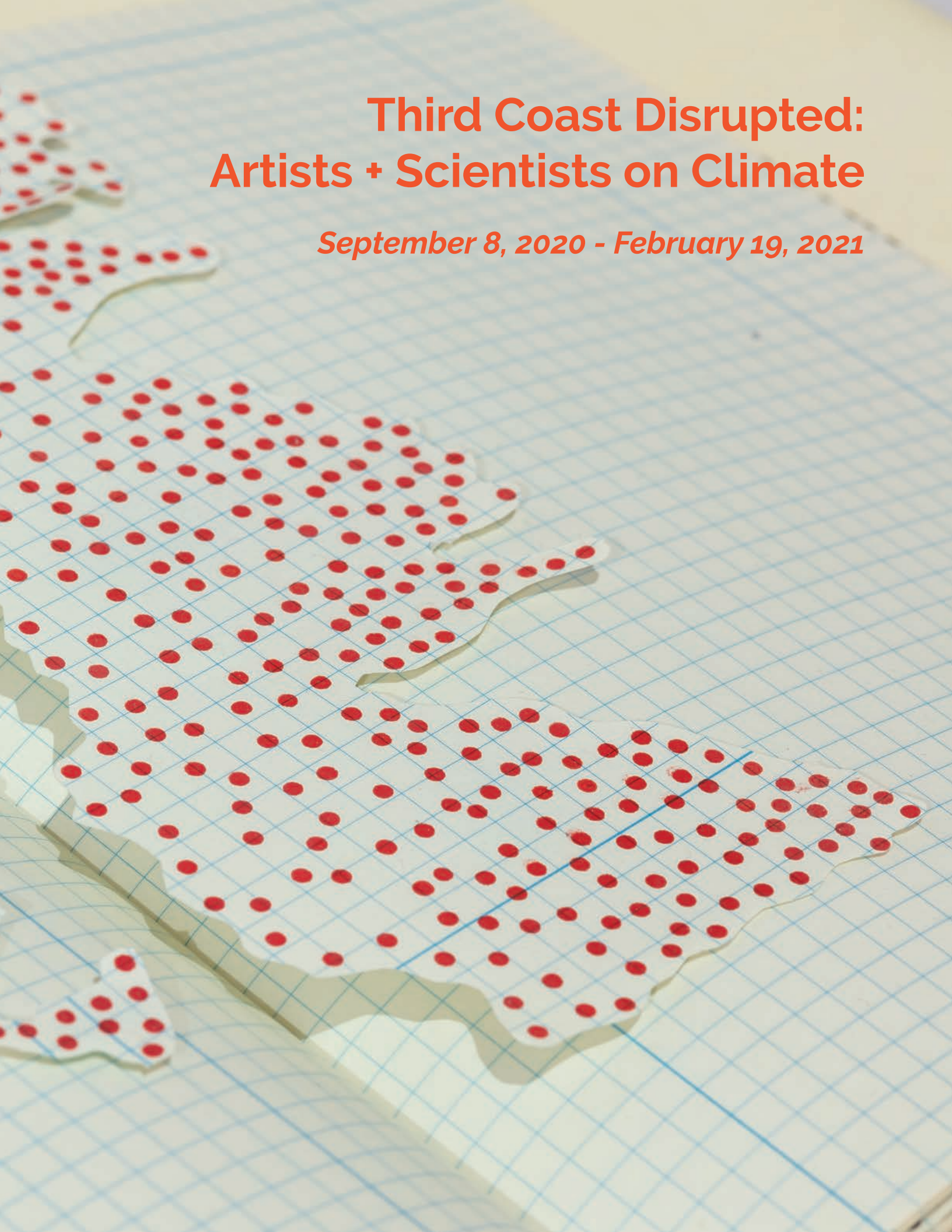


# Third Coast Disrupted: Artists + Scientists on Climate

*September 8, 2020 - February 19, 2021*





Installation View, 2020

Cover: **Andrew S. Yang**, *Parts-per-million (planetary aspirations)* (detail), 2020, silk-screen ink, paper, air

# Third Coast Disrupted: Artists + Scientists on Climate

## September 8, 2020 - February 19, 2021

**Curatorial Team:** Project Director & Lead Curator, Christine Esposito; Science Curator, Liam Heneghan; Art Curator, Lisa Roberts; Senior Consultant, Meg Duguid

**Participating Artists:** Jeremy Bolen, Barbara Cooper, Hector Duarte, Rosemary Holliday Hall, N. Masani Landfair, Meredith Leich, Andrew S. Yang

**Participating Scientists:** Elena Grossman, MPH; Daniel Horton, Ph.D.; Abigail Derby Lewis, Ph.D.; Aaron Packman, Ph.D.; Katherine Moore Powell, Ph.D.; Desi Robertson-Thompson, Ph.D.; Philip Willink, Ph.D.

Glass Curtain Gallery  
1104 S Wabash Ave. Chicago, IL 60605

This program is partially supported by a grant from the Illinois Arts Council Agency and Illinois Science & Energy Innovation Foundation with additional support from Keith Giles and Christine Skolnik; Openlands; The Nature Conservancy; Clare Butterfield and Edward Maldonado; Patrick and Laura Clark; Greenleaf Advisors, LLC; Debra Shore; The Fogelson Family Foundation; and Keller Science Action Center, Field Museum. This program was created through a collaboration between Columbia College Chicago, DePaul University's Institute for Nature and Culture, and Terracom.

Learn more at [colum.edu/thirdcoast](http://colum.edu/thirdcoast) and [ThirdCoastDisrupted.org](http://ThirdCoastDisrupted.org).





**Rosemary Holliday Hall**, *Liquidation* (detail), 2020,  
native prairie seeds, wax, porcelain, pennies, dimes,  
metal, light

## Foreward

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Christine Esposito

Two aha moments sparked *Third Coast Disrupted: Artists + Scientists on Climate*.

The first was when I serendipitously discovered a project in Fairbanks, Alaska, in which a group of artists, scientists, and fire managers came together to explore the role of fire in the Interior Alaskan landscape and local fire-management practices. A series of field trips provided content and enabled a prolonged two-way dialogue between the participants. The program was designed to inspire new artworks for an exhibition to “promote understanding and awareness of the scientific basis behind fire management amidst Alaska’s changing ecosystems.”

The second aha moment came when I learned that, in a survey of attendees of that exhibit, called *In a Time of Change: The Art of Fire*, 74% of the respondents said the exhibit affected their view of fire, and 64% said it inspired them to learn more about fire.

That is when I decided to develop this type of collective art-science collaboration in Chicago, focused on climate change impacts happening right now, where we live – to spur climate action.

A listening tour ensued, with many in the art, conservation and broader civic communities providing input. A working group formed. The curatorial team and project partners coalesced.

Then came the artists and scientists. Some of them already knew others in our *Third Coast Disrupted* cohort; some didn't. But during the year that we held our artist-scientist retreat and salons, a collegiality developed. And to be sure, in designing the events, we sought to build community and perhaps lay the groundwork for future such collaborations.

As the project unfolded, I couldn't help but reflect on my music training, particularly a college conducting class I had taken. Just as a conductor and music ensemble have a goal of performing a particular piece of music together, our *Third Coast Disrupted* group shared the goal of creating an awareness-building, action-inducing art exhibition. But since no one knew what sorts of artworks our artist-scientist conversations would inspire, unlike a musical conductor, I had no idea what the outcome would look like.

The result is more powerful than I could have ever imagined. The works weave together a story – from the intensely personal to the observational, and from a cellular to grand scale – of what is happening and what is possible in our region.

*Third Coast Disrupted: Artists + Scientists on Climate* is indeed greater than the sum of its parts.



Meredith Leich, *From Chicago and the Rain*, 2020,  
watercolor on paper, HD animated video

## Introduction

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"What happens if I do ... this?" wonders the artist. The scientist does too.

The scientist investigates, contemplates, rotates, observes. So does the artist. All in an effort to understand and interpret the world around us.

Artists and scientists might not seem to have much in common, but they do.

*Third Coast Disrupted* engaged artists and scientists in a yearlong conversation centered on climate change impacts and solutions in the Chicago region.

### **Here and now**

It's not unusual to think of climate change as a threat for the distant future or faraway places. But it's happening here and now – magnifying challenges we already face, like flooding due to aging infrastructure.

Innovations to offset these effects and make our region more resilient to them are also already underway.

The artworks in this exhibit explore some of these local disruptions. They grew out of the artist-scientist dialogue, which began in September 2019 at a retreat and continued for nearly a year through artist-scientist salons.

Just as the hope is that this dialogue will continue to bear fruit, perhaps these artworks will remain with you to connect and inspire.

