowly followed this squirrel, I discovered a part of the lake I had never seen before. It was like a scene from a movie, with a plethora of bees, butterflies and colorful flowers. However, the human touch of litter along the shore was a sad reminder of our impact on nature.

I picked up some of the trash before heading back home. Despite nature's beauty, we often take it for granted. From littering to overhunting, we are damaging our planet. We can

help by planting trees to clean the air and being mindful of our waste. Educating others about recycling and advocating for environmental awareness are additional steps we can take. At school I promoted a plan for recycling bins in classrooms that didn't succeed, but I remain committed to doing what I can to help educate other youth about the environment.

While social media had once been a frequent outlet for highlighting environmental issues, that seems to have been overshadowed by other concerns. But we must realize that a healthy planet is vital to our future, and without it, we won't have the luxury of worrying about freedom.

People should be more mindful of their waste, because trash that litters our streets and parks ends up polluting lakes and rivers, harming wildlife. Reducing fossil fuel use and using alternatives such as solar power and wind energy are essential for protecting our atmosphere from the continued buildup of carbon dioxide from fossil fuel emissions.

I can't solve all the world's environmental problems alone, but I believe that many hands can make a change. With help, we can save the beauty of nature for future generations. If everyone contributes, we can make a difference and help guarantee nature remains a source of life and growth.





Flames of fury: the far reach of the wildfire catastrophe of 2023

by *Eden Torres*

As I walked outside that morning, I looked up at the sky. I saw a smoky mist in the air. The smell of fire clogged my nose.

It was a day in June 2023, in the second half of my sophomore year at The High School in the Community in New Haven. I walked to my bus stop, noticing the odd color of the sky. It was tinted yellow.

The smoke from the Canadian wildfires had put New Haven in the yellow zone on air quality maps, just on the edge of the healthier green zone. I carried on through my morning talking about the news with my friend group, shocked by the fact that the Canadian wildfire were affecting New Haven this way. The fires were burning more than 2,000 miles north of New Haven, but they're contaminating the air people and wildlife depend on across much of North America. It was hard to believe.

That year, Canada had seen a record 59,000 square miles of flames, forcing one out of every 200 Canadians to evacuate their homes and sending smoke across North America. According to a study conducted by the World Weather Attribution Group, human-caused climate change intensified some fires, making them more dangerous due to higher air temperatures and winds. The study revealed that climate change is generating more frequent and larger and more severe fires in Canada.

This past summer, Western Canada saw more wildfires as a result of warm weather and drought. With over 120 wildfires raging across the country, including "zombie fires," Alberta



Eden Torres, one of six winners of Connecticut Sea Grant's diverse youth scholarship, stands next to a human skeleton model in the biology classroom of the High School in the Community. Photo: Judy Benson.

Eden Torres is a senior at the High School in the Community in New Haven. She wanted to share her story about how climate change negatively impacted her because the smoke from the Canadian wildfires spread quickly to New Haven and was soon forgotten. This is a personal experience she shared with many others who had to quarantine inside their homes to avoid getting sick or having breathing problems.

was employing night vision helicopters and intended to hire additional firefighters. Canada was bracing for yet another possibly devastating wildfire season. Witnessing the effects of the 2023 Canadian wildfires in New Haven was one of the most impactful manifestations of climate change in my life. It literally made me sick.

This event changed my understanding of climate change because I realized we humans need to do better for our environment. The burning of fossil fuels increases the amount of heat trapped in the Earth's atmosphere. As the NASA Science website states, when heat cannot escape from Earth's atmosphere, it changes the Earth's climate too quickly for plants, animals and people to adapt. Humans need to use renewable energy and stop the use of fossil fuels.

Because of the air quality alerts, I had to cancel my plans with my friend group to go to the mall after school. But I understood that it was for a serious reason. One boy tried to tell us the fires were deliberately set, but I knew that was incorrect. Experts cited in media reports said the main causes are excessive heat and dry conditions that allowed sparks from lightning, discarded cigarettes and other unknown sources to ignite rapidly in large fires.

