CP NAS

CULTURAL PROGRAMS OF THE NATIONAL ACADEMY OF SCIENCES

July 10 - December 31, 2024
NAS Building, West Gallery
2101 Constitution Ave., N.W. Washington, D.C.

Xavier Cortada

Climate Science Art

Introduction

This catalog documents the exhibition *Climate Science Art*, showcasing Miami-based artist Xavier Cortada's climate change-focused artwork from Miami-Dade and Broward Counties, Florida, and the North and South Poles, spanning from 2007 to the present. The exhibition features Cortada's series, *The Underwater*, along with his earlier projects created in Antarctica and the Arctic, which explore global interconnectedness to raise awareness about the realities of climate change

The Underwater a community-led climate action project, to raise awareness about sea level rise. It uses interactive public art installations to reveal South Florida's elevation, spark conversations, and spur civic engagement. Since launching *The Underwater* in 2018, Cortada has enlisted thousands of residents and students to look up their home's elevation and make yard signs.

Site-specific elevation yard signs, sustainable concrete sculptures, and murals announce a given location's elevation above sea level, however, that meaning is unknown to anyone unfamiliar with the project. Due to the ambiguous nature of the numbers, coupled with their inherent strangeness, the elevation markers work to pique the interest of passersby. It is in these moments of intrigue that curious individuals can learn about the local impacts of sea level rise by scanning the embedded QR codes. In this way, the artwork allows people to discover their neighborhood's elevation above sea level, explore relevant online resources, and learn how they can get involved in local climate action.

This methodology for engagement, education, and participatory art provides scientific facts to people in a disarming way. Rather than presenting people with data, graphs, and charts, this process can engage them in conversations and art-making that will simultaneously allow for listening opportunities and a memorable learning experience. Collaboratively mapping the topography of their community, neighbors reveal an alarming reality: declining property values, increased flood insurance costs, failing septic tanks, compromised infrastructure, climate gentrification, and collapsing ecosystems. Making the invisible visible also challenges preconceived notions; living farther away from the coastline does not always correspond with lessened vulnerability to sea level rise.

This exhibition is organized by Cultural Programs of the National Academy of Sciences.

Xavier Cortada

Xavier Cortada is a socially engaged artist who uses art's elasticity to work across disciplines to engage communities in creative problem-solving. Over the last three decades, he has created more than 150 public artworks, installations, and collaborative murals across six continents and has made work at both Earth's poles. Pioneering eco-art in Miami, his community-driven art has catalyzed over 25 acres of ecological restoration in Florida, yielded participatory projects in every Miami-Dade County public school and library, and sparked interdisciplinary initiatives to address sea level rise. Through his foundation, the Cuban American artist engages people in hands-on projects that generate awareness and inspire action around the climate crisis and other social justice issues. Cortada served as Miami-Dade County's inaugural artist-in-residence, was inducted into the State of Florida Artists Hall of Fame, and won a 2023 National Academies of Sciences, Engineering, and Medicine Excellence in Science Communications Award. He earned bachelor's, master's, and law degrees from the University of Miami.

A Very Different Voice

The climate art of Xavier Cortada inspires Jennifer Jurado's work on climate resilience. This article is based on Lisa Margonelli's interview with Jennifer Jurado and was published in Issues in Science and Technology, Fall 2024.

Xavier Cortada's The Underwater is a series of public art installations that reveals the vulnerability of Florida's coastal communities to rising seas. In the form of murals, crosswalks, concrete monuments, and yard signs, the artworks prominently feature the elevation of the site where they're located. Through community workshops, apps, and even buswraps, these works raise awareness, spark conversations about climate, and catalyze civic engagement. As the chief resilience officer of Broward County, Florida, this kind of engagement is vital to me: I'm responsible for leading climate mitigation and adaptation strategies across our 31 municipalities with 1.9 million people. Our land is between 4 and 9 feet above sea level, and we have nowhere to retreat if it floods. A lot of my effort is focused on helping to guide planning and management decisions that support our natural resources as well as our built environment, in addition to working with state, federal, and local agencies on a coordinated strategy to reduce the severity of the impacts of climate change. In Broward County, we've been working on climate initiatives since 2000. But despite all our progress, we've really struggled with communications and community engagement. We don't have the large community-based activist groups that have served as on-the-ground partners in some other places. And we are aware that government isn't always the best messenger, and that we need a diversity of voices.

I first encountered Xavier's work at an environmental youth summit with a few thousand students. I was really overwhelmed with the quality of the work and the students' connection with the history behind it. Xavier explained his own experience as an artist: he had gone to Antarctica and felt the ice melt in his hands and realized how that connected to the communities that he loves. He was utilizing this creative messaging of art to engage and communicate in such a powerful way.