# Jeremy Bolen

## *Albedo, 2020*

Wood, white roofing granules, doorbells, sorbent, modified humidifier carbon-capture units, CarbonCure concrete, tinted plexiglass, artificial grass, radiant-barrier insulation, soil from the City of Chicago, grass seed. Carbon-capture concept courtesy of Radu Custelcean, Oak Ridge National Laboratory; CarbonCure concrete courtesy of Ozinga







Climate change in the Midwest means more extreme heat, like Chicago's deadly heat wave of 1995. More than 700 people perished over a five-day period that saw triple-digit temperatures. Many were poor, elderly residents of color sequestered without air conditioning behind locked doors.

The bodies of 41 victims were never claimed. *Albedo* memorializes them.

The sculpture outlines 41 caskets and transforms them into a heat-and-light-reflecting cabinet. Within are household humidifiers adapted to absorb atmospheric carbon, along with replicas cast from material that embeds captured carbon permanently.

*Albedo* highlights both mitigation measures and speculative possibilities for reducing the severity of and adapting to our changing climate.

Many lessons emerged from this tragedy. One we are especially called on to practice during the pandemic: Check on friends and neighbors.





FOUR SEASONS

ENVION



### **More from the artist:\***

*Albedo is a dynamic sculptural project that memorializes 41 victims of the 1995 Chicago Heat Wave, while creating an entangled ecosystem of possible climate mitigation efforts.*

*The 1995 Chicago Heat Wave served as one of the worst heat-related disasters in the history of the United States, with over 700 deaths in just 5 days. Forty-one of the corpses were never claimed and are now buried in the south suburb of Homewood, Illinois. These victims lived and died in Chicago but were not even buried in the city limits.*

*Through research with the assistance of Elena Grossman, at University of Illinois at Chicago; Daniel Horton, at Northwestern University; and Radu Custelcean, at Oak Ridge National Laboratory; I was able to devise a heterogeneous system of objects and materials that speak to the breakdown of community that played a large part in this catastrophe, simple mitigation efforts to avoid this kind of urban heat island effect in the future, and speculative possibilities that are fascinating yet often leave much to be desired.*

### **Context from scientist Elena Grossman:**

*Illness from heat is the most direct health effect from climate change. As temperatures rise, we will have more very hot days, and this means there will be a greater risk for getting sick from heat.*

*Heat is the number one killer of all natural disasters in the United States. You can't see a heat wave like you can see a hurricane or a flood or a wildfire, but it is the most deadly.*

*The 1995 Chicago heat wave is still the most fatal heat wave in the United States, killing over 700 people. If carbon emissions are not substantially reduced, heat waves like the '95 heat wave could occur as often as once every two years by the 2050s. It also highlighted how disasters exacerbate existing stressors – poverty, racism, weak infrastructure, social isolation. Climate change worsens these challenges.*

*A critical finding from the '95 heat wave is that social capital and connectedness are critical for all of us in getting through disasters. How we design our communities can bring us so many benefits for our physical health, our mental health, and our earth's health.*

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\* Artist and scientist comments are transcripts of videos accompanying the artworks in the gallery.

# Barbara Cooper

*Seep, 2020*

Aluminum screening, hardware cloth, chicken wire, found plastic water bottles, abaca paper pulp, graphite, beeswax





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More than 22 million pounds of plastic enter the Great Lakes annually. It might settle into sediment or become embedded into rock, but it never goes away. Over time, it breaks down into microplastics that enter our air, food and drinking water, even our beer.

Some plastics release greenhouse gases as they break down, which is one of many ways they contribute to climate change.

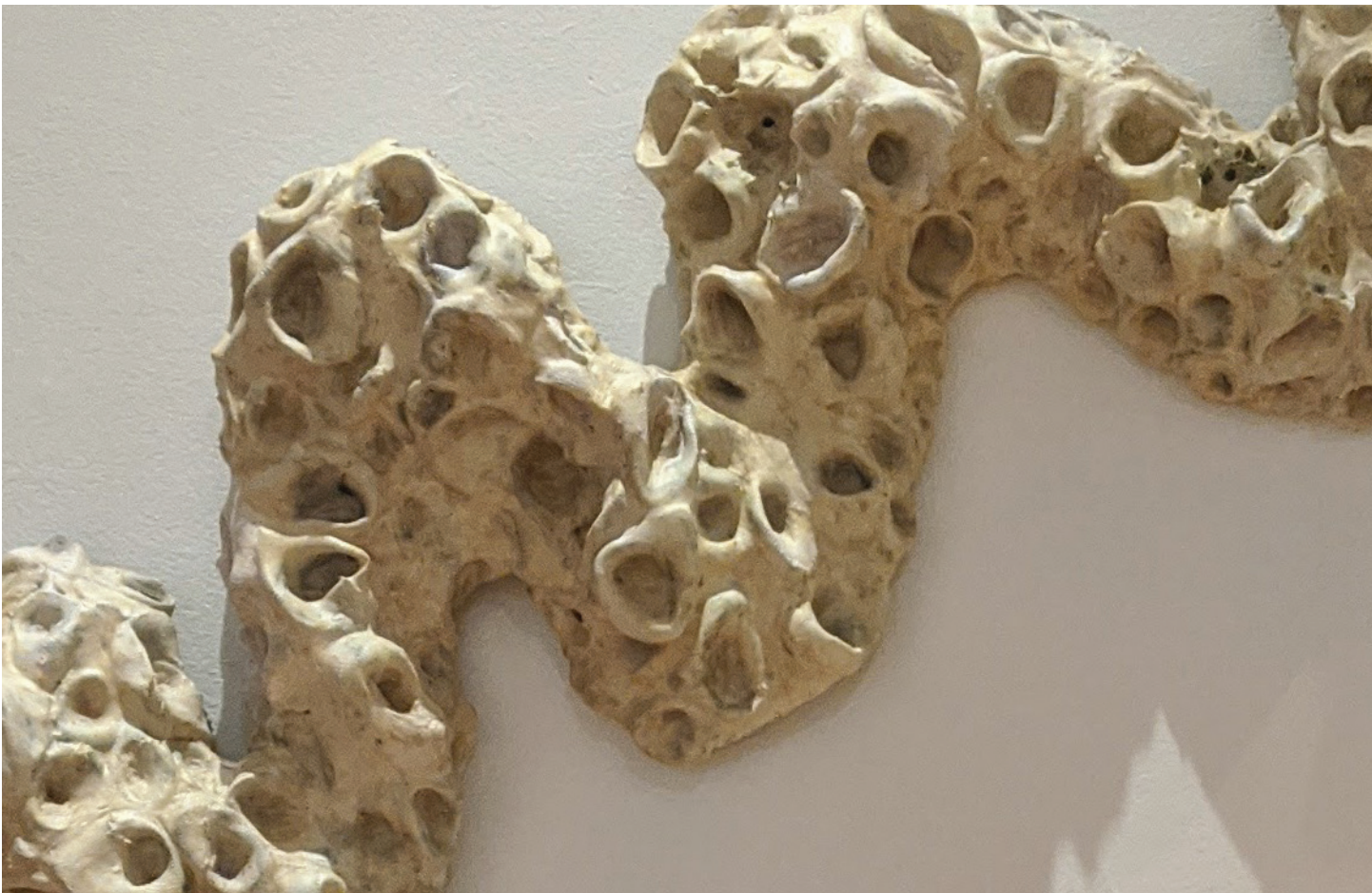
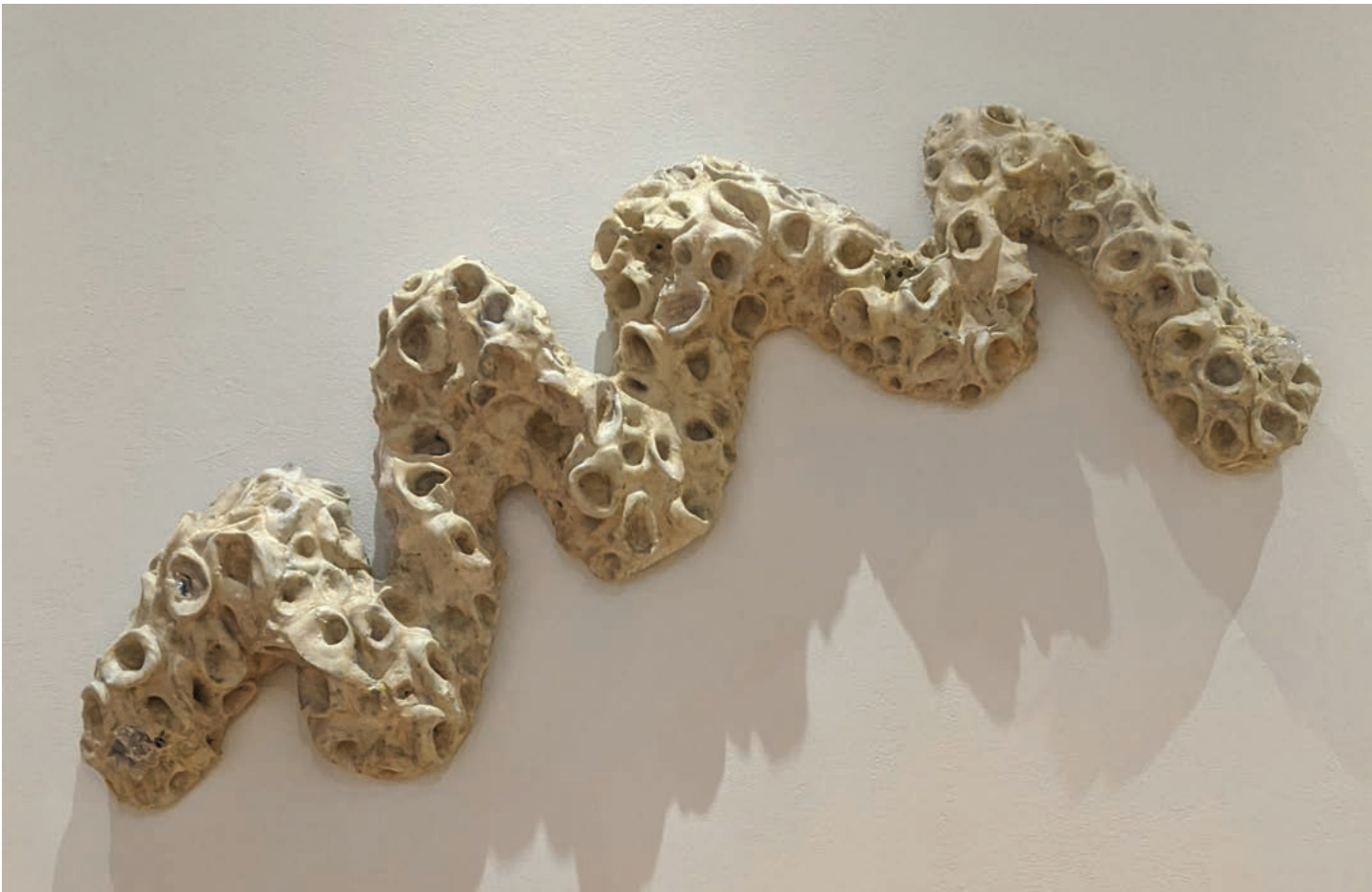
*Seep* examines Earth's ability, or lack thereof, to process these human interventions on a variety of scales.

