The ocean and climate: why the call to protect at least 30% of the ocean by 2030 must go hand in hand with ambitious climate action

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As nations plan for recovery from COVID-19 to 'grow back greener,' simply picking up where we left off on tackling climate change and biodiversity loss will be woefully insufficient. COVID is a clear and present warning sign that we are not working quickly enough to put our world back in better balance with nature. Given the ocean covers 70% of the planet and provides over 90% of the living space for species, properly protecting and sustainably managing it must lie at the heart of recovery.

A bolder and more coherent science-informed approach is critical for an effective and sustainable global recovery, one that focuses on the interrelated nature of protected and conserved areas and climate. This paper focuses on the global call to protect and conserve at least 30% of the global ocean by 2030 ("30 by 30") through Marine protected Areas (MPAs) and Other Effective Area-based Measures (OECMs) and how this call can support, be incorporated within, and be incentivized by climate policy. In summary:

1. 30 by 30 can help take pressure off ocean systems to support and recover their resilience in the face of accelerating climate change and sustained human-driven damage and loss.
2. 30 by 30 can help protect the three priority carbon-rich marine ecosystems recognised by the United Nations Framework Convention on Climate Change (UNFCCC).
3. 30 by 30 can help protect significant areas of seabed already within MPAs and OECMs that have stores of carbon but currently fall outside of the UNFCCC through the Convention on Biological Diversity (CBD), the critical forthcoming UN treaty on conservation of biodiversity in areas beyond national jurisdiction (BBNJ), UNESCO's World Heritage Convention, Ramsar Agreement, and more.

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The ocean's future depends on rapid and widespread emission reductions, which must remain the top priority in climate action. Planetary heat is causing significant and accelerating changes in the character of the whole ocean, the effects of which are exacerbating decades of human overexploitation and loss. As a result of growing emissions from human activity, the ocean is experiencing acidification, warming, heatwaves, deoxygenation, and changes to its major winds and current systems. These changes seriously undermine the ocean's ability to continue to offer services that support billions of people - services like dependable food sources, and favourable weather patterns and coastal conditions. In this way, climate impacts on the ocean are not limited to the ocean as they significantly affect life on land and human well-being across our planet.

Even as emissions are dramatically reduced, it will take time for the Earth's atmosphere to return to more benign climate conditions given greenhouse gas latency in the atmosphere. In the meantime, management actions must be put in place now to halt the decline in marine ecosystems and foster recovery. Properly protecting marine ecosystems at scale will take pressure off natural systems and buy time before the benefits of emission reductions can take effect. **Management measures, including 30 by 30, safeguard critical habitats from harmful industrial and non-industrial activity, and give nature a space for recovery, thereby helping support species' and ecosystem resilience in the face of worsening impacts of climate change.**

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Coastal and marine wetlands host some of the richest biodiversity on the planet. Salt marshes, seagrass beds, and mangroves are refuges for wildlife, nurseries for juvenile fish, and protect coastlines and frontline communities from extreme weather. These habitats are also important for mitigating the effects of climate change because they can store and sequester large amounts of carbon in their soils. For example, scientists estimate that around 10% of the total organic carbon sequestered in the ocean is buried in seagrass beds.

These three marine ecosystems are currently the only ones recognized by the Intergovernmental Panel on Climate Change (IPCC) for their quantifiable mitigation values, with methodology for countries to derive those values along their shores. The measurable and meaningful mitigation benefits that protecting and restoring these ecosystems can provide can therefore be incorporated into Nationally Determined Contributions (NDCs) and Greenhouse Gas Inventories under the UNFCCC.

These coastal and marine wetlands not only sequester carbon at a rate three to five times greater than that of terrestrial forests per unit, but they also store this carbon, often for millennia, within their submerged soils. **Country efforts to protect 30 by 30 that include and prioritize coverage of salt marshes, seagrass beds, and mangroves, contribute not only to halting biodiversity loss, but also to fighting climate change as a "nature-based solution" in their commitments under the UNFCCC.**

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Ocean ecosystems, beyond the three coastal habitats just described, support a wealth of marine life and contain large stores of carbon that cannot currently be counted towards countries' mitigation targets under the UNFCCC. For example, the seabed is a critical habitat for many species and seabed sediments can also store appreciable quantities of carbon. There is an urgent need to protect these biologically important marine habitats and prevent the release of substantial stocks of locked-up carbon. The priority, whether on land or in the sea, is to keep carbon in natural ecosystems as nature intended.

Inventory level accounting of precise greenhouse gas emission fluxes should not be the sole mechanism to recognize climate benefits of marine areas. Countries can and should also use domestic or international policy levers as a matter of course to protect biodiverse and carbon-rich marine ecosystems through MPAs and OECMs. Such actions can increase ocean resilience, adaptation, and keep naturally occurring and locked-up carbon in place. **The 30 by 30 effort can help protect ocean carbon through actions under the UN Convention on Biological Diversity, the critical forthcoming UN treaty on conservation of biodiversity in areas beyond national jurisdiction (BBNJ), UNESCO's World Heritage Convention, The Ramsar Agreement, as well as regional and national approaches.**

The current draft of the CBD Post-2020 Global Biodiversity Framework already calls on nations to adopt the 30 by 30 ambition under target 2. If adopted, countries can protect ocean life, livelihoods, and the ocean's carbon stores by prioritizing areas that offer a variety of climate benefits.