

STATUS OF CORAL REEFS OF THE WORLD: 2025

**FROM SCIENCE TO ACTION:
SECURING THE FUTURE OF CORAL REEFS**

**SUMMARY FOR
POLICYMAKERS**



GLOBAL STATUS AND TRENDS OF CORAL REEFS

Coral reefs are among the world's most valuable natural assets. They are living infrastructure, supporting food security, livelihoods, coastal protection, economies, biodiversity, and cultural identity for close to one billion people.

Coral reefs are changing at an unprecedented rate across many regions. As ocean temperatures continue to climb due to climate change, alongside local environmental pressures, the window to safeguard these ecosystems is rapidly closing. This makes timely, evidence-based action more critical than ever.

The Global Coral Reef Monitoring Network (GCRMN)'s latest report, the "Status of Coral Reefs of the World: 2025" provides the most comprehensive assessment to date of the status and trends of coral reefs from 1980 to 2024 at global and regional scales. It examines patterns of change over time of hard coral and macroalgal cover (and turf algal cover where appropriate); highlights the key drivers shaping those trajectories; and documents how coral reefs are responding to pressures across regions. This report equips governments, reef managers, communities, and other stakeholders with the knowledge and evidence base needed to prioritise interventions, strengthen resilience, and direct resources where they can have the greatest impact.

Coral cover has declined over the last four decades

From 1980 to 2024, global hard coral cover, defined as the proportion of reef surface covered by living hard corals, has declined from an average of 30.2% (between 1980 and 2009) to 27.3% (2020-2024), a relative* decline of ~9.5%, primarily driven by climate change-induced heat stress. The trend shows abrupt declines, particularly after 2010, recovering only partially between global coral bleaching events, with no return to pre-decline levels. When such changes are detected on a global scale, they indicate systemic shifts in the overall condition of coral reefs across large spatial scales, which are more difficult to reverse. Globally, levels of hard coral cover sit at ~25.8% in 2024.

Climate-driven bleaching events are becoming more frequent and severe

Global marine heatwaves, and the global bleaching events they drive, have increased in frequency and severity. While coral bleaching is a natural phenomenon, climate change has transformed these events from episodic disturbances into a recurrent and escalating pressure on coral reef ecosystems. Global coral bleaching events are increasingly responsible for significant declines in hard coral cover (Fig 1).

CORAL REEFS IN NUMBERS

US \$9.9 trillion

in ecosystem services is provided by coral reefs each year (Costanza et al., 2014)

US \$36 billion

is generated annually by coral reef tourism and recreation worldwide (Spalding et al., 2017)

97%

of wave energy can be reduced by coral reefs, helping to protect coastlines from erosion and storm damage (Ferrario et al., 2014)

US \$109 billion

and 5.3 million people are protected from storm impacts by coral reefs each year (Burke & Spalding, 2022)

