YALE

FIVE-YEAR REPORT 2025

PLANETARY SOLUTIONS

Yale Planetary Solutions seeks to catalyze planetary solutions through all that Yale is, from our students, faculty, staff, and alumni, to our buildings, collections, and campus, and all that Yale does—teaching, learning, researching, building, operating, convening, investing, and leading.

Jordan M. Williams, West Campus Farm and Operations Manager for Yale Hospitality.
Photo by Rob DeSanto.

Contents

2 EXECUTIVE SUMMARY

3 INTRODUCTORY LETTER

Background

4 A RICH HISTORY OF LEADERSHIP

5 YALE MILESTONES TOWARD PLANETARY SOLUTIONS

University Initiatives, 2020–2025

9 RESEARCH, SCHOLARSHIP, AND EDUCATION IN CLIMATE AND SUSTAINABILITY

10 EXTERNAL ENGAGEMENT

12 OPERATIONS, FACILITIES, AND COMMITMENTS

YPS Signature Programs

14 CREATING AND ACCELERATING

20 EDUCATING AND EMPOWERING

24 LEADING AND PRACTICING

27 CONVENING AND ENGAGING

Looking Ahead

30 A SHARED COMMITMENT TO PLANETARY SOLUTIONS

31 ACKNOWLEDGMENTS

Take the Risk to Cool Down mural at MATCH in Fair Haven, created by Victoria Martinez '20 MFA, a 2022–2023 Climate Engagement through Art in Cities fellow. Photo by Andrew Hurley.

Executive Summary

This report celebrates and elevates the work being done throughout the Yale community to imagine, catalyze, and propel solutions that address climate change, biodiversity loss, and resource conservation and the profound implications of these crises for individuals and communities everywhere. By chronicling current and past work and highlighting a few of the innumerable efforts of students, faculty, staff, alumni, and friends over the past five years, we aim to demonstrate the incredible extent of Yale's positive contributions toward a healthier planet and prosperous people.

We begin with a history of Yale Planetary Solutions (YPS) and an overview of recent university-wide efforts to address planetary challenges, notably climate change and biodiversity loss. We then move into the impact of YPS core programs, with a focus on the YPS Grant Program.

Finally, we look ahead to what the university community, amplified by the facilitation and convening role of YPS, can achieve next through interdisciplinary collaborations with partners at all scales, from local to global.

Introductory Letter

In 2020, Yale Planetary Solutions (YPS) launched with an ambitious and urgent mission to bring the full breadth of Yale's intellectual and institutional power to bear on the world's most pressing planetary challenges. Over the past five years, YPS has become the north star for university-wide efforts to address climate change, biodiversity loss, and the social and economic impacts of environmental degradation. The goal of this report is to highlight the tremendous efforts across the university to provide solutions in these areas, while also showing how YPS core programming is working to unite these stars from all corners of campus into constellations.

YPS aims to elevate and expand the scholarship, teaching, and interdisciplinary collaboration of experts from across the university to realize a future that benefits the planet and people. With all that Yale is and all that Yale does, this initiative is transforming knowledge into meaningful action and real-world impact. It is a catalyst, a convener, and a testing ground for the ideas, technologies, and partnerships that will shape a more sustainable and equitable future. As a leading research university with a liberal arts tradition and exceptional professional schools, Yale is distinctively positioned not only to bring forth new ideas, but to bring together thought leaders, shape public dialogue, and drive policy and systems of change.

Yale's commitment to planetary solutions takes shape in how we build, teach, and research. In fall 2023, for example, Yale Divinity School broke ground on the zero-carbon, regenerative Living Village, set to become the largest living-building residential complex on any university campus. In spring 2024 alone, Yale offered more than seventy courses—from art to engineering to law—that addressed climate change. Through its grant program, YPS has awarded more than $7 million to support eighty-nine faculty-led projects that are transforming research into impactful solutions.

We are proud of all that Yale is doing to advance practical solutions through partnerships in the region and the world, and we are also deeply appreciative of how YPS has built upon and amplified the astonishing array of work across the university. From research and action here in New Haven to contributions and partnerships around the globe, Yale is piloting and sharing effective models that can be adapted, replicated, and scaled by institutions and communities everywhere.

We offer our deepest thanks to faculty members, staff, students, alumni, and friends who have helped shape this initiative from the beginning, and we look forward to the work that will continue in the years to come.

Sincerely,

Maurie McInnis

President, Yale University
Professor of the History of Art

Scott Strobel

Provost, Yale University
Henry Ford II Professor of Molecular Biophysics and Biochemistry

Background

Planting seeds at the Yale School of Forestry (now the Yale School of the Environment), 1940s.

A Rich History of Leadership

Yale's leadership in planetary solutions traces back more than a century, to the university's founding of the Forest School. As the first educational institution in the nation to pursue the science of forest management, the Forest School affirmed Yale's place at the forefront of environmental research and established the university's role in training leaders in this field so that knowledge generated in academic settings finds practical implementation in the world.

This work carried on and expanded over the decades in the now-renamed Yale School of the Environment, with a significant acceleration around the turn of the century through new academic initiatives, changes in university operations, groundbreaking climate commitments and partnerships, and forward-looking construction projects. Amid this growth, Yale's climate efforts came to include communities from all corners of the university, reflecting the immense scale and scope of the climate and biodiversity crises and humanity's complicated role as the cause of and solution to these planetary challenges.

Recognizing a need to increase, focus, and coordinate the work happening in this broad space, the university announced the launch of a project in 2020 that was later renamed Yale Planetary Solutions (YPS). The new campus-wide initiative brought experts from a range of backgrounds together in conversation about Yale's role in addressing threats to the environment.

Through the formation of YPS, a priority expressed in the 2018 University Science Strategy Committee report grew into a pillar of the university's strategic direction. Today, YPS is proud to serve the Yale community by unifying endeavors and finding synergies across the university, leveraging the breadth and depth of Yale's excellence in the physical, natural, and applied sciences and its profound strengths in the arts, humanities, social sciences, and engineering. YPS supports Yale in reaching its full potential to drive pioneering, scalable solutions to humanity's greatest challenges, in accelerating the impact of these solutions in the broader world, and in leading by example through campus operations and facilities projects. YPS pursues these goals through its own signature programs, by providing a platform to amplify, connect, and catalyze efforts around the university, and by bringing Yale's research and scholarship to local, national, and global conversations.

Yale Milestones toward Planetary Solutions

Many projects at Yale have focused on planetary solutions over the years, spanning disciplines, units, departments, schools, campuses, and countries. An acceleration in the number and diversity of these initiatives necessitated a unifying body that could lift up the work happening throughout the university.

Green = YPS

Blue = Yale

1900

1900: Yale Forest School is founded

1983: Tropical Resources Institute is created

1984: The interdisciplinary Yale College Environmental Studies Program is created

1990

1990: Urban Resources Initiative is founded

1990: Yale Institute for Biospheric Studies is founded

1992: Earth Observation Lab is created

2000

1994: Yale Center for Environmental Law and Policy is founded

1998: Hixon Center for Urban Sustainability is founded

2000: The Forests Dialogue is established

2005

2001: Yale Sustainable Food Program is launched

2003: Students break ground on the Yale Farm

2005: Yale Office of Sustainability is created

2005: Yale becomes the first Ivy League school with a greenhouse gas reduction target

2006: Environmental Leadership and Training Initiative is created

2006: Yale earns its first LEED certification, for the Class of 1954 Chemistry Research Building

2006: Yale Center for Business and the Environment is launched

2006: Yale Forum on Religion and Ecology, founded at the United Nations in 1998, moves its base to Yale

2007: Yale President Richard Levin convenes the Sustainability Working Group for the Council of Ivy Presidents, leading to the founding of the Ivy Plus Sustainability Consortium

2007: Yale Program on Climate Change Communication is founded

2007: Yale Center for Green Chemistry and Green Engineering is founded

2009: Yale commits to LEED standards for all campus construction projects

Featuring an energy-efficient design, renewable energy systems, rainwater harvesting capabilities, and regionally sourced natural construction materials, Kroon Hall achieved a platinum rating in the Leadership in Energy and Environmental Design (LEED) green building certification program when it opened in 2009. The building represents the Yale School of the Environment's early commitment under Dean Gus Speth to raising the visibility of climate change and biodiversity loss and to defining the future of environmentalism—efforts that continue today under the leadership of Carl W. Knobloch Jr. Dean Indy Burke.

