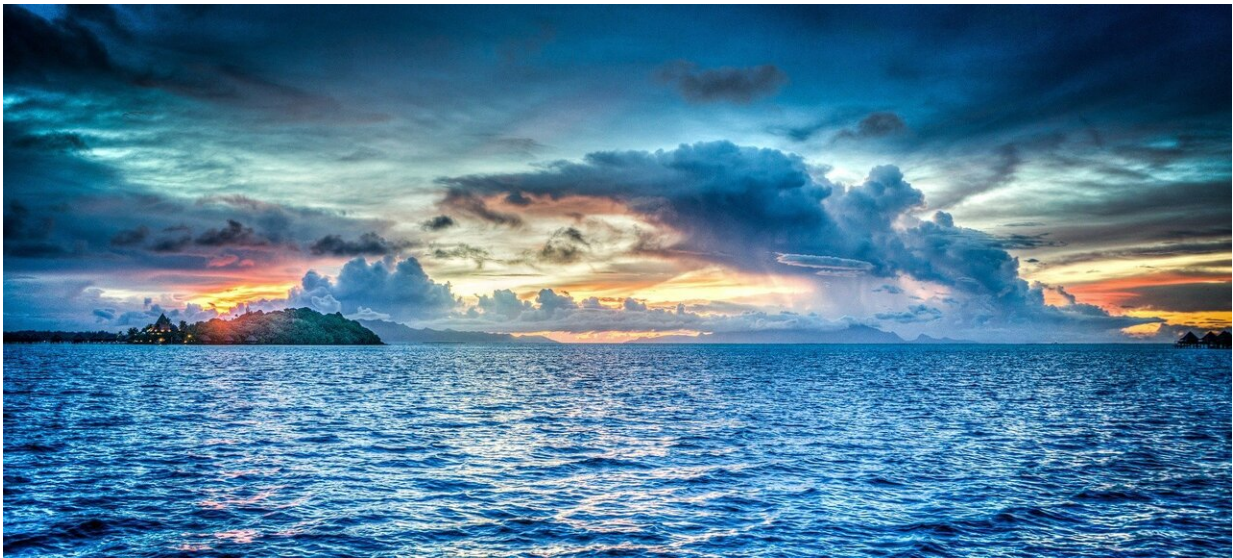


UN World Ocean Assessment: The ocean is in trouble, but we still have time to act

May 19 2021, by Elaina Hancock



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The [Second World Ocean \(WOAII\) Assessment](#), launched in April, serves as an important tool to aid in policy making for world leaders. As part of the United Nation's [Regular Process for Global Reporting and Assessment of the States of the Marine Environment](#), the effort behind creating the assessment relies on the expertise of hundreds of co-authors and leading experts worldwide.

The report details new research, gaps in knowledge, and current

knowledge about the state of the world's oceans and the many pressures they are under, as described by United Nations Secretary-General Antonio Guterres in his speech for the launch event for the report.

Peter Auster, UConn Research Professor Emeritus of Marine Sciences and Senior Research Scientist at Mystic Aquarium, was one of the expert co-authors of the report. He recently met with UConn Today to answer some questions about the latest state of the [ocean assessment](#).

Can you tell us about the assessment and what it is used for?

There is a United Nations resolution to perform a world ocean assessment to determine the state of the oceans from a global perspective. In the past, there have been regional assessments, but there's never been a holistic, multi-disciplinary view of the state of the oceans.

So, the first world ocean assessment, that came out in 2015, essentially formed a baseline of the state of the global ocean, on fisheries, pollution, and biodiversity across multiple kinds of habitats from coastal estuaries to the deep ocean.

Can you tell us about the second report?

With the second World Ocean Assessment, the goal is to identify trends and gaps in our understanding. This will help us on several lines, one being knowing what will help us determine what we need to do to improve our understanding in order to aid decision making.

