

Why good ocean health is critical to tackling climate change

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Why good ocean health is critical to tackling climate change



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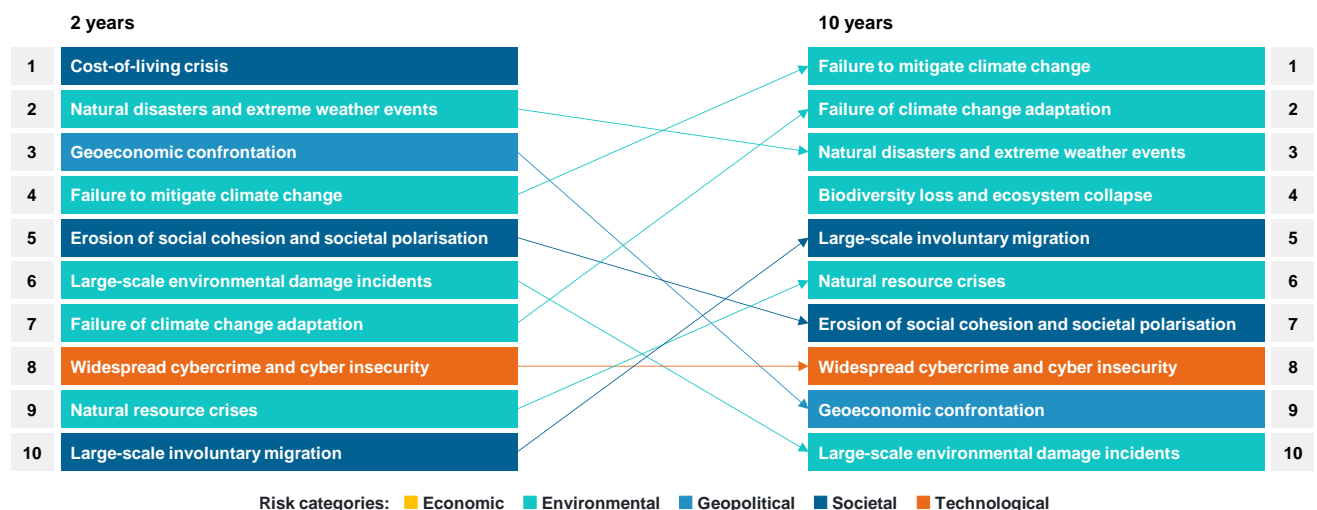
According to the United Nations, “the ocean generates 50 percent of the oxygen we need, absorbs 25 percent of all carbon dioxide emissions and captures 90 percent of the excess heat generated by these emissions. It is not just ‘the lungs of the planet’ but also its largest ‘carbon sink’ – a vital buffer against the impacts of climate change” ¹.

The connection between ocean health and climate change as a self-reinforcing cycle is often underestimated. Climate change, driven by greenhouse gas emissions, triggers rising temperatures and altered weather patterns, which directly impact oceans. Sea-level rise, ocean warming, acidification and changing currents degrade marine ecosystems, causing coral bleaching, habitat loss and reduced biodiversity. As ocean health deteriorates, the feedback loop amplifies climate change impacts. Therefore, the oceans play a fundamental role in regulating the planet’s climate and are essential for maintaining the overall health of the planet.

Despite the benefits the ocean provides to tackling climate change and biodiversity loss and contributing to the mitigation of several of the “[Top 10 Risks over the next 10 years](#)” highlighted in the World Economic Forum’s Global Risks Report 2023, Sustainable Development Goal 14, Life below Water, remains the least funded of the goals. According to the Organization for Economic Co-operations and Development (OECD) and the United Nations Department of Economic and Social Affairs (UNDESA), Sustainable Development Goal 14 has only received a 0.01 percent share of all SDG funding from official development assistance (ODA) up to 2019 ².

Global risks ranked by severity over the short and long term

“Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period”



Source: Fidelity International, July 2023 - adapted from [World Economic Forum Global Risks Report 2023](#)

¹ [The ocean – the world’s greatest ally against climate change | United Nations](#)

² Scotland, Patricia, “Why we need to tackle the ocean funding crisis”, Economist Impact, 24 February 2022, <https://ocean.economist.com/blue-finance/articles/why-we-need-to-tackle-the-ocean-funding-crisis>

As concerns about climate change continue to escalate, understanding the vital connection between ocean health and climate change becomes paramount, especially for investors focused on enabling the transition to a low-carbon economy and managing climate risks. Below we have outlined a few ways how the ocean helps in the fight against climate change.

The oceans play a crucial role in regulating the Earth's temperature

As vast heat sinks, oceans absorb and store large amounts of heat from the atmosphere. The immense volume and thermal capacity of the oceans helps to stabilize global temperatures by absorbing excess heat and release it gradually over time. This regulation of temperature helps to mitigate the impact of climate fluctuations and reduces the severity of extreme weather events, providing a more stable climate system.