Kroon Hall. Photo by Jack Devlin.

2020

2020: Yale launches Planetary Solutions

2021: Yale Center for Natural Carbon Capture is launched

2021: Yale Center for Environmental Justice is launched

In January 2007, at the World Economic Forum in Davos, Yale President Richard Levin called on large organizations around the world to take immediate action to address global warming by reducing their greenhouse gas emissions. Yale followed through on that call by convening representatives of Ivy Plus institutions to discuss campus sustainability plans. The resulting Ivy Plus Sustainability Consortium continues to gather today on an annual basis to share best practices and to facilitate a unified effort across institutions toward improving operations, engaging top scholars, and educating future leaders on issues of sustainable development and climate change.

Ivy Plus Sustainability Consortium participants at the 2024 annual meeting, held at the University of Southern California. Photo by University of Southern California.

2015

2009: Kroon Hall opens with a LEED Platinum certification

2013: The university plants the first of several new "urban meadows" across campus

2015: Yale's Carbon Charge Pilot Program is launched

2015: Yale Center on Climate Change and Health is created

2015: A 1.34-megawatt solar array opens on West Campus

2017: Carbon Offsets Working Group is launched

2018: Yale announces a new set of science priorities, leading the Office of the Provost to develop the Planetary Solutions Framework with faculty input

2018: Yale Environmental Humanities is founded

2020: Yale achieved its first greenhouse gas reduction target, reducing net emissions by 43 percent below 2005 levels

2021: Yale announces the Climate Impact Innovation Fund

2021: Yale Board of Trustees adopts fossil fuel investment principles

2021: Yale sets a goal to reach zero actual emissions by 2050

2022: YPS Grant Program is launched

2022: Yale adopts a "zero carbon ready" building strategy, guiding future capital projects and renovations to be more energy efficient and powered by renewable energy

2022: Yale School of the Environment establishes the Three Cairns Climate Program for the Global South

2022: Yale Jackson School of Global Affairs welcomes the first cohort of Yale Emerging Climate Leaders Fellows

2023: Yale Center for Geospatial Solutions is launched

2023: ClimateHaven is founded as a nonprofit with support from Yale Ventures and YPS

2023: Bekenstein Climate Leaders Program is launched

In February 2025, faculty from across Yale convened for the Yale Forum on Climate Change and Health, hosted by Yale Planetary Solutions and the Yale Center on Climate Change and Health (YCCCH). The event celebrated the 10th anniversary of YCCCH as "a leader and thought partner on climate change and health research at Yale and beyond," said YCCCH Executive Director Jennifer Wang.

Kai Chen, YCCCH faculty director and associate professor of epidemiology (environmental health sciences), speaks at the Yale Forum on Climate Change and Health following welcoming remarks by Jennifer Wang. Photo by Bonnie Zhu/YCCCH.

2024: YPS hosts the first Yale @ Climate Week NYC

2025

2024: Yale breaks ground on the first district geothermal installation at upper Science Hill

2025: YPS sponsors the first Planetary Solutions Prize at Startup Yale

2025: YPS welcomes the first cohort of Stella M. Hammond Planetary Solutions Fellows

2025: With support from YPS, Yale co-founds the U.S. Academic Alliance for the Intergovernmental Panel on Climate Change (USAA-IPCC)

2025: Yale Divinity School opens the Living Village

2025: YPS and Yale Ventures jointly launch the Yale Planetary Solutions Impact Accelerator fund

University Initiatives, 2020–2025

Yale Planetary Solutions works to serve all areas of the university, both through its own programming (featured in the YPS Signature Programs section) and by taking on a broader role of support for initiatives rooted in academia, operations, and facilities. This support takes many forms, such as identifying synergies and stakeholders, partnering on events, convening multidisciplinary scientific teams, and amplifying the achievements of others.

Through three main lenses of climate change, biodiversity and ecosystems, and communities and society, YPS focuses on projects with impact in 11 action areas: biodiversity loss; climate; ecosystems; energy; food; governance, conflict, and migration; health and well-being; poverty, disparity, and injustice; transportation; urban systems; and water. The following pages offer a glimpse into the extraordinary efforts of individuals and teams across Yale in these areas over the past five years.

Participants pose during the Graduate Conference in Religion and Ecology in 2024. Photo by the Yale Forum on Religion and Ecology.

The Graduate Conference in Religion and Ecology is organized annually by graduate students in a collaboration between Yale Divinity School and the Yale School of the Environment. The conference brings students together from around the world and from a variety of academic disciplines to share original research and engage in conversation toward creative solutions for environmental challenges.

The conference is a product of the Yale Forum on Religion and Ecology, an international, multireligious project dedicated to contributing to an emerging academic field and fostering religious environmentalism.

Research, Scholarship, and Education in Climate and Sustainability

75+ Courses on climate, biodiversity, and sustainability each term in departments and schools across the university

28+ Degree Programs

10+ Non-degree Certificate Programs

450+ Yale Faculty Members working in key action areas

Climate-Related Scholar and Fellow Programs:

- Bekenstein Climate Leaders Program led by the Yale School of the Environment
- Emerging Climate Leaders Fellowship at the Yale Jackson School of Global Affairs
- Stella M. Hammond Planetary Solutions Doctoral Fellowship led by Yale Planetary Solutions
- Three Cairns Climate Program for the Global South at the Yale School of the Environment

14+

programs and

22+

centers and institutes

dedicated to addressing climate-related issues

External Engagement

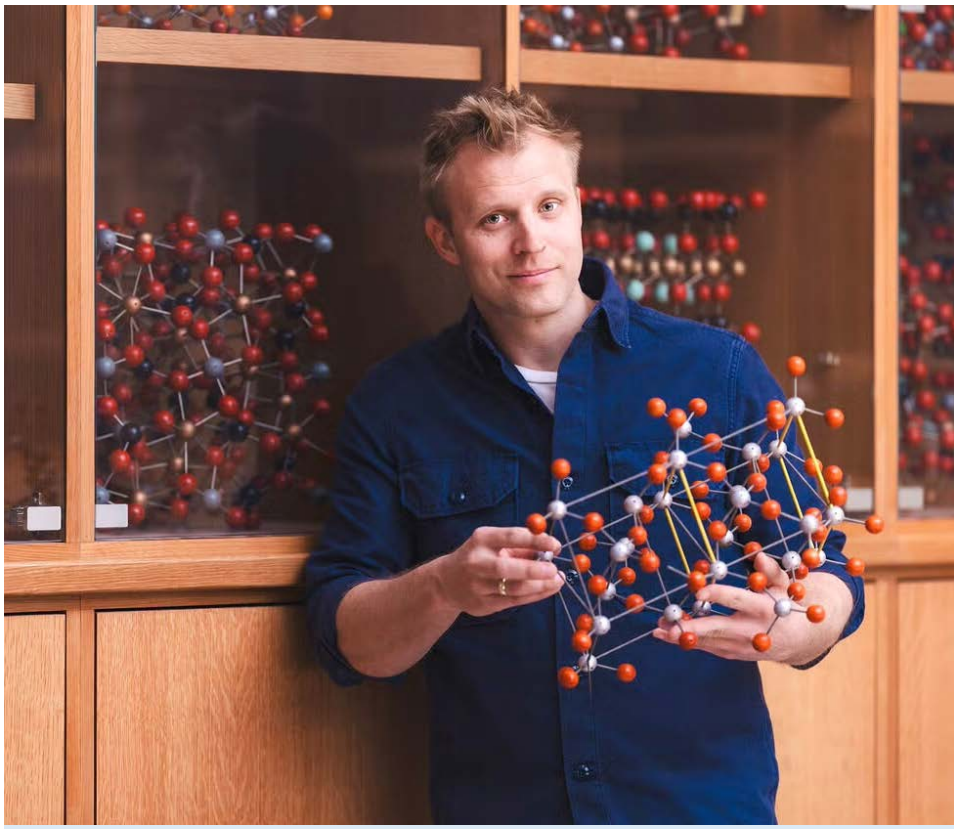
Through a wide range of partnerships with local, national, and international organizations, Yale has a leading role in the global effort to address critical climate and environmental challenges. The following list highlights just a few of these collaborations:

