

OCEAN GEOGRAPHIC

ISSUE 75:01/2026

We have **CROSSED**
the **TIPPING POINT**
Coral Reefs Over the Edge

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The reef top at Bunaken Island, among the last frontier of pristine reef systems.
Photograph by Michael AW.

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EDITOR'S EPISTLE

In the corporate world, we talk about protecting “institutional memory”: the lessons, losses, and lived experiences that prevent a company from repeating mistakes.

In the natural world, ecological memory describes how past conditions leave traces in species, soils, and structures that shape how ecosystems respond to change today. In human communities, it also lives in elders who have seen the change, the photographs fading in someone’s dive album, and the murmured “I remember when...” passed from diver to diver like an heirloom. And we’re losing it faster than we realise. Because every new diver, every young conservationist, every bright-eyed visitor arrives into a world already diminished, and unknowingly baptises this diminished state as “normal”. This is the quiet danger of shifting baselines. A reef that once blazed with life becomes a polite whisper of itself, yet we still call it “vibrant”. A bay that once boiled with a myriad of fishes becomes a place where spotting a single school feels like abundance. A site once untouched except via five flights and a longboat, now hums with the growl of 20 speedboats is still considered “remote”. When our memory shrinks, so does our ambition. When our ambition shrinks, so does our ocean.

I think back to my own beginning. Tioman, 1999. My first taste of the underwater world. Like so many new divers, I did my Open Water there. I remember being breathless with wonder, hooked instantly, convinced I had discovered something sacred. Then came the older divers: “You should have seen it 30 years ago. This place was teeming with life.” Their words struck me like a tide pulling back the curtain. If my “wow” was already a diluted version of their “wow”, what had vanished between their first dive and mine? And what does it say about what a 2025 diver that thinks is “amazing” today?

This is how ecological amnesia happens: through the inheritance of shifting baselines silently passed from generation to generation. And the ocean pays for our amnesia. When we lose the ability to remember what *healthy* looked like, we unintentionally lower the bar for what “good” looks like today.

But *someone* always remembers. Indigenous communities remember—their stories stretching back generations. Fisherfolk remember—noticing when fish shrink, when monsoons behave strangely, when the water feels “wrong”. Field scientists remember—returning to the same sites year after year, carrying a mental map of changes invisible to newcomers. Storytellers, photographers, filmmakers remember—freezing time into images that testify to both splendour and loss. Images, film, books, dive logs, are where ecological memory resides when human recollection falters.

Even in conservation, memory is becoming endangered. New practitioners arrive, inspired and hopeful, and marvel at places older scientists quietly mourn. Funders look at today’s “improving metrics”, unaware those numbers sit atop decades of decline. Policymakers celebrate “recovery” without realising that the starting line has moved so far back, it’s hardly the same race. If we measure success only against the present, we risk anchoring ourselves to a baseline already compromised and accept mediocrity as miracle.

So how do we protect memory? We honour those who hold it. We document relentlessly. We listen to communities and long-time custodians. We remind new divers, new scientists, new policymakers that what they see today is a chapter, not the opening scene. And perhaps most importantly, we resist the seduction of “still beautiful” as a substitute for “still healthy”.

Yes, our ocean is still breathtaking and extraordinary compared to much of the world. But it will not stay extraordinary if we forget what extraordinary used to mean. Ecological memory is not nostalgia. It is the compass that keeps us from drifting into complacency. Lose it, and we drift. Protect it, and we can still chart a course toward restoration.