Oceans exert significant influences on weather patterns on a global scale. Ocean currents transport heat and moisture across different regions, influencing weather systems. Additionally, phenomena like El Niño and La Niña events in the Pacific Ocean can alter atmospheric circulation patterns, leading to shifts in rainfall patterns and temperature distributions. Changes in ocean temperatures and circulation patterns affect precipitation, wind patterns, and overall climate variability.

Climate temperature regulation helps maintain stable weather patterns, reducing the frequency and severity of extreme weather events such as hurricanes, droughts, and heatwaves. These events can have significant economic consequences, leading to property damage, infrastructure disruptions, loss productivity and supply chain disruptions.

The ocean is largest 'carbon sink'

Good ocean health is critical in tackling climate change due to the ocean's capacity as a carbon sink. The oceans absorb and store atmospheric CO₂ through physical and chemical processes, such as dissolution and biological uptake by marine organisms. Healthy oceans with thriving ecosystems and abundant marine vegetation can effectively sequester significant amounts of carbon, contributing to the regulation of the global climate and the reduction of CO₂ levels in the atmosphere.

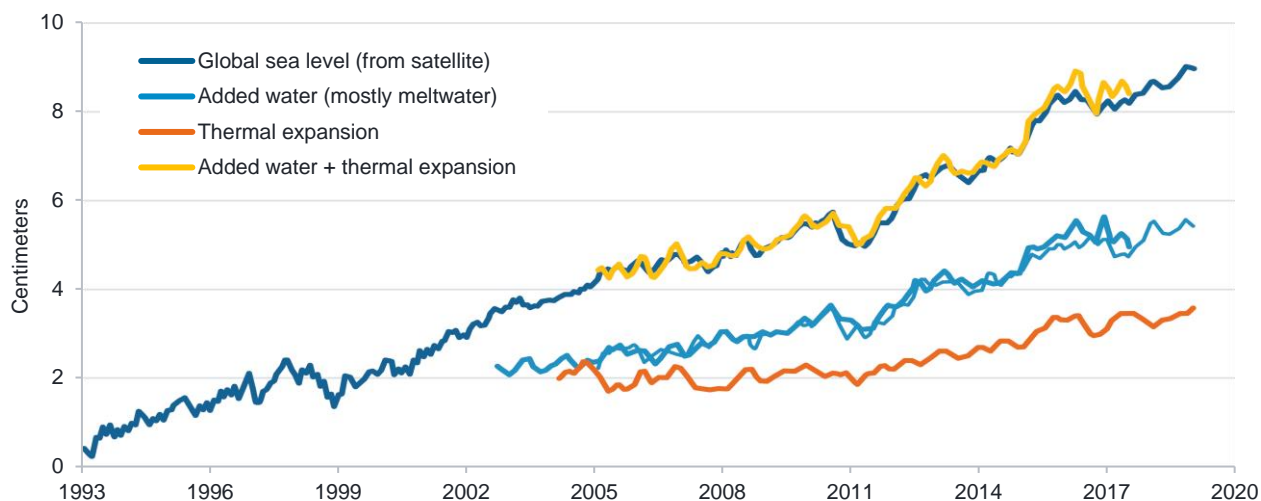
Climate change poses significant risks to the global economy, including physical risks from extreme weather events, transition risks associated with the shift to a low-carbon economy, and liability risks for companies contributing to climate. The regulation of the global climate and reduction of CO₂ levels and the ocean as a key tool in helping tackle this are essential for achieving long-term economic stability.



The ocean's role in tackling sea-level rise

One of the most visible impacts of climate is the rising sea levels caused by the melting of glaciers and ice caps. Good ocean health and the preservation of coastal ecosystems are crucial in tackling sea-level rise by absorbing and storing heat, acting as a repository for meltwater, building up beaches and shorelines, as well as providing coastal habitats such as mangroves, salt marshes, and coral reefs which can help act as natural barriers, protecting shorelines from erosion and reducing the impacts of storm surges.

Contributors to global sea level rise (1993-2018)



Source and Comments: [Climate Change: Global Sea Level | NOAA Climate.gov](#). Observed sea level since the start of the satellite altimeter record in 1993 (black line), plus independent estimates of the different contributions to sea level rise: thermal expansion (red) and added water, mostly due to glacier melt (blue). Added together (purple line), these separate estimates match the observed sea level very well. NOAA Climate.gov graphic, adapted from Figure 3.15a in [State of the Climate in 2018](#).

Failing to price in physical climate risks

The pricing of financial markets often fails to adequately account for the long-term risks associated with physical climate risks. Poor ocean health is an important aspect of climate change that has significant long-term implications for various industries, economies, and communities worldwide.

