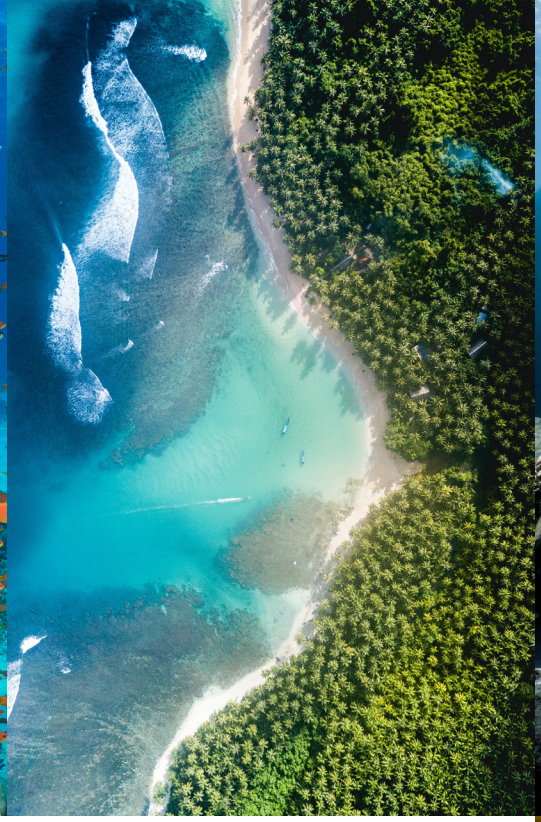
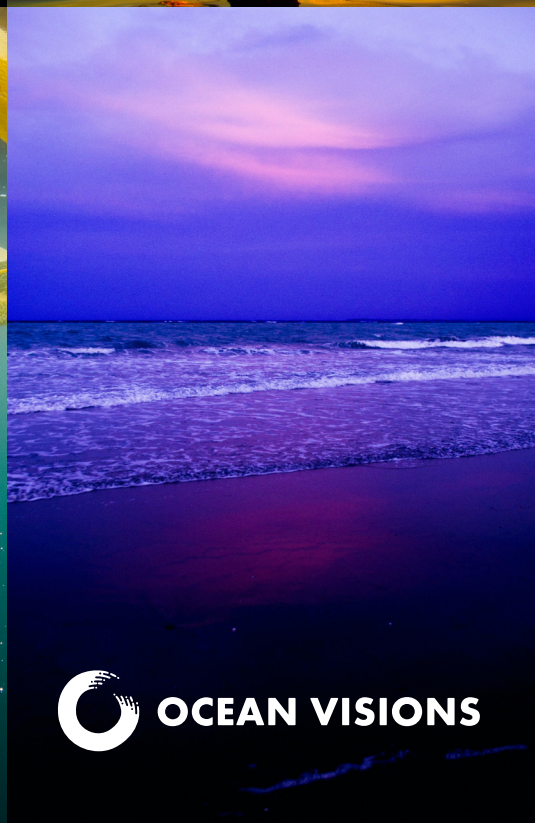