There is hope. A few short years after high concentrations of plastic microbeads – once common in personal care products – were found in the Great Lakes, they were banned in the US. More is possible.









### **More from the artist:**

*This work formed around a question: Can the earth, the atmosphere, and the multitude of earth-bound organisms "digest" what humans generate from an increasingly toxic industrial complex? I am referencing the escalating use of plastic, and the pervasive and perverse trail it leaves throughout the earth's ecosystem.*

*As plastic breaks down, the microscopic particulates it leaves behind are now found within all parts of the environment. They are so embedded within our life support systems as to be inseparable from them. These sculptures reference the body systems that allow us to absorb food, water, and air, all of which have been found to harbor surprisingly large amounts of microplastics.*

*The forms are made from manipulating screening and plastic water bottles picked up off the streets of my neighborhood, the detritus and poison of our Anthropocene epoch.*

*My process of construction mirrors how plastics in daily life become implanted into the organic world that we function within.*

### **Context from scientist Katherine Moore Powell:**

*After exercising, I like to have a nice tall swig of cool water. Now, imagine the pollutants and especially the microplastics that are in that water. It's not exactly healthy.*

*Well, it's the same for our ecosystems. They have to deal with the pollutants and embedded pollutants like microplastics that tend to be there for a long time. This not only degrades their health currently, but it actually makes it harder for them to adapt to climate change.*

*That is why climate change is known as a threat multiplier when it comes to ecosystems, especially ecosystems here in the Great Lakes, dealing with microplastics and other pollutants. The threat is multiplied by the additional stress that climate change brings.*

*In order to be resilient, our ecosystems first have to be healthy. Just like we need healthy clean water to be healthy.*

# Hector Duarte

*Réquiem para dos espíritus, defensores de los migrantes tümü, 2020*

*Requiem for Two Spirits, Defenders of the Migrant Tümü (Butterflies), 2020*

Wire, interfacing, cloth, gauze, plastic, acrylic paint, pastels, black light, milkweed and marigold plants, soil





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Monarch butterflies are in trouble. Their numbers have plummeted, partly due to climate change.

In Michoacán, Mexico, Homero Gómez González and Raúl Hernández Romero worked tirelessly to protect the forests where monarchs spend the winter. Tragically, they were murdered this year. This work pays homage to them.

It highlights monarchs' cultural significance to Mexico and the need to protect their habitat there. It also underscores our interconnectedness: the Chicago region is a summer home of monarchs that migrate from Mexico.

We need to restore what they need here. And that's milkweed. You can help. Plant milkweed to help monarchs flourish again.

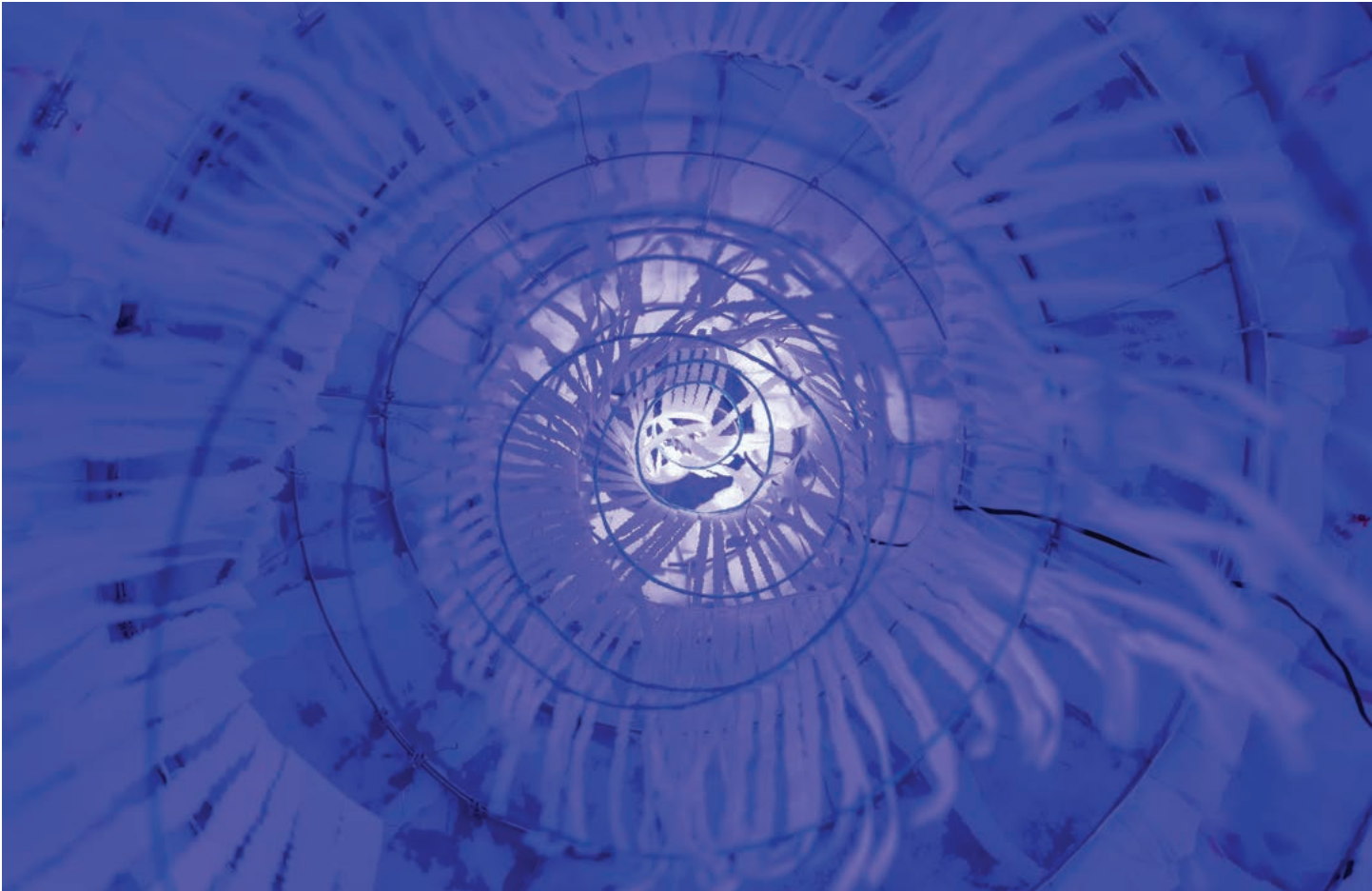












### **More from the artist:**

*I have used butterflies in my artwork as a symbol for human migration from Latin America. And that's how I began to understand the danger to butterfly habitats both in the U.S. and Mexico.*