By the middle of the day, the air quality was worsening, moving from greenish yellow in the morning to all yellow

Facing page: Wildfires consumed about 13 million acres of forest in the Canadian province of Alberta in 2023. Photo courtesy of the Government of Alberta



View from Groton of the New London skyline in a haze of smoke from the Canadian wildfires in June 2023. Photo: Dana Jensen / The Day

now. At lunchtime, my friends and I were all alerted by teachers and the principal that we should not go outside due to the harsh air quality.

Curious, my friends and I looked out the cafeteria windows at lunchtime. The sky had turned a vivid yellow, and we became a bit nervous about walking home, especially since the teachers and principal emphasized that we should go straight home after school.

We were nervous because not only did the sky look worrisome, but we were also alerted that if we did walk outside, we could have trouble breathing due to the toxic air conditions.

At 2:10, it was time for dismissal from school. As I walked outside, the fumes weren't as strong as they were in the morning, but they were still impossible to miss. I waited inside the building like usual until the school bus came for me and my other friend group, Jessica and David. The three of us agreed that, since we don't smell strong fumes outside and the air quality map showed we were still in the yellow zone and we all lived near each other, we would just go to the park. As we got off the bus together, I alerted my mom to what I was planning to do after school. I told her that it would just be a quick hangout. We'd get off at the bus stop closest to the park instead of the one closest to our houses.

My mom was skeptical, but she trusted me to make the right decision for myself.

"All right, just be careful," she said.

So I did just that. As my friends and I walked to the park near our houses, David and I started becoming skeptical. We wanted to hang out with each

Smoke billows from the wildfires in Alberta, Canada, in 2023. Photo courtesy of the Government of Alberta



other, but we were worried about the possibility that something bad could happen. Despite this doubt, we tried to ignore it and carry on with our plans.

As we walked, we talked about how we were feeling. Thirty minutes passed, and I texted my mom to tell her that I was still outside. But I was still worried. She responded that I needed to be home at 4 p.m.

At 3 p.m. we got to the park. We started having fun and strolling around. David and I started playing in the sprinklers while Jessica was doing dances she learned on TikTok that she had practiced in her room. Soon we were all dancing to a Spanish song playing on one of our phones. Then we all decided to sit on the swings. As we started swinging, we saw the sky becoming darker but also cloudy. We knew it was going to rain outside after checking the weather app, but we decided to stay outside and bask in the view of Dover Beach visible when the swings reached their peak height. We swung for 10 minutes, then I stopped because something felt off.

I had a sudden headache. David was feeling a bit ill too, but we tried to ignore it. We thought we would be back home soon enough. Will a couple more minutes hurt?

Jessica's phone rang, and David and I stayed quiet while she talked. After Jessica ended the call, she told us that her brother would be getting out of middle school and she needed to pick him up. David and I were willing to go along, since we wanted to go home by this time because it was 3:50. We also didn't want to worry our moms, and our headaches were getting worse.

David and I told Jessica that we would be heading home after we picked her brother up from school. We didn't want her to walk by herself to get her brother. David and I live near each other, so we could go home safely together, but we were worried about her safety since it is a dangerous area we all live in. We all wanted to stay close to each other anyway. We started walking to the middle school. We talked about how much fun we had and were eager to

see the TikTok videos we made with Jess. Then a ringtone disturbed our conversation. My mom was calling me.

"Eden, are you in the house?" she asked, sounding worried.

"No, not yet." I answered.

I could tell she was mad because it was now 3:55.

"Me and my friends are at Jessica's little brother's school to pick him up," I told her.

"Eden, have you seen the air quality?" my mother asked in a raised voice.

"Yeah, in the middle of lunch, it was in the yellow zone," I replied.

"Now look at it again," my mom said. "It's been updated."

I looked and saw that New Haven was now pushing into the orange-to-red zone, "unhealthy for all populations." I now understood why I had this worsening headache.

By then, we had reached middle school, and I told my mom I would head right home. I told my friends about what I just discovered and that we needed to go home ASAP. Jessica speed-walked into the middle school.

As David and I waited, we both started to feel nauseous. Our headaches worsened.