- City of New Haven
- Climate Week NYC
- European Union
- State of Connecticut
- United Nations Convention on Biological Diversity, Conference of the Parties
- United Nations Environment Programme
- United Nations Framework Convention on Climate Change, Conference of the Parties
- U.S. Academic Alliance for the Intergovernmental Panel on Climate Change
- U.S. Federal Government
- World Health Organization
- Various organizations through Public Service Leaves for Yale employees

In 2025, with support from YPS, Yale co-founded the **U.S. Academic Alliance for the Intergovernmental Panel on Climate Change (USAA-IPCC)**, with the American Geophysical Union serving as the secretariat. The IPCC is the United Nations body that connects policymakers with scientific assessments on climate change. Through the USAA-IPCC, a network of U.S. colleges and universities, U.S. scientists can be nominated to participate in writing the Seventh Assessment Report (AR7), a critical publication overseen by the United Nations that updates the world on the state of scientific, technical, and socioeconomic knowledge on climate change and its impacts.

"We need a diversity of solutions and collaborative partnerships to confront a problem as challenging as climate change. Our work here in New Haven is evidence that collaboration, community, and climate health can be one and the same. Our partnership with Yale Planetary Solutions is important because we implement solutions to climate change—such as painting murals that cool our city or collecting data on air quality—that also have additional benefits to our neighborhoods, such as saving money on air conditioning bills. Yale Planetary Solutions has helped us show what community-health climate solutions look like for cities like New Haven."

—Justin Elicker
Mayor of New Haven



Noah Planavsky. Photo by Dan Renzetti.

On Earth Day, April 22, 2025, XPRIZE officials announced that Mati Carbon, a nonprofit organization based in part on the research of Yale geochemist Noah Planavsky, won the competition's grand prize of $50 million. More than 1,300 groups from 88 countries took part in the competition, which required teams to create and demonstrate a system for pulling CO_2 directly from the atmosphere or oceans and durably sequestering it.

> YPS's goals are really central to Yale's mission: increasing the volume and quality of research and understanding of planetary solutions, building ties across different parts of the university so that we can increase our impact, and building a more cohesive academic student structure in support of that mission.
>
> —Michael Crair
> Vice Provost for Research, William Ziegler III Professor of Neuroscience, and Professor of Ophthalmology and Visual Science

Student-Led Initiatives

From magazines, clubs, and film festivals to partnerships with national organizations, countless student-led initiatives throughout campus are helping to engage and prepare the next generation of climate leaders.

Students at the 2023 Yale Earth Day Fair. Photo by Sonia Ruiz.

Operations, Facilities, and Commitments

Yale was among the first universities to establish a greenhouse gas emission reduction goal and continually seeks to improve its sustainability practices, using its campus as a testbed for solutions that can be scaled and shared with communities and partners. The following projects and achievements from the past five years are just a few examples of the many ways in which Yale is investing in a thriving, resilient future.

The construction of a geothermal borefield and thermal utility plant on Science Hill will support the heating, cooling, alternate power, and fire protection needs of 11 research buildings. This includes buildings in use that will undergo deep energy retrofits to reduce total building energy by 20 percent and implement new approaches to lab safety and ventilation management. With this multifaceted development, Yale's central campus emissions will be reduced by 15 percent.

The Yale Center for Natural Carbon Capture (YCNCC) was launched in 2021 to develop nature-based solutions to climate change. In addition to undertaking major research initiatives, YCNCC has hired five new faculty members to expand expertise in natural carbon capture in the planet's oceans, coastal ecosystems, tropical forests, and soils.

Geothermal installation on Science Hill. Photo by Yale Facilities.

In 2023, Yale partnered with the State of Connecticut to invest in the regional innovation and entrepreneurship ecosystem with the founding of ClimateHaven, a platform for startups building breakthrough solutions in energy and climate resilience.

> In 2020, Yale met its goal of reducing net emissions by 43 percent from 2005 levels. The university has a commitment to achieve zero actual carbon emissions by 2050.

Yale Divinity School's zero-carbon, regenerative Living Village opened in fall 2025, on track to become the largest residential complex to achieve Living Certification through the **Living Building Challenge**.

With YPS support, **Yale Athletics** is replacing the existing cooling infrastructure serving Ingalls Rink with a climate-friendly CO2-based alternative.

Yale, the City of New Haven, and the State of Connecticut are developing a shared commitment to sustainability as a driver for workforce development, economic growth, and community resilience through YPS's Strategic Vision 2050 initiative.

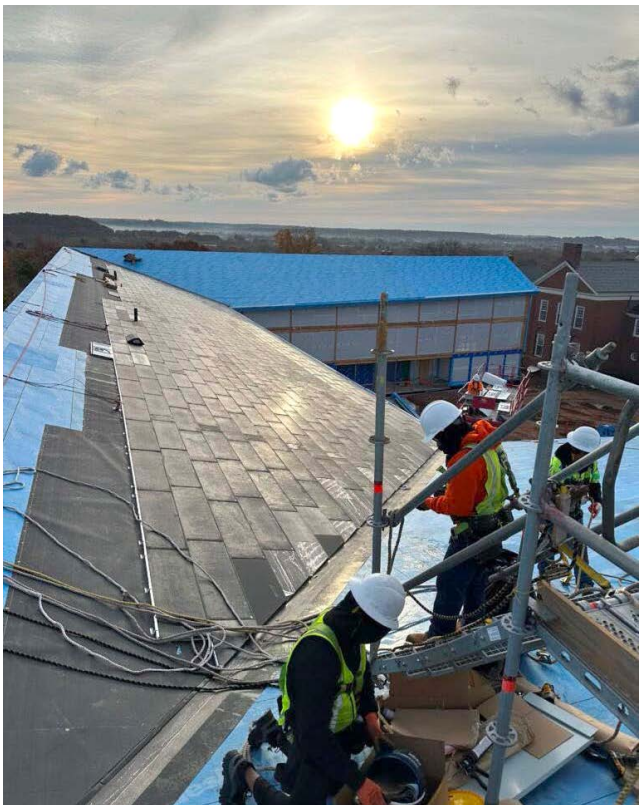
Women's hockey at Ingalls Rink—the "Yale Whale." Photo by Michael Marsland.

"Sustainability is a point of emphasis in all things we do. The Ingalls Chillers Project was a good opportunity for us to contribute to the greater mission and make sure we can be more sustainable as we move forward. Hopefully, we continue to set an example—whether it's to other departments here or athletic departments outside of Yale—that making sustainable choices doesn't mean compromising on performance.

