

Ocean Stewardship Horizon Scan 2023: Six science, policy and practice developments

Over the past year, significant publications from the Intergovernmental Panel on Climate Change (IPCC) and scientific groups have underscored the extent to which human activity is fundamentally changing the biosphere. International progress towards achieving climate targets and the Sustainable Development Goals continues to lag. Yet in the past year, multilateral efforts have also resulted in the conclusion of the High Seas Treaty and rapid movement on a global plastics treaty as well as introduction of new regulations and frameworks to mainstream climate and nature into corporate reporting and practice.

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Big picture

IPCC AR6 Synthesis Report: In March 2023, the Intergovernmental Panel on Climate Change (IPCC) released its [first summary report](#) since 2014 with the conclusion that “there is a rapidly closing window of opportunity to secure a liveable and sustainable future for all.” The report concluded that temperatures have increased by 1.1°C and are set to increase to 3.2°C by the end of the century under current climate policies. Under 1.5°C warming, it reported that 70-90% of tropical coral reefs will be lost and marine fisheries production will decline by 1.5 million tonnes annually. Under 2°C of warming, these figures increase to 99% and 3 million tonnes, respectively. Approximately 25% of known marine species depend on coral reefs for at least part of their life cycle. Extreme weather events of increasing frequency and intensity are projected to increase the risk to coastal communities and infrastructure as well as operations at sea.

Read more:

https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf

https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullVolume.pdf

Planetary boundaries and Earth system

boundaries: In 2009, the Planetary Boundaries concept was introduced, identifying a set of nine

processes that are fundamental for the stability of the Earth system. In 2023, [an update](#) was published, identifying that six of the nine boundaries have now been transgressed. An [associated analysis](#), also published in 2023, considered dimensions of safety and justice, and described eight Earth System Boundaries within which the stability and resilience of the Earth system is maintained and significant harm to humans is minimized. Across more than half of the world’s land area, two or more Earth System Boundaries have already been exceeded. Both papers conclude that a global transformation is required to ensure human well-being into the future.

Read more:

<https://www.science.org/doi/10.1126/sciadv.adh2458>

<https://www.nature.com/articles/s41586-023-06083-8>

Progress on the Sustainable Development Goals

(SDGs): In September 2023, world leaders issued a [declaration](#) to recommit to achieving the 2030 Agenda and its SDGs, stating that it “remains our overarching roadmap for achieving sustainable development and overcoming the multiple crises we face.” Yet progress remains slow, and only 12% of the 169 targets within the SDGs are on track to be reached by 2030. For approximately 30% of targets, progress has been negative. The SDGs have become a core element of corporate leadership and reporting,

with [96% of business leaders considering](#) them a positive and unifying vision that companies have a critical role in achieving. To track progress towards the SDGs, [the most common request of companies to policymakers](#) (76%) is the need for consistent sustainability and disclosure mandates.

Read more:

<https://www.nature.com/articles/d41586-023-02844-7>
<https://www.nature.com/articles/d41586-023-02970-2>
https://www.accenture.com/us-en/insights/sustainability/getting-sdgs-back-on-track?c=acn_glb_ungc2023-stocktvanityurl_13969947&n=mrl_0923

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The ocean and the climate

Broken records of 2023: The average temperature at the surface of the ocean varies throughout seasons and across years, but since 13 March 2023, there has been an unprecedented [unbroken \(and continuing\) streak of over 200 days](#) during which surface temperatures have exceeded records of any year in recent history. In late July, 44% of the ocean was experiencing marine heatwaves, periods of prolonged temperature anomalies, with severe events in the North Atlantic, Mediterranean, Eastern Pacific, Northern Pacific and the Gulf of Thailand. Widespread bleaching of corals, algal blooms, and mass oyster and fish mortality events have been among the impacts. Impacts on fisheries, however, are likely diverse, and in August 2023, [a study of 248 marine heatwaves](#) from 1993-2019 found minimal impacts on demersal fish biomass, perhaps due to their ability to move to cooler waters during anomalous periods. [Studies of ecosystems](#) like coral reefs and kelp forests, however, and of sessile species like oysters, have identified [severe impacts](#) from marine heatwaves.