Evonne Fouesnant-Ong
Chief Editor

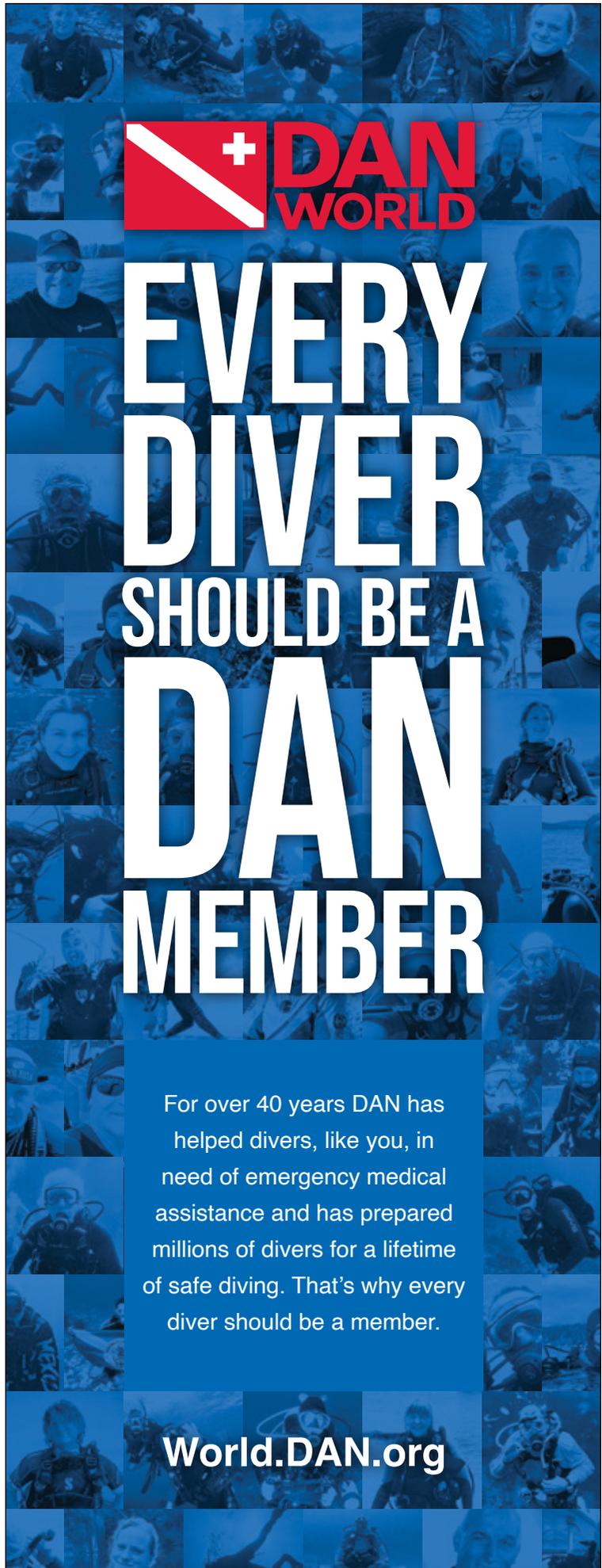
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MICHAEL AW PUBLISHER AND BOARD MEMBER

Michael AW is a wildlife photographer, explorer and conservationist. His accolades include winning more than 65 international awards and being named one of the world's most influential nature photographers by Outdoor Photography. He is the first Asian to have won four awards at NHM Wildlife Photographer of the Year competition, of which he was the winner of the underwater category in 2006 and 2015. In 2013 he was awarded the NOGI for Arts by the American Academy of Underwater Arts and Science. His essays and pictures have been featured in BBC Wildlife, National Geographic, the Smithsonian, Nature, Ocean Geographic, Times, and Nature Focus, to name a few. Michael has authored 56 books. He is also the founder of Asian Geographic and Ocean Geographic.



SYLVIA EARLE PhD CHAIR OF EDITORIAL BOARD

Dr Sylvia Earle is Explorer in Residence at the National Geographic Society, Founder of Mission Blue, Founder of Deep Ocean Exploration and Research Inc. (DOER), and former Chief Scientist of NOAA. Author of more than 200 publications, and leader of more than 100 expeditions with over 7,000 hours underwater; she is recipient of more than 100 national and international honors and award including Time Magazine's first Hero of the Planet, a Living Legend by the Library of Congress, 2014, UNEP Champion of the Earth, Glamour Magazine's 2014 Woman of the Year, and winner of 2009 TED Prize, the 1996 Explorer Club Medal, the Royal Geographic Society 2011 Patron's Medal and the National Geographic 2013 Hubbard Medal. Sylvia still currently holds the record for a solo dive to an astonishing depth of 1,005 metres into the deep sea. She was the chief scientist for the 2015 OG Elysium Arctic expedition.