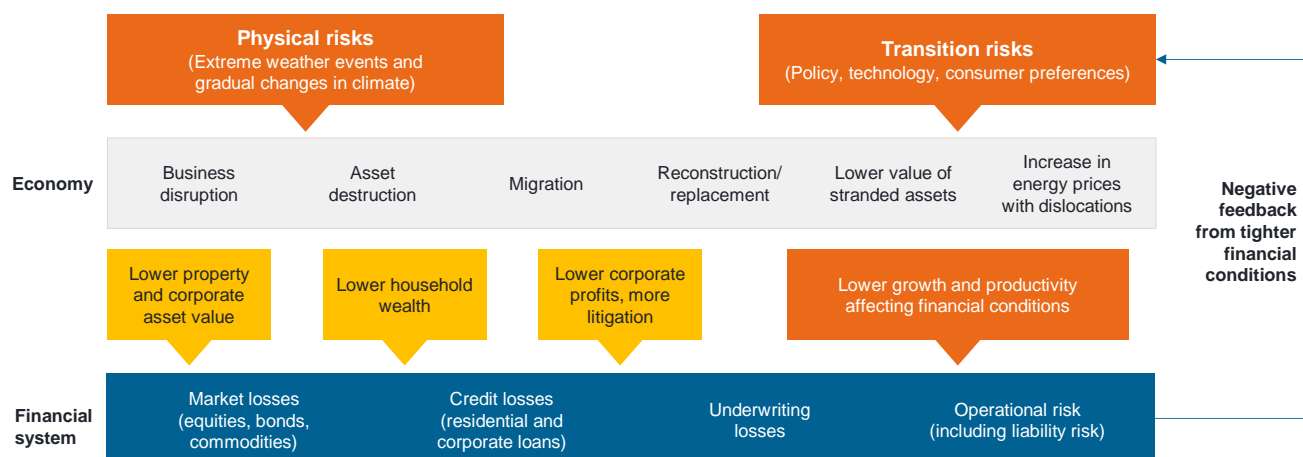
The under-pricing of risks associated with physical climate impacts can lead to mispriced assets, misallocation of capital, and a lack of preparedness for the potential shocks that may arise.

While transition and physical risks are connected and cannot be considered in isolation, in our view to date too little focus has been placed on measuring, understanding and pricing in physical risks.

As highlighted by Fidelity's Global Macro Team in the paper [Planetary risk: mapping climate pathways to macro and strategic asset allocation](#) "physical and transition risks can materialise in many ways 'with several second-round impacts and spill over effects that can affect all agents in the economy (sovereigns, companies and households'. There are feedback loops to consider as well, especially as the economic impact of climate change feeds through into the financial system, leading to tighter financial conditions that may curb the ability of economies to recover and grow.³"

³ Fidelity International, July 2021 and [Banque de France Working Paper, Dec 2020](#)

Risks from climate change follow two channels, with multiple potential impacts



Source: Fidelity International and Climate Change, Central Banks and Financial Risk - IMF F&D | December 2019.

One reason for this mispricing is the complex and interconnected nature of natural capital, including ocean health and climate impacts. Measuring, understanding and quantifying the specific financial implications of, for example ocean related, risks can be challenging due to the cascading effects they can have on various sectors such as coastal real estate, fisheries, tourism, and more broadly supply chains.

In addition, the long-term nature of ocean health impacts presents a challenge in the context of more short-term focused market dynamics, where a focus may lie on the immediate financial performance rather than long-term sustainability. There may be a disconnect between the time horizons of the financial markets and the gradual, yet significant changes occurring in terms of climate and biodiversity loss, leading to a lack of urgency in incorporating these risks into pricing models.

Nowhere is this risk more acute than fixed income. Given the asymmetry of debt risk and returns, bondholders are accustomed to pricing tail risks, however they are only just beginning to price the transition risks associated with climate change. Physical risks arising from factors such as changing ocean health, are yet to be measured and priced in systematically. The impact of physical risks is beginning to unfold, and we expect these to grow in frequency and severity. In the medium term, acute weather events are expected to continue to increase in severity and frequency, which could lead to business disruptions across issuers held in fixed income portfolios. In long term (10+ years), it is likely we will see increases in both the prominence of chronic physical risks and the severity of acute physical risks. Physical climate risks, both acute and chronic, can cause disruptions to operations and supply chains, affect the functionality or value of physical assets, and affect access to natural resources and insurance for firms. All of these can have detrimental impacts on an issuer's value and lead to increased risk of loss for bondholders. Our approach to evaluating ESG risks takes into consideration the dual materiality of a company's impact on and from its environment. Only by starting to measure and price these risks appropriately can we hope to minimize their impacts on our portfolios.

Risk Warning

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The value of bonds is influenced by movements in interest rates and bond yields. If interest rates and so bond yields rise, bond prices tend to fall, and vice versa. The price of bonds with a longer lifetime until maturity is generally more sensitive to interest rate movements than those with a shorter lifetime to maturity. The risk of default is based on the issuers ability to make interest payments and to repay the loan at maturity. Default risk may therefore vary between government issuers as well as between different corporate issuers. Due to the greater possibility of default, an investment in a corporate bond is generally less secure than an investment in government bonds.

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Unless stated differently, information dated as of August 2023.

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