
OCEJ

YOUTH



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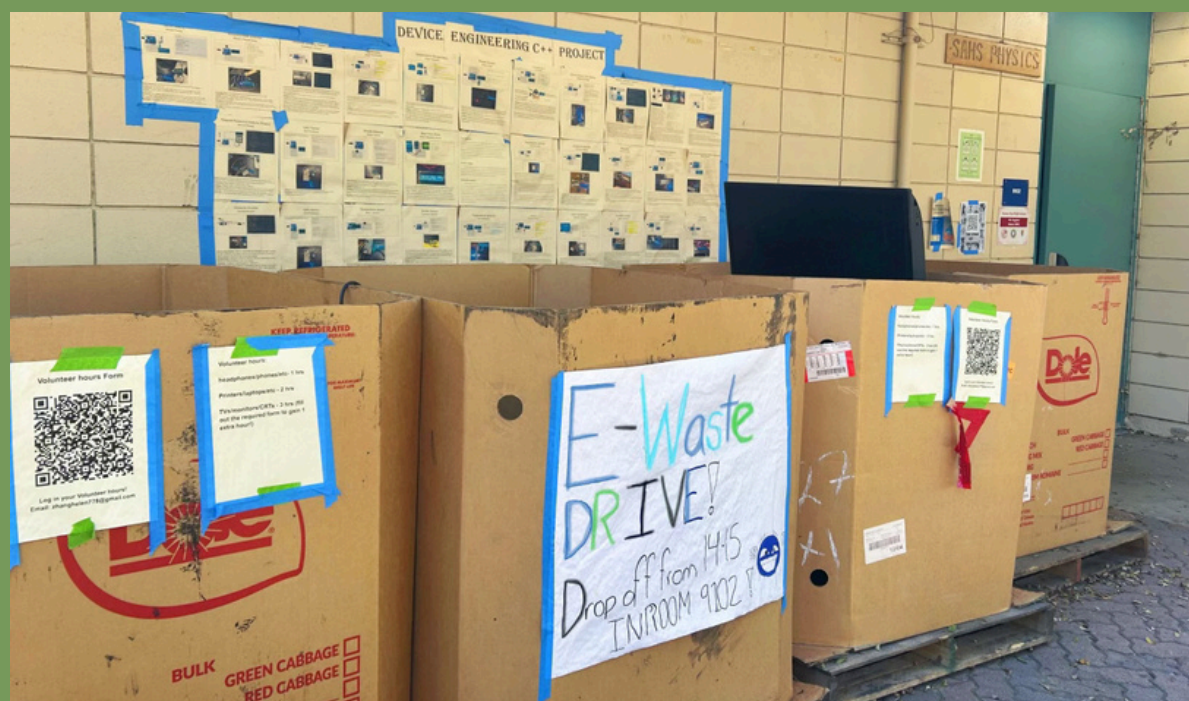
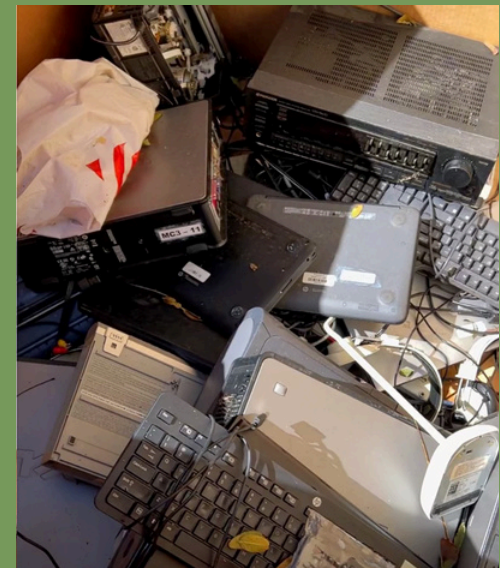
STEM and environmentalism: Science Provisioning and Engineering Collective impacting Santa Ana High School and the community of Orange County with sustainability | *Benjamin Tong*

The Science Provision and Engineering Collective, a club to raise awareness for STEM and environmental sustainability, is one of the first engineering and environmental justice clubs founded at Santa Ana High School. They aim to address education equity by providing passionate youth with opportunities to promote sustainability within their local community. Senior Helen Zhang, concerned with the ongoing California drought crisis and inspired by her Model UN delegate experience on international issues like climate change, hopes to inspire not only her surrounding peers and members in high school but also expand their outreach to the next generation.