2023 ANNUAL REPORT

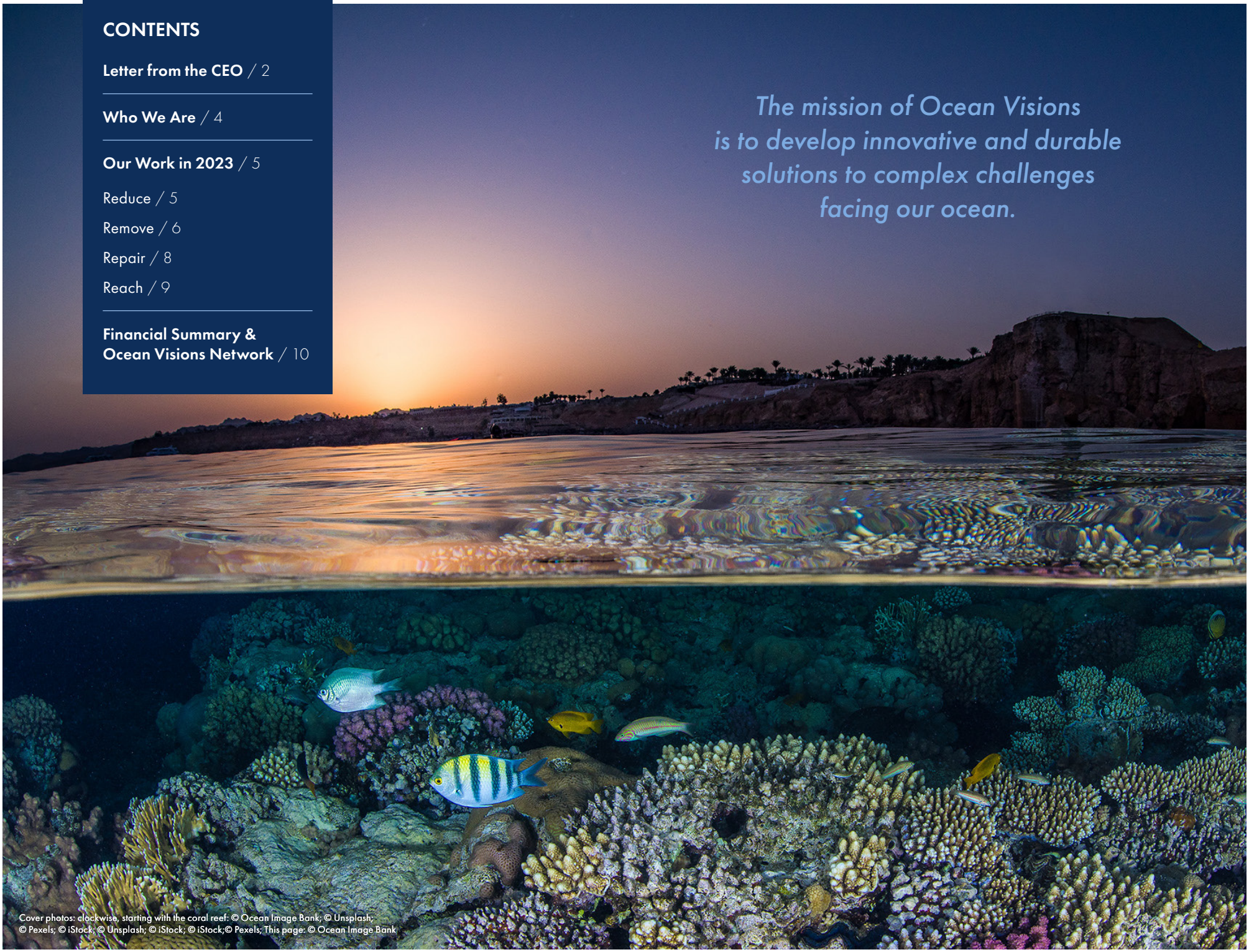


OCEAN VISIONS

CONTENTS

The mission of Ocean Visions is to develop innovative and durable solutions to complex challenges facing our ocean.



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LETTER FROM THE CEO

Dear Friends,

As we look ahead to a new year, I'm inspired by each of you and the growing ocean-climate solutions community that Ocean Visions has been proud to help nurture. Some of you may remember when we first launched in 2019. Propelled by visionary founders and a network of leading academic and oceanographic institutions, Ocean Visions was born with the purpose to create new solutions to the most pressing ocean problems by galvanizing multisector collaborations to help invent, shape, and test innovations to repair and restore the ocean—improving the wellbeing of humanity and nature.

From the start, we set a very ambitious agenda: directly confront, slow, and ultimately reverse, dangerous climate disruption—the top threat to the ocean—by harnessing the power of human ingenuity and the ocean itself.

Our first signature program focused on advancing understanding, research, and development of pathways to clean up carbon dioxide pollution from the atmosphere via the power of the ocean—also known as marine carbon dioxide removal (mCDR). Working with experts from around the world, and with generous support from our funders, we led the co-creation of a series of road maps to help identify the current state of development in mCDR and what is needed to advance and test potential solutions at scale.