After I met Xavier and discovered his work, we in Broward County began to envision how we might work with him directly. The people who typically work in this arena tend to communicate like I do—meaning, we're all technical people. No matter how I try to simplify things, I have trouble getting my message across. But Xavier is a very different voice. Talking with him wasn't like an academic conversation; it was one of really deep connection. What he says has its origin in his heart. We asked Xavier to present to our climate task force, and then we began to plan to work together with schools. One thing that struck me is that Xavier engages in a different kind of climate conversation. Often people are just overwhelmed and feeling a sense of devastation and loss when it comes to climate change. Xavier is able to talk about providing individuals with agency—that you have an important stake in what's happening, and you have the capability to be an important messenger. He emphasizes the power of your voice and your participation, that this is about your community. Another reason we were excited to work with Xavier is that he really understands and cares about young people. He leaves them feeling empowered and capable and invested. When children join a workshop, they learn about sea level rise. They can use an app to see what their local elevation is, and how changes in sea level will affect their school and their neighborhood. They work on making a yard sign with the elevation of their home and Xavier paints an incredibly beautiful mural in the hallway of their school, with the elevation of the school. Imagine how empowering it is for those 100 students to be the keepers of this knowledge: they're the experts, they're able to lead that next level of conversation. I think he leaves all of us feeling like we're not destined to inherit the problem. We have the capacity to be part of the solution. We not only hosted workshops at 10

public schools, but we also invited Xavier to speak and hold a workshop at Water Matters Day—our county's largest environmental event, with 3,000–4,000 attendees annually. Later we organized a community climate conversation with Xavier focused on our central county neighborhoods, and we are installing Xavier's art on the façade our county garage. It's a beautiful tile mural featuring the elevation of the garage in downtown Fort Lauderdale. And just now, actually, I was able to sign off on an additional art installation we will feature right outside our commission chambers. So much about Xavier's conversation is trying to get people to pause long enough to ask the question: "What am I looking at?" And to use that art as an opportunity to have conversations that wouldn't have happened otherwise.

Jennifer Jurado is the chief resilience officer and deputy director of the Resilient Environment Department, Broward County, Florida.

Lisa Margonelli is the editor-in-chief of Issues in Science and Technology.

Students painted murals on the street at intersections in Pinecrest, Florida, in 2018. This location is 9 feet above sea level.

The Underwater

Underwater HOA Elevation Drive: 7, **aerial photograph of paint on asphalt, 2018**

Xavier Cortada
Climate Science Art

CULTURAL PROGRAMS OF THE NATIONAL ACADEMY OF SCIENCES

***Underwater HOA Elevation Yard Sign in front of Xavier Cortada's studio indicating that it is 8 feet above sea level,* 2018**

Elevation Yard Signs display a home's elevation above sea level to catalyze conversation and action around the climate crisis. Distinct from traditional political or "for sale" signs, the ambiguous elevation numbers pique the curiosity of neighbors, friends, and family. Each sign also features Xavier Cortada's Antarctic Ice Paintings, conceptually bringing Antarctica's melting ice to the doorsteps of coastal residents as a stark warning of what will come without a rapid transition away from fossil fuels.

Xavier Cortada
Climate Science Art

CULTURAL PROGRAMS OF THE NATIONAL ACADEMY OF SCIENCES

***Underwater Elevation Sculpture (Hard Positive),* 2023**
Sustainable concrete

Xavier Cortada is creating a permanent interactive art installation of sustainable concrete elevation sculptures across all of Miami-Dade County, Florida's 200+ parks. Anyone who scans the sculptures' QR codes can discover their own home's elevation above sea level and pick up a free Elevation Yard Sign to put in their front yard, thereby joining the county-wide installation and raising awareness in their neighborhood.

The Cortada Foundation is activating the site-specific sculptures by hosting educational programming and ceremonial performances. At each dedication event, the artist leads participants, one at a time, in pouring seawater from Biscayne Bay over the sculpture. In this ritualistic process, everyone commits to do what they can so that moment will be the last time saltwater makes contact there.

Designed to stand the test of time, these art pieces will outlive their own accuracy, their numbers staying fixed while the elevation of their locations gradually declines. The sculptures also aim to generate exposure for sustainable concrete as a climate solution, helping the cement and concrete industry accelerate its decarbonization.