Soon, Jessica came out of the school with her brother. David and I were happy to see them. We walked away from the school towards Jessica and her brother's house and said our goodbyes. David walked me home, and while we walked, I gave him suggestions on how to alleviate his headache. I told David to lay down, drink lots of water, and take pain medicine. When we arrived at my house, he gave me a heartwarming hug and told me to be safe.

I walked up the two flights of stairs to my house and went to my room, immediately undressing and doing my daily nighttime routine. As I wrapped up my hair, I called my mom.

She immediately asked me, "Are you in the house?"

"Yes, Mommy, I'm fine. I'm now in the house."

"Yeah, I see your boldness for being out there," she said. "But the air quality was in the red zone."

"I'm still so shocked to hear that," I said. "It's crazy."

"Yeah, it's sad how our environment has changed," my mom said. "But after this meet-up with your friends, you're going nowhere else. You need to wait for the air quality to get better."

"Ok, yeah, I understand," I said. "After this, I'm going nowhere else. I got a mean headache."

"See, this is why I tell y'all to listen to me," she said, as I rolled my eyes.

"Always, but yeah, my head feels like it's pounding."

"Did you take any Tylenol or ibuprofen?" my mom asked.

"Oh, okay, but I will talk to you later," I said. "Also, yes, I did take Tylenol. I'm about to call David and see if he got home safely."

Once I knew he was safe, I fell asleep. Two hours later, I woke up with a woozy feeling. I stared at the ceiling for a few minutes before getting out of bed and starting my chores.

As I reflect on that day, I realize that the events highlight the importance of living sustainably and supporting climate change legislation, focusing on the impact of our actions on future generations. My experience of how the smoke from Canadian wildfires affected my city, New Haven, and my life—including my social life and my health—deepened my understanding of climate change. The continued burning of fossil fuels is disrupting the climate for the entire Earth for decades and even centuries in the future.





Seth Kinter, one of six winners of Connecticut Sea Grant's diverse youth scholarship. Photo: Judy Benson.

Seth Kinter is an English major at the University of Connecticut, focusing on the intricacies of writing and its connection to real-world experiences. Growing up by the water, he spent many summers at the beach with his family and in his free time, when he's not lost in a book, Seth enjoys hiking, spending time with friends, or simply relaxing at home. One day, he hopes to travel the world and explore the breathtaking natural wonders the planet has to offer.

Looking back on a New England boyhood as climate change disrupts the seasons

By Seth Kinter

I grew up in a little trailer tucked away in a forest with a small stream at the dead end of my road in southeastern Connecticut, thinking of myself as a typical New England boy.

Spring would come, marking the beginnings of growth and life. The gray, rainy Northeastern days kept me inside, staring out my window, watching the rain slide down the glass. I would wait for the sun to peek out from the clouds, drying everything away so I could play on the swing in my little backyard.

The world outside transformed into a lush green paradise. The air filled with the scent of blooming flowers and the sounds of chirping birds. I remember the joy of finding the first crocus peeking through the last remnants of snow, a vibrant purple promise of warmer days ahead. Now in



my early 20s, as the effects of climate change have become more pronounced, I am nostalgic for the way the dramatic contrasts in the seasons defined my youth.

When summer rolled around, my hair turned blonder, always scrunchy from the salty beach waters. At Eastern Point Beach in Groton, my mother would read her book, sitting on a flowered towel overlooking the expansive waters beyond, always keeping an eye on me as I swam waist-deep in Long Island Sound. Summers were filled with sunscreen, running along sandy and sometimes rocky beaches and enjoying nature.

The days were long and lazy, punctuated by the sound of seagulls and the laughter of other kids. I can still feel the warm sand between my toes and the cool relief of the ocean waves. We would wrap up

the beach day with the sun setting in a blaze of orange and pink behind us. In fall, I watched as the trees turned from vibrant greens to regal golds and oranges. Colder days were expected, a natural part of the cycle of life. There was comfort in knowing the world followed a pattern, a predictable rhythm that guided our lives. The air would grow crisp, and the sound of leaves crunching underfoot became the soundtrack of our days. My family and I would rake piles of leaves just to jump into them, the smell of earth and foliage filling our senses. The evenings were spent by an outside campfire, roasting marshmallows and sipping hot cider, and the warmth of the flames was a cozy contrast to the chill outside.

