

IMPACT REPORT

2025

With all the chaos in federal science funding this year, it would have been easy to lose focus on the vital research that drives discovery and innovation at our lab.

We didn't! If anything, our scientists pushed harder than ever to maintain momentum in spite of the headwinds.

When I look at the stories of how we've advanced this work below, I'm filled with pride — pride in the scientists who kept our work moving forward, and in supporters like you, who made it all possible.

— Deborah A. Bronk, Ph.D., President and CEO

2025 FINANCIALS JULY 1, 2024 - JUNE 30, 2025

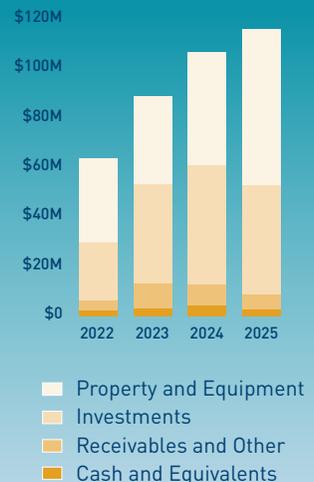
REVENUE \$ **20,907,698** Total



EXPENSES \$ **20,548,715** Total



ASSETS 2022 - 2025



ECONOMIC IMPACT

BY THE NUMBERS

ALFOND CENTER FOR OCEAN EDUCATION AND INNOVATION

In 2024, \$10.4 million of direct spending related to the **construction of the center** supported \$15.8 million in business output, including \$5.4 million in earnings and 100 job-years.



Amount of Goods and Services Purchased



Vendors Located Throughout the state of Maine



Maine Communities Currently in vendor Network

HUMAN CAPITAL



Full-Time Laboratory Employees



Towns of Residence in Maine



Employee Wages Earned



Employee Median Age



Employees with PhD Degrees

EDUCATION PROGRAMS



BLOOM Educators from Maine



Sea Change Semester Students



Keller BLOOM Program Participants



REU Undergraduate Interns



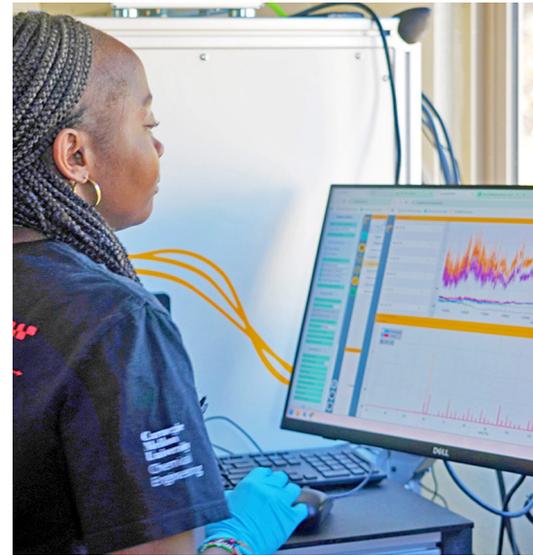
Professional Development Learners

VISITORS Approximately 2,400 visitors from 2022-2024

LEARN MORE at bigelow.org/economic.

Ocean Health and Function

We reveal how the ocean works and how to better care for our planet.



Clouds form when water vapor condenses onto tiny, floating particles called aerosols.

Our researchers began a large experiment this year measuring how fast aerosols form over the ocean, what gases they're made of, and how that process is influenced by marine algae. This work is illuminating the complex atmospheric chemistry of cloud formation — one of the great unknowns of our climate system.

bigelow.org/2025-aerosols

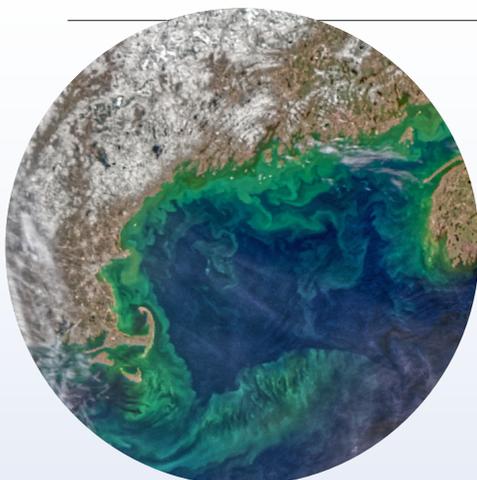
The movement of genetic material between organisms that aren't directly related, or lateral gene transfer, is a significant driver of evolution, especially for single-celled organisms. This year, our researchers published the first quantitative analysis of how cell lines across an entire microbiome acquire genes through this process, highlighting how microbes are constantly evolving in new, useful ways. bigelow.org/2025-genes



Species distribution models are essential for managing highly mobile marine species

like the North Atlantic right whale. Our researchers outlined a new approach this year that improves the accuracy of those models by incorporating more detailed and nuanced information on whales' diets, their daily energy needs, and the movements of their favorite zooplankton food sources.

