

# Study: Paris Agreement will not be reached without urgent ocean action

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Researchers from the University of Plymouth have played a key role in new research highlighting how measures to address climate change and reach the Paris Agreement will not succeed unless the ocean is fully

taken into account.

The study, published in the journal *Aquatic Conservation*, is addressed directly to leaders attending the COP26 conference in Glasgow.

It was prepared by the International Programme on the State of the Ocean (IPSO), a collaboration of scientists including Professor of Marine Biology Jason Hall-Spencer and Professor of Oceanography Chris Reid.

In their report, the researchers say the role of the [ocean](#) in both mitigating and aggravating [climate change](#) is understood by scientists but largely being ignored by politicians.

They highlight that the ocean is carrying the heaviest load in terms of climate mitigation, absorbing over 90 percent of the excess heat produced by [global warming](#), in comparison with only about 3 percent absorbed by land.

It is also the largest carbon sink on Earth leading to damaging [ocean acidification](#) that erodes the ocean's ability to function and creates feedback loops that can exacerbate climate change.

Calling on [world leaders](#) to urgently take action to protect the ocean, lead author Professor Dan Laffoley said:

"There simply isn't time to waste. The changes we have already put into the ocean system will last for centuries and are making the climate crisis worse. Anything we can do now to help the ocean withstand the climate onslaught will in turn help us. Ocean protection is about human survival."

The report is the latest prepared by IPSO in an attempt to inspire

international collaboration and action to protect the ocean.

Professor Hall-Spencer, one of the world's leading experts on the impacts of ocean acidification, fisheries and warming, is one of the core group of 16 scientists that advise the IPSO. He said:

"Ocean heating is supercharging tropical cyclones and hurricanes, intensifying the [water cycle](#) leading to greater and more intense rainfall, stronger winds and bigger storms. This in turn increases the number of natural disasters, their intensity and impact on humanity. To tackle the [climate](#) emergency effectively is essential to reduce [greenhouse gas emissions](#) as this will slow the rate of ocean warming, oxygen loss and ocean acidification. Urgent action is also needed to rebuild resilience in marine life with major reductions in damaging practices such as whaling, commercial trawling, overfishing and sewage pollution."

Professor Reid is also a member of the Continuous Plankton Recorder Survey group at the Marine Biological Association and part of the core group advising IPSO. He added:

"In the approximately three decades since 1986 the heat content of the ocean has accelerated, increasing eight times as fast as the three prior decades. The consequences of this rapid change have been enormous, with more heat waves on land and in the ocean, forest fires, melting of permafrost and ice, and higher water content in the atmosphere leading to intense floods in all continents of the world. Sea level is also increasing rapidly from expansion due to the higher temperatures and from increasing inputs from melting ice.

"What all of this shows is that we can no longer forget the ocean, its ecosystems and carbon storage systems; they are crucial to human survival and need increased international protection and restoration."

**More information:** Dan Laffoley et al, The forgotten ocean: Why COP26 must call for vastly greater ambition and urgency to address ocean change, *Aquatic Conservation: Marine and Freshwater Ecosystems* (2021). [DOI: 10.1002/aqc.3751](https://doi.org/10.1002/aqc.3751)

Provided by University of Plymouth

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