SHIFTING FOUNDATIONS: EMERGING CHANGES SHAPING AREA-BASED CONSERVATION FOR CLIMATE ADAPTATION AND MITIGATION

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ABSTRACT

Protected and conserved areas are already helping society – and the planet – to both mitigate and adapt to anthropogenic climate change. These important roles were highlighted to governments at the 2015 Paris meeting of the UN Framework Convention on Climate Change, as they considered the ever increasing set of challenges posed by the rapidly changing climate. But much has changed over the past decade, in ways that both strengthen and undermine the role of protected and conserved areas. We describe four recent developments and their implications: (i) the emergence of several global agreements that directly support, or could support, the use of area-based conservation in climate response strategies (e.g. the Kunming-Montreal Global Biodiversity Framework, the United Nations Convention to Combat Desertification (UNCCD) Land Degradation Neutrality target, the UNFCCC Nationally Determined Contributions and the UN Sustainable Development Goals); (ii) new tools for area-based approaches, including particularly Other Effective Area-based Conservation Measures (OECMs) and Nature-based Solutions (NbS); (iii) conversely, widespread evidence of terrestrial and marine ecosystems flipping from being sinks to sources of greenhouse gases due to mismanagement and degradation; and, finally (iv) the emergence of serious and mounting denial that human-induced climate change is occurring, by powerful players in governments and industry. The practical implications of these changes for conservation policy and practice are discussed.

Key words: protected areas, OECMs, nature-based solutions, climate change

INTRODUCTION

Recognition of the world's protected area system as a major source of ecosystem services has emerged gradually over the past two decades (e.g. Pu et al., 2023; Stolton & Dudley, 2010) and it is increasingly recognised by the international community. Conservation organisations were initially reluctant to emphasise the role of carbon storage and sequestration in vegetation due to fears that this would distract from the primary objective of reducing emissions of greenhouse gases (GHG). But growing awareness of the role of vegetation clearance and burning on GHG emissions (e.g. Zheng et al., 2023) and the emergence of the carbon market refocused attention on area-based ecosystem management. Twin roles were identified for protected areas, both mitigating climate change through storage and sequestration of carbon and providing robust and resilient ecosystem services to support adaptation to existing and projected climate change (Dudley et al., 2009). Even then, attention came mostly from conservation scientists, with recognition from the Convention on Biological Diversity (CBD, Secretariat of the CBD, 2010), but less interest from the climate science community. Although the role of protected areas was mentioned in the 2011 UN Framework Convention on Climate Change (UNFCCC) guidance to the Nairobi Work Programme (UNFCCC, 2011), it was not until 2015 at the Paris meeting of the UN Framework Convention on Climate Change that the issue was raised seriously by 18 governments from Latin America along with several NGOs. Following the Paris meeting, countries started to reference protected areas more regularly in their Nationally Determined Contributions (NDCs, Hehmeyer et al., 2019).

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Table 1: International agreements that highlight the role of ecosystems in addressing climate change

Agreement	Implications
UN Sustainable Development Goals: SDGs	The SDGs were agreed in 2015 and run until 2030, setting 17 goals relating to sustainable development and the environment. Goal 13 includes: Take urgent action to combat climate change and its impacts – actions mention increasing resilience and adaptation.
Convention on Biological Diversity: CBD	The CBD was agreed in 1992 at the Earth Summit, along with the UNFCCC and UNCCD. Agreement on the Kunming-Montreal Global Biodiversity Framework in 2022, with a 2030 deadline, sets ambitious goals for protected and conserved areas (Target 3) and climate change (Target 8). Revision of National Biodiversity Strategies and Action Plans gives opportunities for synergies, including with restoration.
UN Framework Convention on Climate Change: UNFCCC	Agreed in 1992, with another agreement to limit emissions of greenhouse gases made in 2015. Extra attention is now being paid to the UNFCCC's Nationally Determined Contributions, more of which are including vegetation-based components.
UN Convention to Combat Desertification: UNCCD	The UNCCD was also agreed in 1992. Its Land Degradation Neutrality target aims to stop net degradation by 2030 and has clear climate links and a new emphasis on grassland and savannah is relevant.
Convention on Wetlands, also known as the Ramsar Convention	Agreed in 1971 to promote the wise use and conservation of global wetlands. The recent COP15 (2025) made strides to integrate wetlands and nature-based solutions into plans for climate mitigation and adaptation.
UN Decade on Ecosystem Restoration	Runs 2020 –2030: Specifically mentions tackling climate change as an important justification for restoration; many restored areas will need to be protected, and many protected areas need restoration.
Marine Biological Diversity of Areas beyond National Jurisdiction: BBNJ	Historic agreement, ratified in 2025, which sets important targets for marine conservation amidst growing acknowledgement of the critical role played by 'blue carbon' in climate mitigation strategies.
International Year of Pastoralists and Rangelands: IYRP	2026 will see a focus on grassland management and the people involved, particularly pastoralists, and the role of grasslands in carbon storage.

