

The seabed needs to become a top priority, and the UN agrees

April 15 2024, by William Austin



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"The science we need for the ocean we want"—this is the tagline for the UN Ocean Decade (2021-2030), which has just held its [first conference in Barcelona](#), Spain. Marine scientists from around the world, including me, gathered alongside global leaders to chart the progress of this ten-year mission to improve ocean health and marine biodiversity. That includes finding ways to better protect the seabed which we still know relatively little about.

Some areas of sediment on the sea floor hold [large stores of](#) carbon. Without greater protection, disturbance from bottom-trawling fishing practices for example, could release some of that stored carbon back into the atmosphere.

I joined discussions in Barcelona that have led to the launch of a new sustainable ocean [planning initiative](#), to be coordinated by [Julian Barbière](#), global coordinator of the Ocean Decade. This aims to encourage commitment to [sustainable management](#) of 100% of sea area under a nation's jurisdiction.

With this in place, there's scope to reimagine the role of the ocean in our wider climate system and recognize that all marine natural systems sequester and store carbon in their soils and sediments.

I'm here on behalf of the [global ocean decade program for blue carbon](#)—that's any carbon that is stored in the ocean. This project is one of the UN's 50 programs aimed at delivering transformative ocean science solutions for [sustainable development](#), connecting people and our ocean. That's a big ask.

My work focuses on the extraordinary ability of coastal ecosystems—such as mangroves, salt marshes and seagrass—to sequester

or store organic carbon in unusually high densities. Our [blue carbon](#) team of international research scientists from more than 20 countries is beginning to define emerging blue carbon ecosystems such as kelp forest and sub-tidal sediments as solutions to manage the climate and biodiversity crises.

The [360 million sq kilometers](#) of ocean and sea floor, from coastal seagrass meadows to the sediment that slowly accumulates within the deepest trenches, are massively overlooked as a precious carbon store. Oceans hold vast stores of carbon—the top meter of the [ocean holds an estimated](#) 2.3 trillion metric tons.

The seafloor is not a resource to be relentlessly exploited, but a vulnerable repository of global biodiversity and carbon that needs protecting. These highly productive, yet vulnerable, ecosystems have been greatly affected by [habitat loss and destructive practices](#) such as deforestation of mangroves for shrimp aquaculture in the relentless development of the world's coastal zones.

Blue carbon has huge potential to provide [ocean-based solutions](#) to help mitigate climate change, and thankfully, at the global scale at least, these losses have [slowed in recent years](#).

The potential for blue carbon to reduce greenhouse gas emissions is relatively modest, but healthy, restored ecosystems have the [potential to store an extra 2.96](#) million tons of carbon annually. Certain countries, such as Indonesia, offer huge potential as blue carbon hotspots where the protection and restoration of nature are an opportunity, for both the environment and [local communities](#).

Carbon credits, the means by which additional carbon can become a source of investment income in that community, are gaining much interest. Off the coast of Kenya, the community-based [Miko Pamojo](#)

[project](#) enhances direct benefits to local people from mangrove restoration.

Blue carbon ecosystems can help countries meet their climate obligations and have been attracting considerable interest. However, if nations want these ecosystems to continue to provide a whole range of services our governments must protect them and, where possible, restore lost habitats.

Most governments have been stubbornly slow to prioritize ocean-based solutions high up on the agenda of global climate negotiations. At this conference, I've heard more people, including Unesco's director general [Audrey Azoulay](#), driving home the need to protect and effectively manage our ocean resources.

Members from the traditional owners of the Great Barrier Reef spoke of "country" from a perspective of a long and sustained human relationship with nature and are intimately connected to the ocean. There is a growing recognition and respect for this indigenous knowledge and our need to integrate that into a sustainable ocean future.

Reimagining the ocean's role

It makes sense to start by protecting these natural systems that already hold vulnerable [stores of carbon](#)—this is sensible risk management.

As nations continue to exploit the marine environment for fishing, fossil fuels and even precious metals which are now being mined from the [sea floor](#) in certain places, it is time to rethink the value of these vast natural stores of ocean carbon.

Space science gets way more funding than our oceans, yet vast areas of the global deep ocean remain largely unmapped. "[Life below water](#)" is by far the [least funded](#) of the UN's 17 Sustainable Development Goals.

That needs to change through a sustained and increased investment in ocean science and greater recognition for the value of our [blue economy](#)—defined by the UN as the sustainable use of the ocean's resources for economic growth, improved livelihoods and jobs.

Stepping back to pause and preserve what already exists in the ocean can help the planet, and us, build resilience and create a healthier and more sustainable marine environment. The seabed forms the foundation for an interconnected ocean ecosystem and acts as an important long-term global sink for carbon that involves the whole ocean and its exchanges with the atmosphere and wider Earth system.

While plans are finally moving in the right direction, there are huge challenges ahead. To paraphrase [Cynthia Barzuna](#), director of ocean action 2030 at the World Resources Institute, "there is no wealthy ocean without a healthy ocean". The biggest takeaway from the Barcelona conference is that a sustainable ocean future depends on a shared vision that works for all of us and marine life too.

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