Through their numerous sustainability-focused drives, trash clean-up events, and community engagement, The Science Provision and Engineering Collective actively contributes towards efforts to resolve the current environmental injustices around Orange County. For example, in a recent e-waste drive, the club organized an event to collect and recycle old devices that could otherwise leach chemicals into the ground and contaminate groundwater aquifers if dumped into a landfill. In hopes of advocating for the community, the club learned about the potential environmental dangers of throwing away discarded electrical or electronic devices, such as old computers, mobile phones, and household appliances. Furthermore, the club launched a Sustainable Month Project in March 2024, raising awareness about the dangers of e-waste and encouraging students to take tangible steps to become sustainable through eco-friendly actions through workshops, community e-waste drives, and park trash clean-ups. With more than 100 community members participating in these sustainability events to protect their environment, they prevent Orange County locals and communities from being exposed to hazardous waste and water pollution. In the future, the club will continue to expand its outreach to the youth by establishing chapter clubs and implementing engineering and sustainability outreach to more elementary and middle schools, with programs existing at Heninger Elementary School and Circulos High School thus far.

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Overall, the Science Provision and Engineering Collective showcases students taking the initiative to support environmental justice and promote awareness of sustainability efforts within Orange County. Since its founding in November 2023, the club has grown to over fifty members with hundreds of community service hours distributed. With this growth, Helen's passion and club demonstrate how youth continue to pursue opportunities in environmental advocacy and initiatives at their school and for their community. ■



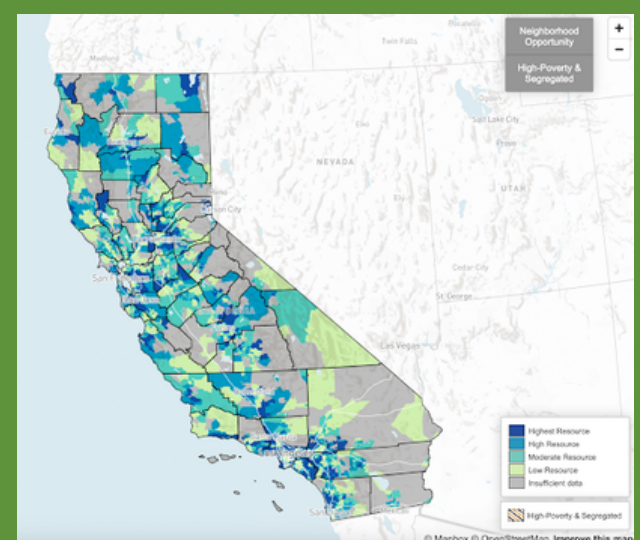
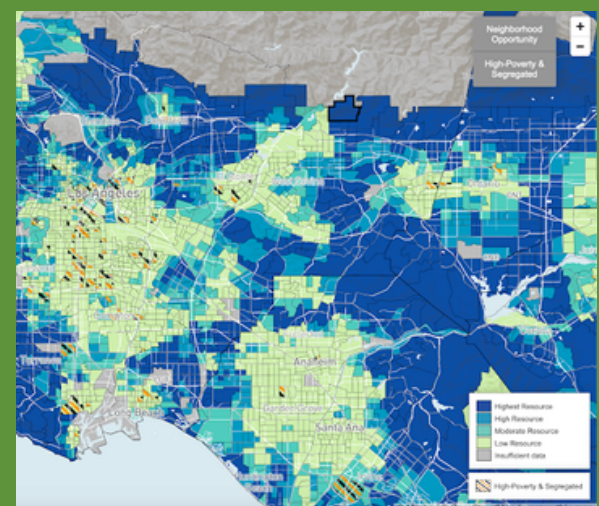
Maps to Help Identify Regions in Need of Environmental Justice and Equity | *Mary Lee*

Note: The maps below are not direct recommendations from the OCEJ organization, but from the author.