***The Underwater Elevation Yard Sign (Front & Back),* 2023**
Printed yard sign

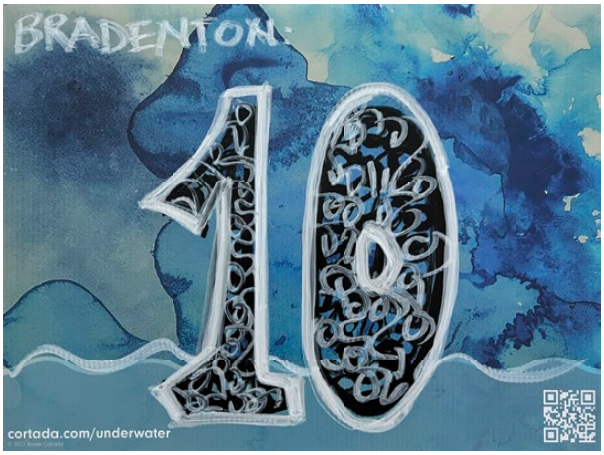
The initiative's latest iteration, *The Underwater*, encourages people to paint or draw their elevation on top of an *Antarctic Ice Painting* background. Their elevation then sits alongside a QR code that invites others to find their elevation. The back of the sign prominently features Cortada's '6' drawing, chosen because the accompanying QR code reveals a projection of what 6 feet of sea level rise would look like in Broward and Miami-Dade Counties.

***Underwater HOA: Original Drawings,* 2018**
Graphite on paper

In developing his *Underwater HOA* project, Xavier Cortada created stylized numbers to map the elevation of a community above sea level and help people understand how climate change impacts them personally. The black-and-white numbers seek to call attention to the measurable data that can be quantified in a world of misinformation and ideological divides. Using gestural drawing, Cortada created bold, organic numbers to bring a personal and welcoming element to the climate change conversation. The swirls and expressive markings could also be seen as the varied pathways on the journey to building a home and family. These elements come together to form a number that measures the vulnerability of the very structure where life happens.

Xavier Cortada
Climate Science Art

CULTURAL PROGRAMS OF THE NATIONAL ACADEMY OF SCIENCES



***Underwater Gulf: Bradenton, FL; Mobile, AL; Biloxi, MS; New Orleans, LA,* 2022**
Acrylic on printed yard signs

During the summer of 2022, Xavier Cortada mapped the Gulf Coast by placing elevation markers at city halls in four coastal states—Florida, Alabama, Mississippi, and Louisiana—depicting their elevations above sea level. By doing this at places where city officials make decisions about municipal budgets, land use, planning, and zoning, Cortada made visible the threat that sea level rise poses to each city's future tax base.

Xavier Cortada
Climate Science Art

CULTURAL PROGRAMS OF THE NATIONAL ACADEMY OF SCIENCES

***Underwater HOA DIY Elevation Yard Sign,* 2018**
Paint on repurposed political sign

Participants in the original *Underwater Homeowners Association* either installed yard signs with pre-printed numbers, or repurposed political yard signs by painting them white, drawing their elevation, and adding a final blue wave at the bottom to represent the rising seas. By encouraging people to transform old, often polarizing campaign signs, Xavier Cortada aimed to transcend political divides and foster a sense of unity, effectively turning symbols of contention into beacons of shared commitment.

Xavier Cortada
Climate Science Art

CULTURAL PROGRAMS OF THE NATIONAL ACADEMY OF SCIENCES

Xavier Cortada: Climate Science Art

Xavier Cortada is a Cuban American socially engaged artist based in Miami, Florida. His exhibition, *Climate Science Art,* features images and artifacts from his rituals, actions, and thoughtful exchanges with participants who become eco-emissaries for climate change and environmental awareness. Highlighting the global impact of climate change, Cortada couples his local practice—engaging participants of all ages in Miami-Dade County schools and parks—with interventions in distant locations of the world: the North and South Poles. Visitors to *Climate Science Art* will learn about Xavier Cortada's life-long commitment to service through artmaking with and for the public. The exhibition includes photographs of his polar interventions, murals in South Florida, and sculptural references to concrete markers from his ongoing, large-scale public project, *The Underwater.*

To make art is to communicate with expressive gestures, create poetic relationships, and unfold complex concepts in an accessible and meaningful way. While most viewers are familiar with traditional media like drawings, paintings, and photographs, they may benefit from an introduction to art that prioritizes social interaction. Artists working in this modality draw inspiration from paintings and drawings as well as from conceptual art, information design, Fluxus happenings, performance art, video art, installations, and ephemeral art. Socially engaged artists create moments and interactions with and for various publics, primarily as agents of social change. Like performance, what remains are relics, mostly in the form of documentation, to remind later viewers that something happened—people had an experience, and art occurred.

The artworks in this exhibition are palimpsests of interactions, embodying the concept of "arte útil" as articulated by the Cuban artist Tania Bruguera. Bruguera envisions the artist as a hybrid of civic servant and imagineer, using art to change reality and integrate themselves into it. This raises the question: How can an artist dream a brighter future, serve the community, and create whimsical works while making a tangible impact? The materials and forms must emerge through public participation. Transformation is fostered through dialogue, exchange, and shared activities. Artmaking becomes a functional operation for public engagement, learning, reflecting, and action. When tackling a grand theme like climate change, as seen in Cortada's project, the complexity deepens. Cortada wisely uses strategic metonymy, focusing on one aspect of climate change to represent the larger issue.