Then winter came, and for a few days, snow would coat the once-green lawns. School would be canceled, and my days were filled with building snowmen with



Eastern Point Beach, a Groton City park, seen in the summer of 2024, holds many fond memories for Seth Kinter. Photo: Judy Benson

funny faces, igloos that never had a roof because that was far too complex for me, and making very poor-looking snow angels. The chill in the air and the crunch of snow underfoot were the hallmarks of my New England winter. We would bundle up in layers, our breath visible in the frosty air as we sledded down hills and had snowball fights, our cheeks rosy and our noses cold.

The nights were quiet.

The world was hushed by a blanket of snow.

The moonlight cast a magical glow over the landscape.

The changing of seasons was like the turning of pages in a beloved book, each chapter bringing its own adventures and wonders. Each season held its own unique charm, its own set of rituals and traditions that marked the passage of time. There was a deep, abiding comfort in the cyclical nature of it all, a reassurance that no matter what else changed, the seasons would come and go in their familiar rhythm.

Today, we still have the four seasons, but I think we have all noticed the differences are more muted. Patterns have been scrambled.

This past winter really highlighted this change. As fall faded into winter, I was

greeted with an eerie, unsettling warmth. Sixty-degree days warmed the air and waters around me, bringing the smells of summer when it should have been cold and crisp.

One day, a snowstorm hit with a ferocity that left me bewildered. More snow followed, burying the world in a thick, silent blanket. Just when I began to adjust, a week of warm weather returned and the snow melted away, only to be interrupted by a sudden, five-minute snow flurry that turned everything white again.

The predictability is seemingly gone. You wake up one day, finding it warmer than normal, and feel a fleeting relief that the cold days of winter are over... in December. But that relief is tainted by an undercurrent of dread. The warmer weather, though pleasant on the skin, feels like a harbinger of something deeply wrong. It's as if nature itself has become unmoored, lost in a disorienting cycle that defies the natural order.

A creeping sense of doom settles in.

Is the world no longer following its ancient patterns?

This warm winter wasn't just a fluke. Snow has become less common over the years, a trend corroborated by NBC Connecticut in their article "See how the snowfall this season compares to the last 25 years," published on March 19, 2024.

I hope these recollections of my childhood will ignite memories that many others also hold dear and spur us to action.

"The 2023-24 season had the 3rd lowest total in the last 25 years," the article states. "The 24-inch total is well below the 25-year median of 45.5 inches," a figure attributed to the National Weather Service.

If we rejoice in these moments of warmth, we accept this uncanny new normal that climate change is causing. I hope these recollections of my childhood will ignite memories that many others also hold dear and spur us to action.

In a few years, I and my fellow young adults may become parents. The thought that our children may not be able to have these same memories of distinct seasons is deeply saddening.

Will our children build those beloved igloos, running into the house to show us their creations? Will they sit by the television early in the morning as snow coats the world, waiting for their school to pop up on the news station, signaling a snow day?

These questions hang in the balance, and their answers rely on our awareness of our own impact on the environment. The time to act is now before these cherished moments become nothing more than distant memories, impossible to recreate.



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***Wrack Lines* is available online at: <https://sea-grant.uconn.edu/publications/wrack-lines/>**

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Opportunities for sledding and other snow activities in Connecticut are becoming rare with climate change.
Photo: Connecticut Sea Grant

When Hurricane Maria tore through Puerto Rico, climate change became a family tragedy

By Isaiah Sosa



Isaiah Sosa, one of six winners of Connecticut Sea Grant's diverse youth scholarship, holds Norman, a tortoise kept in the biology classroom at the High School in the Community in New Haven. Photo: Judy Benson

I remember back in 2017, when Hurricane Maria hit Puerto Rico and devastated its people.