Following the release of the first maps, the growing team at Ocean Visions turned its attention to catalyzing initiatives to address the priorities identified in the maps. For example, we began to provide expert technical advice and evaluation to mCDR innovators through our Launchpad program, using experts drawn from our Network. We led and supported grantmaking in the field, including for ocean alkalinity enhancement, and we helped design detailed research agendas, such as our framework for cultivating and sinking seaweed.

We've been proud to see these and other related efforts contribute to a rising tide of attention and action around the development mCDR—all in just a few short years.

We are also proud of the growing group of "solvers" that have been nurtured by community-activating strategies like our biennial Summit and the Ocean Visions – UN Decade Collaborative Center for Ocean-Climate Solutions.

And now, amidst intensifying climate impacts to our ocean and planet, we've expanded our focus. Last year we unveiled a four-part strategy and agenda designed to more comprehensively support a wider range of ocean-based pathways to address the interlocking ocean-climate crisis. We call it the "4Rs":

- **Reduce** CO_2 Emissions: There is no viable future without a transition to a low-carbon economy, a transition the ocean can aid in via provision of low-carbon food, energy, bioproducts, and transportation alternatives.

- **Remove** CO_2 Pollution: Simultaneously, we also must clean up legacy carbon pollution in order to return to a safer and more stable climate, and the size and power of the ocean offers great potential to help us draw down and safely store carbon pollution.

- **Repair**: While we work to slowly cool the planet and rebalance the global carbon cycle via the two elements above, we also need to avoid catastrophic loss of critical marine ecosystems, which may require new interventions.

- **Reach**: None of this will be possible at a meaningful scale without an ever-growing, diverse, and inclusive global community of innovators and practitioners to develop and implement the needed solutions.

Much of this work was well underway in 2023—as is highlighted on the following pages.

The new year brings with it increased urgency to accelerate our efforts and strengthen our role as a convener and catalyzer of action. We will continue to focus on underinvested areas of opportunity across our 4R agenda, and on activating a growing ocean-climate solutions community to produce the wide array of new tools that we need now to slow and mitigate climate-fueled damages to the ocean.

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In my years of conservation experience at the intersection of science, policy, and environmental innovation, I have seen no bigger challenge than the climate emergency our global society is faced with today. I believe it is our moral obligation to explore all possible solutions to this crisis—a sentiment that I imagine would be shared by future generations as well as all the voiceless species we share the planet with. We are working on our and their behalf, and that provides me with the motivation I need to move forward with purpose.

We can—and must—generate and deploy new solutions to help restore the climate and our ocean. I am extremely grateful for allies like you, whose enthusiasm and expertise inspire me.

From all of us here at Ocean Visions, we thank you for your partnership in this race to avert dangerous climate change and heal our ocean and planet.

With Hope,

Brad Ack
CEO, Ocean Visions

WHO WE ARE

LEADERSHIP

Board of Trustees

Emanuele Di Lorenzo, Chairman & Co-Founder of Ocean Visions and Professor at Brown University

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Fiorenza Micheli, Co-Director of Stanford's Center for Ocean Solutions and of Hopkins Marine Station, and the David and Lucile Packard Professor of Marine Science at Stanford University

Julie Pullen, Partner and Chief Scientist at Propeller Ventures and Adjunct Research Scientist at Columbia Climate School

Brad Ack, CEO of Ocean Visions

Leadership Team

Clark Alexander, Director of the University of Georgia's Skidaway Institute of Oceanography

Jim Barry, Senior Scientist and Chair of the Research Division at the Monterey Bay Aquarium Research Institute (MBARI)

Annalisa Bracco, Professor and Associate Chair, School of Earth & Atmospheric Sciences at Georgia Tech

Jennifer Dianto Kemmerly, Vice President of Global Oceans at Monterey Bay Aquarium