Much has changed since, in ways that both support and potentially undermine the role of protected areas in climate change strategies. In this paper we look at four changes: (i) development of a range of intersecting global agreements that support ecosystem-based approaches to managing climate change; (ii) development of new tools and strategies; while conversely (iii) new evidence of ecosystems flipping from sinks to sources; and (iv) a growing denialism of climate change and backlash against climate mitigation strategies and conservation. In a final section, we discuss how this will impact protected areas and how protected area agencies, conservation trusts and Indigenous peoples and local communities managing land and water can best react.

AN EMERGING INTERNATIONAL FRAMEWORK

Ecosystem-based approaches to climate management were hampered for years by parallel and siloed approaches between the CBD and UNFCCC which, despite both emerging from the UN Conference on Environment and Development in 1992, are managed through different decision-making processes, making synergies difficult. The need for closer collaboration has been emphasised (e.g. Smith et al., 2019). Over the past six years, there have been significant changes. UNCCD at its 14th Conference of Parties (COP 14) in 2019 started to position itself as an integration convention bringing CBD and UNFCCC-related actions together, and since CBD COP 15 in 2022, 'Rio Synergies' became featured in all Rio convention COPs and UN General Assembly events. Furthermore, at least eight initiatives emerged on the global stage, all in one way or another focusing on the role of ecosystems in addressing the climate crisis. These are summarised in Table 1 and discussed below.

The 17 UN Sustainable Development Goals (SDGs), agreed upon in 2015 and running until 2030, set an ambitious agenda, which includes both biodiversity conservation and control of climate change (Dube et al., 2021). The role of protected areas in the SDGs has been recognised and explored (Kettunen et al., 2021).

The three Rio Conventions have all made decisions that strengthen these links. The Paris Agreement 2015 required preparation of NDCs that could include ecosystem services. The CBD has a series of decisions relating to climate change, and the signing of the Kunming-Montreal Global Biodiversity Framework (GBF) in 2022 brought climate firmly within the realm of biodiversity conservation, with Target 8 on climate change noting "*...including through nature-based solutions and/or ecosystem-based approaches*" (Convention on Biological Diversity, 2022). Countries

Rewetting peat on Kinder Scout, Peak District National Park, UK, to increase carbon sequestration and storage. © Equilibrium Research

have been developing the next round of NDCs for the UNFCCC, due to run from 2025 to 2035, and most national plans include some kind of ecosystem-based approach (Zhai et al., 2023). And the UN Convention to Combat Desertification (UNCCD) has promoted a Land Degradation Neutrality Target (Chasek et al., 2019), which was taken up in SDG 15.3 and focuses on grasslands, savannahs and drylands. Previously, these biomes have often been disregarded in international debate (Veldman et al., 2015) but the role of effectively placed and managed protected areas has been identified to aid responses to these ecosystems to climate change (Dudley & MacKinnon, 2017). At its 2024 COP, the UNCCD agreed to launch a major Rangeland Initiative in 2026 aimed at achieving Land Degradation Neutrality.

The role of aquatic systems in climate mitigation has been recognised slowly but is now increasingly highlighted. The Convention on Wetlands has emphasised the importance of peatland conservation, management and restoration as a critical factor in climate mitigation (Convention on Wetlands, 2021). The recently adopted *Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction* (BBNJ Agreement or High Seas Treaty) is the first time that countries have adopted an international instrument that addresses conservation in the open ocean, with justification explicitly including the role of climate mitigation through blue carbon (Wang & Wu, 2025) and the opportunity to create high seas marine protected areas (Karim & Cheung, 2024).

Three important but less legally binding commitments could contribute to climate mitigation. The UN Decade on Ecosystem Restoration aims to halt and reverse ecosystem degradation. Its principles emphasise the role of restoration in addressing climate change (FAO et al., 2021). The International Year of Rangelands and Pastoralists (IYRP), in 2026, will bring attention to the role of grasslands in global conservation and the people responsible for its management, including transhumant pastoralists. Climate change threatens pastoralist communities but may also provide a new impetus for mobile herding when settled agriculture becomes increasingly difficult in parts of the world (Krätli et al., 2013). Finally, the 'Nice Ocean Action Plan' from the third UN Ocean Conference (UNOC3), in June 2025, consists of a political statement and voluntary commitments to accelerate achievement of SDG 14: Life below Water.