Our family in Connecticut had to send lots of supplies to relatives there dealing with power outages, food shortages, infrastructure damage and numerous other impacts. Thankfully no lives in my family were lost during the hurricane, but that was not the case for everyone. The Puerto Rican government estimates that 2,975 people died on the island because of the hurricane. Another half million residents migrated off the island after the storm, according to the National Institutes of Health.

Isaiah Sosa is 17 years old and a senior at the High School in the Community in New Haven. He is a jazz musician and also very passionate about Puerto Rico, where his parents were born, and bringing attention to issues there that need to be solved.



Flooding and other damage from storms that have lashed Puerto Rico repeatedly since 2017 have impeded recovery efforts on the island since Hurricane Maria. Photo: Efrain Figueroa / Puerto Rico Sea Grant



Due to repeated flooding of agricultural fields in Puerto Rico, growing food on the island has become increasingly difficult. Photo: Efrain Figueroa / Puerto Rico Sea Grant

My relatives in Puerto Rico were actually near starvation for a time after the hurricane. They have recovered since then, but this difficult and traumatic time they endured left a lasting impression on me about the effects of climate change on some of the most vulnerable populations of the world.

NASA Science states that climate change directly and significantly strengthens the power and frequency of hurricanes. As emissions from fossil fuels increase, Earth's atmosphere grows warmer, causing stronger winds and storm tides. When hurricanes form, powered by extra energy from the higher global temperatures, almost anything unfortunate enough to be directly in their path is at risk of being destroyed. Higher carbon dioxide levels in the atmosphere from fossil fuel emissions are also causing the ocean to become more acidic, putting many of the marine resources needed to sustain people as well as marine and terrestrial wildlife at risk. Not only does climate change negatively affect our Earth, but also humans.

This is the side of climate change people tend to ignore. Men, women, and children around the world are suffering because of the effects of climate change on their communities, farms and livelihoods. Many are losing family members as hunger and poor nutrition increase. My Puerto Rican

relatives survived many months of hardship after the hurricane. They had to start growing crops year-round to be able to eat and afford living costs. But this has become harder because of climate change. Because of shifts in wind patterns and ocean currents, the island is receiving less of the kind of rainfall needed to support crops, so plants don't grow as fast. Seven years after Hurricane Maria, the island is still working to rebuild what it lost. At least three hurricanes have lashed Puerto Rico since then, setting back meaningful long-term recovery efforts.

We have the resources to stop using fossil fuels and change to a more sustainable and environmentally sound way to get energy. We have renewable sources from solar, wind, geothermal and plant and animal wastes. The potential for solar energy is especially encouraging, because of the tremendous output of the sun, and is also cheaper and more efficient than fossil fuels, according to the National Renewable Energy Laboratory. This is what we need to focus on developing to its maximum capacity.

Puerto Rico was only one of many places that has been negatively effected by our changing climate. Although many people have already suffered, we can help prevent and lessen the impacts of climate change for future generations.





A farm overlooking boats in Nantucket harbor is one of the many idyllic scenes found the island. Photo: Elena Smith

On Nantucket Island, fond memories collide with today's climate change realities

By Elena Smith



Elena Smith, one of six winners of Connecticut Sea Grant's diverse youth scholarship. Photo: Judy Benson

Elena Smith is a student at the University of Connecticut working on her master's degree in English and minor in Art History. She enjoys watching Marvel movies, reading books, and creating art. In her free time, she loves to play with her three dogs, as well as connecting with friends. Elena looks forward to her annual summer trips to Nantucket, as well as one day traveling around Europe to study art in person.

Every year my family travels to Nantucket for a week during the summer. Once we arrive, we are greeted by my great aunt and uncle who have been living there for as long as I've known them. For me, this iconic home of the fictional sailors who encountered Moby Dick is a place synonymous with sunsets, swimming and reading in grass fields.



Quaint cottages line the waterfront in Nantucket. Photo: Elena Smith

Nantucket is the embodiment of a New England summer. It's a place mixed with historical relevance, from the cobblestone streets of the town built in the 1830s thanks to the success of the island's whaling business, to the museums with exhibits telling the stories of old shipwrecks with boat wreckage displayed alongside.