Al Dove, Vice President of Science and Education at Georgia Aquarium

Rob Dunbar, Professor at Stanford Doerr School of Sustainability

Daniela V. Fernandez, Founder and CEO of Sustainable Ocean Alliance

Jack Gilbert, Professor and Associate Vice Chancellor for Marine Science at UC San Diego

Paul Holthus, Founding President and CEO of the World Ocean Council

Tod Hynes, Sr. Advisor for Climate & Energy at Martin Trust Center for MIT Entrepreneurship & Sr. Lecturer at MIT Sloan School of Management

Debora Iglesias-Rodriguez, Professor of Biological Oceanography at the University of California, Santa Barbara

Fiorenza Micheli, Co-Director of Stanford's Center for Ocean Solutions and of Hopkins Marine Station, and the David and Lucile Packard Professor of Marine Science at Stanford University, Co-Founder of Ocean Visions

Gary Mitchum, Professor of Physical Oceanography and the Associate Dean in the College of Marine Science at the University of South Florida

Kate Moran, President and CEO of Ocean Networks Canada

Rick Murray, Deputy Director and Vice President for Research at the Woods Hole Oceanographic Institution

Christopher Pearce, Principal Marine Geoscientist at National Oceanography Centre

Millicent Pitts, Chief Executive Officer and Director at The Ocean Exchange

Mark Shimamoto, Director, Global Outreach Programs at American Geophysical Union

Rohit Shukla, Founder and CEO of Larta

Eric Siegel, Chief Innovation Officer at Ocean Frontier Institute

Dawn Wright, Chief Scientist of the Environmental Systems Research Institute (ESRI)

Anna Zivian, Senior Research Fellow at Ocean Conservancy

Emanuele Di Lorenzo, Chairman & Co-Founder of Ocean Visions and Professor at Brown University, Ex Officio

Brad Ack, Ex Officio

STAFF

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David Koweek, PhD, Chief Scientist

Sarah Mastroni, Program Officer

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Lisa Oosterom, Director of Finance and Administration

Leonardo Valenzuela Pérez, PhD, Director of International Partnerships, GEOS Program Director

OUR WORK IN 2023

REDUCE CO_2 EMISSIONS

Maximize low-carbon food, energy, and transportation from the ocean

The ocean offers numerous pathways for decreasing societal emissions of carbon dioxide. These pathways include but are not limited to: ocean-based renewable energy, expanded supply of low-carbon, ocean-based sources of food, production of ocean-based feedstocks for industrial materials and processes, and low-carbon shipping.

Undertaking a Landscape Analysis

In 2023, we initiated work in this area by undertaking a broad landscape scan and analysis which looked at some ways in which the ocean could contribute to reducing global greenhouse gas emissions. We identified several potential high-leverage, underinvested opportunities where Ocean Visions may be well positioned to help advance development of solutions. As of this writing, we are in the final process of hiring a person to initiate and lead this work in 2024.

REMOVE CO_2 EMISSIONS

Engage the size and power of the ocean to draw down and safely store carbon pollution

In addition to the urgency for reducing and eventually eliminating greenhouse gas emissions, large-scale carbon dioxide removal (CDR) is required to hold temperatures to a 1.5°C increase, and then to repair and restore the climate after we reach "peak CO_2". As the largest carbon reservoir on the planet, the ocean holds enormous potential to safely draw down and sequester additional carbon dioxide. To chart the way forward to research and develop these technologies, Ocean Visions, with experts from around the globe, developed a series of road maps to assess the developmental stage of various technologies and identify the obstacles and first-order priorities to advance responsible research and development. In 2023 we finished the series of these maps and our attention is now focused on catalyzing broad-based effort against these priorities.

Developing Road Maps for Restoring Blue Carbon and Microalgae Cultivation and Carbon Sequestration

In 2023 we released the last in our series of digital road maps on ocean-based carbon dioxide removal methods. The sixth and seventh in our series focus on restoring blue carbon and microalgae cultivation and are intended to catalyze action to advance each field. These informational tools assess the state of various approaches and knowledge gaps and identify a set of priorities to improve our collective understanding of potential pathways. The road maps will be updated and refined regularly as advances emerge in science, technology, governance, and policy.