25%+

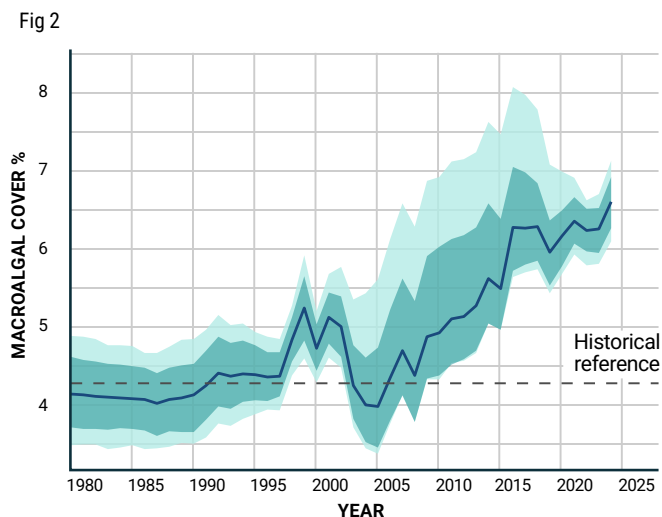
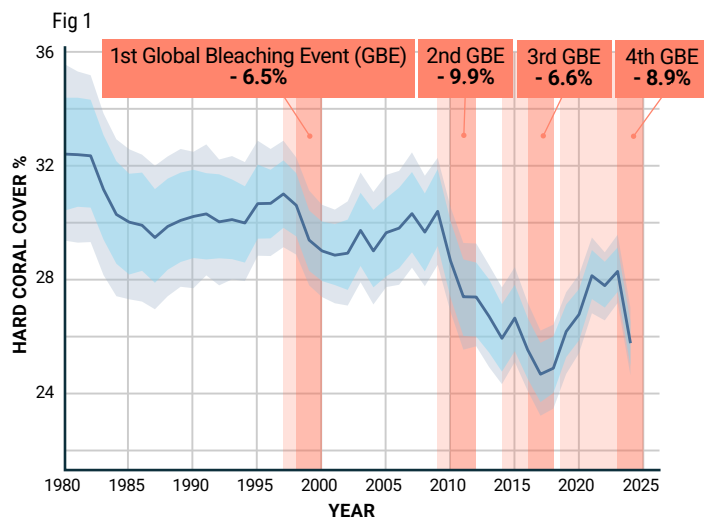
of marine species are supported by coral reefs, despite them covering less than 0.2% of the ocean floor (Reaka-Kudla, 1997)

Up to a billion people

depend on coral reefs for their livelihoods, food security and cultural identity (Sing Wong, Vrontos & Taylor, 2022)

Over the past four decades, global hard coral cover has decreased substantially. Each global bleaching event has caused significant losses. Recovery is possible, but the windows of opportunity between bleaching events are shrinking.





Recovery is possible, but the window for recovery between disturbances is narrowing

Following the third global bleaching event (2014-2017), global hard coral cover increased by a relative change of ~6% between 2017 and 2019, demonstrating the capacity for partial recovery when disturbance pressure is reduced. However, more frequent and intense disturbance events are shortening recovery periods and preventing many coral reefs from fully recovering before the next disturbance events, resulting in a stepwise decline in coral reef condition over time.

Climate-driven marine heatwaves are the dominant driver of global coral loss compounded by local stressors

Climate-driven marine heatwaves, caused by prolonged elevated sea surface temperatures, leading to global bleaching events, are the primary drivers of the observed global decline in hard coral cover. In addition, local human pressures, including overfishing, pollution, sedimentation, and coastal development, can reduce coral reef resilience, slow recovery, and increase vulnerability to future disturbances. With coastal populations living within 5 km of coral reefs increasing by 46% to around 104 million people between 2000 and 2020, pressures on coral reef ecosystems and dependence on the benefits they provide have both intensified.

Macroalgal cover remains relatively low globally

Macroalgal cover, widely used as a complementary indicator of coral reef condition, has steadily increased by a relative ~45% over the past four decades, particularly after the abrupt declines in global hard coral cover in 2010 (Fig 2). Nearshore coral reefs, exposed to ongoing pressures, are at risk of increasing macroalgal cover, which can disrupt the reef function and thus the ecosystem benefits they provide. At the global scale, macroalgal cover remains low at 6.8% in 2024 and does not signal irreversible changes to coral reef functioning.

The future of coral reefs is not uniform and remains within our influence

Coral cover trends in some regions have exhibited long-term stability or balanced cycles of loss and regrowth from 1980

to 2024. Conversely, other regions have experienced profound long-term degradation with critically diminished levels of coral cover, raising concerns about the potential implications for ecological function and the ecosystem services reefs provide. The heterogeneity in reef condition at the regional level is shaped by distinct pressures and environmental conditions, resulting in different trajectories in hard coral cover across all 10 GCRMN regions. Of the 10 regions assessed, four exhibit long-term declines in hard coral cover, four show no evidence of net change over the monitoring period, and two show increases relative to the reference period (Fig 3). This highlights both the urgency of the crisis and the opportunity for policymakers to influence outcomes for coral reefs and the communities that depend upon them.