Access to credible information can help community members by raising awareness on potential regions that may require additional resources. Through the following maps described below, the public can become more informed on past and current trends of resource levels and air pollution levels, both of which can provide insight on how local governments can address the most environmentally or societally marginalized communities in their region.

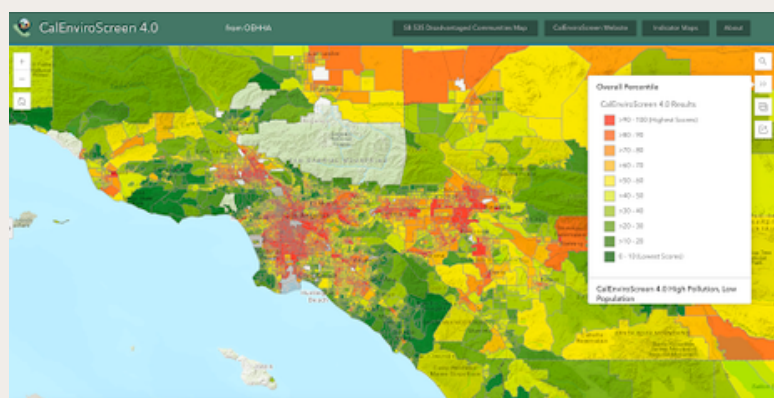
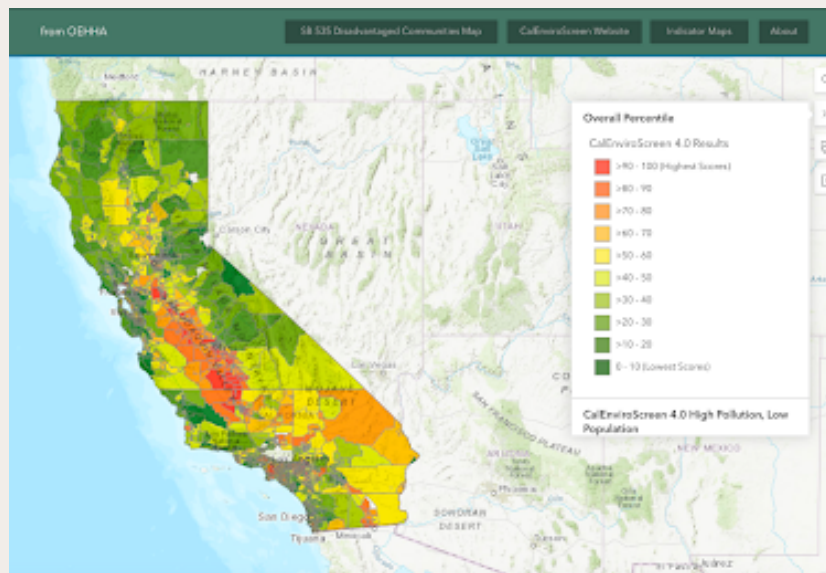
2024 CTCAC HCD Opportunity Map

The CTCAC HCD Opportunity Map, from the [California Tax Credit Allocation Committee and California Department of Housing and Community Development](#), provides information on the level of resources available to communities in California. The map categorizes regions with different resource levels by color with a separate classification of striped black and orange for the “High Poverty & Segregated” category. Along with the zoom-in feature that provides a closer look into resource availability levels in Orange County, the public can also use the CTCAC HCD Opportunity Map to learn more about the educational, environmental and economic states of certain regions. To assess the level of economic opportunity, the map provides information on factors such as median home values and employment rates; to assess educational opportunity levels, the map provides data on, for example, math or reading proficiencies; the environmental factor is measured through a “burden flag,” which shows environmentally marginalized communities.