—Danielle Upham
Senior Associate Athletic Director, Facilities and Operations

"The Living Village is about giving back—but it's also about looking forward. It's a place designed not just for the people here today, but for future generations who will live, learn, and lead from this campus. Students won't just live in a high-performing building—they'll experience sustainability in a way that becomes part of their daily lives. That kind of exposure shapes how they think, act, and advocate long after they leave Yale.

—Gretchen Neeley, AIA
Senior Associate, Bruner/Cott Architects



Solar roof tiles being installed on the Living Village at sunrise. Photo by David Kelley.

YPS Signature Programs

Yale Planetary Solutions runs several signature programs that convene experts and fund transformative research, demonstration, and implementation projects in support of a thriving planet. This core programming currently includes the YPS Grant Program, the Stella M. Hammond Planetary Solutions Doctoral Fellowship, Impact! Awards, the Planetary Solutions Prize, and the Yale Planetary Solutions Impact Accelerator, plus three YPS-led event series: Yale @ Climate Week NYC, ColLABoratories, and Sci x Sci-Fi.

Collaborative efforts that realize novel and significant solutions emerge not only within specific disciplines and domains, but also through partnerships that transcend the traditional structures of institutions of higher education. These are places where education and operations intersect, and where research is translated into impact. Guided by this vision, the YPS framework for broadening and prioritizing university collaborations through its core programming focuses on four synergistic areas: **Creating and Accelerating**, **Educating and Empowering**, **Leading and Practicing**, and **Convening and Engaging**.

Creating and Accelerating

YPS GRANT PROGRAM

The YPS Grant Program has awarded more than $7 million to interdisciplinary projects throughout the last four years. As the flagship initiative of YPS, the grant program funds work taking place in YPS's 11 key action areas. The projects generate local and global solutions across YPS's four synergistic areas.

In 2025, the YPS Grant Program supported projects using a new structure based on past participant feedback, awarding Initiation Grants ($25,000), Acceleration Grants ($100,000), and Constellation Grants ($250,000).

The first-ever Constellation Grant, the largest grant in YPS's history, was awarded to Lea Winter, assistant professor of chemical and environmental engineering, and her team. The project's goal is to develop the first low-temperature, electrified, modular approach to destroying hydrofluorocarbon refrigerants—potent greenhouse gases that are often inadvertently released.

A primary objective of YPS grant funding is to help projects become viable candidates for external funding. The first cohort of YPS grant recipients has demonstrated the efficacy of the program: **since YPS's initial investment of $1.5 million in 2022, these projects have attracted an additional $2.7 million in external funding.**

We invite you to read about some of YPS's recent grant recipients in each of the synergistic areas featured in this report and to learn more about the full range of projects on the YPS website.

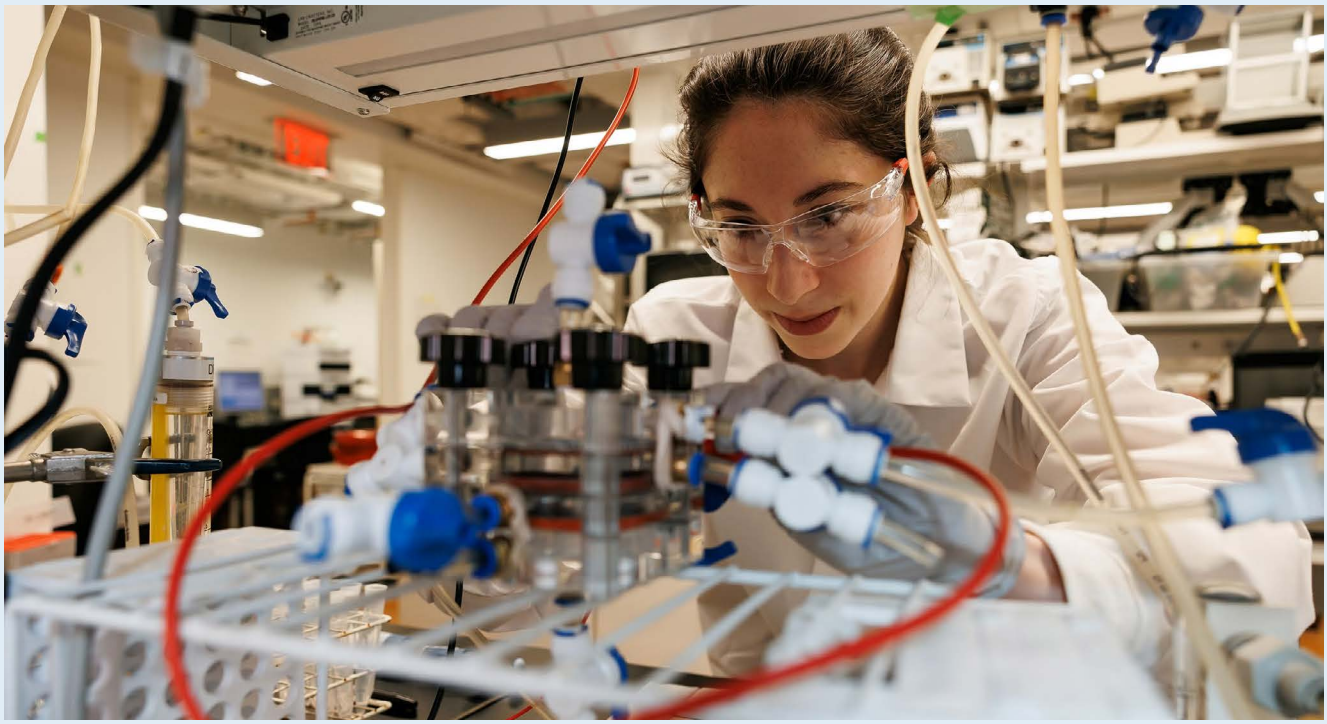
$1.5M
initial YPS investment

$2.7M
external funding

1.8×
return on investment so far

> "It's a wonderful [grant] program. It goes a long way toward catalyzing new collaborations, allowing you to take some risk and try new directions."

—John Fortner
Professor and Chair of Chemical and Environmental Engineering



Lea Winter in her lab. Photo by Tony Fiorini.

The work of Yale Planetary Solutions is vital for the health of our planet and its people. **This initiative harnesses Yale's greatest strengths—its people and partnerships—to drive a multidisciplinary approach to climate progress. By investing in collaborative research and scalable solutions, we can accelerate a decarbonized future, protect biodiversity, and build a sustainable world** where the benefits of transformation are shared by all. It is our collective responsibility to choose actions today that do not compromise the ability of future generations to meet their needs. From local empowerment to global impact, Three Cairns Group invests in initiatives like Yale Planetary Solutions that have the potential to achieve lasting, equitable progress.

—Lise Strickler '82
Co-founder and Managing Principal of Three Cairns Group

2022
$1.5M awarded to **21** projects

2023
$1.5M awarded to **23** projects

2024
$2.1M awarded to **22** projects

2025
$2M awarded to **23** projects

PRIMARY AFFILIATION OF PROJECT TEAM MEMBERS RECEIVING YPS GRANTS, 2022–2025

46 Yale School of the Environment

37 Yale Faculty of Arts and Sciences

24 Yale School of Engineering and Applied Science

19 Yale School of Medicine

18 Yale School of Public Health

7 Yale School of Architecture

7 Yale Law School

4 Yale School of Management

2 Yale School of Art

2 Yale Jackson School of Global Affairs

1 Yale Office of Facilities

1 Yale Office of Sustainability

1 Wu Tsai Institute

1 Yale Peabody Museum

1 Yale Ventures

> The YPS program and funds are instrumental for my lab and many others to start thinking about or incorporating climate change research or actions in our work. You're bringing people together who can talk about climate change from the science side and the action side, and it's wonderful. It's something we all dream about doing.