CARDEN WALLACE PhD HONORARY EDITOR & BOARD MEMBER

Carden's research has focused on biogeography and biodiversity, particularly on corals and tropical biota. Her current interests are directed towards other tropical countries, especially Indonesia. She feels strongly that scientists should give back all they possibly can, in communicating and applying the results of their work. With her appointment in 1987 as Curator in Charge, Carden Wallace became the first woman to head the Museum of Tropical Queensland in Townsville. Among the high points in her career was the POL Prize for Environmental Research, awarded in 1992 to Carden along with four other scientists from James Cook University for their exciting discovery of mass annual spawning on the Great Barrier Reef by over a hundred species of coral. This dramatic example of sexual synchronization is unique among animals, and its discovery by the team in 1984 attracted immediate scientific and media attention around the world. Carden is a board member of OceanNEnvironment.



DAVID DOUBILET HONORARY EDITOR

David is the world's most celebrated underwater photographer with over fifty stories published in National Geographic. David challenges himself to redefine photographic boundaries each time he enters the water. His passion is the undersea majesty of light and how to capture it. Completely at home on a coral reef, a World War II wreck, a deep dark fjord or among the great giants in our sea, David has relentlessly pursued the many hidden layers of coral reefs around the globe. His cold water work has immersed him in the rich waters of New Zealand, Tasmania, Scotland, Japan, the Northwest Atlantic and Northeast Pacific. Recent photographic journeys have taken him into some of the largest freshwater systems on our planet such as the great Okavango Delta system in Botswana and the St. Lawrence River.



JENNIFER HAYES HONORARY EDITOR

Jen is an aquatic ecologist who has collected a couple of graduate degrees in zoology, marine and fisheries biology. She came into underwater journalism (photography and writing) out of sheer necessity to enliven dull scientific presentations and publications. To put it simply, strong images of ancient sturgeons spawning, hatching, migrating are infinitely more captivating to an audience than bar graphs and pie charts. Photography and science lead to natural history articles and then into popular journalism. Jen formed a partnership with David Doubilet in 1999 and co-founded the stock photo company, Undersea Images Inc. Jen and David co-photograph and write for assignment features for numerous domestic and international publications, ad shoots and book projects.



DOUG PERRINE HONORARY EDITOR

Doug is widely regarded as one of the world's foremost marine wildlife photographers. His photographs have been reproduced in virtually every major nature magazine in the world, as well as in thousands of books, calendars, greeting cards, posters, etc. His photography has won a number of awards, including the prestigious BBC/ British Gas Wildlife Photographer of the Year competition in the animal behaviour category and the Nature's Best/ Cemex competition in the Professional Marine Wildlife category. He is also the author of seven books on marine life, and numerous magazine articles.



GERALD ALLEN PhD HONORARY EDITOR

Gerald is an internationally renowned authority on the classification and ecology of coral reef fishes of the Indian and Pacific Oceans. He is the author of 31 books and 400 scientific publications. He has an intimate knowledge of fish life on coral reefs, having logged more than 7,000 dives. Field studies form an integral part of Dr. Allen's research, probably more so than any other marine biologist. He received a Ph.D. in marine zoology from the University of Hawaii in 1971, having done his thesis on anemonefishes. He served as Curator of Fishes at the Western Australian Museum in Perth for 24 years before leaving to take a position with Conservation International as their Science Team Leader. He is a past President of the Australian Society for Fish Biology, an honorary foreign member of the American Society of Ichthyology and Herpetology, and a recent recipient of the prestigious K. Radway Allen Award for Outstanding Contributions in Ichthyological Science.



BRIAN SKERRY HONORARY EDITOR

Brian Skerry is a photojournalist specializing in marine wildlife and underwater environments. Since 1998 he has been a contract photographer for National Geographic, covering a wide range of subjects and stories. In 2014, he was one of five photographers named as a National Geographic Photography Fellow. In 2015, he was named a Nikon Ambassador and in June 2017 he was awarded the title of Rolex National Geographic Explorer of the Year. Brian is an 11-time award winner in the prestigious Wildlife Photographer of the Year competition. In 2019 he was recently honored with the NOGI Award for Arts. He is the only photographer to win the coveted Peter Benchley Award for Excellence in Media.