These initiatives mark an unprecedented congruence of commitments to a sustainable future, covering all biomes at land and sea and placing conservation, climate change and protected areas at the heart of issues relating to sustainability, equity and human rights. But they are emerging at a time of unusual stress, and their success is far from guaranteed. Indeed, there are signs that many are failing to meet expectations, including the SDGs (Klees, 2024). The BBNJ was ratified slowly, as countries scrambled to initiate actions, particularly related to mining, which will be restricted under the Treaty. The ambitions are high, but opportunities are shrinking.

NEW INSTRUMENTS

Two important new global instruments or approaches have emerged since the original discussion on protected areas and climate change. In 2010, Parties to the CBD included a new phrase in Aichi Biodiversity Target 11: "*other effective area-based conservation measures…*" without a clear understanding of what that meant. The IUCN World Commission on Protected Areas provided technical advice to Parties to the CBD and in 2018 a definition was agreed at the CBD COP-14 (Convention on Biological Diversity, 2018). IUCN has published technical guidelines (Jonas et al., 2024) and discussed implications for marine conservation (Laffoley et al., 2017). OECMs are defined as: "*a geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity, with associated ecosystem functions and services and, where applicable, cultural, spiritual, socioeconomic, and other locally relevant values*". OECMs fall within what are often referred to as "conserved areas" and can cover sites that achieve conservation entirely accidentally (ancillary conservation), as a minor aim of management (secondary conservation) or sites that have conservation as a main aim but where the governing body does not want to be recognised as a protected area (primary conservation). These broader approaches make bold conservation targets more attainable (Dudley et al., 2018) and encourage inclusion of diverse stakeholders in area-based conservation and greater integration across landscapes and seascapes.

OECMs look likely to be an increasingly important instrument to achieve Target 3 of the GBF, aimed at protecting 30 per cent of land and ocean by 2030. This offers scope to bring new stakeholders into conservation but also carries risks of greenwashing and ineffectiveness. And because some sites are "recognised" as OECMs precisely because they are providing effective biodiversity conservation, they may not make a major impact on overall conservation aims, as they are not overcoming threatening processes that need to be abated. Although these risks have been much discussed, there is little evidence one way or another (Cook, 2023) largely because all OECM sites are too newly established to judge their merits in the medium term. There is, however, already experience with many management approaches included in the umbrella of OECMs (e.g. Nelson et al., 2021), so it should be possible to build information about conservation effectiveness quite quickly.

The second major change is more complex. The concept of nature-based solutions (NbS) has been gaining

Intensive forest management and continued old-growth logging have turned Finland's forests into net carbon emitters.
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momentum and now has a set of accompanying principles (Cohen-Shacham et al., 2019) and the IUCN Global Standard for Nature-based Solutions adopted by the IUCN Council (IUCN, 2020). IUCN defines NbS as "*actions to protect, sustainably manage and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits*" (ibid). In theory most protected areas are NbS of one sort or another (Dudley et al., 2022). However, the extent to which NbS can be accommodated in protected areas and OECMs is not clear; the IUCN Standard states that a NbS must be "planned" so recognition of, for instance, the water tower benefits of an existing protected area will not meet the definition. Strategically, this could be a problem if dwindling funding opportunities get too closely tied to NbS.

The UN Environment Assembly in 2022 adopted a multilateral definition on NbS supporting sustainable development (UNEP/EA.5/Res.5) but NbS is still not mentioned explicitly in many conventions or treaties. The term is also one among a number, including *ecosystem services, nature's benefits to people* (from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, IPBES) and the *Ecosystem Approach*, that all cover issues relating to the contribution of natural ecosystems to food and water security, disaster risk reduction, human health and cultural and spiritual benefits. The more important implication for protected and conserved areas may be the greater attention given to ecosystem services (Watson et al., 2014). The GBF mentions in Target 3 "*especially areas of particular importance for biodiversity and ecosystem functions and services*" and it will be incumbent on protected areas to show real benefits beyond biodiversity.

POORLY MANAGED NATURAL ECOSYSTEMS INCREASINGLY BECOMING CARBON EMITTERS

The first two changes were, broadly speaking, positive: not perfect but heading in the right direction. Unfortunately, the other two major changes are negative.