As coral reef conditions and trajectories vary substantially between regions, due to differing environmental and human pressures, effective protection requires coordinated local, national and global action to reduce threats, support recovery and strengthen the resilience of reef-dependent communities.



THE VALUE OF SUSTAINED AND LONG-TERM MONITORING FOR CORAL REEF ECOSYSTEMS

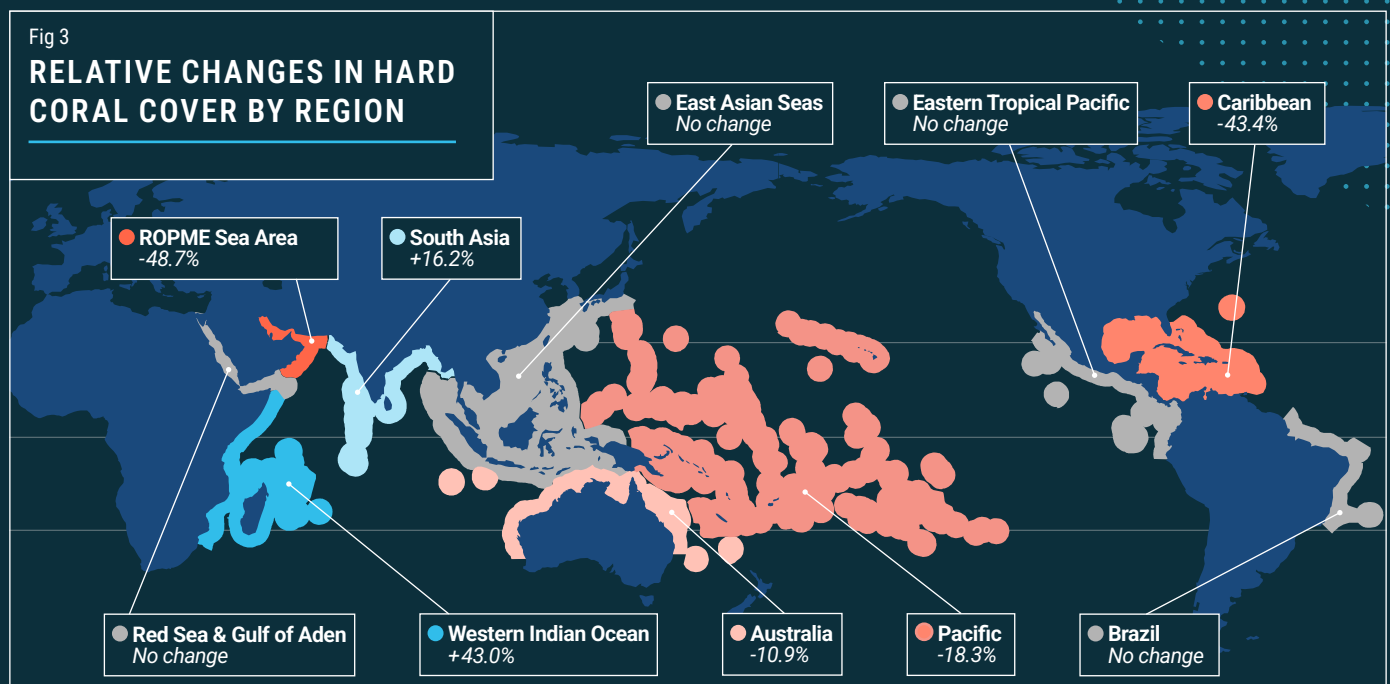
Long-term monitoring and early warning systems improve the ability of governments and managers to assign cause to consequence, anticipate impacts, respond to disturbances, and adapt management strategies over time.