The assessment will also help in negotiations of international treaties and instruments. It also lets us know what we're doing right and where we need improvements. Ultimately, one of the [United Nations Sustainable](#)

[Development Goals](#) is for sustainably using and conserving life in the oceans. And while we know there have been some improvements, such as better management of some fisheries, reducing [bycatch](#), and increasing the number of marine protected areas, for example. We still have a lot of work to do, including reducing pollution, including plastics.

The assessment looks at conserving global marine biological diversity, which is timely because, between UN General Assembly resolutions and with our new current administration, there's a goal called "[30 by 30](#)," aimed at protecting 30% of lands and waters, including oceans, by 2030. The goal is to improve the sustainability of ocean uses worldwide and in conserving global marine biodiversity, as human populations continue to increase along with concomitant demands on ocean resources.

Another important issue to understand is, ultimately, the ocean is the giant carbon sink of our planet because it sequesters vast amounts of carbon. The ocean can be, depending on how we manage it, a part of any climate change solutions, both nationally and internationally. So, there's a lot to be drawn from this report.

Can you talk a little more about carbon sequestration in the oceans and some of the knowledge gaps highlighted in the report?

Take a whole-earth view on where carbon goes, trees and coastal loci of seagrass meadows, mangrove forests, and marshes, both freshwater and marine. Assessments like this are important for these reasons.

We also have places where the rate that carbon is sequestered is important and places where it is permanently stored that we tend to ignore, for example, muddy basins of the coastal oceans. People aren't thinking about these areas as much, but these are places where carbon is

locked up. Fishing can mobilize those sediments that otherwise would be sequestering carbon. Another area is in the deep ocean, which is another important carbon sink.

With this second report, we identify new and relevant science that wasn't in the last report, and we identify important gaps in our knowledge, especially about methane hydrates along continental margins and their role on the larger ecosystem. One topic that is discussed is the mining of cobalt rich crusts and deep-ocean mining. What's the carbon footprint of that? And what does that re-mobilize from carbon sinks? Right now, that footprint is not large, but it can be.

There's talk on the future of mining methane hydrates, which is methane ice. At high pressures and low temperatures methane is a solid, and there are outcrops of that all along our continental margin on the East Coast. As the water warms under climate change, those methane deposits can turn into methane gas, which will be a significant greenhouse gas and will negatively impact efforts to minimize climate change. Fortunately mining that methane for energy, the economics are not quite there yet, but people are talking about it.

Assessments like these ensure that we sustain and protect ourselves by ensuring the ocean doesn't warm to a degree that those methane deposits turn to gas and add more methane into the atmosphere.

It seems like there are a lot of feedback loops, like the effects of fishing and those methane hydrate deposits, within the ocean.

Yes, exactly. We're just learning the details of these things overall in the last few decades. The chapter of the assessment where I was a co-author, with many colleagues, focused on continental slopes and submarine

canyons [note: like those that are protected in the Northeast Canyons and Seamounts [Marine National Monument](#) that Auster was involved in designating]. We spend a lot of resources in understanding the continental shelf and our local estuaries, as we should, but as we see, with greater clarity, we need to expend more resources farther offshore to understand these feedback loops that influence our future relationship with the ocean and the planet. Simply put, we need to understand what we are doing. How do we use these areas sustainably? How much should we consume? How much do we need to conserve? How much can we still use for economic benefits, human wellbeing, and still ensure that these natural resources are here for future generations?

This assessment helps in many venues. This is not a policy document, the policy bits come later. But it provides the foundation for being able to pull all these things together. And I know from the last World Ocean Assessment, for example, that this was important and aided in negotiations about revising international fisheries agreements.

We need to be thinking more directly about what kind of world we want to leave behind. There is a lot of crisis fatigue, but we still need to forge ahead. The future is ours to decide. Billions of people depend on the ocean, directly and indirectly, for their livelihood, for their well-being, for their safety. Things we do here effect people on the other side of the globe. Hopefully this contribution helps move our society in a sustainable direction.

Provided by University of Connecticut

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