*In Michoacán, many people believe that the souls of their departed loved ones return with the butterflies, since they arrive around November 2, the Day of the Dead.*

*This installation is in honor of two people who gave their lives to defend the habitat of the monarch butterfly there in Michoacán and in the State of Mexico.*

### **Context from scientist Abigail Derby Lewis:**

*The monarch population has plummeted over 80 percent over the last two decades, and a main driver has been habitat loss. That includes loss of the milkweed, the only plant monarchs can lay their eggs on.*

*Unfortunately, climate change is compounding this issue. For example, increased flooding and drought caused by climate change affect when and how much food is available for them. Changing temperatures can affect when monarchs reproduce and migrate. Here in the Chicago region, we routinely have milder temperatures stretching well into November and beyond, and without that colder temperature as a trigger for the monarchs to return home, they end up delaying that journey. When they finally do go, they are much more vulnerable to hitting freezing temperatures and extreme storm events.*

*The good news is that there is something you can do to help monarchs. Our research shows that collectively urban areas can provide up to a third of the milkweed needed to support monarchs, and a large urban area like Chicago plays a critical role. So what we plant really does matter. Please go out and plant some milkweed today.*

# Rosemary Holliday Hall

## *Liquidation, 2020*

Native prairie seeds, wax, porcelain,  
pennies, dimes, metal, light

## *River of Shadows, 2020*

Video

## *Remainant, 2020*

Seed packets





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A fundamental relationship to water marks Chicago's history and future. For centuries, Chicago was swampland. Today, with climate change bringing increased flooding, low wet prairies, their plants, soils, and creatures offer lessons of permeability and water relations.

Through three related works, Hall explores permeability and transformation, from an impermeable and extractive relationship with the earth to one of regeneration and care.

*Liquidation* supposes a shift in valuation toward a currency of seeds. It presents spoons fashioned from flattened coins, each holding casts of seeds and plant fragments.

*River of Shadows* is a video drawing inspiration from surface tension to examine permeability and consider water as a driver of weather and climate.

*Remainant* features seed packets of local water-absorbing plants, encouraging us to plant natives and make Chicago more permeable again.









### **More from the artist:**

*When thinking about climate change and Chicago, I was interested in how the sky meets the ground in the form of water, and what material histories are embedded in that meeting.*

*As temperature rises, the atmosphere can physically hold more water. So when it rains, it really does pour. And the thing that I find interesting about flooding, is that you can actually physically see the amount of water that's held in the sky. And in Chicago, it's one of those instances that makes visible the haunting and often invisible forces of climate change.*

*One component of the installation is a video that explores this, as a sustained meditation on water and time. The rest of the installation and the materials I selected explore economies of scale and the transforming hybrid landscape of the city.*

*It consists of corroded metal stakes that puncture a hole through pennies that are then transformed into water-holding cups that are then supporting fragments of local water-retaining plants.*

*It's a kind of a forewarning signal and alchemical civic planning model that asks questions about what do we do with the material we have inherited. And how do we transform and move toward a more porous landscape?*

### **Context from scientist Desi Robertson-Thompson:**

*The thing that resonated with me the most about Rosemary's piece was this idea of tension, the idea that climate change is building. It's filling up this bubble really fast and eventually that bubble is going to burst.*

*When we try to restore natural systems and adapt them to climate change, we're trying to make them more resilient. We're trying to prevent that bubble from bursting. For instance, we might plant a lot of native plants, and these native plants can absorb extra water when we have intense rain events, so it prevents flooding. These same plants also can store water during long drought periods.*

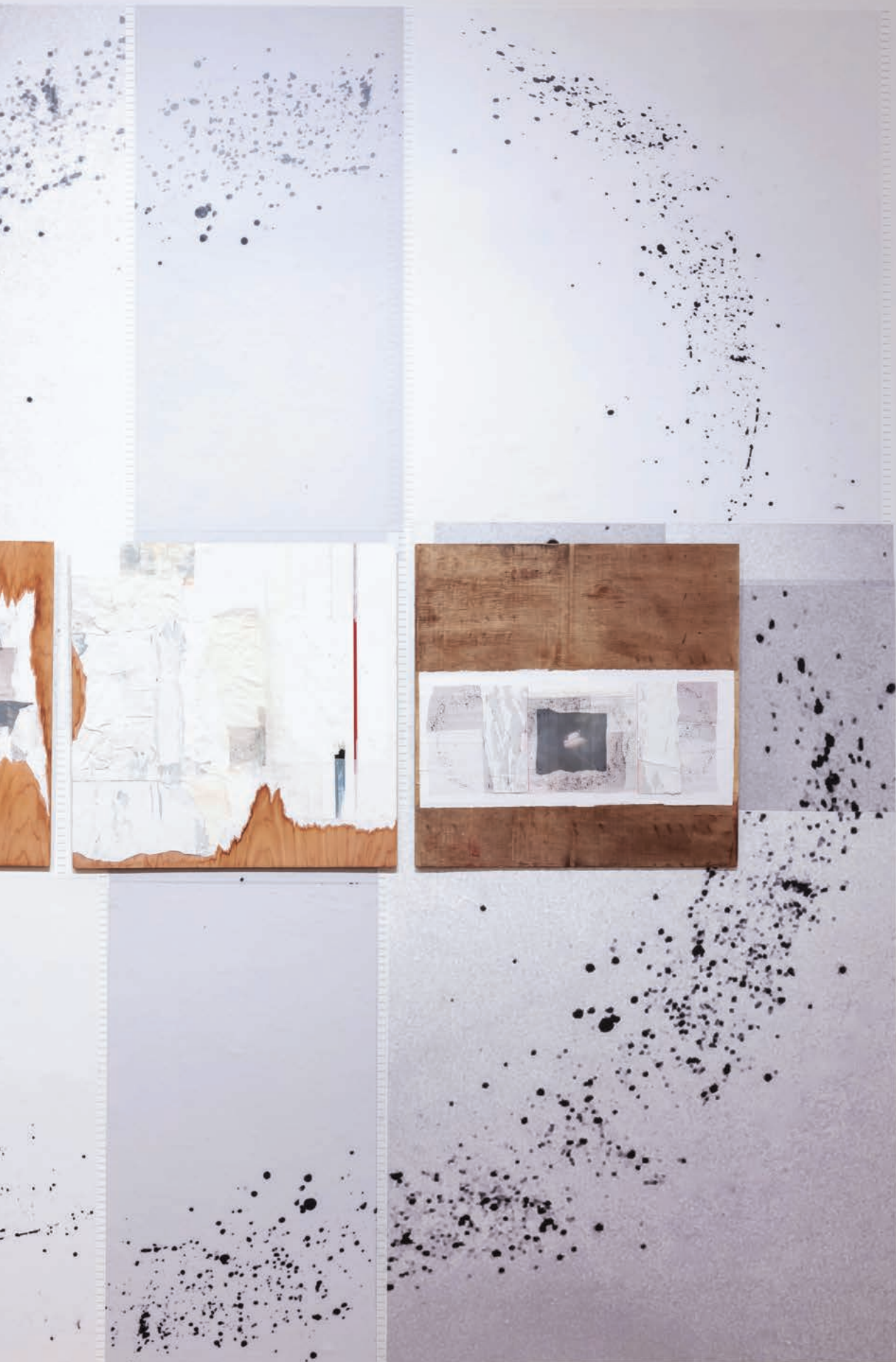
*In this way, we make the system much more resilient, much like a bubble that never completely bursts and is never completely empty.*

