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News

'Blue carbon' plan takes shape

Mangroves and seagrasses could be protected by valuing the carbon they store.

Gayathri Vaidyanathan

An international effort to protect coastal wetlands by assigning them carbon credits kicked off last week in Paris. The aim is to do for some wetland plants — mangroves, seagrasses and salt marshes — what carbon credits have done for trees.

Wetland plants and forests act as carbon sinks, locking away substantial amounts of carbon absorbed from the atmosphere. The ocean absorbs some 25% of the world's carbon-dioxide emissions, and in its watery depths are acres of seagrass meadows that use about 15% of the dissolved carbon to grow. Mangroves and salt-marsh vegetation similarly accumulate carbon, and when they decompose their carbon is locked away in watery, peaty sediments for millennia.



The coast of Surabaya, East Java, has extensive fish ponds built in mangrove habitats.

Frida Sidik

Yet the world's coastal wetlands have been in continuous decline over the past century and now cover just 2% of the seabed¹. Between 1980 and 2005, nearly 35,000 square kilometres of mangroves were cleared so that coastal land could be used for agriculture, aquaculture and beach resorts. When coastal wetlands are drained, the soil is oxidized and carbon dioxide is released into the air, contributing to climate change.

The 'blue carbon' concept aims to protect some of the most endangered wetlands by assigning credits to their stored carbon². The credits can then be traded on a carbon market, explains Emily Pidgeon, director of the marine climate change programme at Conservation International, the environmental group in Washington DC that has been promoting the concept alongside the International Union for Conservation of Nature in Gland, Switzerland, and the Intergovernmental Oceanographic Commission based in Paris.

Muddy waters

The effort faces some sizeable scientific hurdles. For starters, no one knows how much carbon is stored by wetlands around the world — largely because no one knows exactly how many

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