

# 2018 Tyler Prize awarded to two US-based biological oceanographers

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- *Julia Marton-Lefèvre, chair of the Tyler Prize Committee, said that the two scientists were receiving the award in recognition of their pioneering work aimed at understanding and communicating the impacts of human activities on the global climate.*
- *“Climate change poses a great challenge to global communities. We are recognizing these two great scientists for their enormous contributions to fighting climate change through increasing our scientific understanding of how Earth’s climate works, as well as bringing together that knowledge for the purpose of policy change,” Marton-Lefèvre said in a statement.*

It was announced today that the 2018 Tyler Prize for Environmental Achievement will go to two biological oceanographers based in the United States: Paul Falkowski, a professor of Geological and Marine Science at Rutgers University in the U.S. state of New Jersey; and James J. McCarthy, professor of Biological Oceanography at Harvard University in the state of Massachusetts.

Julia Marton-Lefèvre, chair of the Tyler Prize Committee, said that the two scientists were receiving the award in recognition of their pioneering work aimed at understanding and communicating the impacts of human activities on the global climate.

“Climate change poses a great challenge to global communities. We are recognizing these two great scientists for their enormous contributions to fighting climate change through increasing our scientific understanding of how Earth’s climate works, as well as bringing together that knowledge for the purpose of policy change,” Marton-Lefèvre said in a statement.

“This is a great message for the world today; that U.S. scientists are leading some of the most promising research into Earth’s climate, and helping to turn that knowledge into policy change.”

Falkowski has published a number of papers on the role played by microbes in shaping Earth’s global climate cycle. Drawing on the fields of biophysics, evolutionary biology, paleontology, molecular evolution, marine ecology, and biogeochemistry, Falkowski’s work has led to a better understanding of how the global climate has evolved over the history of our planet.



Dr. Paul Falkowski of Rutgers University. Photo Credit: Katie Voss.

“The main message of my work is that microbes really are the stewards of our planet,” Falkowski told Mongabay. “They made Earth habitable and, thankfully, are extremely robust; they will survive our destructive forces and ultimately help clean up our waste. They are not only intimately critical in greenhouse gas emissions, but also are the major actors in recycling elements across the globe.”

Despite the importance of the planet’s smallest lifeforms in making Earth conducive to human survival, Falkowski added, “Humans pay very little attention to microbes, at their peril. The distribution of these organisms across the planet can be impacted by humans, but fortunately virtually all microbes can survive human activities. In the end, microbes will survive long beyond humans, and continue to make Earth habitable for the organisms that will follow.”

McCarthy’s own work has focused on how marine nutrient cycles are impacted by human activities and how that, in turn, affects Earth’s climate. He also led the creation of the International Geosphere Biosphere Programme, which has made important contributions to the work of the 2007 Nobel Peace Prize-winning Intergovernmental Panel on Climate Change (IPCC), the scientific body at the United Nations that seeks to provide an objective analysis of the environmental, social, and economic impacts of global warming.



Dr. James J. McCarthy of Harvard University. Photo Credit: Katie Voss.

“Over the course of my career, my study of nutrient cycles has included studies in the Sargasso Sea, the Caribbean Sea, the Black Sea, the tropical Atlantic, and the Gulf Stream,” McCarthy told Mongabay. “For much of the 1980s and 1990s I was involved in a set of studies focused on the regions of the ocean that show strong seasonal cycles in production and are the locations of major fisheries — the Equatorial Pacific, the North Atlantic, and the Arabian Sea. Seasonal climate cycles are a major factor in supplying the nutrients that support this production.”

As Earth’s climate continues to heat up, we need to know how fisheries production in the oceans might change, McCarthy argues. But “It is too early to say that we can answer these questions definitively,” he added, “in part because no one knows how seriously society will address measures to slow the rate of greenhouse gas emissions that are driving climate change.”

McCarthy himself co-chaired the IPCC in 2001. He also served as president of the American Association for the Advancement of Science from 2008 to 2009. His work as a science communicator was one of the reasons the Tyler Prize Committee chose to award McCarthy the 2018 prize.

“In the case of climate change, scientists need to appreciate that what we find compelling won’t necessarily be so for a person who isn’t a scientist,” McCarthy said. “Scientists are better communicators when they don’t simply convey facts, but rather explain why they think something is important. This applies especially in the case of climate change. People who

aren't scientists need to realize why we think that this information is important, and for those who agree, it is helpful to see that there are many things that each of us can do to help steer society away from the most damaging of the potential future impacts of a relentless warming."

Both scientists say they are honored by the recognition of their work.

"I never expected to be awarded the Tyler Prize," Falkowski said. "It is an extraordinary honor, and truly humbling to be in the company of so many extraordinary environmental scientists. Obviously, I am extremely proud that my work has been so recognized."

"This is the first time that the Tyler Prize has been awarded to biological oceanographers and I am truly honored to be sharing it with Paul Falkowski," McCarthy noted. "He and I have known each other for most of our professional careers."

Falkowski and McCarthy will be presented with the Tyler Prize in a ceremony in Washington, D.C. on May 3. Neither has decided what they'll do with their share of the \$200,000 prize money they'll be splitting equally, but they do have some ideas.

"I probably will set up a small fund to help support deserving undergraduate and graduate students to attend scientific meetings," Falkowski said.

"I haven't had time to think this through," McCarthy said. "I will certainly use a portion of it to help support science organizations and educational institutions, and probably use some of it to reduce my own carbon footprint."

Article published by [Mike Gaworecki](#)