# N. Masani Landfair

*Breathing to the Next Breath, 2020*

Collage on found materials



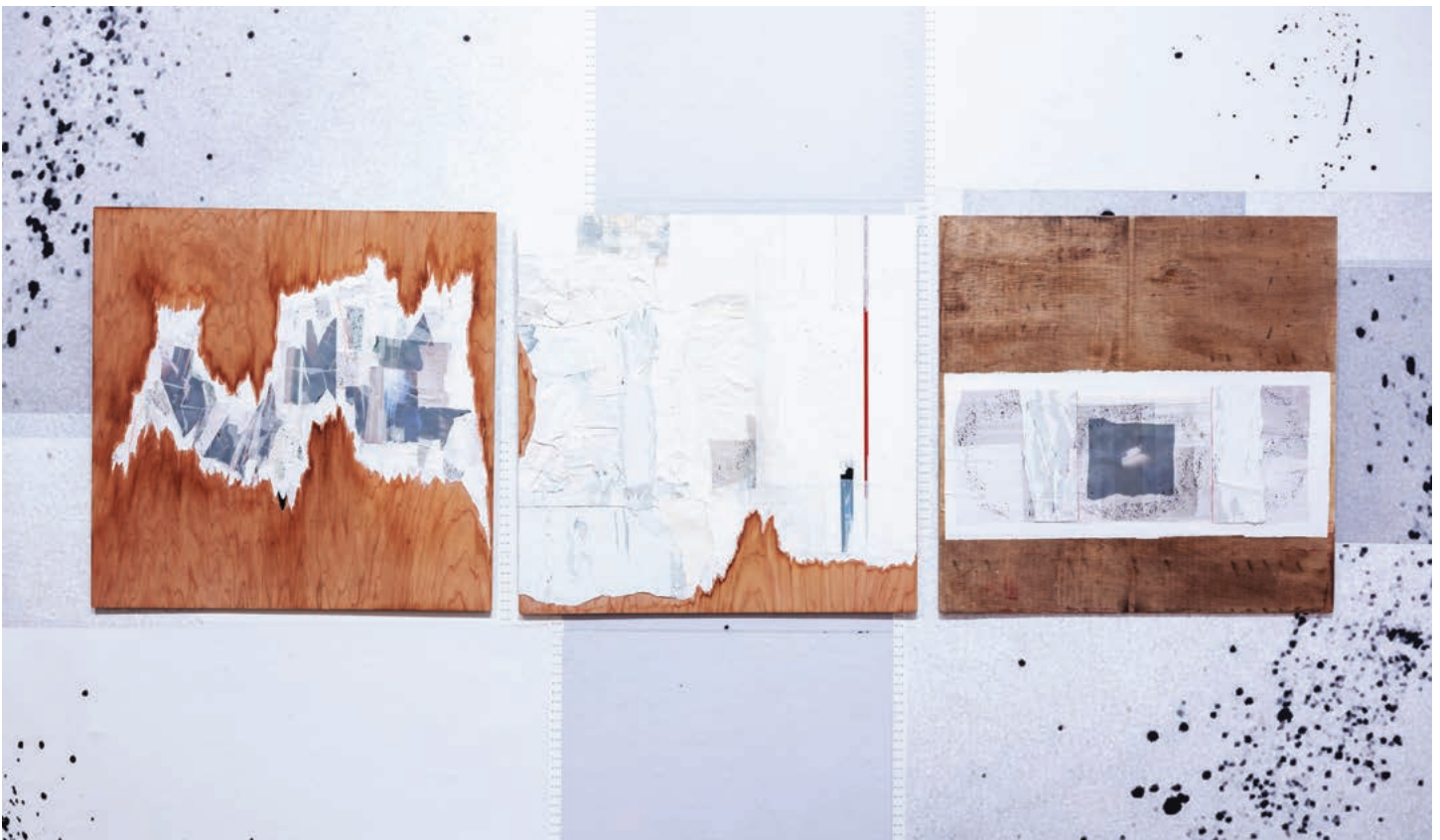


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Climate change is not an equal-opportunity crisis. Though it affects everyone, it hits low-income communities and communities of color hardest. Vulnerabilities stemming from systemic racism create harmful conditions, such as poor air and water quality. Climate change amplifies these threats.

The wetter weather of our changing climate wreaks havoc particularly on Chicago's communities of color by worsening flooding in them.

N. Masani Landfair knows this reality intimately. *Breathing to the Next Breath* reflects her personal experiences with living in a chronically flooded home on the South Side. She relates the mental and physical tolls through a series of found-object collages, especially examining the insidiousness of mold and its lingering effects on home and health.







**More from the artist:**

*This work centers on my family's experience with flooding, mold infestation, and the subsequent physical and mental health issues that were caused by climate change.*

*Home should bring thoughts of safety, security, and sanctuary, but this is not the case for a majority of Black, Brown, and Indigenous people that deal not only with environmental toxins from local plants and industry, but also the subtle effects of climate change.*

*These found object and collage works form from abstracted memory and present health issues I deal with from that experience. I hope to convey the deep feelings of loss, growth, healing, and understanding of how our actions to our local and ultimately world environment only come back and affect us.*

**Context from scientist Aaron Packman:**

*Our climate in the Chicago area is definitely changing. We know that extreme weather events have increased. We've seen increasing severe storms and flooding. We've seen wild swings in the levels of the Great Lakes. And we know that this is impacting our Chicago communities.*

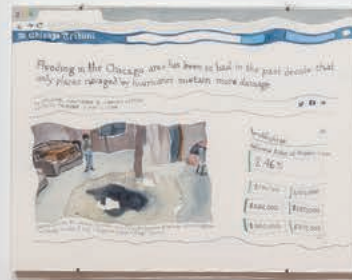
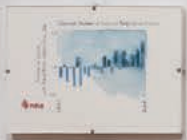
*We see a special vulnerability on South Side communities, because they're generally in low-lying areas, and they were developed later and aren't as well protected by stormwater infrastructure.*

*We're working with a number of groups around the city to try to reduce vulnerability and increase community resilience. We think there are good opportunities to interweave protection at local scales and across the cities. So we're exploring solutions like green infrastructure, working with the Metropolitan Water Reclamation District to try to understand what communities can deploy to reduce their vulnerability to flooding.*

# Meredith Leich

## *Chicago and the Rain, 2020*

Watercolor on paper, HD animated video







**Meredith Leich**

Meredith Leich is a contemporary artist whose work explores the intersection of nature and urban environments. Her watercolor paintings often depict lush, green landscapes that contrast with the architectural elements of a city. In her digital work, she uses vibrant colors and dynamic textures to create abstract, ethereal scenes that evoke a sense of movement and light.



- 1. Gallery 1
- 2. Gallery 2
- 3. Gallery 3
- 4. Gallery 4
- 5. Gallery 5
- 6. Gallery 6
- 7. Gallery 7
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- 18. Gallery 18
- 19. Gallery 19
- 20. Gallery 20

"There's no denying that the stormwater-management infrastructure built in the 1920s, 1950s, and 1970s has been overtaken by the swiftness and violence of climate change, and that the current infrastructure has not solved all the flooding problems that Chicago and Cook County face." *Debra Shore, Commissioner, Metropolitan Water Reclamation District of Greater Chicago, June 2020*

The Chicago region's changing climate has brought more frequent intense downpours, causing more flooded streets and basements, more property damage, more loss.

Through imagery of headlines, scientific data, and fantastical scenes, this work assembles a story of increasing water, documenting damage already unfolding. It also imagines a range of possibilities, including a return to Chicago's absorptive native prairies for a more porous city.





Chicago Tribune

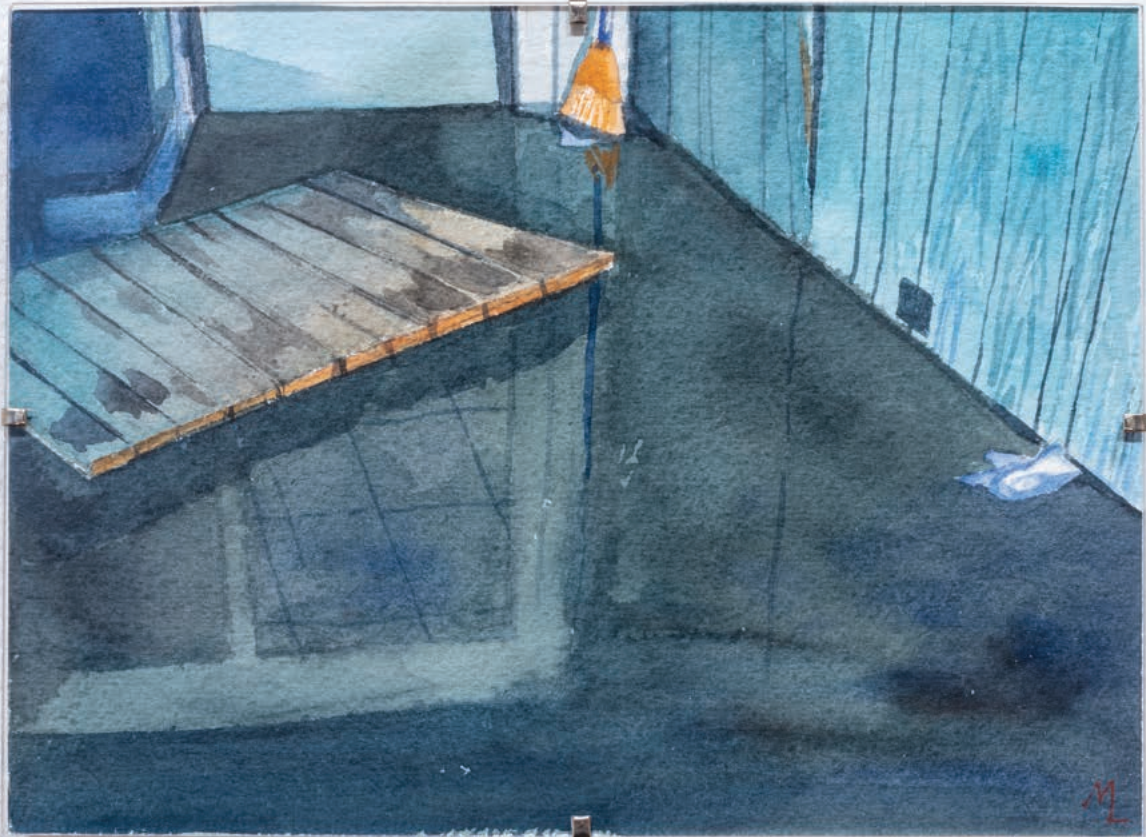
Flooding in the Chicago area has been so bad in the past decade that only places ravaged by hurricanes sustain more damage