First, several ecosystems are shifting, or are in danger of shifting, from being net carbon sinks to carbon sources, primarily due to land management. For example, tropical forests are starting to act as a carbon source, under pressures from deforestation, forest degradation and the negative impacts of climate change itself (Zuidema et al., 2022). North American forests are becoming sources due to increasing wildfires, another feedback from climate change and land use change (Zhao et al., 2021). Even countries that had staked their climate strategies on forests are seeing a switch. Finland aims to be carbon neutral by 2035, with the forest industry as a major contributor, but in 2021 the nation's forests switched from being a sink to a source, following a gradual trend, due to a combination of slower growth, increased logging (still including old-growth forests) and increased soil carbon emissions (Natural Resources Institute of Finland, 2025).

Although grasslands store far less carbon per unit area than forests, their huge extent means they are a major global store, accounting for 25 –35 per cent of terrestrial carbon (Bai & Cotrufo, 2022). Currently at a global level grasslands are around neutral, with $CO2$ absorbed by natural grasslands offset by extra emissions from intensively managed grasslands and those established on forests and other ecosystems (Chang et al., 2021). However, if grasslands continue to be converted at the current rate, by 2050 it is estimated this will lead to 4.25 gigatonnes of emissions globally from the biome (Grassland Protection, 2020).

Peatlands cover about 400 million ha, with over 80 per cent in a natural state. Around 50 million ha have been drained for livestock, cropland, forestry, peat extraction and infrastructure. Peatlands worldwide store more carbon (approximately 600 gigatonnes) than any other ecosystem, although they are significant methane emitters (Scientific and Technical Review Panel of the Convention on Wetlands, 2021). It is estimated that greenhouse gas emissions from drained peatlands and peatland fires are responsible for about 4 per cent of global anthropogenic emissions. If emissions from drained peatlands continue unchanged until 2100, they may consume 12–41 per cent of the remaining emission budget required to keep global warming below +1.5 to +2 °C (ibid). Furthermore, drying and permafrost melt due to climate change could dramatically increase carbon emissions from peat (Mander et al., 2025). The transition of Arctic tundra from carbon sink to carbon source was documented in 2024 (Moon et al., 2024).

Finally, while oceans are currently a net carbon sink, this comes at a heavy cost in terms of ocean acidification, which is now considered a major threat to several ocean ecosystems including corals (Shi & Li, 2024). Furthermore, warming ocean temperatures are increasing atmospheric water vapour, itself a powerful greenhouse gas, creating a positive feedback loop and accelerating climate change (Dryden & Duncan, 2022).

This combination of new data and projections is doubly dangerous, both because of the real cost of the emissions and because it confuses perceptions of the role of natural ecosystems; if ecosystems are emitters, it becomes more difficult to argue for well-managed ecosystems as net sinks. Because many of the pressures that are causing the flip are themselves linked to climate change, turning ecosystems back into sinks again is challenging. But it also points to the importance of land use management to ensure resilient ecosystems. There are not only many technical and ecological issues to address, but an increasingly hard political lobbying process.

We know that well-managed ecosystems can change back from source to sink and that intact ecosystems are extremely important as a climate change mitigation strategy (Watson et al., 2018). In forests, carbon storage is currently increasing in temperate forests and regrowing tropical forests, especially when degraded forces are managed, while still declining in boreal forests and hitherto intact tropical forest areas, albeit these still retain enormous amounts of carbon (Pan et al., 2024). The roles of wildlife preservation and restoration in effective ecosystem management for carbon storage are increasingly documented (Rizzuto et al., 2024). For

Recovering herbivore populations in Serengeti, following elimination of rinderpest, switched the ecosystem from a source to a sink of carbon. © Equilibrium Research

example, eradication of rinderpest in the Serengeti ecosystem boosted wildebeest numbers, reducing the height of grass through grazing pressure and reducing fire incidence, turning the ecosystem from a source to a sink, absorbing several million tonnes of CO_2 annually (Holdo et al., 2009). The Convention on Wetlands is stressing options for rewetting peat to reverse carbon loss from drained areas (Scientific and Technical Review Panel of the Convention on Wetlands, 2021).