Read more:

<https://www.washingtonpost.com/weather/2023/07/28/ocean-temperature-maps-heat-records/>
<https://www.nature.com/articles/s41586-023-06449-y>

The ocean as a “solution” to climate change: The capacity of the ocean to absorb the excess carbon dioxide and heat associated with human activities

is increasingly pointed to in the context of climate change action. Ocean-based mitigation options are thought to contain untapped potential. In 2019, the High Level Panel for a Sustainable Ocean Economy (HLP) released a report titled “The Ocean as a Solution to Climate Change”, which identified emissions reduction opportunities across five areas. [An update, published by the HLP in 2023](#) expanded this analysis. It found that action across “seven sectors could reduce the emissions gap by up to 35% on a 1.5°C pathway”, with the greatest potential in “halting the expansion of and phasing down offshore oil and gas extraction (about 20-30% of these reductions)”. This finding is noteworthy in the context of HLP member and co-founder Norway continuing to grant additional new offshore oil and gas licenses on an annual basis, an example referred to in [a September 2023 editorial in Nature](#) of hypocrisy threatening the future of the world’s oceans. The updated HLP report also concludes that little progress has been made towards reducing food emissions by switching to low-carbon blue foods, making the 2019 projections “harder to reach without an acceleration of effort and ambition in the next few years.”

Read more:

https://oceanpanel.org/wp-content/uploads/2023/09/Full-Report_Ocean-Climate-Solutions-Update-1.pdf

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Equity and justice rise up policy agenda

Loss and Damage Fund established: One of the most notable outcomes of the UN Climate Conference (COP 27) in November 2022 was the establishment of a “[Loss and Damage Fund](#)”. The term “loss and damage” encompasses the negative

impacts from climate change, including rising sea levels, heatwaves, desertification and other extreme events. The Fund is significant as it creates the explicit expectation of financial assistance to flow to the most vulnerable communities and countries

affected by climate change. Annual financial flows of over USD 300 billion will need to flow to developing countries by 2030 for climate change adaptation and mitigation.

Read more:

<https://www.unep.org/news-and-stories/story/what-you-need-know-about-cop27-loss-and-damage-fund>

Climate litigation and carbon tax becoming mainstream:

Citizens are increasingly turning to legal courts to push for climate action, bringing cases against governments and companies. Cases against governments often deal with human rights enshrined in international or national law, while a growing

number of claims against companies are focused on corporate liability, greenwashing and responsibility for climate harms. The [Global Climate Litigation Report](#) published in July 2023 found that the total number of cases had more than doubled in recent years (from 884 in 2017 to 2,180 in 2022). Of these, approximately 17% of cases are now being brought in developing countries.

Read more:

<https://climatecasechart.com/>
https://wedocs.unep.org/bitstream/handle/20.500.11822/43008/global_climate_litigation_report_2023.pdf

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International policy advances

A treaty for the high seas: Areas beyond national jurisdiction comprise 64% of the ocean, or roughly half the Earth's surface, and significant gaps have persisted in the conservation and sustainable use of biodiversity in these areas. In June 2023, following negotiations in various forms for some 15 years, a historic [new treaty](#) was adopted. As of September 2023, the treaty has been signed by 80 states and the European Union, and will enter into force upon ratification by 60 states. There are three key outcomes of the treaty: (1) it establishes a procedure for creating marine protected areas on the high seas (while it enables this process, it does not set any new goals or obligations for MPAs, and the existing 30% goal agreed in the Kunming-Montreal Global Biodiversity Framework remains); (2) it establishes mechanisms for the sharing of benefits from access and use of marine genetic resources; (3) it specifies rules for conducting environmental impact assessments on the high seas. The treaty does not change the mandate of existing bodies such as the International Seabed Authority or the FAO and associated regional fisheries management organisations (RFMOs) that extend into areas beyond national jurisdiction.

Read more:

<https://www.un.org/bbnj/>
<https://europeche.chil.me/post/europeche-welcomes-new-treaty-for-high-seas-432428>

Mining the international seabed: Mining of the international seabed for valuable minerals like

cobalt and nickel has become a highly contested proposition, with proponents claiming it will provide much-needed minerals for green technologies, while opponents note that it would permanently change the seabed and destroy ecosystems rich in biodiversity and critical for carbon cycling. The International Seabed Authority is the UN-affiliated agency responsible for overseeing mining of the international seabed, and has issued dozens of exploratory mining licenses. It is currently overseeing the finalization of exploitation regulations, which were expected to conclude in 2023, but have been delayed until 2025. [Vast gaps](#) exist in understanding the impacts of mining on the deep sea, and [a recent study](#) identified that billion-dollar tuna fisheries in the Eastern Pacific are projected to increasingly overlap with areas where exploratory mining licenses have been issued (and exploitation licenses will be sought).

Read more:

<https://www.scientificamerican.com/article/deep-sea-mining-could-begin-soon-regulated-or-not/>
<https://www.nature.com/articles/s44183-023-00016-8>

An international plastics treaty: In March 2022, the international community agreed in the context of the UN Environment Assembly to create an international legally-binding agreement by 2024 to end plastic pollution. A ["zero draft"](#) of the treaty was released in September 2023, and includes options on a range of steps, including the banning on high-risk plastic products, polymers and additives, and the introduction of a global minimum standard on use of

such materials. It also presents options on common product design requirements to promote circular economy potential, and a joint financing mechanism that would enable a holistic approach to addressing plastic waste globally.