BY MICHAEL HAWTHORNE & MORGAN GREENE  
CHICAGO TRIBUNE | MAY 19, 2019

Valeria Winston, 27, checks on her sewer entry (trailing the basement of her home) in Aukland, Graham, in Chicago on Nov. 9, 2019. (Zbigniew Pizdek/Chicago Tribune)

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Refinance Rates at Historic Lows  
2.46%

\$100,000	\$150,000
\$200,000	\$250,000
\$300,000	\$350,000



### **More from the artist:**

*My project grows out of learning that the increase in temperature due to climate change will increase rain in Chicago and particularly high intensity rain events, which leads to flooding. Chicago struggles with flooding, which already disproportionately affects communities of color, despite huge engineering initiatives like Deep Tunnel. And it's only going to get worse.*

*I've seen the images of hurricanes Harvey and Katrina and the horrible destruction that these floods can wreak on people's lives. I wanted to sit with this fact, sort of accept that these things can come here and kind of explore different manifestations of this data, the way that it's being conveyed in the news, and to kind of open up some imaginative routes to think about ways that we can handle the flooding, such as using the natural prairie ecosystems that surround Chicago.*

*This is sort of my way of staying with where we are at now to hopefully be able to think about a better alternative for the future.*

### **Context from scientist Philip Willink:**

*Chicago owes its existence to water. It was founded at its particular site due to the proximity of Lake Michigan and the relatively easy ability to paddle to the Mississippi River.*

*But too much water can be devastating, as we have seen time and time again with flooding in our communities.*

*Climate models predict increased rainfall in the future, especially in late winter and spring, with much of this concentrated during intense storm events – something that we have already started seeing today. These scenarios will facilitate even more flooding in the future.*

*The problem is exacerbated by the multitude of buildings, roads, and parking lots that have essentially created a crust over the earth. This unnatural city landscape interferes with the natural flow of water through the environment.*

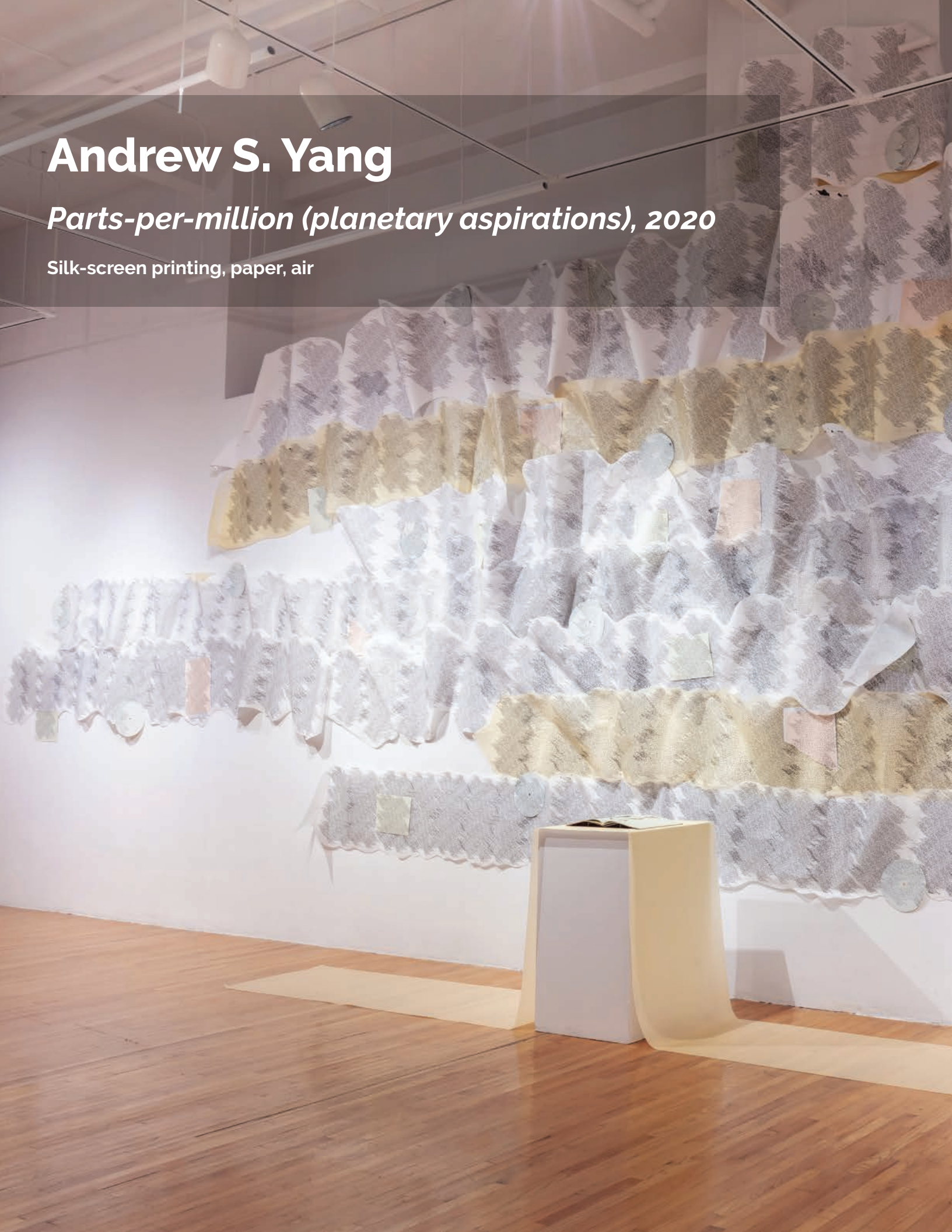
*But fortunately, there are solutions to these problems, such as increasing the permeability or porosity of this hardened landscape. There are things all Chicago region communities can do, such as restoring native prairies, planting trees, expanding green spaces, and installing permeable pavement.*

*And the good news is that these are activities that many Chicago communities have already started.*

**Andrew S. Yang**

*Parts-per-million (planetary aspirations), 2020*

Silk-screen printing, paper, air





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In the 200 years since the Industrial Revolution, we have increased the amount of carbon dioxide in our atmosphere from 280 parts per one million air molecules to 415 parts per million. This deceptively small change is radically altering our planet's climate – impacting our health and safety, and endangering myriad species the world over.

*Parts-per-million (planetary aspirations)* uses one million dots to visualize this invisible threat.

