





Plan*i*

ECOART BY XAVIER CORTADA



Plan(T) is a socially engaged eco-art project that urges South Florida residents to plan for a future with climate change and saltwater intrusion by planting a salt-tolerant mangrove and an elevation-marked flag in their yard, ultimately spurring climate conversations, helping sequester carbon dioxide, and growing a salt-tolerant native tree canopy. *Plan(T)* is very much an acknowledgment of a changing coastline, one that is moving progressively inland as time passes. As this happens, the natural freshwater aquifers across Florida will become increasingly salinated to the point of disaster for local ecosystems.

Through a combination of installations, presentations, and outreach events, community members learn about their vulnerability to sea level rise and are encouraged to plant a red mangrove propagule alongside a white flag (denoting their property's elevation above sea-level) in their front yards. The tree functions both as a literal act against climate change, specifically sea level rise as the planting of mangroves promotes increased carbon sequestration, as well as a visualization of the growing problem. As the tree is nurtured and grows, so does the vulnerability of the area it resides in, the beauty of the tree juxtaposed with what its growth represents. The mangrove lends itself as a subversive quality in this project, as once the mangrove is planted it is illegal under Florida law to remove it, an allusion to the permanence of the issue at hand.

As part of his social practice, Cortada engages institutional partners in presenting the work. This is not just to leverage their support and scale up the effort, but also to infiltrate their structures and collectively arrive at more creative approaches to problem-solving. In implementing *Plan(T)*, he partnered with Miami-Dade County's Library System, Office of Resilience, Parks, Recreation and Open Spaces department, as well as the University of Miami, Miami-Dade County Public Schools, Frost Science Museum, American Institute of Architects, and Pinecrest Gardens.

BEGINNINGS

The focus of mangroves in the artist's work can initially be seen in projects like *Miami Mangrove Forest*, a large-scale public art project from 2004 that saw Cortada and volunteers paint mangrove propagules along the underbelly of Miami's I-95 interstate in an effort to create a conceptual reforestation of the city.

After witnessing the removal of mangrove forests in his community, Cortada was motivated to transition his work from conceptual to literal reforestation of Miami through the *Reclamation Project*, initiated in 2006. The *Reclamation Project* was an attempt at reintroducing nature into the built environment, specifically to strengthen coastlines from storm surges, but also an acknowledgment of the precarious nature of such a meeting.

Plan(T) builds upon this by looking toward the future - the importance of utilizing salt-tolerant mangroves in the fight against climate change being paramount. All of these projects, as well as Cortada's *Underwater HOA* initiative, are part of an overarching concept of protecting Florida's various coastlines.





MANGROVES

The mangrove finds itself as the central aspect of many of artist Xavier Cortada's paintings, ceramic tile murals, and socially engaged art projects. Mangroves are salt-tolerant trees, most often found in low-lying coastal regions, that are well-known for their exceptional ability to sequester carbon dioxide. The importance of mangrove trees in coastal areas cannot be understated, as mangroves actively stabilize coastlines by reducing erosion and combat sea level rise by allowing for a buildup of sediment in the water. They also serve as an integral part of coastal ecosystems, the trees themselves providing shelter for a variety of marine and avian life.

Upon receiving permission to collect red mangrove propagules, a protected species, from the Miami-Dade County Parks, Recreation and Open Spaces department, Cortada organized multiple mangrove collection events at Crandon Marina and Matheson Hammock Marina.

According to the artist, engaging volunteers in the collection process is integral to the success of the overall project as it allows for an immersive experience that helps participants better understand their connection to the natural world and become "eco-emissaries." Furthermore, spending time in and walking through mangrove forests provides numerous educational opportunities around the importance of the ecosystem.

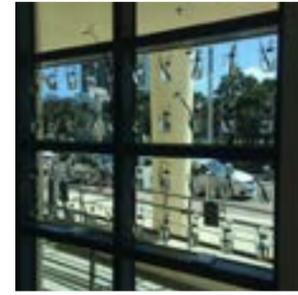
INSTALLATIONS

Plan(T)'s live installations, mangrove propagules displayed in water-filled cups, were installed at all 45 functioning public libraries in Miami-Dade County, as well as dozens of schools, institutions, and small businesses. The mangroves are intentionally installed in a geometric grid, the rows and columns mirroring the streets and avenues of a cityscape.