(California Tax Credit Allocation Committee and California Department of Housing and Community Development)

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(California Office of Environmental Health Hazard Assessment)

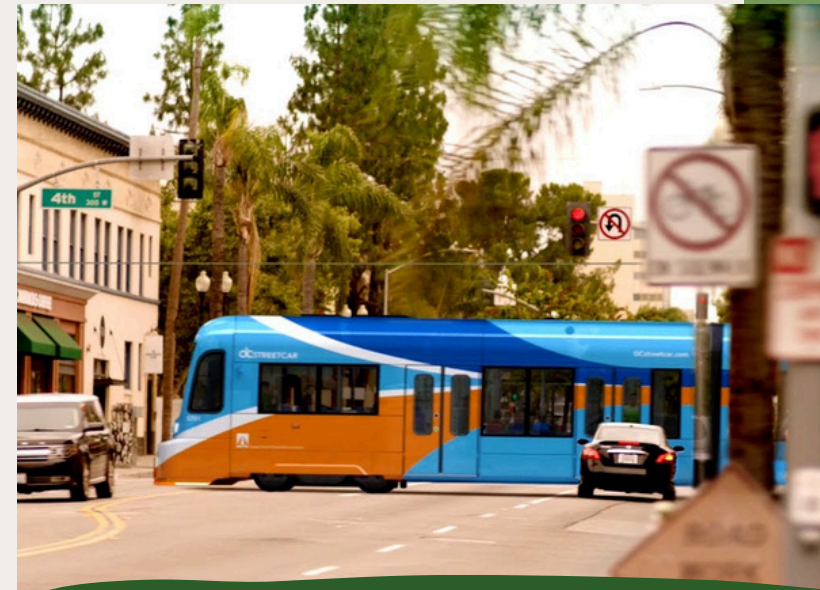
CalEnviroScreen 4.0 Map

Last updated in 2021, the CalEnviroScreen 4.0 map provides information on pollution levels across the state. Similar to the 2024 CTCAC HCD Opportunity Map, there is a zoom-in feature that enables community members to see the data, in this case on pollution levels, that is specifically applicable to their city.

Although a downfall to this map is how it was last updated approximately three years ago, the environmental root [causes of high pollution levels, including industrial activity](#), still persist. Thus, using this map as a supplementary resource to reflect and analyze sources of environmental marginalization or injustice may be helpful. Especially as there is a [correlation between lower resource availability and lower economic status with environmental marginalization](#), CalEnviroScreen 4.0 may also help local leaders identify the regions that were historically environmentally marginalized. ■

Pioneering transit equity research: A Q&A with UCI professor Dr. Elisa Borowski | *Penelope Morris*

Public transit continues to be a prevalent issue in the United States, and Orange County is no exception to the trend. Though it is currently the sixth-most populous county in the country—with a population density outranking that of Los Angeles County—it lacks an expansive rapid transit system; furthermore, ridership on public buses has steadily declined over the past decade, according to Orange County Transit Authority (OCTA). While it was recently announced that the OC Streetcar linking Santa Ana and Garden Grove is scheduled to begin service in summer 2025, securing convenient, affordable transportation is an enduring struggle for many Orange County residents.



Artist's rendition of the future OC Streetcar (OCTA)

These concerns brought us to speak with Dr. Elisa Borowski (she/they), an Assistant Professor of Infrastructure Equity in the Department of Civil & Environmental Engineering at the University of California, Irvine. Professor Borowski is a member of the university's Institute of Transportation Studies and Black Thriving Initiative, as well as a member of the Standing Committee on Community Resources and Impacts within the Transportation Research Board. Their research focuses on equitable resource access and resilience to extreme events through mixed-method and community based participatory action research approaches. She received her PhD in Civil and Environmental Engineering from Northwestern University, as well as a Master of Science in Civil Engineering and a Bachelor of Arts in Anthropology with a second major in English from the University of New Mexico.