—Zeyan Liew
Associate Professor of Epidemiology (Environmental Health Sciences)

2024 YPS Grant Project

BUILDING DENSE CITIES WITH FOREST BIOMASS: RESILIENT REGIONAL FORESTS AND REGENERATIVE URBAN CONSTRUCTION

The buildings and construction sector is a significant emitter of greenhouse gases worldwide, accounting for around 42 percent of emissions, according to the Intergovernmental Panel on Climate Change. Nearly half of these emissions will come from the initial stages of the building life cycle, in the production of materials such as cement, steel, and aluminum, by 2050, when an estimated 2.3 billion new inhabitants will have moved to the planet's cities. Without a change in building practices, this population shift will triple the amount of land covered by constructed environments.

What if the making of global buildings and cities could instead become a force to incentivize environmental restoration, reverse climate change, and enhance biodiversity? "Regenerative building" is a new approach that empowers makers of built environments to pursue radical reductions in the consumption of raw materials, non-renewable energy, and waste.

With funds from a YPS grant, researchers from the Yale School of Architecture (YSoA) and the Yale School of the Environment (YSE) developed and systematized a novel construction system that uses

Students fabricate experimental hybrid earth "bricks" for lower carbon-intensity structures. Photo by Yale Building Lab.

wood species harvested from sustainably managed forests and waste earth residues in southern New England. In creating the initial structural components, the team also incorporated excess materials from the Living Village project at Yale Divinity School. The team then applied the new regional assemblies to build a structural prototype for an urban building for New Haven, demonstrating how construction can contribute to a mutually beneficial relationship between cities and forests.

"If we use regional materials to build buildings and develop new workforces, there is a force multiplier of benefit that spans from forests to cities: the economic benefit of new opportunities for our workforce and our entrepreneurs; we create more and better-quality housing; and we can help to restore regional ecosystems. And if we do it right, those buildings we construct can be dismantled at the end of their service lives and become material banks for future construction, thereby reducing our demand for virgin raw materials," said Alan Organschi, a project team member who is a professor at YSoA and director of the **Yale Building Lab**.

As part of the project, a three-day educational symposium titled Building a Planetary Solution was held at YSoA, bringing together leading thinkers and makers in discussion of a new regenerative paradigm for the building sector. The event featured tours of local projects, workshops and presentations, and panel discussions, including a keynote conversation with President Maurie McInnis and Edward P. Bass Dean of YSoA Deborah Berke.

The project also resulted in a seminar on regenerative building that was offered to Yale students.

"This project has been a highlight for me through my academic career, and it's something I'll keep with me as I move forward," said Mariah Langlois '25 MArch. "Working with external partners especially was something that helped me prepare for my future."

The Verustruct team won both the second-place Planetary Solutions Prize and the Audience Choice Award at Startup Yale 2025. Photo by Tsai CITY.

PLANETARY SOLUTIONS PRIZE

The Sustainable Venture Prize, established in 2008, was relaunched in 2024 by YPS as the Planetary Solutions Prize, doubling the prize amount. The annual competition awards a total of $50,000 to two promising student-led, for-profit ventures dedicated to advancing environmental sustainability.

Four finalist teams with business ideas for a better world competed for the Planetary Solutions Prize in 2025 at Startup Yale, a student entrepreneurship event. The judges awarded the first-place prize to Mudder AI, an AI-powered disaster management platform providing proactive risk analysis and optimized emergency response.

"Winning the Planetary Solutions Prize was a turning point for Mudder AI," said Nadia Ahmad, the company's founder who is pursuing her PhD at the Yale School of the Environment. "The prize helped open doors to partnerships, funding opportunities, and visibility that would have taken years to build otherwise."

The second-place prize and audience choice award went to Verustruct for their innovative 3D-printing technology used to build sustainable houses for people experiencing housing insecurity.

Nick Callegari '25 MBA, founder of Verustruct, shared what it meant for his project to win.

"Verustruct is laser-focused on developing our technology as quickly and safely as possible to deliver sustainable and beautiful homes to those that need them the most," he said. "The Planetary Solutions Prize helped us garner publicity and reputability as a startup worth keeping an eye on, helping connect us with potential investors and stakeholders."

Beyond financial support for winning projects, the competition provides participants with constructive feedback, mentorship opportunities, and chances to engage with investors and industry leaders so that Yale community members can more easily turn their ideas into real-world impact.

YPS additionally works to encourage creative climate solutions through entrepreneurship on a broader scale with several community partners, such as ClimateHaven. "The most important thing happening between Yale Planetary Solutions and ClimateHaven is creating a global magnet for people who want to make a big impact on climate," said Casey Pickett, who served as the first YPS project director and is currently the managing director of incubation at ClimateHaven. "None of us can do this alone, and we're much more effective when we are challenging ourselves and learning from people in different fields."

BUILDING CAPACITY FOR EARLY DETECTION OF EMERGING INFECTIOUS DISEASES IN CHAD: A ONE HEALTH APPROACH TO PROTECT HUMAN, LIVESTOCK, AND WILDLIFE HEALTH

Yale School of Public Health (YSPH) epidemiologists led the design of an intensive training program to accelerate disease surveillance in Chad, which is facing multiple public health challenges: a surge in malaria and dengue, disease-related setbacks to conservation efforts to reintroduce critically endangered antelope species, and the risk of diseases emerging at the animal-human-ecosystem interface. Biosurveillance, such as monitoring diseases in wildlife and livestock, can provide earlier warnings for potential outbreaks and facilitate proactive management.

To inform the study's design, the project team reviewed more than 200 publications spanning 20 years for infectious diseases and parasites that could pose a threat to biodiversity initiatives to reintroduce antelope. They found that 159 distinct pathogens or parasites had been reported. The findings highlighted potential regional health threats not only to these critically endangered animals but also to livestock and human communities.

Through the creation of a training hub at the Institut de Recherche en Élevage pour le Développement (IRED), Yale staff worked to bring human and animal health disciplines together, with Chadian partners, to support biodiversity by increasing local capacity for disease detection through serology, molecular, and genomic surveillance techniques. In a partnership with the Smithsonian Institution, which funded the collection of livestock samples at a high-risk human-livestock-wildlife interface, the Yale team, with YPS funding, was able to test the samples locally in Chad and train Chadian human and animal health professionals on new methodologies. The biosurveillance system was designed to have sustainable diagnostic capability over time, leading to longitudinal data that can be used for outbreak and transmission modeling, further helping to stem any future outbreaks.

"These sophisticated techniques and approaches for genomic surveillance in Chad will dramatically decrease the time it takes to obtain this kind of data, which ultimately is the goal of true, actionable surveillance," said Amy Bei, associate professor of epidemiology (microbial diseases) at YSPH and leader of the laboratory-capacity strengthening team. "I think it is also a boost for morale that the data was generated fully in Chad by Chadian scientists. The project is the fruit of many deep collaborations aimed at increasing and supporting local lab capacity. Overall, the future is bright for public health in Chad."

MSc student Hassan Abdelkader (middle right) and PhD student Stephanie Brien (middle left) of the University of Edinburgh accompany the Smithsonian field team in collecting patient history and physical exam data for a restrained cow. Photo by Mikaillah Moussa, former member of Sahara Conservation's Community Sensitization and Education (CSE) team based in Arada, Chad.

Trainers and participants celebrate their progress in preparing dengue and malaria samples for genetic sequencing. Photo by Sarah Lapidus.

Thermal Reflections mural on the Goffe Street Armory. Photo by Lucy Gellman.