Read more:

<https://wedocs.unep.org/bitstream/handle/20.500.11822/43239/ZeroDraftEn.pdf>

<https://www.un.org/en/climatechange/nations-agree-end-plastic-pollution>

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EU regulatory policy developments

Deforestation-free supply chains: In June 2023, the [EU Deforestation Regulation \(EUDR\)](#) entered into force, covering seven key commodities (cattle, cocoa, coffee, oil palm, rubber, soya, and wood), and derived products such as soybeans and oil. The EUDR applies to all goods produced on or after 29 June 2023, and non-compliance will result in loss of access to (or export from) the EU. Responsibility rests with the relevant company to upload a due diligence statement to their national authority; this obligation applies not only to EU-based companies who export such products from the EU market, but also to companies who are seeking to sell products in the EU market.

Read more:

<https://www.whitecase.com/insight-alert/10-key-things-know-about-new-eu-deforestation-regulation>

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1115>

Due diligence on the environment and human rights: In June 2023, the European Parliament adopted an official position on the [Corporate Sustainability Due Diligence Directive \(CSDDD\)](#). The CSDDD proceeds from the [United Nations Guiding Principles on Business and Human Rights](#), which

recognize the responsibility of companies to identify actual and potential impacts of their activities on the environment and human rights abuses, and to seek to prevent, end or mitigate such impacts. Negotiations are expected to conclude on the CSDDD by 2024, and when officially adopted, will be enshrined in law within two years by EU member states. Reporting obligations will first apply to the largest companies (measured by number of employees and total turnover), and is likely to directly impact around 13,000 companies in the EU, and 4,000 companies outside the EU. In preparation for an eventual entry into force of the CSDDD, companies are being encouraged to accelerate efforts to identify existing and potential adverse environmental and human rights impacts across operations and supply chains, with the [Corporate Human Rights Benchmark](#) of the World Benchmarking Alliance providing a useful indicator of movement by large companies on these issues.

Read more:

<https://www.dlapiper.com/en/insights/publications/global-esg-alert/2023/eus-proposed-directive-on-corporate-sustainability-due-diligence-what-us-companies-need-to-know>

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Corporate leadership and new reporting practices

Taskforce for Nature-related Financial Disclosures (TNFD): The TNFD builds on the model of the Taskforce on Climate-related Financial Disclosures (TCFD), and a growing understanding that nature underpins humanity's well-being and the global economy. A [2020 report](#) from the World Economic Forum, for instance, found that more than half of the

world's GDP (USD 44 trillion) is moderately or highly dependent on nature. In September 2023, [the TNFD published its recommendations for nature-related disclosure](#). While voluntary, the TNFD-recommended disclosures provide business with a tool to understand and communicate risk and incorporate nature into their operating strategies. In addition,

they provide a tool that enables companies to fulfill obligations under [Target 15 of the 2022 Kunming-Montreal Global Biodiversity Treaty](#), which calls for businesses to monitor, assess and transparently disclose their risks, dependencies and impacts on biodiversity. The TNFD recommendations are among a suite of new initiatives and efforts to mainstream nature into decision-making, including the World Business Council for Sustainable Development's [Roadmap to Nature Positive](#) action framework (September 2023) and the [G7 Alliance for Nature-Positive Economies](#) (June 2023).

Read more:

<https://tnfd.global/publication/recommendations-of-the-taskforce-on-nature-related-financial-disclosures/>

Calls from all sides for corporate leadership and accountability: Lagging progress on the Sustainable Development Goals and uneven leadership by policymakers globally has led to increasing focus on the key role of corporations in achieving global biodiversity, climate and development targets. At the same time, intense criticism and scrutiny is being directed at companies and states seen as acting in bad faith. In September 2023, for instance, UN Secretary General Antonio Guterres held the UN [Climate Ambition Summit](#), and specifically noted that

there was “no room for back-sliders, greenwashers, blame-shifters, or repackaging of announcements from previous years”. Others specifically called out “[deceitful](#)” practices of industry actors. The introduction of new regulations and frameworks for disclosure and transparency also reflects a growing expectation that claims of corporate-led progress should be based on full and accurate reporting. An [analysis published in September 2023](#) of the world's 100 largest companies, for instance, found that while 66 companies were carrying out some form of ecosystem restoration, only 4 were reporting on the ecological outcomes of these efforts.

Read more:

<https://www.un.org/sg/en/content/sg/statement/2023-09-20/secretary-generals-opening-remarks-the-climate-ambition-summit>

https://eprints.lancs.ac.uk/id/eprint/201803/1/CombinedPDF_Lamont_adh2610_accepted.pdf



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Acknowledgements: The author acknowledges support from the Walton Family Foundation and the David and Lucile Packard Foundation.

Graphics: Azote

Layout: Jean-Baptiste Jouffray