

ENVIRONMENTAL INSIGHTS

NEWS FROM THE UNIVERSITY OF MARYLAND CENTER FOR ENVIRONMENTAL SCIENCE



UMCES YEAR IN REVIEW

2023 was a year of transition for the University of Maryland Center for Environmental Science (UMCES), but Maryland's university for the environment continued to focus its role as scientific research for the state and laying the groundwork for a new approach to solving the greatest environmental challenges of the future. Here are a few highlights of the year as we look towards 2024.

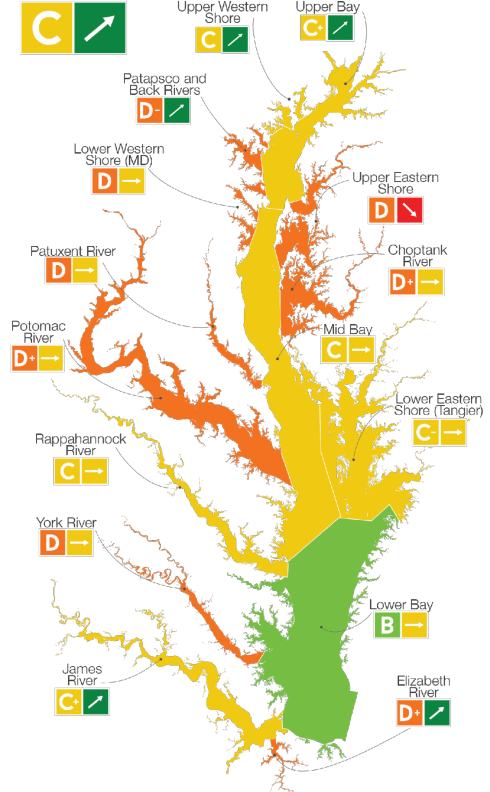


Record number of oysters planted in bay, funding supports research

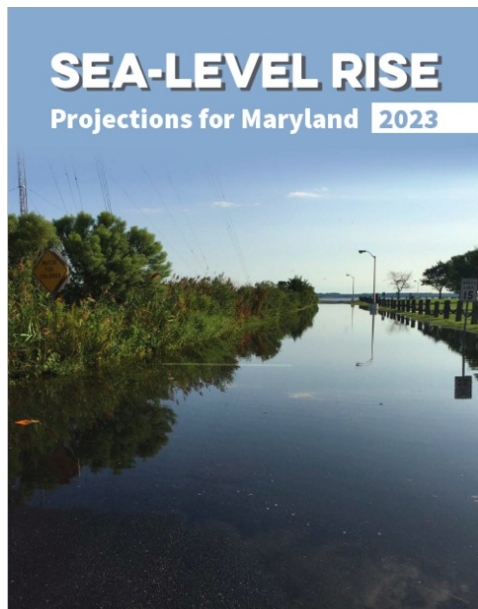
A record 1.7 billion new juvenile oysters were planted on sanctuary and public oyster reefs in the Chesapeake Bay in 2023, surpassing Maryland's planting goal and setting a new annual record. The oysters are grown primarily at the UMCES [oyster hatchery](#) in Cambridge. As part of the UMCES mission to provide unbiased science to aid policymakers in the management of the environment, a \$960,000 federal earmark will allow our experts to study the oyster's ability to protect shorelines and improve the habitat of the Bay bottom while recovering overall oyster populations. [MORE](#)

Tracking the health of the Chesapeake Bay

UMCES released its 16th annual report card on the Chesapeake Bay and its watershed. This is an essential tool for federal and state lawmakers and agencies to monitor progress on the restoration of the Chesapeake Bay. The overall Bay health score increased by six points in the past two years, an encouraging sign in Bay recovery efforts. There were improvements in water clarity, nitrogen, phosphorus, and aquatic grasses. Although conditions in the bay overall are improving, many bay tributaries still have poor scores, especially in the Eastern Shore watersheds. [MORE](#)



Sea-level rise projections for Maryland 2023



Led by the University of Maryland Center for Environmental Science, the Maryland sea-level rise projections report is prepared by a panel of scientific experts every five years to provide projections of the likelihood of different amounts sea-level rise in Maryland decades into the future. The latest report finds that sea levels along Maryland’s shorelines are rising at an increasingly faster pace. [MORE](#)



Summit explores how 'big data' and collaboration can solve environmental challenges

More than 150 leaders in science, industry, government, and the nonprofit world gathered to discuss how to harness the power of big data and new technologies to accelerate solutions to the most complex environmental challenges. The conversation centered around the [Chesapeake Global Collaboratory](#), a new 'think-and-do tank' that will bring a new generation of tools, voices, and approaches to environmental research.