HOWARD AND MICHELE HALL HONORARY EDITORS

Howard and Michele are perhaps best known for their underwater IMAX films - Into the Deep 1994, Island of the Sharks 1998 and Coral Reef Adventure 2002. In 2005 they directed and produced Deep Sea 3D which was awarded Best Picture at the Giant Screen Cinema Association Conference and Best Large Format Film at Wildscreen 2006. In 2009 the Hall's released Under the Sea 3D which won best cinematography at the Giant Screen Cinema Association Conference in 2009 and Best Documentary at the International 3D Society in 2010. Howard's career as an underwater natural history film producer, cinematographer, still photographer and writer began in the early 1970's. His photographs have been published internationally in hundreds of books and magazines including: Life, Natural History Magazine, National Geographic, GEO, Terre Sauvage, London Illustrated News, and BBC Wildlife. Howard has authored several books including Sharks, Dolphins, The Kelp Forest, Successful Underwater Photography, and Secrets of the Ocean Realm. Michele Hall is an accomplished still photographer whose images have been published by National Geographic, National Wildlife, Ocean Realm, and many other magazines and books. Howard and Michele have won seven Emmy Awards.



ALEXANDER MUSTARD PhD, MPOG HONORARY EDITOR

Alexander Mustard worked as a marine biologist but now works as professional underwater photographer and educator. His photographs are widely published in magazines and newspapers and have also won many awards including being a multiple winner in both the BBC Wildlife Photographer of the Year and World Festival of Underwater Photography. Alex was an early adopter of digital cameras and has pioneered several digital underwater photography techniques.



CABELL DAVIS PhD OCEANOGRAPHIC IN RESIDENCE

Cabell is a Senior Scientist at Woods Hole Oceanographic Institution and is the Director of WHOI's Ocean Life Institute with over 30 years' experience in plankton ecology. He has conducted research on 50 oceanographic cruises and co-developed the Video Plankton Recorder, an underwater video microscope with automatic imaging of high-resolution fragile plankton data. He recently worked with MIT engineers to develop a small underwater digital holographic camera for imaging plankton. He is now modelling the impact of climate change on the fisheries ecosystem.



EVONNE FOUESNANT-ONG CHIEF EDITOR

Evonne is a polymath who can be described in 3 words: dancing, diving and drugs. Drugs are her profession; dancing and diving, her passions. As Chief Editor, she has been an integral part of OG projects and campaigns, written articles for the magazine as well as newspapers, and has been emcee, speaker, moderator and judge in several international underwater festivals and photography competitions. A pharmacist trained in Applied Positive Psychology and coaching, Evonne has her own training consultancy specialising in training and coaching for healthcare, pharmaceutical and medical device industries across Asia-Pacific. She also teaches 'ori tahiti and mermaiding in her spare time.

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DR WILLIAM M. HAMNER AND PEGGY P. HAMNER M.S. HONORARY ADVISOR & EDITORS

Bill and Peggy specialise in the behaviour of oceanic animals, emphasizing in situ observations at sea. Their primary interest is in the distributions, abundances and interactions of pelagic marine organisms. The open sea is a vast three-dimensional environment, seemingly homogeneous and thinly populated when compared to benthic or terrestrial habitats, yet pelagic animals everywhere routinely occur in local aggregations at densities that exceed by far the population sizes estimated by traditional oceanographic techniques. Because most of the interesting events in the sea occur within or near these aggregations, one must focus attention on the causes for their formation and the subsequent dynamics of the organisms therein. Their research focuses on both physical and behavioural factors that generate and maintain these aggregations. Their work also focusses on the ecological role of behaviour in plankton and in fishes in the open ocean using SCUBA in the upper ocean and via submersibles and remotely operated vehicles (ROVs) in the deep sea. They have conducted behavioural studies in the Antarctic, the Gulf of California, the Caribbean, and the Pacific. In situ their research is supplemented with laboratory studies of planktonic animals and fishes maintained in specially designed aquariums.