Throughout the exhibition, viewers encounter collaborative works: sustainable concrete markers with numbers indicating sea level rise, scattered across the city. These public sculptures serve as declarations of commitment to environmental justice.

Cortada's work often incorporates ritual as a symbolic and actionable gesture. In *The Underwater,* participants watched as he poured a cup of local salt water over concrete sea-level markers, declaring that it should be "the first and last time" the sculpture is touched by salt water. His visits to the North and South Poles are isolated moments filled with ritual, such as planting a green flag at the North Pole in 2008 to reclaim it for the environment. These rituals are followed by actions within his local community. Participants in Miami-Dade County's *Native Flags* initiative act as stewards of the local ecosystem by planting native trees in schools, parks, and yards. The green flags serve as pledges of environmental action and spark conversations among those who notice the growing trees and the increasing number of green flags amidst the county's leafy canopy.

For Cortada, as with other socially engaged artists, the process is more important than the final forms displayed in the gallery. Harrell Fletcher discusses the three audiences that socially engaged artists must consider: the primary audience includes those directly involved in the project's conceptualization and production, the secondary audience consists of those who experience the project directly but did not

participate in its creation, and the tertiary audience comprises those who encounter the project through mediated forms such as websites, social media, lectures, publications, or word of mouth.

Viewers of this exhibition likely belong to the tertiary audience, experiencing documentation of rituals, workshops, and their outcomes. This does not imply that the exhibition is a collection of candid photographs taken haphazardly throughout Cortada's career. Instead, the artist must envision how the work will translate from its initial presentation to its reception in documentation, often years apart. For *The Underwater,* Cortada crafted molds for the fabricating numbers (0-9) in sustainable concrete, with each sculpture weighing about 500 pounds (Figure 1). Workshop participants receive yard signs featuring a pre-printed arctic ice painting in blue and a marker to add the elevation of their home. Cortada creates aesthetic unity across the city where secondary and tertiary audiences (passersby) encounter the numbers set in cement as a serial project and reminder of sea level rise. The aesthetics employed by a socially engaged artist must contribute to the project like a map for posterity, communicating to the many viewers, across their diverse relationships to the work, not just the themes and commitments put forth, but how the piece was integrated with and shaped by the artist and their participants.

Cortada has spent more than thirty years engaging the public on issues of climate change, a scientific phenomenon that has become a political topic. Cortada's climate actions meet the public in nebulous spaces where opinion and emotion combine with intellect. Thus, centering climate change as a creative idea for public participation is no small endeavor. The gestalt of his interactions transforms public spaces into artful messages for the yards, roadways, parks, schools, and intersections where people are reminded of sea rise levels and native tree species. His audiences become a part of the connective tissue between the facts of everyday life, and the climate crisis, and are nudged to reflect on and care for the environment. Artist Marc Chagall has famously said, "Great art picks up where nature ends." In this exhibit, we might find instead how great art makes visible the boundaries where nature, as we know it today, will come to an end without further response and intervention.

xtine burrough is a media artist known for her work in digital poetry, social media interventions, artist books, and prints. As an arts educator, she documents her reflections and edits volumes of artists' case studies to contribute to the field of artist writings. She has published with New Riders and Routledge and has a co-authored textbook forthcoming from MIT Press. She is a professor at UT Dallas, where she directs LabSynthE, a collaborative laboratory for the creative development of synthetic and electronic poetry.

The Creative Journey of Xavier Cortada

The artistic process, like the scientific process, is a journey where each project or experiment is informed by the one before it. The works in this exhibition are a sample of the many projects Xavier Cortada has created to connect the public with the realities of climate change. Cortada's journey to the Earth's poles heightened his desire to pivot his existing social practice to address the climate crisis. These polar works are the precursor to *The Underwater* series featured in this exhibition which helps people act on what Cortada learned from scientists at the poles.

Art in Antarctica South Pole

Xavier Cortada, recipient of a 2006-2007 National Science Foundation Antarctic Artists and Writers Program fellowship, traveled to Antarctica to implement a range of projects and installations. He strived to create art in Antarctica to demonstrate how interconnected we are to each other and the planet. The artist explored environmental concerns and the passage of time. He created site-specific installations, sketched, painted, photographed, videotaped, and conducted interviews with scientists to document their work in Antarctica.

Cortada installed 51 flags–and an ice sculpture of a mangrove seedling–on a moving glacier to mark the passage of time; produced a series of *Antarctic Ice Paintings* made from melting Antarctic ice; created a collaborative mural with scientists working there; painted a portrait of Sir Ernest Shackleton for the South Pole (permanently placing the famed explorer in the place that eluded him in life); and placed flags for endangered animals from each time zone around the South Pole. He also created an installation with 24 black shoes at the South Pole to express the environmental concerns of people living in the world to the north.