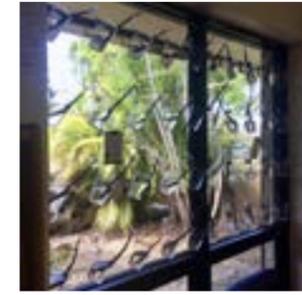
While the functionality of the grid references urban planning and non-natural environments, the inclusion of the mangroves effectively acts as a reclamation of the built by the natural environment. In this way, the grid offers a strong contrast from the natural qualities of the mangroves, effectively allowing for the mangroves to be placed into an aesthetic context of "art." As noted critical art theorist Rosalind Krauss states, "The grid functions to declare the modernity of modern art flattened, geometricized, ordered, it is anti-natural, unreal. It is what art looks like when it turns its back on nature."



Little River



Miami Beach Regional



Miami Lakes



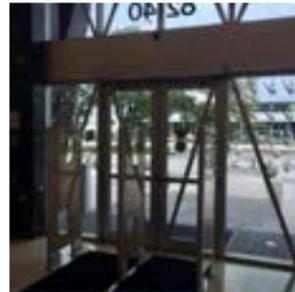
Miami Springs



Model City



Allapattah



Arcola Lakes



Bay Harbor Islands



California Club



Concord



Naranja



North Central



North Dade Regional



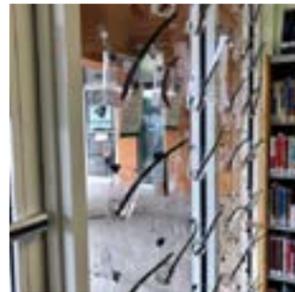
North Shore



Northeast Dade



Coral Gables



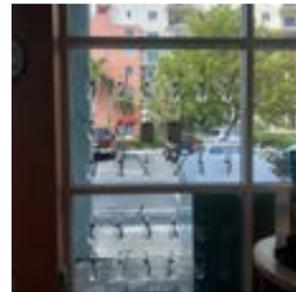
Country Walk



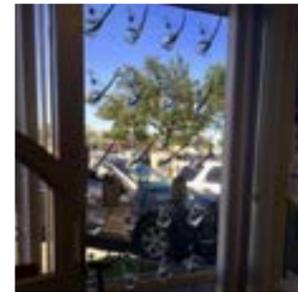
Culmer/Overtown



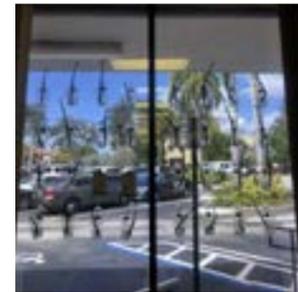
Doral



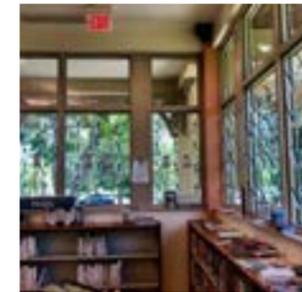
Fairlawn



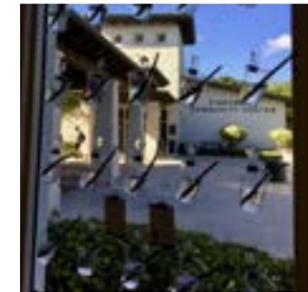
Opa-Locka



Palm Springs North



Palmetto Bay



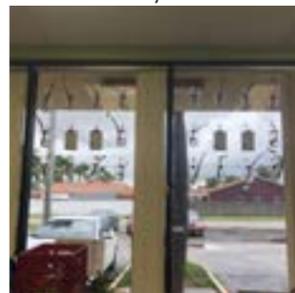
Pinecrest



Shenandoah



Golden Glades



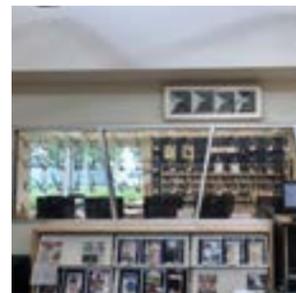
Hialeah Gardens



Hispanic



Homestead



International Mall



South Dade Regional



South Miami



South Shore



Sunny Isles Beach



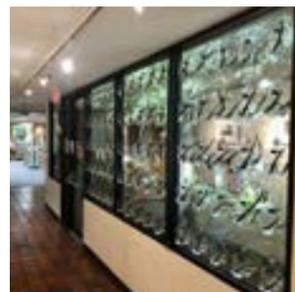
Sunset



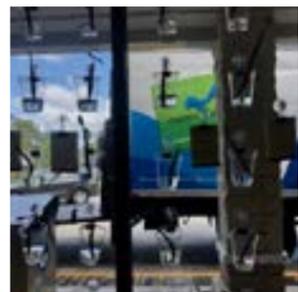
Kendale Lakes



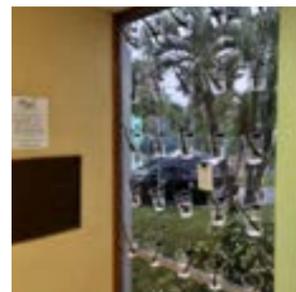
Kendall



Key Biscayne



Lakes of the Meadow



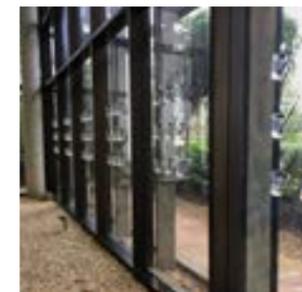
Lemon City



Tamiami



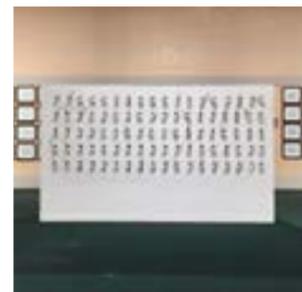
Virrick



West Dade Regional



West Kendall Regional



Main Library

ENGAGEMENT

Once the school and library installations were completed, Cortada's team proceeded to conduct in-person presentations with students, teachers, and library patrons. The presentations were focused on the anthropogenic drivers of the greenhouse effect, the expected local consequences of climate change, the importance of mangrove ecosystems, and the overall concept of the *Plan(T)* eco-art project. Outside of scheduled presentations, the majority of engagement came in the form of tabling at the Pinecrest Gardens Farmers Market every Sunday. Cortada's volunteers facilitated the project by having participants look up their homes' elevation above sea level on an app, use a Sharpie marker to draw their number on a white flag, and select a mangrove to plant in their front yard. Each person was also encouraged to take a picture of their planted mangrove and flag and share it on social media with the #PlantOurFuture tag.