DIVE DEEPER

Putting Forward a Comprehensive Program to Prove or Disprove Marine Carbon Dioxide Removal Technologies

Now that we have completed road maps for each major domain of mCDR approach, there is a need to undertake an integrated set of actions to accelerate our collective knowledge to make decisions about whether to deploy any at scale. To get this actionable information, our new high-level road map outlines a comprehensive agenda to answer the fundamental questions of additionality, durability, safety, costs, and social acceptability of each approach. The map is centered around three interconnected pillars of needed work: science, technology, and policy.

DIVE DEEPER

Initiating a Second Cohort for the Launchpad Program

Developed in 2021, the first cohort of the Ocean Visions Launchpad program supports selected companies competing for the $100M Carbon Removal XPRIZE that are using ocean-based approaches. For the second cohort, recruited in 2023 and announced in early 2024, we expanded our search profile beyond XPRIZE participants to include any innovators working on ocean-based carbon dioxide removal pathways, as well as those who are enabling or improving our understanding of these pathways. The goal of the Launchpad program is to provide scientific and engineering advice and review to help selected innovators optimize their technologies and to fully measure, understand, and minimize negative environmental effects. Ocean Visions helps by connecting innovators with expert advisors drawn from the Ocean Visions Network who have deep experience in areas ranging from oceanography and engineering to environmental evaluation.

DIVE DEEPER

Building and Demonstrating Scientific Support for Marine CDR

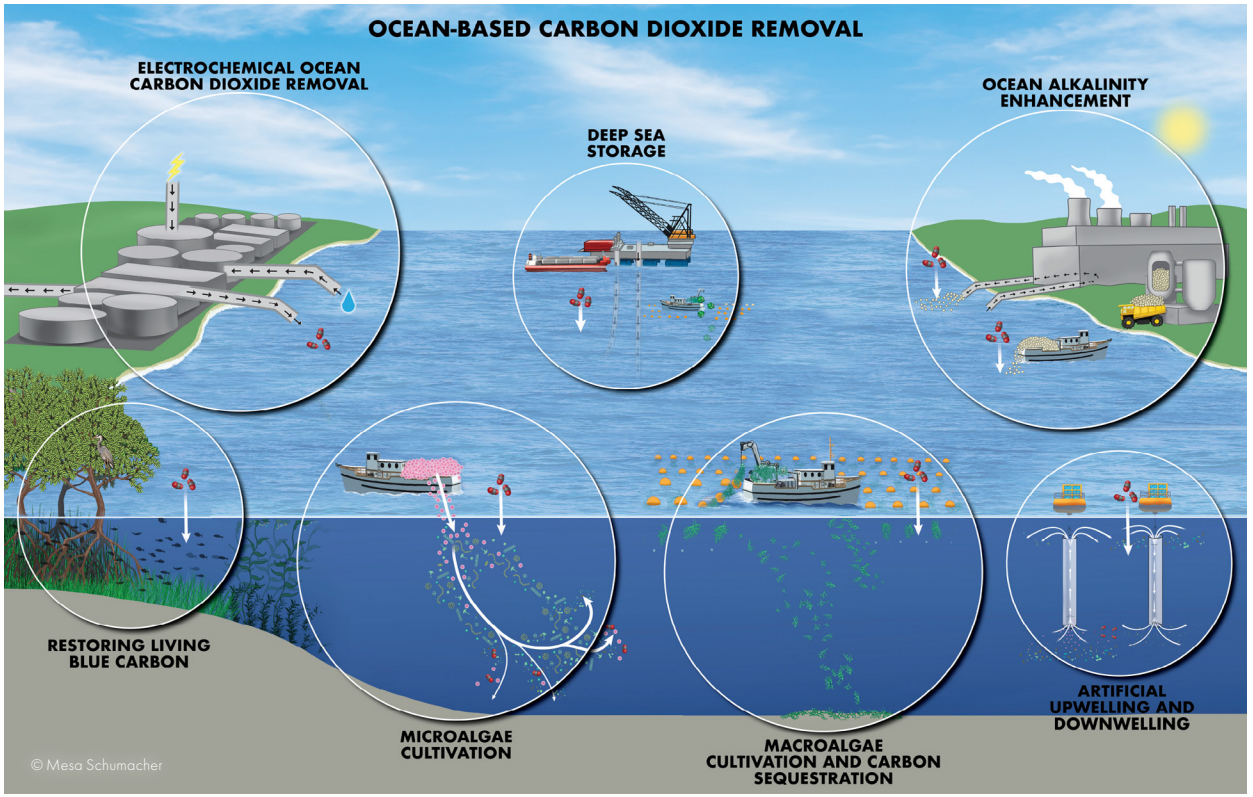
Prioritized in our road map on "Growing and Maintaining Public Support" and further informed by in-depth research, there is a clear need to demonstrate broad scientific support for advancing research for mCDR. To help with this, Ocean Visions developed an open letter from global scientists to express support for accelerating a research agenda. Launching with more than 200 signatories, and now grown to 400, the letter received coverage in several major outlets, including The Verge, Axios, Carbon Herald, and Reuters. We were also able to place a related op-ed in The Hill co-authored by Sir David King of the Climate Crisis Advisory Group and Sware Semesi, Director General of the Marine Parks and Reserves Unit of Tanzania.