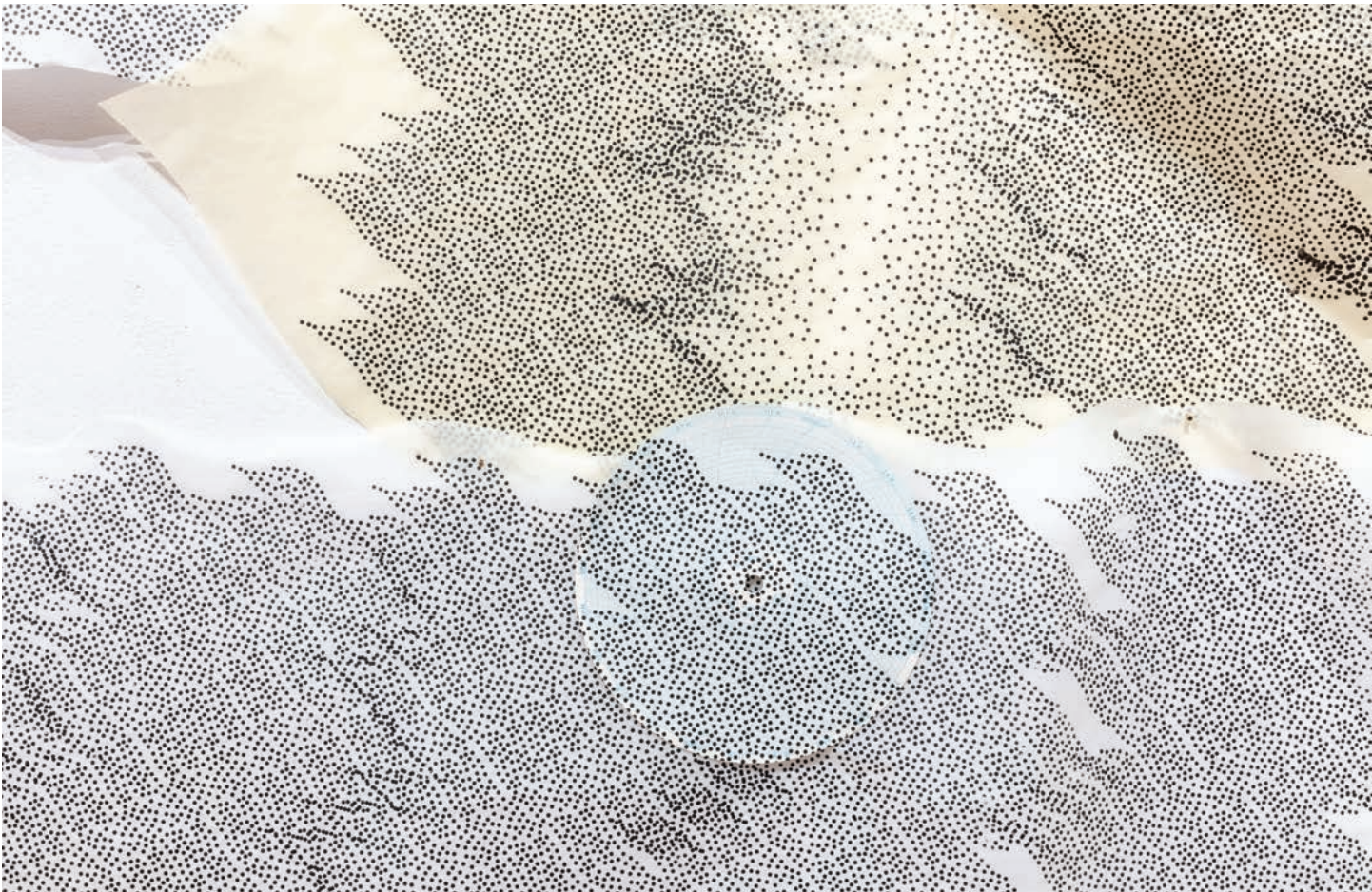
An aspiration is defined as both a hope and a breath. This work balances the causes and effects of rising carbon dioxide through the use of the word's double meaning – human aspirations driven by fossil-fueled industrialization and the breath of all of Earth's organisms.







415 ppm



### **More from the artist:**

*Parts-per-million (planetary aspirations) is about the air we breathe every moment. We exhale carbon dioxide naturally from our bodies but also pump it out by the gigaton from our cars, factories, and power plants the world over.*

*Through the physiological aspirations of our breathing, we connect directly to the planet's carbon cycle. At the same time, through the economic aspirations of our fossil-fueled culture, we radically alter the composition of the air, those gigatons of carbon dioxide contributing to a global warming that threatens the stability of the climate we all rely upon.*

*While the total amount of carbon dioxide in the atmosphere is tiny – measured in parts-per-million – its effects on our planet's health and all of our well-being are profound. This artwork is a way to visualize the changes we are making to the air itself – molecule by molecule – and the planet-sized impact that these changes will have for all life for generations to come.*

### **Context from scientist Daniel Horton:**

*The concentration of carbon dioxide in Earth's atmosphere is 415 parts per million. Scientists have measured carbon dioxide concentrations trapped in the bubbles of the Antarctic ice that date back 800,000 years. At no time in the past 800,000 years has Earth's carbon dioxide been at the levels we are seeing today.*

*That means that for all of human civilization, atmospheric carbon dioxide has been below current levels. And that civilization was designed to be successful in a climate system quite different than today's.*

*Earth's climate is a delicate balance, and it doesn't take much to alter it. Slight changes in carbon dioxide can result in massive changes in our climate system – changes like more frequent heat waves and more intense rain storms.*

*As a climate scientist, I am often asked: "What is the single most important thing that I, an individual, can do to reduce the impacts of climate change?" And my answer is: "Educate yourself on the issue, and vote accordingly." Individual change is helpful, but collective action is essential.*



Jeremy Bolen, *Albedo* (detail), 2020, wood, white roofing granules, modified humidifier carbon-capture units, doorbells, CarbonCure concrete, tinted plexiglass, radiant-barrier insulation, sorbent, soil from the City of Chicago, grass seed, artificial grass

# Epilogue

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You might ask, **“What can I do about climate change?”**

Talk about it. Start by telling someone about this exhibit, about an artwork that particularly moved you. View one or more *Third Coast Disrupted* programs; talk about them.\*

“If we don’t talk about climate change, why would we care?” asks noted climate scientist and communicator Dr. Katharine Hayhoe. “If we don’t care, why would we act? So action begins with a conversation.”

**Here are some tips for starting your own climate conversations.\*\***

- Know that whoever you are, whatever you do makes you the perfect person to talk about climate change, especially with friends, family, neighbors.
- Have a goal of simply having a conversation, not to convince.
- Watch for an opening, perhaps a friend mentioning a recent heavy rainstorm.
- Establish a genuine personal connection.
- Bond over shared concerns and values. Are you both gardeners? How is all the rain changing how you garden or what you plant? Or you might bond over other hobbies or interests: being parents, living in the same community.
- Don’t know what the other person values? Learn through more conversation. Listen without interrupting and judging, and with an open mind. Ask questions.
- When it’s your turn, talk about what concerns you, your experiences.
- Connect the dots between your shared values and how climate change is already affecting us and the things we care about here and now. Concern for advancing racial justice, for instance, is a chance to share that more extreme weather events brought by climate change impact low-income communities and communities of color hardest.
- Promote “rational hope” and inspire action by sharing positive, practical solutions. One example from *Third Coast Disrupted* is planting milkweed. It benefits monarch butterflies and other pollinators impacted by climate change, while helping to reduce flooding, storing carbon, and more. See a variety of solutions at [www.drawdown.org/solutions](http://www.drawdown.org/solutions).

\* All *Third Coast Disrupted* programs are available at “DEPS Colum” on YouTube.

\*\* These tips apply to the 90 percent of Americans who accept that climate change is happening. Sources: Katharine Hayhoe, Ph.D., Climate Scientist, and Renee Lertzman, Ph.D., Climate Engagement Strategist

## About the Artists

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**Jeremy Bolen** is a recent recipient of the Banff Research in Culture Residency in Alberta, Canada, POOL Center for Art and Criticism Residency in Johannesburg, PACT Zollverein Residency in Essen, Germany, Ox-Bow Faculty Artist Residency in Saugatuck, Michigan, Anthropocene Curriculum Campus in Berlin, and Center for Land Use Interpretation Residency in Wendover, Utah. His work has been exhibited nationally and internationally at locations including the Museum of Contemporary Photography in Chicago, La Box in Bourges, France, EXGIRLFRIEND in Berlin, IDEA Space in Colorado Springs, The Mission in Houston, Galerie Zürcher in Paris, Soccer Club Club in Chicago, Salon Zürcher in New York, The Drake in Toronto, Newspace Center for Photography in Portland, and DePaul Art Museum in Chicago. Bolen lives and works between Chicago and Atlanta, serves as Assistant Professor of Photography at Georgia State University, is a co-founder and co-organizer of the Deep Time Chicago collective, and is represented by Andrew Rafacz Gallery in Chicago.

**Barbara Cooper** works in sculpture, drawing, and public art. Additional projects include gardens and structures for dance and theater. Depending on the objective of the project, she utilizes diverse media such as wood, metal, paper, glass, and found objects. A graduate of Cranbrook Academy of Art and Cleveland Institute of Art, Cooper's work is in the collections of the Museum of Contemporary Art Chicago, John Michael Kohler Arts Center in Wisconsin, the Smithsonian American Art Museum, Contemporary Museum of Honolulu, and the Illinois State Museum. She has had numerous residencies and fellowships internationally.

**Hector Duarte** has called Chicago home since 1985. He has exhibited his paintings and prints in solo and group shows at such venues as the School of the Art Institute of Chicago, the State of Illinois Gallery, the Chicago Historical Society, the National Museum of Mexican Art, and Museo Casa Estudio Diego Rivera y Frida Kahlo in Mexico City. Duarte has received a number of awards, including artistic production grants from the State of Michoacán, Mexico; a 2008 Illinois Arts Council Fellowship Award; and the 1995 Chicago Bar Association Award for the best work of public art.

**Rosemary Holliday Hall** received her BFA at the University of California, Davis, in 2013 and MFA from the School of the Art Institute of Chicago in 2019. She lives and works between Los Angeles and Chicago. Her work has been shown in solo and group exhibitions in Chicago, Los Angeles, Saugatuck, Sacramento, and London. Recent exhibitions of her work have taken place at EXPO Chicago, Paris London Hong Kong, The Blue Parrot, and Sullivan Galleries. Hall has received national and international grants, awards, and residencies which include an Arts, Science + Culture Initiative Collaborative Research Grant, University of Chicago, Ox-Bow School of Art Fellowship in Michigan, Vermont Studio Center Residency, Dumfries House Residency in Scotland, the Jan Shrem and Maria Manetti Museum of Art Royal Drawing School Fellowship in London, and her forthcoming Global Forest Artist Residency in Germany.