In a related performance, Cortada recited quotes from 24 people across 24 time zones describing the personal impacts of climate change. Each quote was recited above a shoe, painted with an acrylic mix of soil samples from the Dry Valleys in Antarctica, that is representative of its specific time zone – the 24 shoes were arranged in a circle, each aligned with its corresponding longitude as they all converge on the South Pole.

South Pole

North Pole

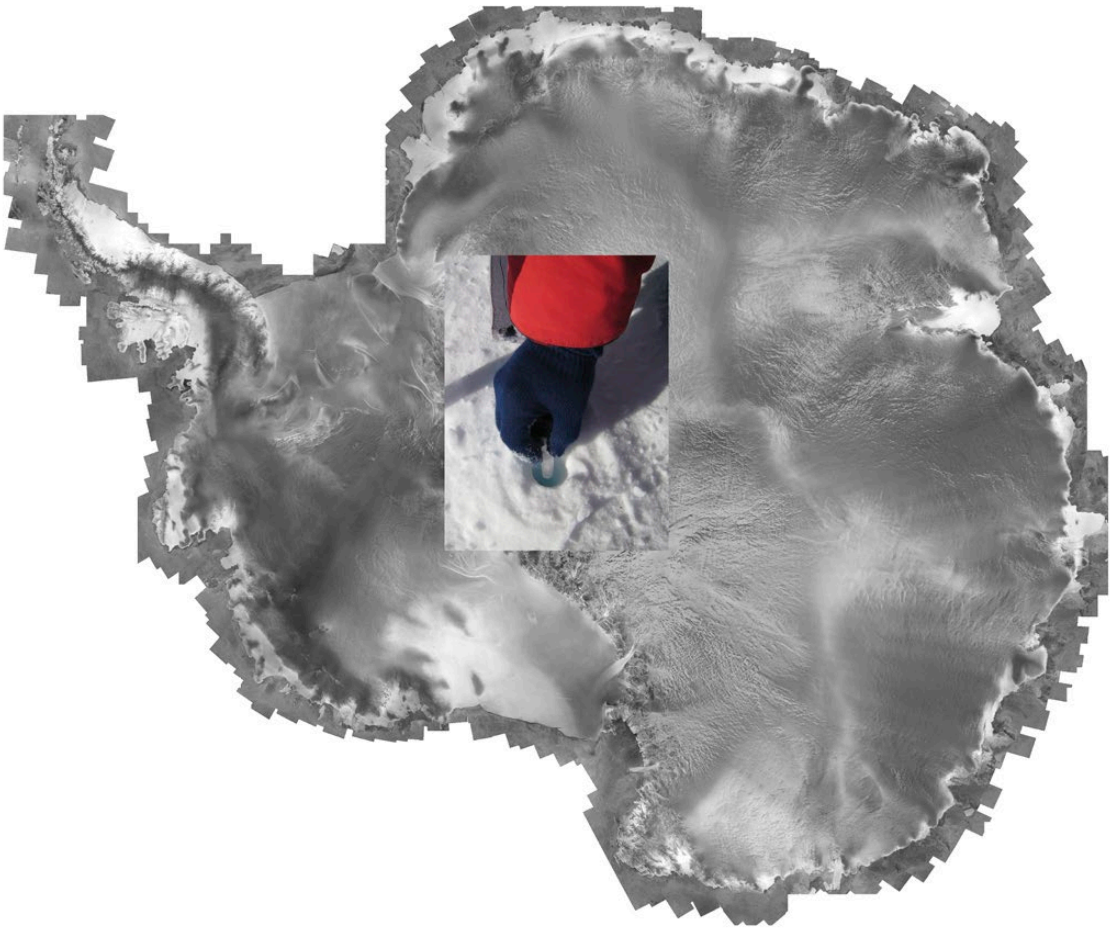
90N North Pole

As a New York Foundation for the Arts-sponsored artist, Xavier Cortada traveled to the North Pole via a Russian icebreaker in June 2008 to create new works and site-specific installations addressing environmental concerns. Having journeyed to the South Pole the prior year, Cortada wanted to make art at both extreme ends of the planet to address global climate change at every point in between.

The North Pole works included the creation of Arctic *Ice Paintings*, a performance of the North Pole Dinner Party aboard a Russian icebreaker (pictured above), a reinterpretation of Cortada's *Longitudinal Installation* and *Endangered World* ritualistic installations from the South Pole, and the launch of *Native Flags*, a participatory eco-art project designed to engage people in restoring native habitats for plants and animals in urban areas.

Xavier Cortada
Climate Science Art

CULTURAL PROGRAMS OF THE NATIONAL ACADEMY OF SCIENCES



***The 150,000-year Journey,* 2007**
Digital print

Xavier Cortada placed an ice replica of a mangrove seedling in the moving ice sheet that blankets the South Pole. Embedded in the ice, the replica will move 10 meters a year towards the Weddell Sea, 1,400 kilometers away. In about 150,000 years, it will arrive at the coastline and conceptually set its roots.