MORE



Peter Goodwin retires, president search underway

After a 40-year career in science and higher education culminating in leading Maryland's university for the environment, UMCES President Peter Goodwin retired at the end of September. Longtime UMCES Vice President, Bill Dennison, was appointed interim president until a University System of Maryland search committee names a new president in 2024. [MORE](#)



The next generation of environmental leaders

Every year, close to 100 graduate students study and work alongside UMCES scientists and faculty members through the nationally eminent [Marine Estuarine Environmental Sciences](#) graduate program. Students go on to become environmental leaders in both the public and private sectors, research, and environmental advocacy. In 2023, 27 students received graduate degrees. [MORE](#)



Transformative gift supports study of contaminated waterways

A \$1 million gift from Brian Hochheimer and Marjorie Wax established the *Anthropogenic Changes in Estuarine Systems Initiative*, a five-year project to study chemicals in waterways that could have harmful impacts on environmental and human health. The gift is the largest individual donation to UMCES to date and recognizes the laboratory's long-standing tradition of working on chemicals of environmental concern. [MORE](#)

CLIMATE CHANGE RESEARCH



NOAA award funds project to help alleviate global warming

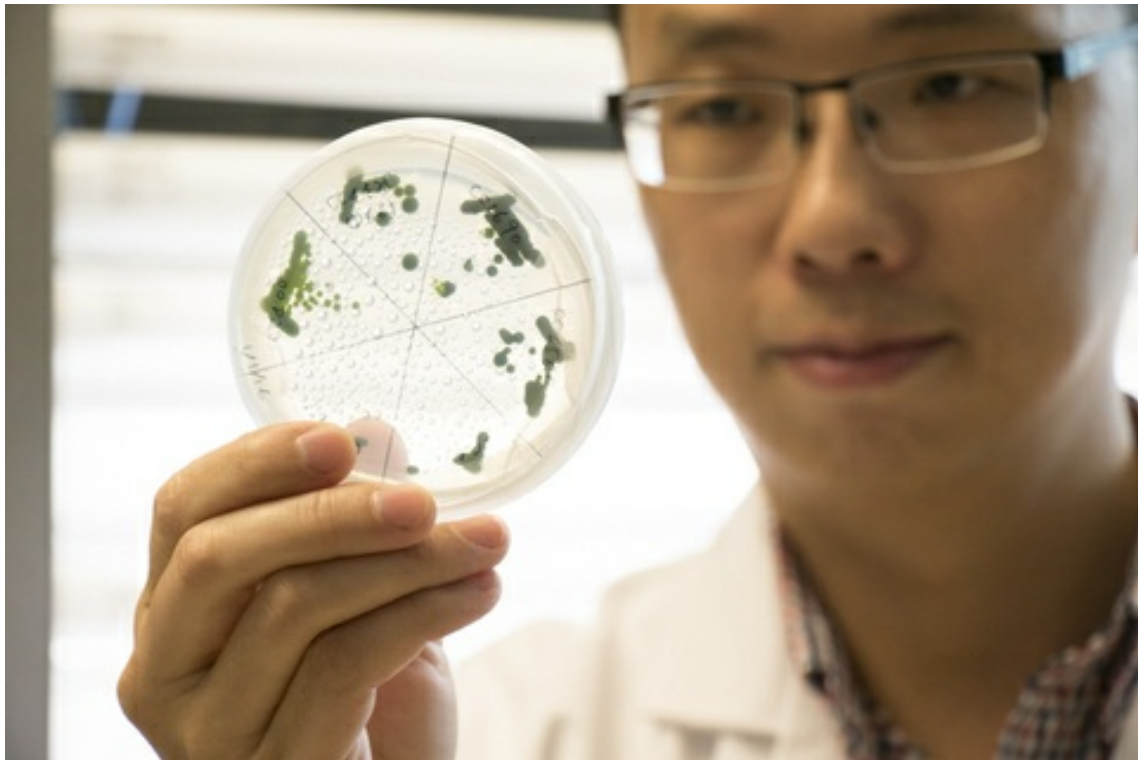
A \$2 million NOAA award will support the exploration of how existing infrastructure, such as wastewater treatment plants, could be used to help mitigate global warming. Oceans absorb about a third of carbon dioxide generated by human activity, but they are becoming more acidic as a result. This project will investigate how changing wastewater chemistry could help remove carbon dioxide from the atmosphere and counteract the impacts of ocean acidification. [MORE](#)



UMCES to lead new global center on clean energy and the environment

A new center, the *Global Nitrogen Innovation Center for Clean Energy and the Environment*, funded by the National Science Foundation and led by UMCES will address opportunities and challenges of the emerging technology, “green ammonia,” which will provide clean energy and support food production while mitigating climate change.