1. For our readers who aren't familiar, what is transportation equity and how does it relate to your research?

While there are many different definitions for the concept of transportation equity, I tend to prefer one provided by People for Mobility Justice, which states that transportation equity is about “correcting past discrimination in how... transportation benefits and burdens are allocated, maintained, and developed. Those who have had the least should be given the most.”

Much of my research focuses on transportation inequities within the context of climate disasters, such as the barriers that marginalized communities face to accessing resources and safety during heatwaves, floods, and wildfires. I aim to approach equity in my research from multiple dimensions: distributive, recognition, and participatory. This means

incorporating equity into every step of the research process with the goal of ensuring all people have access to affordable, reliable, and safe transportation options, while simultaneously repairing harms caused by inequitable transportation investments, like exposure to high levels of air and noise pollution and displacement from highways.

2. What brought you to UCI's Civil and Environmental Engineering Department?

UC Irvine has many draws, like its collaborative culture with creative colleagues and bright, curious students who work together to address real-world challenges related to

climate change, environmental justice, and equitable resources access. The department is part of the multi-campus Institute of Transportation Studies, which facilitates interdisciplinary research collaborations across departments and campuses focused on sustainable and resilient infrastructure systems.

All of that said, the primary reason I came to UC Irvine was its Black Thriving Initiative, which is a campus-wide program launched in 2020 to address and dismantle anti-Black racism, promote the success of Black students, faculty, and staff, and create a more inclusive university environment. The initiative supported the hiring of twelve new faculty whose research and creative work focuses on addressing social, environmental, and racial disparities in infrastructure planning, design, and implementation. This initiative is well aligned with my passions and values, so I was eager to join and contribute to its mission.

3. Through the REMIX (Research for Equitable Mobility Infrastructure Across Disciplines) group, your team engages in “community-based participatory action research.” What does this look like in practice, and how does it differ from more conventional styles of research?

Community-Based Participatory Action Research (CBPAR) is a collaborative approach to research that actively involves community members in all stages of the research process, including identifying the research questions, co-designing the research methodologies, collecting the data, interpreting the findings, and disseminating the results. Some of the main goals of CBPAR are to tackle real-world challenges that are prioritized by marginalized communities, produce actionable solutions (e.g., policies, interventions, programs) that provide tangible benefits to the community, and build community capacity through skills, networks, and resources. This approach differs from more conventional research methods where the researcher independently designs the study, collects data, and interprets the

results with little input from the community being studied. Conventional research styles also tend to prioritize academic recognition and the advancement of academic knowledge over community outcomes.

4. How does transportation disparity affect marginalized groups in Southern California? Compared to other communities you have worked in, how is the transportation landscape here unique?

Moving to Irvine, CA from Chicago, IL, I could truly feel the uniqueness of the transportation landscape. Chicago is a denser city with a more integrated public transit system, so the reliance on cars in Southern California was rather unfamiliar to me. Some of the most prominent transportation disparities affecting marginalized groups in Southern California are inadequate public transit, long commute times, and poor air quality. The urban geography of Southern California is sprawling and car-centric, while housing is limited and expensive, which forces low-income residents to live far from employment centers. The vast highway network that has been built to support this urban design has divided communities and increased their exposure to air and noise pollution, contributing to environmental health disparities and infrastructure inequities.