The *150,000-year* Journey uses the South Pole to address a concern of the artist: the travails of an immigrant's journey — the displacement, solitude, and struggle to integrate into society. More universally, the art piece explores humankind as it evolves. Since childhood, Cortada has been fascinated by mangrove seedlings, and he sees them as a metaphor for an immigrant. He writes, "They float in the water until they touch a sandbar and set their roots and as they grow, they capture sediment within their roots and build land, just like immigrants landing here build community."

It will take almost 150,000 years for this artwork to be completed. What will our world look like then? Will we still be as focused on race and ethnicity by the time this mangrove seedling lands in the sea? Will our world be dramatically different, will the polar caps have melted? How much will such melting shorten the journey?

Through the artwork, Cortada invites us to reflect on our role as humans on Earth. Juxtaposing Antarctic time frames with human time frames (see *The Markers* project also on view in this gallery) reaffirms the notion that we are simply custodians of the planet who should learn to live in harmony with it.

***The Markers,* 2008**
Digital print

Xavier Cortada used the moving ice sheet that blankets the South Pole to mark time: Important events that have moved the world forward during the past 50 years (*The Markers*) are juxtaposed with events that occur in broader geological time frames (*The 150,000-year Journey*).

To create *The Markers*, Cortada installed 51 different colored flags on the moving ice sheet that covers the South Pole. Each flag was 10 meters apart and marked where the South Pole stood during each of the previous 50 years (when humans first inhabited the South Pole). Each flag also displayed the coordinates of the location in the world where an important event took place that year.

Xavier Cortada
Climate Science Art

CULTURAL PROGRAMS OF THE NATIONAL ACADEMY OF SCIENCES

***Antarctic Ice Paintings: Global Coastlines Series,* 2007**
Antarctic ice, sediment from Antarctica's Dry Valleys, and mixed media on paper

Xavier Cortada created this series using sea ice, glacier, and sediment samples provided by scientists working in Antarctica, making the continent itself both the subject and the medium of the art. The paintings, serene yet foreboding, are a poignant reflection on the impact of climate change on the artist's hometown, Miami, and the world. Made in Antarctica, these artworks use the ice that threatens to melt and submerge coastal cities.

Xavier Cortada
Climate Science Art

CULTURAL PROGRAMS OF THE NATIONAL ACADEMY OF SCIENCES

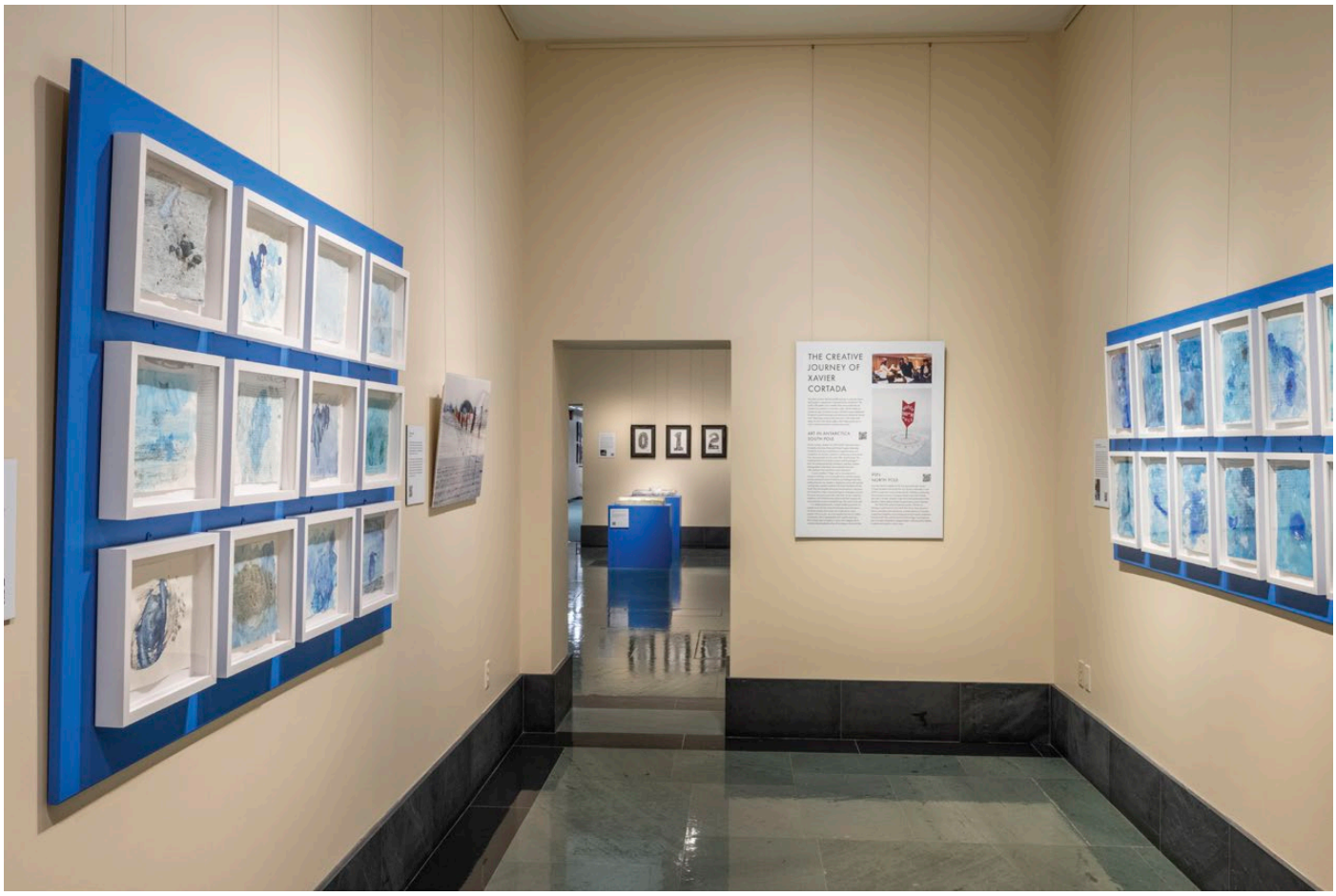
***Arctic Ice Paintings,* 2008**
North Pole sea ice, acrylic, and mixed media on paper