bigelow.org/2025-whales



Our scientists kicked off an innovative project, leveraging this year's relaunch of the Gulf of Maine North Atlantic Time Series. They're pairing ocean color data, which can be measured from space, with information on what microbes are present — and what they're doing — in the surface ocean. This will enable scientists to understand the microbial community in dynamic and remote parts of the ocean. bigelow.org/2025-satellites



As the Gulf of Maine warms, the lush kelp forests that line Maine's coast are transitioning into a new kind of ecosystem. Three joint UMaine-Bigelow PhD students in the Maine-eDNA program defended their dissertations this year, each exploring a different facet of this transition and its broader ecological consequences, from changes in food webs to the arrival of new species. bigelow.org/2025-kelp-forests



Harmful algal blooms are a growing threat to communities around the world. Our researchers are part of an international effort to make more accessible early warning systems to predict and manage these blooms. This year, the team led additional workshops in Namibia and continued developing virtual material to help stakeholders build locally useful tools that can safeguard public health and food safety. bigelow.org/2025-habs

Our Changing Planet

We focus on key species to predict, combat, and adapt to environmental change.

Our researchers are working with resource managers to unravel the dynamics of a deadly shell disease and predict how it may spread in a warming ocean. This year, the team published research on what effect water temperature has on the severity and prevalence of the disease in lobsters from Southern New England and the Gulf of Maine. bigelow.org/2025-lobsters



Our scientists published research this year on how Antarctic krill change their swimming behavior in response to different water conditions and the presence of scents like penguin poo that mimic their predators and food. Understanding these complex behaviors provides insight into how these animals adapt to changes in their environment and what impact that might have on the Southern Ocean ecosystem. bigelow.org/2025-krill





The Ocean's Potential

We develop the tools needed to unlock the opportunity of the ocean.

Our researchers published a review this year of the pathways through which zooplankton transport carbon from the surface to the deep, which will enable the development of more nuanced models of how carbon moves through the ocean. This effort will inform conversations around marine carbon dioxide removal and benefit industries, like shipping, with an interest in the large animals that feed on zooplankton.
bigelow.org/2025-zooplankton



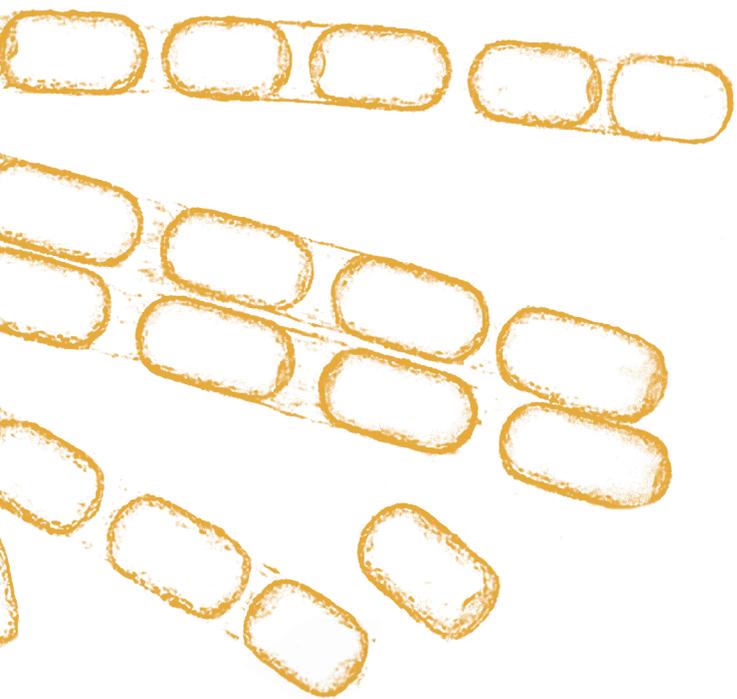
This year, our researchers used environmental DNA tools to accurately and inexpensively determine how much organic matter accumulates beneath commercial kelp farms and where it comes from — essential information to assess the potential of using buried sediment below farms to store excess carbon. They also confirmed these farms have little impact on the biological communities that live below them. bigelow.org/2025-eDNA



We launched a multi-year strategy this year to grow blue biotechnology, an emerging economic sector focused on turning ocean research into high-value products, businesses, and jobs. Our team released a regional assessment of priorities and partners and received funding to support an innovation studio and investor summit, all toward establishing a Maine-based hub of blue biotech innovation.
bigelow.org/2025-biotech

This year, we celebrated one year of the Maine Algal Research Infrastructure and Accelerator project. During that time, several students pursued professional development opportunities; scientists submitted research proposals and assessed the chemical potential of almost 300 strains of microalgae; and the inaugural Algae Science Day brought together dozens of stakeholders to discuss exciting applications of algae.
bigelow.org/2025-maria





BIGELOW LABORATORY FOR OCEAN SCIENCES

is an independent, nonprofit research institute that studies the foundation of global ocean health and uses our discoveries to improve the future for all life on the planet.

LEARN MORE about our ocean discoveries, solutions, and inspiration at bigelow.org.



Bigelow | Laboratory for
Ocean Sciences

60 Bigelow Drive | East Boothbay, ME 04544 USA