As you walk the streets, you'll notice they are filled with flowers and mom-and-pop shops. There are ice cream parlors on every corner with book and clothing stores in between. Cars with surfboards strapped to their roofs are a common sight, and kids walk around with sand-filled shoes and sunscreen swiped across their noses.

As I reflect on these idyllic memories from my youth, I compare what stands out for me on the island today—the impacts of climate change growing increasingly obvious. The experiences I had then grow more precious every time I return.

One of my most vivid recollections is of visiting Sesachacha Pond with my family almost every day. It's more subdued than the bustling beaches on the ocean. The brackish water there felt as warm as a bath, with calm ripples that we would float in. We used paddle boards to maneuver around the pond, and near the shore, we would try and catch fish with nets. Sometimes we would walk around the entire pond to a canal connecting it to the North Atlantic. Once at the beach, we would scream to the sea god Poseidon to conjure up his biggest waves to knock us over.

On the days when we ventured out to the ocean at Jetties or Surfside beaches, we carried foldable chairs and towels until my arms were sore. We would look for giant shells to take back home to paint or turn into necklaces. These beaches were great because they had accompanying restaurants and bars that were always playing songs by Jimmy Buffett or The Beach Boys. I would search in vain for sand dollars. When I grew tired of playing, I would spend my time wrapped up in a towel reading, looking like a hermit crab the way I would cover myself to block out the light so I could see the words on my page. I ended up finishing so many books that we often had to return to the local bookstores to buy more.

Even now when I vacation on Nantucket, we go to these same places we've been going to for upwards of 20 years. I still search for sand dollars and bask in the warm water at Sesachacha Pond. I still fly through books and paddleboard through the open waters. Yet even though we mimic our past visits, things have changed.

What was once a fun adventure to the other side of Sesachacha became a path filled with fish bones and half-decomposed seagulls. At other beaches, I have seen similar things. In 2022, we were overcome with the lingering smell of sulfur and something rotten when we walked onto Jetties Beach. As it turns out, there was a mass of decomposing nuisance seaweed near that area of the island, the smell infiltrating the surrounding town as well. It is thought that this seaweed blows in from the North due to wind, and slowly begins to decompose in part due to the warm temperatures. There has been an abundance of this seaweed, or wrack, carried in the waters around Nantucket, according to the island's chief environmental health officer, John Hedden. This decomposition has also brought excesses of enterococci bacteria in the waters, often a precursor of water too contaminated for swimming.

These are some of the problems undoubtedly being caused by rising global temperatures. According to *USA Today* and *National Geographic*, beaches across the United States have been seeing an increase in dead birds and fish as well as rotting seaweed, often an invasive species proliferating in warming waters. Making matters worse, the rising sea levels and increasing number of significant storms are worsening erosion in many coastal towns including Nantucket. I have noticed more frequent harsh winds and rainstorms, which prevent us from leaving the island or going outside. These storms can cause flooding and make roads dangerous to travel. They also cause significant problems for traveling by ferry to and from the island. Trip cancellations and departure delays force people to stay on the island longer than they planned. My family has been faced with this, and to try and avoid it we sometimes leave earlier than expected—never a fun thing to happen on vacation.

These flooding and erosion problems have been an ever-pressing issue for Nantucket. The shores have been slowly shrinking and disappearing for years. Houses are falling into the sea due to the rising tides, seriously affecting the economic status of the island. It's an island with a reputation for high



...seeing the effects of climate change in real time is frightening...this is also a wake-up call about what's to come if changes aren't made soon.

incomes, with many historic homes with an average value of almost \$4 million, according to Fisher Real Estate. Due to the increase in tourism to Nantucket in recent years, many new houses are being built there, which is worrisome on the coast where the risk of damage from erosion and storms is high. Increasing development and population are especially troubling on an island as vulnerable to the effects of climate change as Nantucket. Though erosion has been shaping the island and its beaches for a millennium, it has intensified in recent years. If no major efforts are made to try and stop these dangers, the island will lose more land mass, threatening residents' homes and other assets.