Educating and Empowering

2023–24 YPS Grant Project

PUBLIC ART AS URBAN CLIMATE SOLUTIONS

With support from YPS, the Yale Schools of the Environment, Art, and Architecture partnered with the City of New Haven to create two murals that raise awareness about climate change. Located on a building in Fair Haven and on the Goffe Street Armory in Dixwell, these murals bring beauty and attention to important community spaces through climate art and are helping to mitigate the effects of rising temperatures in cities by using cooling paint that reflects UV radiation.

Completed in 2024, the Goffe Street Armory mural stands as the largest in New Haven. The design was developed intentionally with community input and promotes awareness of the disproportionate impact of climate change on urban communities.

"When we were looking at where to situate and position this work, we looked at different heat maps of the city," said New Haven-based artist Daniel Pizarro '12 MFA, the project's Climate Engagement Fellow who supported the lead artist in the first year and took on a leadership role in the project's second year. "We were interested in how the mural could be positioned to invite people to start thinking about climate change in a very different way."

The project team actively involved local students in exploring the connection between climate and art. Daniel organized a workshop at **Hill Regional Career High School**—which doesn't have an arts program—and invited students to doodle their responses to prompts about climate change.

"What I have always done in my career is bring the community into the design process and learn from them. I'm always reminded that those most impacted by whatever we're engaging with pretty much tell you what the messaging should be," said Daniel. "It's really just about having a conversation, and I would ask questions like, 'If climate change were an emoji, what would it look like?' A lot of the depictions I saw come back to a very simple thing: people are just yearning to be outside."

The grant additionally provided funding to establish a new Mural Apprenticeship Program, open to applications from anyone in New Haven.

"We had a city-wide call for artists and non-artists interested in learning about murals, and we selected four amazing people," said Annie Lin, director of community engagement and strategies at the

Yale School of Art. "This was a way they could work closely with someone who's a very experienced public artist to discover what the process was like, work with the community, and turn many different inputs into something cohesive."

Local artist Violeta Ware was a participant in the Mural Apprenticeship Program, where she received training in how to scale up art. It has directly benefited her career as an entrepreneur.

"This was my first major contract as an LLC doing such a large-scale mural, and to have that with a citation from the mayor from the City of New Haven was more than I could ask for from my apprentice experience," said Violeta. "I was empowered in a way I had never been in the past."

Being able to paint on a historic building was a rare opportunity that also highlighted ongoing efforts by local gardeners and other community members to develop the Goffe Street Armory, which has been closed for several years, into an asset for the neighborhood.

IMPACT! AWARDS

In partnership with **Yale College** and the **Yale Graduate School of Arts and Sciences**, YPS launched Impact! Awards in 2024 to provide support for dynamic teams of students, faculty, and staff and accelerate small-scale, "shovel-ready" projects.

In the inaugural funding round, three Impact! Awards were allocated to projects that explored variations in New Haven air quality, sustainable fashion consumption, and the documentation of New Haven's environmental history. Through the creation of new publications, curated exhibits, strategic solutions for community needs, and more, these projects are providing students with hands-on experience in linking academic expertise to local and global issues.

6

Impact! Awards distributed

>$100,000

awarded

18

students empowered to engage in impact-focused programs

Students involved with Moving the Needle, a 2024 Impact! Award recipient, pose with fashion legend Stella McCartney. Photo by Stella McCartney.

2024 Impact! Award Project

NEW HAVEN ENVIRONMENTAL HISTORY PROJECT: IMAGINING A CITY'S FUTURE BY STUDYING ITS PAST

Understanding historical environmental and social changes is vital to addressing current planetary challenges and imagining future possibilities and solutions. The New Haven Environmental History Project, funded by an Impact! Award, is developing educational resources to help New Haven students, teachers, and residents better understand the city as a dynamic urban ecological system evolving over hundreds of years of social, political, and cultural change.

The project focuses on illuminating the component parts of the urban system, such as energy, water, transportation, and health, and how they have developed over time. In addition to resource development, the project team is creating collaborative ties between **New Haven Public School** instructors and Yale faculty members. This initiative aims to serve as a replicable model of a university-city partnership for studying urban environmental history based on free, curated primary sources and curricular materials.

Feeding Pigeons on the New Haven Green is one of many historical images accessible via the New Haven Environmental History website, developed with support from a 2024 Impact! Award. The website invites users to explore New Haven's history and imagine its future.

> **It is all of Yale that makes all of Yale terrific.** It is the fact that we have access to architects and artists and environmental scientists and chemists and folks in the School of Management. Being part of the Planetary Solutions Steering Committee is an extension of my day-to-day priorities as dean. The effect of place, space, and climate on health is the first of our areas of scholarly focus. It's part and parcel of what I do every day, and YPS offered me a chance to extend that and learn from others across the university. Creating interdigitations with the rest of Yale is, for me, the way my school can have the greatest impact.
>
> —Megan Ranney
> Dean of the Yale School of Public Health, C.-E. A. Winslow Professor of Public Health (Health Policy), and Professor of Emergency Medicine

2024 YPS Grant Project

LISTENING TO CLIMATE CHANGE

With YPS funding, the Yale Center for Collaborative Arts and Media (CCAM), the Yale School of Public Health, the Yale School of the Environment, the **Yale Departments of Music and of Ecology and Evolutionary Biology**, and **Music Haven** partnered to provide a group of New Haven public school students the opportunity to experiment with translating climate-related data from nature into musical compositions, using AI and visual programming. A performance of their music took place at CCAM in April 2025 at a symposium where the New Haven students were joined by scientists from the **University of California, Berkeley**; the **Max Planck Institute of Animal Behavior**; the **Woods Hole Oceanographic Institution**; and Yale.

Photo by Music Haven.

Matthew Suttor, program manager at CCAM and senior lecturer in theater and performance studies, worked with elementary, middle, and high schoolers over the course of a semester, bringing the software into the classroom so students could test datasets, like annual average temperatures, with different parameters and then listen to the results. They used the software to create compositions that were later performed by their teachers.

No Time to Delay, a violin canon composed by Matthew using NASA's GISS Surface Temperature Analysis dataset, demonstrates how climate data can be sonified through software. Each year from 1880 to 2022 is rendered as a single note whose pitch reflects the global temperature anomaly. As anomalies rise, the melody climbs across three octaves, while a staggered second violin evokes feedback loops and the lag between land and ocean warming. Music Haven students later reinterpreted the same dataset in *Fahrenheit Fiasco*, translating the sound of global warming into their own composition.

Music Haven students also worked with empirical flocking datasets on pigeons and jackdaws, using GPS and 3D-imaging data to explore how spatial coordinates and movement dynamics could be mapped onto musical parameters. This process produced the compositions *Acceptance* and the aptly titled *Pigeons*, offering a tangible way to hear how collective animal behavior translates into sound and making abstract ecological data perceptible. The same software design is now being prototyped to analyze the migratory patterns of swarming chimney swifts above CCAM each year in a project that extends the approach to a local species and links ecological datasets directly to new compositions.

"It was the most amazing experience," Judith Lichtman, Susan Dwight Bliss Professor of Epidemiology (Chronic Diseases), told Yale News. "The students were creating music on the fly, but they were also connecting with each other. They were hearing each other. As somebody who's in the discipline of public health, it made me realize how much more we could do by engaging with a young audience. To tell effective stories about health and communities and environment, you need to engage creative mechanisms. So much of my work has been writing research papers, and they go to my peers and colleagues, but

I think to have a very important impact on the community, it's important to think of other ways to relay information."

In tandem with the program for New Haven students, Yale undergraduates in Matthew's course Nature, AI, and Performance collected data from rainfall, birdsong, melting ice, and snowfall, exploring the scientific value of sonification for communicating climate processes. As the project develops, students in New Haven—"experts of their own environment"—will be empowered to capture video and environmental flux data from their surroundings, analyze it, and sonify the results. This work is now expanding to **Harvard Forest**, where long-term ecological datasets will provide further opportunities to translate environmental change into sound.