PLANTING MANGROVES MAY JUST SAVE MIAMI FROM A CLIMATE CHANGE APOCALYPSE

By Matthew Meltzer (Oct. 3, 2019 via Matador Network)

TO HEAR XAVIER Cortada tell it, Miami's future is bleak. Real bleak.

"Everybody thinks about sea level rise on Miami's eastern shoreline, on the ocean and Biscayne Bay," the environmental artist and University of Miami professor says from a lush tropical garden in southwest Miami-Dade County. "But long before the sea waves start lapping up on your doorstep, it's gonna come in underground. And that saltwater intrusion will wreak havoc on our community."

Miami, and much of Florida, is built atop an underground limestone aquifer. This makes it more susceptible than anywhere to saltwater invasion from below, through the aquifer's porous surface.

"When sea levels rise, the first place they'll land is where you and I and all our trees get our drinking water," he continues. "In time that means we won't be able to drink that water, and

that oak tree out there isn't going to survive because its roots are drinking saltwater. All our tree canopy, everything you take for granted — your fruit trees, your mangoes, your oak trees, all your agricultural industry — everything you take for granted as nature and being here forever is going to change."

He goes on to describe scenarios where the saturated ground is no longer able to support septic tanks, and the city's waste system falls into ruin. That leads to mass property devaluation, skyrocketing flood insurance, and disease caused by waste seeping into the ground.

That's before he delves into explaining how water on Miami's western coastline — also known as the Everglades — will rise and effectively drown Miami from three directions.

"Maybe there'll be some ridge areas that survive as barrier islands," he says. "But Miami as we know it isn't going to be here."

SHOWING THE WORLD HOW MANGROVES MAY BE MIAMI'S BEST HOPE

As artists do, however, Cortada tempers his apocalyptic warnings with a bright ray of optimism. His latest project, called Plan(T), is encouraging Miamians to plant mangroves in their front yards, both as a symbolic gesture to talk about climate change and as a literal reforestation of the area.

"I want to remind Floridians that we're still part of an ecosystem," he says. "The concrete and glass and neon sometimes lulls us into thinking we're disconnected from it."

The project begins at the weekly Pinecrest Gardens Farmers Market, held a few blocks from Pinecrest Gardens where Cortada has his studio. He and an army of volunteers — many of them his university students — hand out mangrove propagules to passersby, encouraging them to plant propagules in their front yards. Included with the propagule is a white flag, which is to be planted next to the growing mangrove emblazoned with the home's elevation.