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Researchers pursue green technology to capture carbon emissions

IMET researchers received a \$2 million grant from the U.S. Department of Energy to understand how microalgae can be used to reduce carbon dioxide emissions. This novel technology uses algae to capture greenhouse gas emitted from power plants, wastewater treatment plants, and cement factories before it enters the atmosphere. The outcome will be a scalable and deployable system in which the algae sequester carbon from flue gases. [MORE](#)

UMCES IN THE NEWS

[Maryland sets record for oyster planting](#) (Bay Journal)

[Are you ready to swim in Baltimore's harbor?](#) (WYPR)

[UMCES Researcher is key to understanding gray whale die-offs](#) (Chesapeake Bay Media)

[Warming waters bring new 'tropical visitors' to the bay](#) (The BayNet)

[Ocean City at risk: Rising sea levels threaten Maryland's summer getaway](#) (CBS Baltimore)

[Stomach contents of blue catfish reveal their ecological toll](#) (Southern Maryland News Net)

[When sea-level rise threatens coastal wetlands, don't look to rivers for help, scientists say](#) (Phys.Org)

[Oyster Castles: Maryland's innovative defense against rising sea levels and erosion](#) (CBS Baltimore)

[From lab to dinner plate: Maryland aquaculture collaboration works toward sustainable seafood production](#) (Maryland Inno)

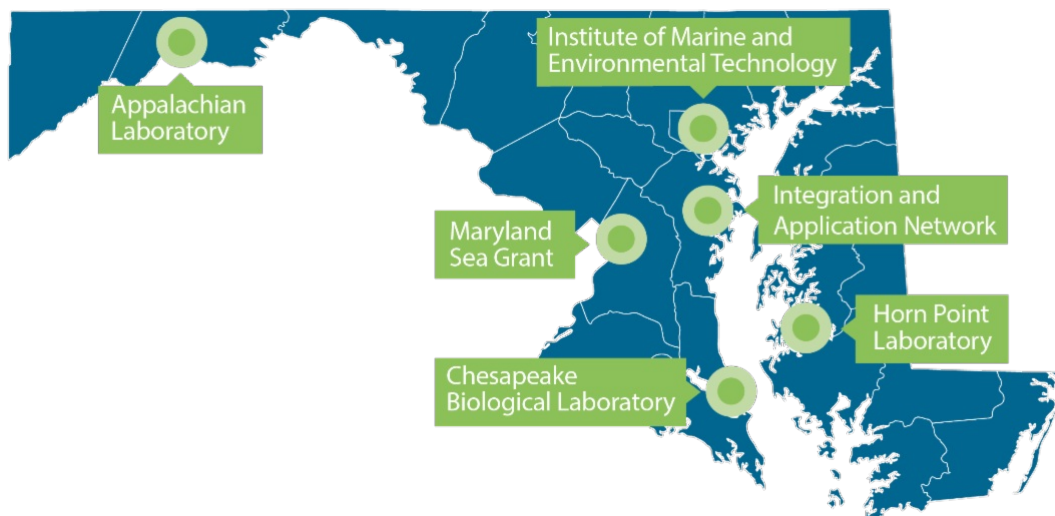
[The nation's capital, built on water, struggles to keep from drowning](#) (Washington Post)

[Restoration of Baltimore's Stony Run is failing again, residents and scientists say](#) (Baltimore Brew)

[NOAA Fisheries Extends Voluntary Right Whale Slow Zone](#) (Coast TV)

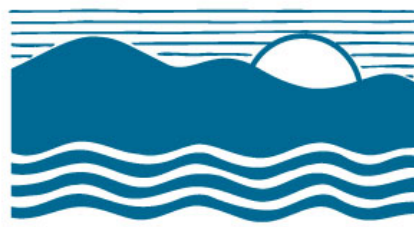
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