Every major multilateral environmental agreement and international policy framework asks the same three things of its Parties: establish a baseline, track the trend, and report on progress. Yet persistent challenges remain in the availability, consistency and accessibility of monitoring data and key indicators such as hard coral cover. These data are often fragmented across institutions, ministries, agencies and monitoring programmes. Without a common evidence base, countries are unable to establish robust baselines, assess trends or consistently report on global targets. This lack of sufficient data also limits progress on whether conditions are improving, deteriorating, or if interventions are achieving their intended outcomes.

Long-term coral reef monitoring data are, to a substantial degree, the exception. The GCRMN was established in 1995

to bring the world's reef monitoring into a single, standardised evidence base on the status and trends of coral reef ecosystems for their conservation and management. This summary is based on the "Status of Coral Reefs of the World: 2025," the report's seventh edition. It is the most extensive assessment to date: 21.1 million observations, from 87,299 surveys, at 36,886 sites (Fig 4), contributed by 600 partners across more than 120 countries, territories, and economies.

The substantial evidence base presented in the 2025 report enables a robust assessment of long-term coral reef condition globally and underscores the value of sustained monitoring in supporting evidence-based policy and management. Long-term data sets provide the foundation for identifying enduring trends, attributing the drivers of coral decline, and evaluating the effectiveness of conservation and management actions.



ROBUST SCIENCE IS CRITICAL TO INFORM POLICY ACTION

Robust scientific research and monitoring are essential to detect change, improve understanding, and inform adaptive, evidence-based responses in a rapidly changing world. The science is clear: delayed action on climate change risks locking in irreversible losses, undermining ecological resilience, human well-being and the global policy ambitions designed to safeguard them.

Global action through the Paris Agreement to hold the increase in the global average temperature to well below 2°C above pre-industrial levels, and pursue efforts to limit the temperature increase to 1.5°C, is fundamental for the future of coral reefs. Whether coral reefs persist through this century will depend largely on the extent to which global warming is limited.

Moreover, as 16 of the 23 Kunming-Montreal Global Biodiversity Framework targets are considered highly relevant to coral reefs, no single intervention is sufficient. Evidence continues to show that reducing stressors, strengthening reef protection, implementing adaptive management, and investing in monitoring can improve resilience and recovery potential in the face of climate pressures. This report highlights that coral reefs differ in the pressures they face, in their capacity to recover, and how they are managed; and those differences are associated with markedly different outcomes over the past four decades. While these actions cannot eliminate the risks posed by marine heatwaves and climate change, they are consistently associated with improved coral reef condition and recovery. Despite these differences, a common conclusion emerges: Actions taken now can improve future outcomes for coral reefs, and the communities, economies, and biodiversity they sustain.

The urgency surrounding coral reef conservation and the need for increased monitoring and data has grown substantially over the past decade, driven by the international ambition to address the interconnected climate, biodiversity, and sustainable development crises. As coral reefs respond rapidly and measurably to environmental change, long-term monitoring provides critical evidence to understand emerging risks, assess progress, and inform policy decisions.

Monitoring and scientific assessments have played an increasingly important role in shaping international policy responses and strengthening calls for coordinated global action. The International Coral Reef Initiative's [Key Policy Asks for Coral Reefs: Accelerating the Decade of Action \(2025\)](#) outlines eight



interconnected pathways to not only halt further degradation but also build the foundation for long-term ecological health and socio-economic resilience. United Nations Environment Assembly Resolution 7/1, [Accelerating global actions to promote the climate resilience of coral reefs](#) strengthens commitments to enhancing reef resilience under accelerating climate impacts and calls for more integrated climate and biodiversity responses. Similarly, the International Union of Conservation for Nature World Conservation Congress Resolution [WCC-2025-Res-037](#) identifies the fourth global coral bleaching event as a critical warning and demands immediate action to mitigate climate impacts, enhance coral resilience and prevent catastrophic ecosystem collapse. Collectively, these developments reflect growing convergence of science, policy and international commitment around the actions needed to secure a future for coral reefs and the benefits they provide.