A BACKLASH AGAINST CONSERVATION

Perhaps most concerning of all, has been a dramatic shift in the reach and power of climate change deniers and their enablers within the fossil fuel industry, and their ability to turn around public policy. Most dramatic is the switch in the United States, where climate change has been virtually excised from the government, university researchers studying climate change are being defunded and activists are working clandestinely to save decades of government data that they believe will soon be deleted. The recent court ruling against Greenpeace in the United States, which was fined US$660 million for supporting Native Americans in their campaign against a pipeline across their lands in North Dakota, is widely seen as a weaponisation of the law to stifle dissent. Right-wing governments everywhere are ramping up pressure on climate change, abandoning net zero policies and attacking those who disagree. The fossil fuel industry, amongst others, is increasing pressure on environmental conventions. Fossil fuel lobbying is increasing and over 1,700 oil and gas lobbyists were granted access to the UNFCCC Conference of Parties in Baku, Azerbaijan (Noor, 2024).

The backlash takes two main forms: a stifling of debate and a retreat from commitments. Worldwide, companies are stepping back from previous, well-publicised commitments to climate action. For example, BP recently significantly shifted its attitudes to climate change, dropping its pledge to reduce oil and gas production by 40 per cent, reducing investment in renewables and increasing spending on fossil fuels, under pressure from investors (Ambrose, 2025). In the UK, more than half (56 per cent) of senior financial professionals believe their leadership will place less focus on environmental, social and governance (ESG) principles over the next five years (Welbourn, 2025). Companies are influenced by local conditions in making choices about climate change and the environment (Afzali et al., 2025). Many, under investor pressure to maximise profits, appear to be using a switch in government positions to renege on former promises, and there is no sign that this will change in the near future.

DISCUSSION: HOW SHOULD THOSE RESPONSIBLE FOR PROTECTED AND CONSERVED AREAS RESPOND?

The hope that a strong link to mitigation of and adaptation to climate change would give protected areas an enormous boost now seems naïve. But the opportunities are still there, although tempered with some obstacles. The failure of carbon markets to reach their potential is salutary, and protected areas themselves have come under sustained criticism from the perspective of human rights and equity over the last fifteen years. Anyone interested in conservation is operating in changed political conditions.

Nonetheless, most countries still seem committed to at least some aspects of the global conservation agenda. There are numerous ways in which conservationists can address recent changes (Dudley et al., 2025). Despite the efforts of a powerful lobby, most people think climate change is a problem; a recent study across 63 countries found 86 per cent of people think climate change is a problem and that humans are the cause (Vlasceanu et al., 2024) and that includes the large majority of people in the United States (Tyson et al., 2023). In addition to business as usual, we suggest there are six things that those involved in protected and conserved areas could be doing more effectively to push the agenda.

Engage better with other relevant conventions: most protected area advocacy takes place within the CBD. But the other initiatives outlined (see Table 1) all have significant influence. The UNFCCC and UNCCD could both be pivotal in changes that take place over the next few years but seldom engage with issues directly related to protected and conserved areas, in large part because they haven't received sustained interaction with protected area professionals.

Make the case – site by site: most people believe climate change is a problem and are worried about the effects, the proportion amongst people visiting protected and conserved areas is probably larger still. But research suggests they may not understand the causes (Zhang et al., 2023). Explaining carefully, accurately and factually about what a protected or conserved area is supplying in terms of mitigation and adaptation helps promote area-based conservation amongst civil society and boosts understanding about the opportunities for greater gains in the future. This could lead to better management of the site, ensuring the ecosystems within it do not turn into sources of GHG but rather remain important sinks.

Invest in the role of OECMs: the largest increase in reported area-based coverage in the next few years will probably be in OECMs. Depending on how this is done, impacts could either be positive or negative from the perspective of both biodiversity and climate mitigation. Many governments are actively looking for support as they struggle to understand and apply the concept. Written guidance is useful but not enough; professionals need to be engaging on the ground, working with governments at local and national level and with the communities involved to ensure that OECMs play a positive role in both climate mitigation and biodiversity conservation.

Support Indigenous peoples and local communities in bottom-up climate solutions: while politicians argue, communities experiencing climate change are adapting, sometimes taking major lifestyle decisions. Careful adjustments to location and management of protected and conserved areas can help, by protecting against weather extremes, providing emergency food supplies, securing water sources, etc. Such changes need to be driven by communities, which often means in turn changes to the way protected area agencies do business.

Work with climate scientists to maximise the gains from retention and restoration: protected and conserved areas are ideal laboratories for testing out innovative strategies on climate-related retention and restoration efforts, as is already being seen in peat conservation (Rowland et al., 2021). UNESCO Biosphere reserves, with their zones and sustainable development areas are ideal candidates for this, as are many Ramsar sites. An effective network to coordinate, collect and disseminate results could be a powerful legacy from the Decade on Ecosystem Restoration.