DIVE DEEPER

Supporting the Development of Model Federal Legislation to Enable Ocean-Based CDR Research

One of the critical obstacles to advancing research and testing at scale is the lack of an enabling regulatory framework. To address this gap, Ocean Visions provided funding support to the Sabin Center for Climate Change Law at Columbia University for the development of model federal legislation. The model legislation was identified by Ocean Visions' Road Maps and the National Academies of Sciences, Engineering, and Medicine as critical to advancing field testing of ocean-based CDR innovation. The model legislation was published months before the US Government created an interagency task force to make recommendations on regulatory reforms, and will help to inform those efforts.

DIVER DEEPER



Sharing Resources with the Ocean-Climate Solutions Community

A full suite of ocean-based CDR illustrations was developed and shared with the ocean-climate community for free download and use. The illustrations are part of a wider collection of resources recently organized and made available to inform and enable efforts to advance research and development for ocean-based climate solutions. From road maps and illustrations, to factsheets, message guides, forums, and more, the ocean-based CDR resource page is a one-stop shop for rookies, experts, and everyone in between.

DIVE DEEPER

REPAIR

Develop interventions to avoid catastrophic loss of critical marine ecosystems while global carbon cycles are rebalanced

Increased ocean temperatures and changing chemistry have triggered a host of consequences for marine ecosystems, from widespread coral reef damage, oxygen-deficient "dead zones", and—perhaps most seriously—a diminishing cryosphere, which plays a pivotal role in ocean and climate regulation. Today's best science on these key tipping points establishes the risk that neither decarbonization nor carbon removal, alone or combined, will cool the planet in time to prevent state shifts in critical ecosystems and functions. Given the enormity of the risk, Ocean Visions is researching interventions that may be able to forestall the passing of specific tipping points:

Slowing the Loss and Rebuilding Arctic Sea Ice

Loss of Arctic sea ice and associated warming of the Arctic region poses a grave threat to the stability of our climate system, and the potential for cascading impacts. The only permanent way to stop the loss and ultimately rebuild Arctic sea ice is to reduce overall atmospheric concentrations of greenhouse gases. However, given the very slow pace of progress in decarbonization and carbon removal, and the risks associated with total loss of sea ice, many other ideas and technologies have been put forward as potential pathways to slow the loss of sea ice and even potentially rebuild it. To better understand whether any of these pathways may work, and effectively "buy time" for decarbonization and carbon removal to more durably stem global heating, Ocean Visions and a diverse working group are undertaking a deep assessment of all potential approaches to slowing the loss of and rebuilding Arctic sea ice. This assessment will be published in a digital, interactive road map when completed in 2024.