ADVANCING GLOBAL CORAL REEF MONITORING

The increasing frequency and intensity of marine heatwaves and global bleaching events further underscores the need for investment in coordinated and standardised assessment and reporting.

Standardised coral reef monitoring and reporting have significantly improved understanding of coral reef trends, but further expansion – especially in high-priority, vulnerable, or low-capacity regions, and across a broader set of indicators – would inform more effective conservation and management.

Sustained investment in capacity development and institutional support is crucial to maintaining effective monitoring and reporting systems, particularly for Least Developed Countries and Small Island Developing States. Indigenous Peoples, and Local Communities also play a vital role in coral reef conservation through stewardship, local knowledge, monitoring, and management. Strengthening opportunities for their participation in scientific data collection and monitoring programs can significantly enhance both the coverage and relevance of global coral reef monitoring efforts.

Hard coral cover alone does not fully represent coral reef condition. Even where coral cover appears stable, changes in coral assemblages, declines in fish biomass, biodiversity, and broader ecosystem function, can potentially reduce reef resilience, increasing risks to the ecosystem services on which communities depend. Strengthening integrated ecological and socio-economic monitoring is essential to better capture these changes on coral reefs and support effective decision-making. The GCRMN will continue to strive to advance the integration of such data in support of evidence-based management.

Achieving these priorities will require sustained investment in global monitoring capacity, particularly in under-sampled regions, and to support enduring national and regional contributions to the GCRMN. Improving data coverage, consistency, interoperability, analytical capacity, and long-term institutional arrangements will help ensure monitoring systems remain fit for purpose in a rapidly changing ocean.



EMERGING PRIORITIES

Against this backdrop and informed by the lessons learned from this report, several priorities emerge for strengthening global coral reef monitoring and reporting systems:

- 1 Increase** funding for coral reef monitoring, particularly in developing nations.
- 2 Expand** the temporal and spatial coverage of monitoring, especially in regions that represent a large proportion of coral reefs and remain understudied.
- 3 Guide** the standardisation of monitoring practices.
- 4 Improve** data discoverability (can people find the data they need?) and interoperability (can different datasets work together?) while recognising data ownership under the Findable, Accessible, Interoperable, and Reusable (FAIR) data principles.
- 5 Increase** the taxonomic resolution and diversity of indicators, aligned with the Essential Ocean Variables, to better understand changes in coral reefs beyond coral cover.
- 6 Integrate** ecological and socio-economic monitoring indicators to better support whole-system interpretation and decision-making.

CONCLUSION

Humanity's actions are the primary cause of the decline of coral reefs, yet humanity also has a powerful opportunity, through science, innovation and collective action, to support recovery and secure a more positive future for coral reefs.