> Planetary Solutions' interdisciplinary approach to solving problems in this dynamic academic setting is the kind of innovative education that will not only save the world but also higher ed.
>
> —Kymberly Pinder
> Stavros Niarchos Foundation Dean of the Yale School of Art and Professor of Art and History of Art

"The next step for the project at large is to develop a curriculum. There are already people around the country asking, 'Where can we get a lesson plan? We want to try it out.' The content would also work well for community engagement workshops, which we see as having tremendous potential. We're really excited for that," said Matthew. "I think this is my life's work from this point on."

Photo by Music Haven.

Leading and Practicing

2024 YPS Grant Project

THE SCIENCE, POLICIES, AND ETHICS OF CLIMATE MIGRATION: DISRUPTING THE NEGATIVE FEEDBACKS BETWEEN CLIMATE AND MIGRATION POLITICS

The International Organization for Migration predicts climate change could displace hundreds of millions of people in the next 25 years, intensifying migrations that are already affecting global politics. In recent years, record numbers of people around the world have been displaced by climate factors. This creates a feedback loop where climate change drives migration, contributing to political polarization that hinders cooperation needed to address the issue.

"Climate migration is understood, but understudied," said Michel Gelobter, executive director of the Yale Center for Environmental Justice (YCEJ) and a member of the Science, Policies, and Ethics of Climate Migration project team. "With that many people in motion, it's part of the disaster of climate change."

YPS funding enabled a new course on climate migration, jointly organized by Yale Law School and the Yale School of the Environment. The interdisciplinary class, held in spring and fall of 2025, gathered data to determine the extent to which climate change is causing human displacement, to guide legal protections for climate migrants, and to understand the needs of communities that are receiving migrants.

The project team's overall goal, co-developed with the United Nations and other leading migration and refugee organizations, is to have climate migration enter the public discourse in a positive and proactive way. The students' work is key to the project and has already led to one innovative approach.

"Our work in New Haven and New England uncovered how much climate migrants are already contributing to culture and the economy. So, one of the class's ideas is to plan for an annual climate migration celebration on campus," said Michel. "Imagine if the first time people heard of the connection between climate and migration was in the context of a celebration of new cultures."

Nine students additionally conducted summer field research in Angola, New Haven, and New York on the lived experiences of climate migrants to better understand climate science attribution, local adaptation strategies, and the roles of community support systems and women within these communities. The research shed light on the impact of extreme events on migration patterns and transition routes and the social, cultural, and economic contributions of migrants to host communities, providing actionable knowledge that can inform policy and legal frameworks.

The findings also highlighted the practical relevance of environmental migration policies in Africa, including legal frameworks that support the protection of climate migrants and internally displaced persons, promote accountability, and foster regional cooperation. Throughout the fieldwork, the YCEJ team collaborated with grassroots organizations in New Haven, global humanitarian organizations, and Angolan partners, including the government and local universities.

Nine Yale students conducted field research in Angola in summer 2025 as part of the Science, Policies, and Ethics of Climate Migration project. Photo by the Yale School of the Environment.

2023–24 YPS Grant Project

TRANSPORTATION ELECTRIFICATION AT SCALE: CATALYZING A SUSTAINED STRATEGY FOR RESEARCH-TO-IMPACT

Transportation is the leading driver of greenhouse gas (GHG) emissions in the United States and makes up 40 percent of Connecticut's GHG emissions. Recognizing transport's dominant role in emissions, U.S. state and federal governments have made huge investments to electrify transport. Infrastructure improvements, such as adding vehicle charging stations, are critical.

Approximately 1.5 million public charging ports will be required to meet U.S. demand in 2030, around 10 times the number of ports available at the end of 2023. With so many chargers to install, where should they be placed to best encourage people to use electric vehicles (EVs)?

To answer this question, the Transportation Electrification at Scale team, composed of researchers from the Yale School of the Environment, the Yale School of Public Health, and the Yale Tobin Center for Economic Policy, has successfully developed a new algorithm for optimizing EV charging station placement. Tools like this allow governments to identify where to invest in EV infrastructure to minimize driver inconvenience, maximize the uptake of EVs, and evenly distribute the costs and benefits of electrification.

"We want to provide sensible recommendations to policymakers

that allow them to make informed, thoughtful decisions," said Kenneth Gillingham, Grinstein Class of 1954 Professor of Environmental and Energy Economics.

The model also factors in identifying relationships between charging station locations and demographic data.

The team has already shared their work with interested regulators in Connecticut, New York, Georgia, and Washington.

2022–23 YPS Grant Project

YALE BIRD-FRIENDLY BUILDING INITIATIVE

At least one billion birds are killed by window collisions every year in North America. Building collisions are among the leading causes of wild bird deaths, and yet the staggering severity of this problem is not widely recognized or acted upon by the public, architects, policymakers, or large institutions. Launched in 2022 with the support of YPS, the Yale Bird-Friendly Building Initiative is accelerating the adoption of bird-safe building design on Yale's campus and beyond.

In 2023, the Yale Bird-Friendly Building Initiative, in collaboration with the **American Bird Conservancy**, published a first-of-its-kind, comprehensive report on the effectiveness and potential of emerging public policies, with the aim of promoting bird-friendly design at a greater scale. The report features case studies, key lessons learned from cities that have passed bird-friendly laws, and insights from policymakers, advocates, glass manufacturers, architects, scientists, and community members involved in designing and implementing local policies.

In addition to the report, dozens of students on campus, in partnership with the **Yale Peabody Museum**, have helped collect and track how many birds and which species are striking buildings on Yale's campus. More than 3,100 birds and over 100 species have been collected, including rare species.

"It's an issue that's affecting both the biodiversity crisis and the bio-abundance crisis," said Viveca Morris, executive director of the Law, Environment, and Animals Program at **Yale Law School**. "One rare species impacted is called the Bicknell's Thrush, which is an unusual bird to see in Connecticut. We were surprised that two of them collided with Yale buildings and died. But there are also common birds we find in large quantities whose numbers are declining and that we know need protection."

The experience has been enriching for students, who gain paid research opportunities and a meaningful chance to be part of a team advancing a scalable initiative. Informed and inspired by the data collected, university leaders have integrated bird-friendly design and retrofits into multiple Yale buildings. As a result, the American Bird Conservancy recently recognized Yale as having the most comprehensive and impressive effort to reduce collisions among any university in the U.S.

From left, Kristof Zyskowski of the Yale Peabody Museum, Ginger Chapman of the Office of Sustainability, and Viveca Morris of the Law, Ethics, and Animals Program with bird-safe glass installed in the new Department of Economics building on Trumbull Street. Photo by Yale Office of Sustainability.

> Yale Planetary Solutions is a great way that we can be a leader in something that isn't just going to affect Yale, but that's going to affect the whole world. If nobody cares about the bigger picture, we're all just going to solve our own little problems and no one's going to solve the big problem. I am very proud to be working for an organization that cares about the whole picture.
>
> —Alexandra Daum
> Associate Vice President for New Haven Affairs and University Properties

Convening and Engaging

YALE @ CLIMATE WEEK NYC

Among other events, YPS coordinates Yale's presence at Climate Week NYC, a major global event that is held annually in conjunction with the United Nations General Assembly. In 2024, the Yale @ Climate Week NYC summit convened scholars from Yale, policymakers, business leaders, and other prominent thinkers in fields including law, engineering, public health, architecture, chemistry, entrepreneurship, government, and the arts.