Understanding Mindsets around Ecosystem Repair and Tipping Points

Working with a group of experts, we are undertaking social-change public opinion research to better understand how key opinion leaders and decision makers are forming their beliefs around the field of marine ecosystem repair and potential interventions. A media and public opinion research audit has been conducted, along with a set of interviews with key leaders. Preliminary findings and hypotheses were shared with an advisory group for feedback and to inform communication strategies.

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REACH

Build a global community of innovators to develop ocean-climate solutions

Essential to generating and scaling solutions to the ocean-climate crisis is an expanded global community of people and institutions working together to develop, test, and adopt solutions to different circumstances. With two interlocking efforts launched under the framework of the UN Decade of Ocean Science for Sustainable Development, Ocean Visions is building new platforms to take ocean-based climate solutions work to a much larger stage.

Hosting the 2023 Ocean Visions Biennial Summit

For the third time since our founding, Ocean Visions hosted its biennial Summit, taking place for the first time at the Georgia Aquarium in Atlanta. With 400 attendees, the event represented a singular opportunity for a community of solvers at the ocean-climate nexus to share knowledge and solutions. Planning for the 2025 Summit is underway.

DIVE DEEPER

Developing and Activating Ocean-Climate Innovation Hubs

Through its UN-endorsed Global Ecosystem for Ocean Solutions program (GEOS), Ocean Visions is forming strong partnerships with leaders around the globe to co-design and operate Ocean-Climate Innovation Hubs. These hubs are intended to become national focal points that can cultivate multisector collaborations, support innovation, and create new capacity to accelerate the development of ocean-climate solutions. By supporting new leadership across geographies, GEOS is helping to build a diverse global community of solutionists addressing the ocean-climate crisis. In 2023, GEOS conducted workshops with hub proponents in Kenya and Tanzania and began working on new partnerships in Chile, Colombia, Costa Rica, Ghana, Iceland, and New Zealand. GEOS also supported some of these partners to bring their work to a global stage through five side events at COP28.

Launching the Ocean-Climate Solutions Innovation Exchange Webinar Series

Hosted by the Ocean Visions – UN Decade Collaborative Center for Ocean-Climate Solutions, the Ocean-Climate Solutions Innovation Exchange Webinar Series hosts multisector speakers to explore synergies, overlaps, gaps, and opportunities to advance the development of ocean-climate solutions and actions. More than 1,000 people registered for the first three webinars held in 2023.

DIVE DEEPER

Expanding the Global Dialogue

Ocean Visions is committed to broadening the conversation around the ocean-climate crises and the set of solutions needed. We've attended and spoken at a variety of fora to bring these perspectives to international ocean and climate gatherings, which have included: Capitol Hill Ocean Week, Iceland Innovation Week, Oceans of Knowledge 2023, World Ocean Summit, SXSW, Climate Week, and COP28—to name a few.

DIVE DEEPER

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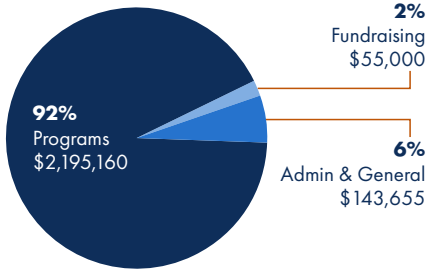
FINANCIAL SUMMARY & OCEAN VISIONS NETWORK

The Ocean Visions Network

Ocean Visions sits at the center of a wider network of partners who work together to advance research, innovation, development, and testing into scalable solutions to address the interlocking crises in our ocean and climate.

2023 Functional Expenses



Functional Expense—$2,393,815

Ocean Visions is grateful for the generous support it received for 2023 from the following:

Astera Institute
Bernard and Anne Spitzer Charitable Trust
Builders Initiative
ClimateWorks Foundation
Curiosity Foundation
Georgia Aquarium
ICONIQ
Jeremy and Hannelore Grantham Environmental Trust
Kissick Family Foundation
Radhika & Ambarish Malpani Foundation Inc
Schmidt Marine Technology Partners