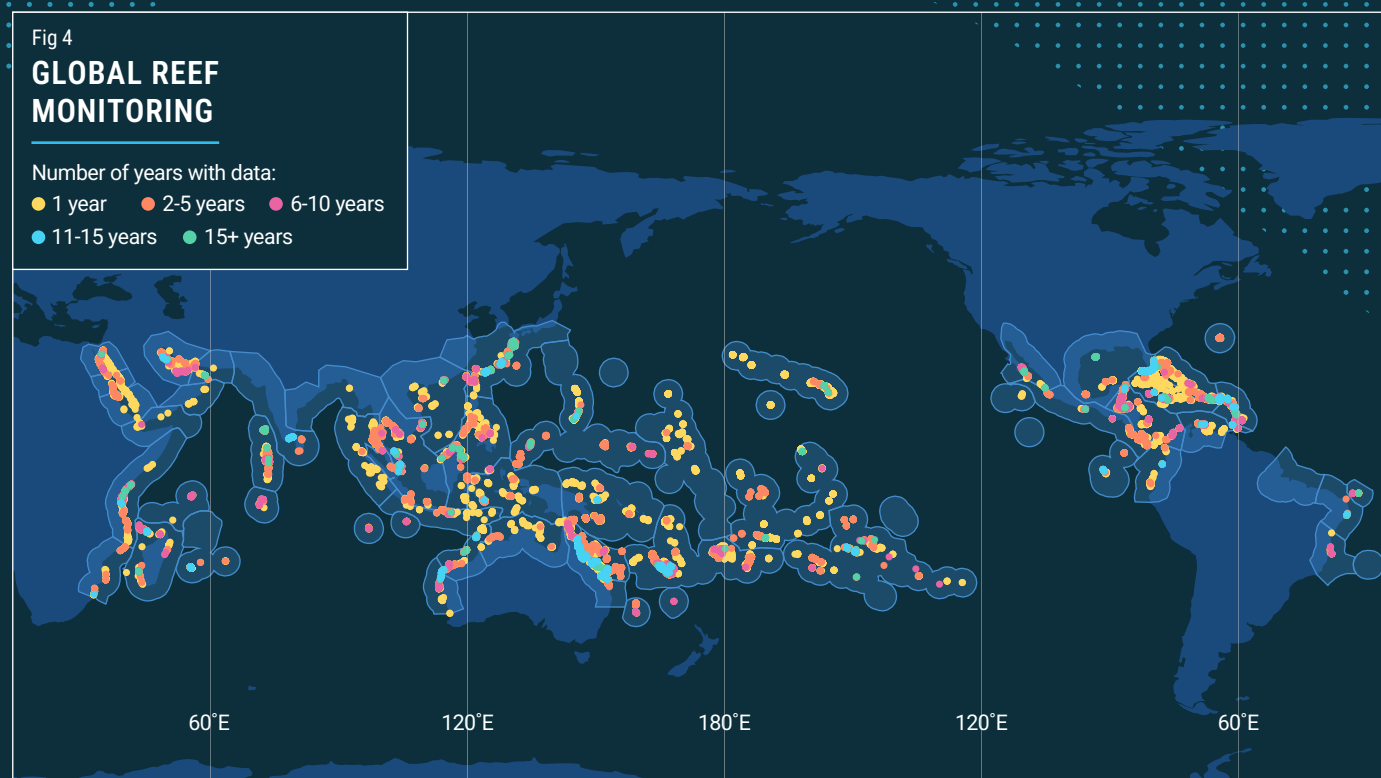
As coral reefs provide critical ecosystem services that support livelihoods, food security, coastal resilience, cultural heritage, and economic prosperity for up to one billion people, their conservation is fundamental to sustainable development.

This report equips governments, reef managers, communities, and other stakeholders with the evidence base needed to prioritise action, strengthen resilience, and target investments where they can deliver the greatest benefits for both coral reef ecosystems and the communities that depend upon them.

Science can identify the challenges, track progress, and guide solutions, but safeguarding coral reefs ultimately depends on the decisions, commitments, and actions taken at the global, regional and local policy levels.



Dr. Mahe Amer



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Securing the Future of Coral Reefs

Summary for Policymakers August 2026

The GCRMN Report Communications & Policy Taskforce is gratefully acknowledged for its contribution to the development of this Summary for Policymakers. As the first GCRMN Summary for Policymakers supported by a dedicated taskforce, it demonstrates the enduring commitment, expertise and collaborative spirit of the global coral reef community, and its shared dedication to informing policy and action through science.

This Summary for Policymakers synthesises key findings from the "GCRMN Status of Coral Reefs of the World 2025 Report", grounded in the best available scientific evidence and analysis. The conclusions and recommendations presented here should not be interpreted as an official policy, decision, or position of any government, institution, or organisation.



To read the full report, visit:
gcrmn.net/2025-report

Cover Image: Nick Thake



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