The summit began with a live interview with former U.S. Secretary of State John Kerry '66, who served as the inaugural U.S. special presidential envoy for climate. Following the interview, a panel discussed the leadership required to reduce greenhouse gas emissions and the kinds of policies that can result in meaningful change. The panel was moderated by Daniel Esty, Hillhouse Professor of Environmental Law and Policy at Yale, and featured U.S. Senator Sheldon Whitehouse '78 of Rhode Island; Rob Bonta '93, '98 JD, California's attorney general; and Fred Krupp '75, president of the Environmental Defense Fund and a Yale trustee.

Nine promising early-stage climate tech startups from Yale also joined the summit as part of the Yale Climate Ventures Showcase to present their solutions for a more sustainable future. The showcase was hosted collaboratively by YPS, the Tsai Center for Innovative Thinking at Yale, the Yale Center for Business and the Environment, and Yale Ventures.

Yale University President Maurie McInnis gives opening remarks at Yale @ Climate Week NYC in 2024. Photo by Allie Barton.

YPS held the climate summit in partnership with the Whitney and Betty MacMillan Center for International and Area Studies to spotlight and drive forward transformative climate solutions at a global scale.

"Climate Week NYC is a great way to raise the profile of what we're doing on campus and make sure we're connecting it with policymakers and decision-makers," said Sunil Amrith, who is the Renu and Anand Dhawan Professor of History, vice provost for international affairs, and director of the MacMillan Center. "It's great to see the commitment of YPS to making sure Yale is at the table when it comes to these big conversations. It signals to potential supporters and partners Yale's seriousness as an institution in tackling these questions."

Photo by Allie Barton.

During the opening night of Yale @ Climate Week NYC, former U.S. Secretary of State John Kerry '66 acknowledged the grave danger humanity faces but affirmed that "we can win this battle." He noted that we face an "inflection point on climate as an existential threat," as well as a "spectacular opportunity."

SCI X SCI-FI

"Imagine a future you are excited to live in, that you can't wait to get to." This was the hope-forward invitation of the first Sci X Sci-Fi series, where the Yale and New Haven communities were invited by YPS to imagine positive visions of the future.

Sci X Sci-Fi offers a new conversation between those who build fictional worlds and those who invent and implement, guided by the idea that articulating the innovations necessary to realize a sustainable, prosperous future can inspire the science, technology, policies, communications, and behavioral changes required to get there.

In spring 2025, YPS welcomed the series' first creator-in-residence, science fiction author and science writer Annalee Newitz, whose visit was supported by a Poynter Fellowship in Journalism. YPS organized workshops, lectures, and events across campus, including bringing Annalee's expertise to Yale College students through classes like Science Fiction and Prediction and a college tea at Benjamin Franklin College.

YPS also collaborated with the New Haven Free Public Library and the Center for Inclusive Growth—a partnership between Yale and the City of New Haven—to bring the programming to more members of the New Haven community.

"While sci-fi has a reputation for lifting up stories that often tilt toward dystopian imaginings of the future, Sci X Sci-Fi was a wonderful reminder that the genre can also challenge us to imagine a future where scientific advancement can benefit all of humankind, particularly when we center the well-being of all people in that advancement," said Dawn Leaks Ragsdale, executive director of the Center for Inclusive Growth.

The second iteration of the series will take place in spring 2026.

1,500+

people engaged directly in events organized by YPS

50+

collaborations with community and global partners through YPS-supported projects

2.5B

total potential audience reach for Yale @ Climate Week NYC 2024 and media about the event

Sci X Sci-Fi panel discussion in partnership with the New Haven Free Public Library. Photo by Yale Planetary Solutions.

Envisioning AI at Yale symposium in 2025. Photo by Mara Lavitt.

YPS hosted a climate-focused lunch at Envisioning AI at Yale: An Interdisciplinary Symposium and co-hosted an AI promptathon with AI at Yale at the Poorvu Center for Teaching and Learning, convening those interested in learning how to use AI to solve climate problems.

The events were held as part of a broader university commitment to leverage technology for societal good and illustrated the potential of AI to drive wide-ranging, impactful, and scalable solutions to planetary challenges. YPS is supporting this effort by facilitating conversations, providing hands-on learning, and funding novel research initiatives. In 2025, the YPS Grant Program received a record 35 proposals for projects that use AI to transform knowledge and innovation into action and impact.

BIOMES lecture at Kroon Hall as part of Sci X Sci-Fi. Photo by Yale Planetary Solutions.

colLABoratories

Can we remove microplastics from the oceans using artificial intelligence? How do narratives about dystopian futures inform climate change research today? How can I find partners and access funding sources for my work on air pollution and its inequitable health impacts?

These are some of the questions that emerged when machine learning experts met engineers, when chemists and historians sat next to each other, and when public health researchers connected with philosophers during the series of ColLABoratories hosted by YPS in 2024.

ColLABoratories invited scholars and practitioners to exchange ideas and envision a bold future for Yale's role in addressing the environmental challenges we face. Each session, organized by theme, created space for transdisciplinary connection.

Attendees from across campus brainstormed and discussed ideas, floated concepts for ambitious projects, and formed new partnerships. Each workshop was focused on a set of challenges: health, wellbeing, and pollution; poverty, justice, and equity; urban infrastructure and energy; artificial intelligence and machine learning; and climate, biodiversity, and ecosystems.

Looking Ahead

A Shared Commitment to Planetary Solutions

As this five-year report makes clear, Yale Planetary Solutions (YPS) is an institutional model for generating positive change in the world by responding to the threats of climate change and biodiversity loss and to the crises they create. It is a reimagining of what is possible when an institution brings all that it is and all that it does—its research and operations, its people and partnerships—to bear on the greatest planetary challenges of our time. These challenges demand more of us and more from our institutions: more voices, more innovation, more collaboration, and more action.

YPS is answering that call through the remarkable community of faculty, staff, students, alumni, and partners who make Yale what it is. Together, we are amplifying the extraordinary work already underway across campus. We are catalyzing new efforts to produce knowledge, translate discoveries, and enable solutions with measurable impact. This impact is local and global, technical and cultural, immediate and generational. Because of YPS, more students are learning by doing, more researchers are working across disciplines and schools, and more partnerships are turning insight into implementation.

Building on the strong legacy of sustainability at Yale as a universal, university-wide effort, YPS is a catalyst, tapping the breadth of the university's knowledge and resources to serve our planet and its people. This work embodies the idea that Yale, in addition to observing, discovering, and analyzing, can act, engage, and lead in addressing climate-related threats. With urgency, humility, and optimism, we are building something worthy of Yale's history, stepping forward with purpose to meet the needs of a changing planet. We can only realize this through a constellation of ideas, people, and partnerships aligned in pursuit of planetary solutions.

As we move ahead, across academics and operations, YPS will expand the number of stars engaged in this constellation to facilitate innovative solutions. We will explore opportunities with regional partners who have a shared commitment to sustainability as a driver for economic growth, workforce development, and community resilience. We will join with industry stakeholders to collaborate on synergistic goals. We will also work with a broad spectrum of community members to create a vision for 2050, ensuring that every new star added to our constellation supports progress toward our collective needs and aspirations.

We invite faculty, staff, and students from across campus to join this effort—to bring your ideas, your expertise, your questions, and your energy to the work of planetary solutions. We call on alumni, donors, and friends to partner with us in new ways and to connect Yale's strengths with your own capabilities, experiences, and networks. If we are to meet the complexity of this moment, it will take all of Yale, and all of us.

Sincerely,

Julie Zimmerman

Vice Provost for Planetary Solutions

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Deputy Director for Research at the Center for Green Chemistry and Green Engineering

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Note: We have made every effort to ensure that all information provided in this report is accurate. Should you have any questions or concerns, please contact YPS at planetarysolutions@yale.edu.

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Tomatoes at the Yale Farm. Photo by Dan Corcoran.

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