5. How do you suggest youth stay involved with and informed about infrastructure equity in their own communities?

I love how engaged the younger generation is in these issues! I am grateful for the opportunities I experience to engage with youth through classes and community events, because they bring me a lot of hope. There are many options that youth could consider, depending on their interests and preferences. They could join local groups or student organizations that focus on urban planning, transportation, and equity. They could attend local public forums, hearings, and meetings related to infrastructure projects, which is an activity that I assign to my students. They could research topics related to infrastructure equity, such as transportation access, housing disparities, and environmental justice. UC Irvine has a new 8-week summer internship opportunity called the Pre-College Research Immersion Program (PRIME), which matches high school students with faculty to contribute to ongoing research. They could even intern or volunteer with advocacy groups and environmental justice organizations, like OCEJ!

6. What's next for you and the REMIX group?

During my first year at UC Irvine, my research group conducted local listening sessions and developed a multi-dimensional framework for equity evaluation, which one of my graduate student researchers applied to local transportation and hazard preparedness

plans. This initial community needs assessment and equity evaluation laid the foundation for our future work, where we will begin to co-design mobility solutions with impacted communities.

Over the next few years, we aim to co-develop a suite of programs and policies that will improve access to essential services during extreme events for low-income communities of color. We hope that our research will not only influence policy changes but build community capacity to advocate for continued improvements in equitable transportation options. We are excited about the potential real-world impact of our research and the collaboration opportunities that it presents to contribute to the development of a more equitable mobility future.

7. Is there anything else you would like to add or elaborate on?

Thank you for this opportunity to discuss my research and for all the amazing work that OCEJ does! I am continually inspired by the leadership demonstrated by local youth for environmental justice, and I am committed to working together to create a more just future.

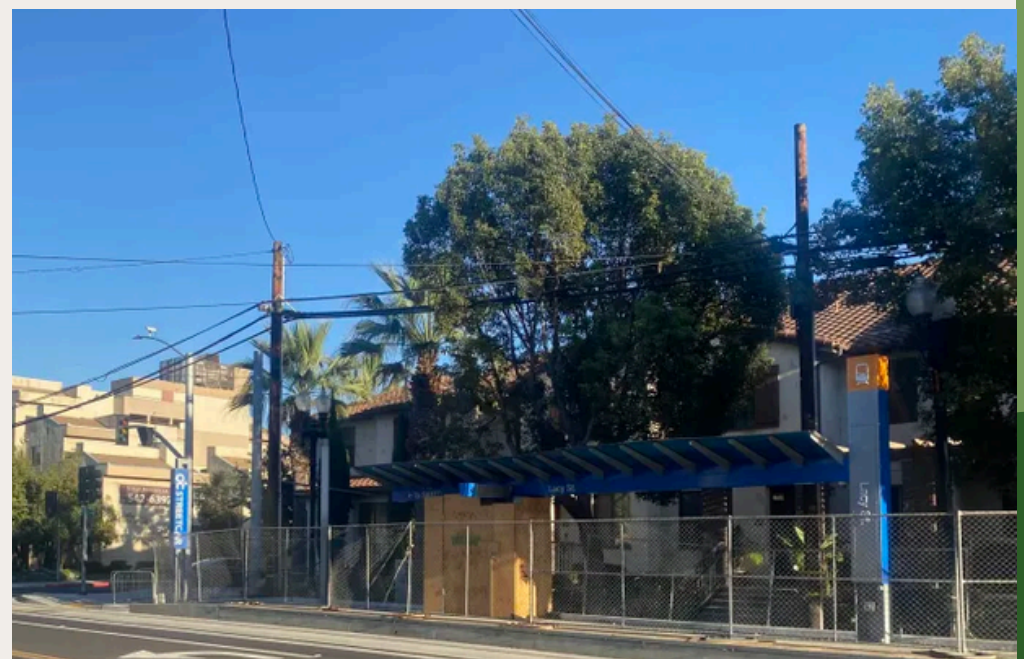
Many thanks to Professor Borowski for participating in this Q&A!