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**N. Masani Landfair** has shown at Museum of Science Industry's Black Creativity (first-place winner), South Side Community Art Center, Zhou B. Art Center, 33 Contemporary Gallery, all in Chicago, Global Artist Project in Italy, Mexico, and Senegal, the San Francisco International Arts Festival, and Prizm Art Fair in Miami. She works and lives between Chicago and Northern Georgia.

**Meredith Leich** has exhibited and screened work nationally and internationally, including at the Ann Arbor Film Festival, the Athens International Film and Video Festival, and the Museum of Contemporary Art Chicago, as a part of Chicagoland Shorts. Her collaboration with glaciologist Dr. Andrew Malone was awarded a 2015-16 Arts, Science + Culture Grant from the University of Chicago. Her short film *Scaling Quelccaya* won Second Prize in Deutsche Bank's 2017 Macht Kunst Contest in Berlin and received a 2018 Individual Artist Grant from Chicago's Department of Cultural Affairs and Special Events. Leich has participated in several residencies, including the Studios at Key West, Ragdale Foundation in Lake Forest, Illinois, the Vermont Studio Center, and the Wrangell Mountain Center in the Wrangell-St-Elias National Park and Preserve in Alaska. She received her MFA in Film, Video, New Media, and Animation from the School of the Art Institute of Chicago and her BA from Swarthmore College. She currently lectures at the School of the Art Institute of Chicago and Loyola University Chicago.

**Andrew S. Yang** has exhibited extensively both nationally and internationally at venues including the 14th Istanbul Biennial, Museum of Contemporary Art Chicago, the Spencer Museum of Art, and the Smithsonian Museum of Natural History. His writing and research appear in journals including *Art Journal*, *Leonardo*, *Biological Theory*, and *Antennae*. He is an Associate Professor in the Liberal Arts Department at the School of the Art Institute of Chicago, inaugural Artist-in-Residence at Yale-NUS College in Singapore, and a research associate at the Field Museum.

## About the Scientists

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**Elena Grossman** is the Program Director for the Building Resilience Against Climate Effects in Illinois (BRACE-Illinois) Project. The BRACE-Illinois project is a partnership between the University of Illinois at Chicago School of Public Health and the Illinois Department of Public Health to help prepare Illinois for the health effects from climate change. She is very interested in built environment and nature-based solutions, climate change and health communication strategies, and climate and health equity. In her free time, she is an avid biker, gardener, eater of delicious foods, and enjoys dance party breaks in the kitchen with her wife and 1-year old son. She was a Peace Corps Volunteer in Guatemala, received her BA from Franklin and Marshall College, and her MPH from University of Illinois at Chicago School of Public Health.

**Daniel Horton** is a climate scientist and Assistant Professor in the Department of Earth & Planetary Sciences at Northwestern University. He encourages you to get educated on the issues and vote accordingly.

**Abigail Derby Lewis** is the Conservation Tools Program Director in the Keller Science Action Center, a division of the Field Museum, dedicated to translating museum science into lasting results for conservation and cultural understanding. Her work as a conservation ecologist focuses on landscape conservation planning and climate change adaptation for urban nature. She is a Commissioner for the Illinois Nature Preserves Commission and co-chairs the Chicago Wilderness Climate Committee.

**Aaron Packman** is the Director of the Center for Water Research and a Professor of Civil and Environmental Engineering at Northwestern University. He is also a Senior Fellow in the Northwestern-Argonne Institute of Science and Engineering. Dr. Packman is an internationally recognized expert in water resources, surface-groundwater interactions, and biological and biogeochemical processes in aquatic systems. Dr. Packman's research team is working to solve a variety of problems, including nutrient pollution, urban flooding, ecosystem degradation and restoration, and waterborne disease transmission. Packman has received numerous awards and honors, including a Fulbright Distinguished Chair in Hydrology and Hydraulic Engineering, the Huber Research Prize from the American Society of Civil Engineers, and Career Awards from the National Science Foundation and National Institutes of Health. He received a BS in Mechanical Engineering from Washington University in St. Louis, and an MS and PhD in Environmental Engineering and Science from the California Institute of Technology.



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**Katherine Moore Powell** is scientist/software engineer for the visualization team under the Geointelligence Division at the National Water Center in Tuscaloosa, Alabama. As an ecohydrologist, she is interested in how water moves through an ecosystem. Her research has focused on how fluxes of carbon, water, and energy respond to precipitation that is becoming characterized by seasonal shifts, larger events, and longer dry periods. Prior to doing research, she worked for over a decade as a software programmer and consultant. As a result, she has retained a strong interest in technology, especially ecosystem, climate, and water models. She used her consulting experience while working with scientific, governmental, and community-based groups as a climate change ecologist for the Field Museum, in Chicago, leading development of two climate change adaptation plans. She has participated in developing content for environmental education programs, advised on stormwater mitigation planning, and co-chaired a regional resilience and sustainability workshop session.

**Desi Robertson-Thompson**, as a child, marched alongside her parents to keep a nuclear plant from being built in the fragile Indiana Dunes. Her hikes through the dunes inspired her to eventually pursue a career in science and conservation. After completing her undergraduate degree in Biology from Northern Arizona University, she served as a Peace Corps volunteer in Bolivia. Desi later went on to complete her PhD in Entomology at the University of Minnesota. She currently works at the Great Lakes Research and Education Center based at Indiana Dunes National Park and is an Honorary Research Associate at the Field Museum. Desi resides on 10 acres of glacial moraine in Indiana with her husband and two daughters, eight chickens, two goats, two dogs, a cat, a lizard, and a fish.

**Philip Willink** is an aquatic scientist who received his PhD from the University of Michigan, then worked at the Field Museum and Shedd Aquarium. He has conducted research in a dozen countries, as well as extensively throughout the Chicago region. His primary specialty is fishes, more specifically, how fish communities change over time and whether these changes are in response to natural or anthropogenic factors. This has resulted in projects on endangered species, invasive species, habitat restoration, and climate change. His professional focus has evolved into taking scientific research and making the leap to actionable conservation, management initiatives, and policy.

# About the Curatorial Team

**Meg Duguid** is an artist and an arts administrator. She is currently the Director of Exhibitions for Columbia College Chicago's Department of Exhibitions and Performing and Student Spaces. Previously she was the Director of the Averill and Bernard Leviton Gallery where she was responsible for the programs, *Woodworks*, *Chicago Interiors*, and *As the Story Opens...* As the current director of exhibitions she has curated *Si, Se Puede*. This exhibition, funded by the Joyce Foundation, served to connect contemporary art practice to the legacies of Dolores Huerta and Cesar Chavez and their work with the UFW. Additionally, Duguid, along with her partner Michael Thomas, is working to develop TheVisualist.org into a comprehensive and searchable cultural archive of artist-run projects and actions. Duguid received her BFA from the School of the Art Institute of Chicago and her MFA from Bard College.

**Christine Esposito** has been an environmental communicator for more than 30 years and has been recognized with more than 30 communications awards. She is founder of Terracom, which she launched in 1990 to help green organizations grow in impact through strategic communications. Most recently, through Terracom's Ex.Change Project, she has drawn on the power of science-inspired art to build awareness of and spur action on critical environmental issues. Convening artists, scientists, nonprofits, government agencies, businesses, universities, and other partners, she has conceptualized and led projects that engage audiences in topics including phosphorus pollution and recovery, the importance and care of urban trees, and climate change. Christine holds Master of Landscape Architecture and Bachelor of Music degrees from the University of Illinois, Urbana-Champaign, and a Certificate of Integrated Marketing from the University of Chicago.

**Liam Heneghan** is Professor of Environmental Science and Studies at DePaul University in Chicago. His latest book is *Beasts at Bedtime: Revealing the Environmental Wisdom of Children's Literature* (2018).

**Lisa Roberts** is an educator, writer, curator, artist, planner, and ex-administrator. Her career has focused largely on museums and museum-like institutions, particularly of a botanical nature. She received a PhD from the University of Chicago in History of Culture. Much of her career has centered on developing unorthodox ways of educating people about science and nature, with a special interest in artistic and technological media. In 2006, she founded *naturalia, inc.*, providing consulting services to museums, gardens, parks, and nonprofit organizations worldwide. Dr. Roberts is the former Director of Garfield and Lincoln Park Conservatories and previously worked at the Chicago Botanic Garden and Field Museum. She has written and lectured widely, and has served as an advisor to a variety of civic and community organizations.

# Acknowledgements

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