In response to his *Antarctic Ice Paintings* created 18 months earlier, Xavier Cortada used Arctic ice to produce a series of paintings aboard a Russian icebreaker returning from the North Pole. He taped pieces of paper to the top deck of the icebreaker and placed North Pole sea ice and paint on them. As the icebreaker journeyed south from 90 degrees North, carving through the sea ice by sliding on top of it and then crushing down through it, Cortada's ice melted and the pooled water moved as it evaporated, creating the *Arctic Ice Paintings*. He sought to use the vessel's motion to capture the existence of sea ice before it vanished, understanding that traversing the Arctic Ocean in the decades to come would not require an icebreaker.

***Arctic Ice Paintings*, 2008**
North Pole sea ice, acrylic, and mixed media on paper, 12 x 9 inches each.

In 2007, Cortada created a series of paintings using sea ice, glacier, and sediment samples provided by scientists working in Antarctica, making the continent itself both the subject and the medium of the art. The paintings, serene yet foreboding, are a poignant reflection on the impact of climate change on the artist's hometown of Miami—and the world. Made in Antarctica, these artworks use the ice that threatens to melt and submerge coastal cities.

In response to his Antarctic Ice *Paintings* created 18 months earlier, Cortada used arctic ice to produce a series of paintings aboard a Russian icebreaker returning from the North Pole. He taped pieces of paper to the top deck of the icebreaker and placed North Pole sea ice and paint on them. As the icebreaker journeyed south from 90 degrees north, carving through the sea ice by sliding on top of it and then crushing down through it, Cortada's ice melted and the pooled water moved as it evaporated, creating the Arctic Ice Paintings. He sought to use the vessel's motion to capture the existence of sea ice before it vanished, understanding that traversing the Arctic Ocean in the decades to come would not require an icebreaker.