Having grown up with the experience of what Nantucket

used to be like, I am disheartened to witness all the drastic problems it's facing. For my great aunt and uncle who live there half the year, climate change affects them regularly. Even for me, though I only experience one week a year on the island, seeing the effects of climate change in real time is frightening. Finding dead fish and birds on your way to the beach is disturbing. Smelling decomposing seaweed with pop songs playing about how fun the beach is feels dystopian. But this is also a wake-up call about what's to come if changes aren't made soon. This is a problem affecting all generations of life. As my great aunt and uncle face erosion and environmental problems, so do I. Climate change is a worldwide phenomenon that needs worldwide help. We must come together to face these problems before it's too late.

Street flooding such as this in October 2022 is becoming more common on Nantucket.
Photo courtesy of The Inquirer and Mirror





Students from Flanders Elementary School in East Lyme explore the wrack line at Rocky Neck State Park with their teacher Laura Moore in May during a beach day activity that was part of CT Sea Grant's Long Island Sound Schools network program. Photo: Judy Benson

What's in our names?

What are wrack lines? The word wrack is a term for various kinds of seaweed, and wrack lines are the collections of organic matter (sea grass, shells, feathers, seaweed and other debris) that are deposited on shore by high tides. More generally, wrack lines are where the sea meets the land.

With our magazine *Wrack Lines*, we tell stories about the intersection of the land, sea and Connecticut Sea Grant. So what is Connecticut Sea Grant? One of 34 Sea Grant programs across the country, it helps residents make the most of our coastal resources and inland waterways.

It addresses the challenges that come with living by the water or within the Long Island Sound watershed, in a state with 332 miles of shoreline and three major tidal rivers. This NOAA-state partnership based at UConn's Avery Point

campus works with aquaculture farmers, fishermen and seafood purveyors to help their businesses prosper.

It funds research essential to understanding and managing our changing coastal and inland environments. It provides communities and local leaders with the information they need to make better land and shoreline decisions that result in more resilient communities and healthier watersheds. It educates students as well as teachers and adults of all ages about the marine environment.

Connected to experts and residents who live, work and recreate in the Sound and its watershed, it brings diverse interests together around a common purpose of working for mutually beneficial solutions to problems.

Small in staff but big in impact, Connecticut Sea Grant is like a pilot boat that navigates the way for large vessels toward safe harbors. Since 1988, Connecticut Sea Grant has supported "Science Serving the Connecticut Coast."



CLIMATE CHANGE AFFECTS US ALL!

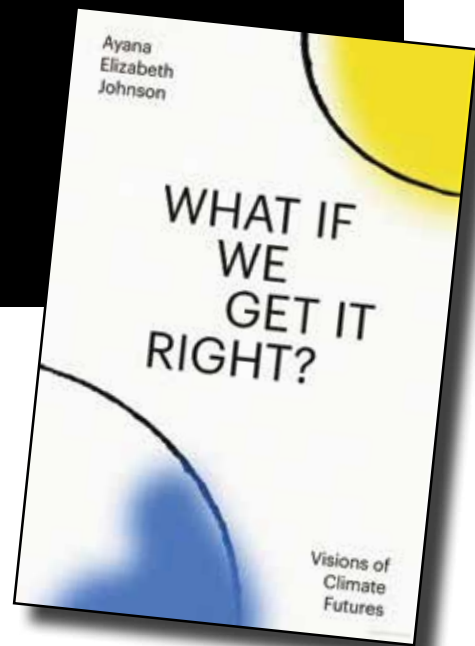
LET'S LEARN AND TALK ABOUT IT!

Connecticut Sea Grant will host three book discussions for the community, one virtual and two in-person, about ***What if We Get It Right? Visions of Climate Futures***, by Ayana Elizabeth Johnson.

10 a.m. Jan. 11 at the Groton Public Library, 25 Newtown Road

10 a.m. Jan. 14 virtually (link provided after registration)

Noon Jan. 18 at the North Branch of the Bridgeport Library, 3455 Madison Ave.



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A great egret holds a minnow
caught from the waters of Long
Island Sound near Eastern
Point Beach in Groton.
Photo: Judy Benson

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