To learn more about the REMIX group, visit <https://faculty.sites.uci.edu/borowski/>. ■

Santa Ana Protects Neighborhoods From Industrial Pollution Under a New Environmental Justice Initiative | *Maya Bowen*

The City of Santa Ana placed a moratorium (a temporary prohibition of an activity) on July 9th, 2024 on 450 acres of historic Latinx neighborhoods. This prohibition impacts over 130 industrial businesses around the historic area and allows the city to study law enforcement and fire department calls in the area while working with other agencies to determine health risks posed from having these businesses in close proximity to the neighborhoods. The moratorium suspends the approval, commencement, establishment, relocation, or expansion of industrial use in the oldest Mexican and Mexican-American neighborhoods in Santa Ana. Protected neighborhoods include Logan and Lacy, which were selected due to their higher population density as well as rich cultural value tracing back to the 1880s.

Moratoriums are commonly initiated due to community concerns over safety, and this moratorium was instated to address concerns regarding the adverse impacts of industrial activities on public health, safety, and welfare in the aforementioned neighborhoods. The moratorium was also instated due to an increase in respiratory illnesses among residents in the area, including asthma, cardiovascular issues and bronchitis. In 2022, the Orange County Fire Authority received 66 calls for life-threatening health emergencies, with 29 calls specifically for respiratory issues.



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The city says that past plans mixing residential, commercial, and industrial spaces have caused environmental and health burdens on the moratorium residents. The initial moratorium was placed on July 9th, 2024 in the area known as the Transit Zoning Code. The first moratorium was instituted due to storage, land use, zoning, and unpermitted work violations, which occurred extremely close to residential areas and were harming public health, safety and welfare. According to Voice of OC, health impacts include asthma, cardiovascular disease, and low birth rate in this community. The moratorium was extended for an additional ten months and 15 days and will remain in effect until it expires on April 15, 2025, unless the City Council adopts a permanent ordinance. While the ban is temporary, city staff will determine whether further or permanent action is needed. ■



meet the staff

Mary Lee | she/her

Mary hopes to spread awareness about local resources that can help nearby communities address environmental injustices and is looking forward to broadening her own perspective through her involvement in the OCEJ Youth Committee Newsletter. Through writing articles and encouraging her peers to learn more about environmental justice, she hopes to support her community and the future.

In her free time, you can find her taking a nice, long nap or reading about current events.

Benjamin Tong | he/him

Inspired by his AP Environmental Science class last year, Ben hopes to further advocate and learn how to combat environmental injustices throughout his time on the newsletter team in OCEJ. In his free time, he enjoys playing tennis and going out with his teammates and friends.

Maya Bowen | Any

Maya is an outdoorsy person who likes to paint, play sports, read and volunteer in their community. Maya joined OCEJ to advocate and make a difference, and can also be seen at Lionsheart, Rooted and Stand Up to Trash as they are passionate about their community and environment.

Penelope Morris | they/she

Born in Los Angeles and having grown up in the Pacific Northwest, Penelope's admiration for and curiosity around people and their environments has accompanied them from a young age. Outside of OCEJ, she can be found volunteering, making art, and walking her dog, Zelda.

ADDITIONAL INFO

About OCEJ Youth

The OCEJ Youth Committee (OCEJYC) is an environmental justice youth advocacy group affiliated with Orange County Environmental Justice, a 501(c)3 multi-cultural, multi-ethnic environmental justice organization. It currently is comprised of 21 high school students from across the county. OCEJYC strives to educate and empower youth to take action towards sustainability and social justice issues in their own communities and to foster a holistic, inclusive approach towards environmental issues.

up next:

OCEJYC is holding an e-waste drive on Saturday, November 9 from 9am to 12pm at St. Irenaeus Catholic Church in Cypress! View our Instagram page for details on the location and accepted items.



Visit ocej.org to learn more about OCEJ and its mission!



Lots more to come!



Follow us on Instagram ([@ocejyouth](https://www.instagram.com/ocejyouth)) to learn about local environmental issues, stay updated on OCEJ Youth events, and register for monthly digital webinars!



Contact us at ocejyouth@gmail.com. We are open for partnerships & collaborations!