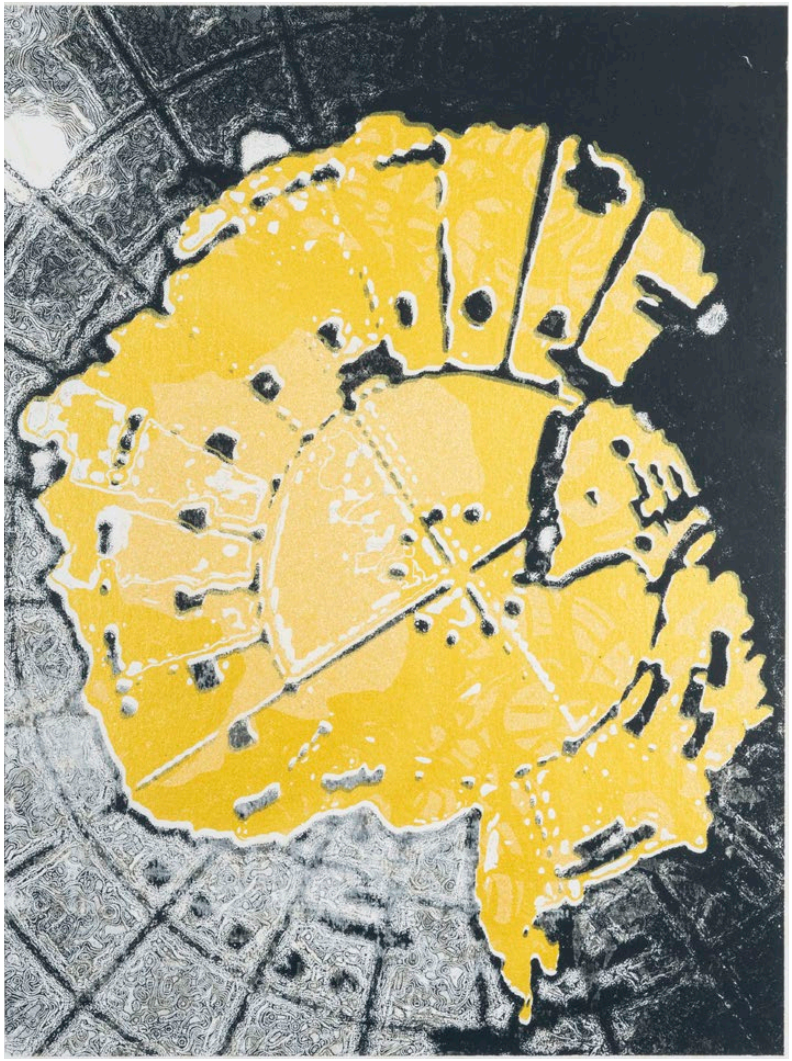


Installation photo of Arctic and Antarctic Ice Paintings.

Installation photo of the Antarctic Ice Paintings.

Xavier Cortada
Climate Science Art

CULTURAL PROGRAMS OF THE NATIONAL ACADEMY OF SCIENCES

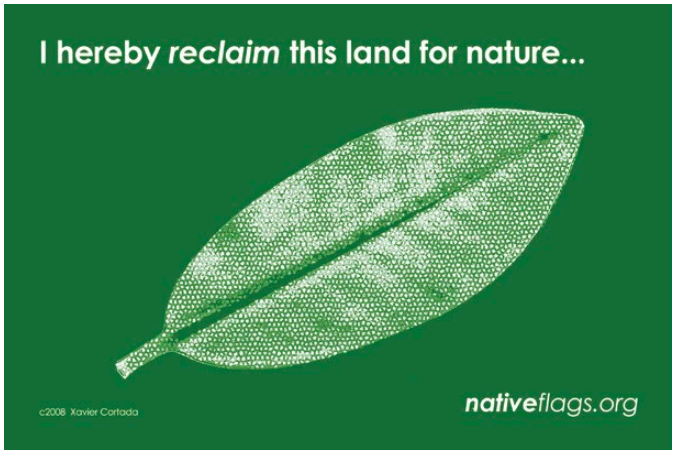


***Antarctica,* 2015**
Silkscreen on paper

Xavier Cortada created this print using the same screen-printing press artist Robert Rauschenberg used during his time at the Rauschenberg Residency: Rising Waters Confab. Cortada channeled the methodology of Rauschenberg by creating a print featuring a photograph of the map of Antarctica. While Cortada's Antarctic ice paintings visually communicate the process of melting ice, this print uses an image of the continent itself to contextualize the importance of its role in sea level rise. In its abstraction, the print reflects how the continent shrinks, deforms, and melts due to the steady rise of global temperatures.

Native Flags

Amid concerns about melting polar sea ice and geopolitical control over the Arctic (using the Northwest Passage shipping lanes and extracting the petroleum resources beneath the sea ice), Xavier Cortada raised a green flag and reclaimed it for nature. He developed *Native Flags*, a participatory eco-art project that engages others in planting a green flag and native tree in their front yards to prevent the polar regions from melting. By reforesting urban areas, people can contribute to carbon sequestration, which helps mitigate global warming and slow the melting of the sea ice.



***The Longitudinal Installation (South Pole),* 2007**
Digital print on Somerset velvet paper (edition of 5)

Xavier Cortada placed 24 shoes in a circle around the South Pole, each serving as a proxy for a person affected by global climate change in the world to the north. He placed the shoes inches apart along the respective longitudes where these individuals live, conceptually diminishing the distance between them.

During his performance, Cortada recited quotes from 24 individuals across 24 time zones, each describing the personal impacts of climate change. Each quote was recited above a shoe, painted with an acrylic mix of soil samples from Antarctica's Dry Valleys, representing its specific time zone. The 24 shoes were arranged in a circle, aligned with their corresponding longitudes as they converged toward the South Pole.

***The Longitudinal Installation (North Pole),* 2008**
Digital print on Somerset velvet paper (edition of 5)

As he did at the South Pole, Xavier Cortada placed 24 shoes in a circle around the North Pole, each representing a person affected by global climate change. He arranged 24 women's shoes inches apart, along the lines of longitude that crossed the places where these 24 individuals lived, conceptually diminishing the distance between them. After positioning the shoes, Cortada went to each shoe and recited a statement from a person living at that longitude about how climate change affects them.

Installation photo of *The Longitudinal Installations (North and South Poles).*