The mangroves are symbolic of the vast swamp Florida once was and will likely be again. Because mangroves are saltwater resistant, when the oaks, palms, Banyans, and mango trees Floridians now enjoy all die off from saltwater intrusion, mangroves can live on and provide shade as well as a place for ecosystems to thrive.

The flags tell how nearly all houses in South Florida are subject to sea level rise. Even inland homes may sit only a foot or two above sea level, and be uninhabitable should waters rise from the ocean or the Everglades.

"You have someone over to your house, or your neighbor is out mowing the lawn, he's going to ask you what that flag's doing there," Cortada says. "Then you're going to tell him everything I just told you, and that's what these art projects really are: Conversations, and engaging with the community over time."

MANGROVE PROPAGULES AS ART

The farmers market, however, is just the beginning of the Plant(T) project. The project's primary art installation consists of grids of propagules in plastic cups mounted on walls throughout the city, serving as reminders of what Miami will ultimately become. Cortada says he arranges them to look like street grids, and the propagules show the mangrove canopy that will sit over South Florida's streets in the not-so-distant future.

"What you're looking at are 820 specimens that are going to be the future tree canopy of Miami-Dade County," he says proudly as we view his installation in a gallery at Pinecrest Gardens. "And 820 opportunities for conversation and introspection."

Similar grids can be found in 50 libraries across the county, as well as on campus at the University of Miami and, soon, at some local high schools. In December, the propagules that adorn his main exhibit near his studio will be planted in the Pinecrest Gardens' parking lot, creating the world's first urban mangrove forest. In January, the propagules in the libraries and schools will be given to residents to plant in their yards.

This is not Cortada's first time using mangroves to make a statement. In 2004 he painted a mural on an I-95 underpass near downtown Miami, depicting a mangrove forest that once stood in its place. He later had mangrove propagules hung in store windows and doors along South Beach's iconic Ocean Drive, which he later planted near Virginia Key to help replenish its supply of barrier vegetation.

"Mangroves are incredible buffers from storm surges," he says, explaining why planting mangroves en masse may help save the city. "Whenever a hurricane hits a mangrove forest, it weakens the hurricane and then it absorbs the energy of that hurricane and the storm surge. So, they're really valuable ecological resources for any community."

In addition to providing barriers from storms and a tree canopy for the future, Cortada says he hopes to give Floridians a visual reminder of climate change, one that ultimately motivates them to try and change an ominous future. And his walls of propagules can serve as both a warning and a sign of hope for the next generation.

"We don't see it now, but it's coming," he says of sea level rise in Florida. "And my project wants to make that a reality for people. Tragic as it should sound to you, even in the face of this I think it's a hopeful gesture. If anything, it helps educate you and make you aware. So you decide what you're going to do for yourself, your family or community. It'll help you decide what you're going to do at the ballot box. It's kinda like what Sting said on Russians, I hope Miamians love their children too."



COVER PHOTO: 820 mangrove propagules in clear, water-filled cups; ABOVE: Xavier Cortada engages audiences in front of his Plan(T) installation at Futurescape Miami: Skyline to Shoreline, a public presentation by the Facebook Art Department and Facebook Analog Research Lab, as part of UNTITLED, ART Fair's Monuments Program during Art Basel Miami 2019

ABOUT THE ARTIST

Xavier Cortada is an artist and professor of practice at the University of Miami Department of Art and Art History, with secondary appointments in the School of Law and the Miller School of Medicine. Cortada uses art's elasticity to work across disciplines to engage communities in problem solving. Particularly environmentally focused, his work generates awareness and action around climate change, sea level rise, and biodiversity loss.

Over the past three decades, the Cuban-American artist has created art at the North and South poles and across 6 continents, including more than 150 public artworks and dozens of installations, collaborative murals and socially engaged projects. He has been commissioned to create art for CERN, the White House, the World Bank, and Miami City Hall, among many other art, science, history, and government venues.

Cortada has exhibited and produced works internationally, including peace murals in Cyprus and Northern Ireland, child welfare murals in Bolivia and Panama, AIDS murals in Switzerland and South Africa, and eco-art projects in Holland, Scotland, and Taiwan. The artist's work is in the collections of the Perez Art Museum Miami (PAMM), the NSU Museum of Art in Ft. Lauderdale, the Whatcom Museum, the Patricia and Phillip Frost Art Museum and the MDC Museum of Art + Design.

Cortada, who was born in Albany, New York, grew up and lives in Miami, Florida. He received bachelors, masters and law degrees from the University of Miami. His studio, gallery and socially engaged art practice are based at Pinecrest Gardens where he serves as artist-in-residence.

To learn more, visit www.cortada.com.



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