Select cross-political issues for particular attention: at a time of rising conflict, extra spending on defence and a reluctance to increase taxes, lobbying for the environment becomes harder. While it is important not to lose sight of the key messages, it is worth paying particular attention to issues that resonate at the time, like the massive subsidies paid to some of the richest fossil fuel companies and conversely the costs savings from natural solutions to climate change and the realisable health benefits of a cleaner environment. Land degradation may be a more effective way into debates with climate deniers than arguing about greenhouse gases.

So, in conclusion, protected and conserved areas are currently playing a key role in carbon dynamics and climate change adaptation and have a huge potential for an increasingly important role in the future. Proponents have a trickier role than they had in the past, but against that there are more policy options, more tools available and, despite the best efforts of climate deniers, more public awareness.

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RESUMEN

Les aires protégées et conservées aident déjà la société – et la planète – à atténuer les effets du changement climatique d'origine anthropique et à s'y adapter. Leur rôle essentiel a été souligné aux gouvernements lors de la réunion de Paris de 2015 de la Convention-cadre des Nations Unies sur les changements climatiques, alors qu'ils examinaient les défis croissants posés par l'évolution rapide du climat. Cependant, beaucoup de choses ont changé au cours de la dernière décennie, renforçant et fragilisant à la fois le rôle des aires protégées et conservées. Nous décrivons quatre développements récents et leurs implications : (i) l'émergence de plusieurs accords mondiaux qui soutiennent directement, ou pourraient soutenir, l'utilisation de la conservation par zone dans les stratégies de réponse au changement climatique (par exemple, le Cadre mondial de Kunming-Montréal pour la biodiversité, l'objectif de neutralité en matière de dégradation des terres de la Convention des Nations Unies sur la lutte contre la désertification (UNCCD), les contributions déterminées au niveau national de la CCNUCC et les objectifs de développement durable des Nations Unies) ; (ii) de nouveaux outils pour les approches par zone, notamment les autres mesures efficaces de conservation par zone (OECM) et les solutions fondées sur la nature (NbS); iii) À l'inverse, de nombreuses preuves montrent que les écosystèmes terrestres et marins, initialement puits de gaz à effet de serre, deviennent désormais sources de gaz à effet de serre en raison d'une mauvaise gestion et de leur dégradation ; et enfin, iv) on observe un déni croissant et important de la réalité du changement climatique d'origine humaine, de la part d'acteurs influents au sein des gouvernements et de l'industrie. Les implications pratiques de ces changements pour les politiques et les pratiques de conservation sont analysées.

RÉSUMÉ

Las áreas protegidas y conservadas desempeñan un papel fundamental en apoyar a la sociedad —y al planeta— a mitigar y adaptarse al cambio climático antropogénico. Este rol fue destacado ante los gobiernos en la reunión de la Convención Marco de las Naciones Unidas sobre el Cambio Climático celebrada en Paris en 2015. Sin embargo, en la última década han ocurrido transformaciones significativas que, simultáneamente, fortalecen y limitan el papel de las áreas protegidas y conservadas. En este artículo describimos cuatro avances recientes y sus implicaciones: (i) nuevos acuerdos mundiales que respaldan, o tienen el potencial de respaldar, el uso de estrategias de conservación como respuesta al cambio climático (por ejemplo, el Marco Mundial de Biodiversidad de Kunming-Montreal, el objetivo de Neutralidad en la Degradación de la Tierra de la Convención de las Naciones Unidas de Lucha contra la Desertificación (CNULD), las Contribuciones Determinadas a Nivel Nacional de la CMNUCC y los Objetivos de Desarrollo Sostenible de la ONU); (ii) nuevas herramientas para los enfoques basados en áreas de conservación, entre ellas las Otras Medidas Eficaces de Conservación Basadas en Áreas (OMEC) y Soluciones basadas en la Naturaleza (SbN); (iii) en contraste, la creciente evidencia de que los ecosistemas terrestres y marinos están pasando de ser sumideros de carbono, a fuentes de gases de efecto invernadero, debido a la mala gestión y la degradación; y, finalmente, (iv) el preocupante incremento de la negación del cambio climático antropogénico por parte de actores con influencia en ámbitos gubernamentales e industriales. Finalmente, se analizan las implicaciones prácticas de estos cambios para la formulación las políticas y prácticas de conservación.