EMMA CAMP PHD HONORARY ADVISOR & EDITOR

Dr Emma Camp is a marine biologist and the Team Leader of the Future Reefs Team at the University of Technology Sydney. Her research ranges from organism-scale molecular signatures to broad-scale ecological interactions and specializes in advancing technical solutions to support innovative scientific capacity to help preserve and rebuild "healthy reefs". In 2018, Emma co-founded the Coral Nurture Program, a science-tourism partnership to repopulate corals on the Great Barrier Reef. Since 2013, Emma has received or been shortlisted for over 30 awards, including the 2023 WINGS Women in Discovery Award, the 2021 Macquarie University Eureka Prize for Outstanding Early Career Researcher and in 2020 was named a Next Generation Leader by Time Magazine (2020). Emma researches and advocates for the world's marine life under threat from environmental and climate change.



DR ALICE SOCCODATO HONORARY ADVISOR & EDITOR

Dr Soccodato is a biologist and oceanographer with more than 16 years of experience in research development, technology, logistics, coordination and management of international projects related to marine resources for international institutes and organisations, private companies and NGOs. Advanced technologies applied range from genomics to satellite remote sensing to global ocean models. Her research interests are broadly focused on biodiversity exploration and conservation, biophysical interactions and ecological processes in the marine realm, with specific attention to threatened or commercially important species and fragile habitats to improve conservation efforts. She has a deep passion for exploration to find beauty in nature and art. She dreams about a more respectful, balanced and fulfilling relationship between nature and human beings.



TOH TAI CHONG PHD HONORARY ADVISOR & EDITOR

Toh Tai Chong PhD is a marine biologist and he currently lectures in the National University of Singapore. For the past ten years, he has partnered local communities in Southeast Asia to conserve coral reefs and to develop reef restoration techniques. As an educator, he collaborates with a multidisciplinary team to teach topics related to sustainability and conservation. Outside of work, he is the co-founder of Our Singapore Reefs and works closely with private and public sectors to reduce the impacts of marine debris. As an active member of the community, he supports NGOs including Global Coral Reef Monitoring Network, UN IOC WESTPAC, Singapore National Academy of Sciences, Singapore Institute of Biology, and Our Blue Spaces.



KOJI NAKAMURA HONORARY ADVISOR & EDITOR

Koji is the founder of JAPAN UNDERWATER FILMS CO., LTD, established in 1978. Since 1975 he has been active as an underwater cameraman of both still photography and cinematography. He has documented a great variety of aquatic animal stories on film for over 100 TV documentaries. Nakamura's main work includes underwater filming for human documentaries, motion pictures and commercial films. He has filmed dynamic underwater nature worldwide, in Canada, the United States, Spain, France, Norway, Turkey, Israel, Madagascar, Tahiti, Japan, etc. His camera eye explores the unknown underwater world, capturing the ecology of marine mammals and fishes, and especially, impressive breeding behaviours. From 1996 to 2008 he worked for the art exhibition "Ashes and Snow" by Gregory Colbert as an underwater still photographer and cinematographer. 1992 Nakamura's "Swimming Elephant" was awarded the All Japan Radio & Television Commercial Confederation Award. In 2013 Koji was part of the judging panel for the prestigious Wildlife Photographer of the Year competition at the UK Natural History Museum.

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CORAL REEFS OVER THE EDGE: A TIPPING POINT CROSSED

Report & Photographs by **Michael AW**

THE UNIMAGINABLE HAS ARRIVED. Scientists warn that even if humanity miraculously stabilises the climate at 1.5°C, the probability of widespread coral reef loss exceeds 99%. This is not hyperbole. It is the cold arithmetic of physics and biology colliding.

The 2025 Global Tipping Points Report, compiled by over 160 scientists from 23 countries under the University of Exeter's Global Systems Institute, confirms that **coral reefs have crossed a critical thermal tipping point due to global heating**, leading to irreversible setback. This marks the first major Earth system to cross such a threshold, with the central estimate of the reef system's tipping point at 1.2°C of global warming already exceeded, as global temperatures have reached approximately 1.4°C above pre-industrial levels. With global temperatures now hovering near 1.4°C, the moment we once feared is no longer theoretical. WE HAVE CROSSED THE TIPPING POINT.



CORAL REEFS ARE THE FIRST MAJOR EARTH SYSTEM TO COLLAPSE UNDER HUMAN-DRIVEN CLIMATE CHANGE.

This declaration marks the first confirmed collapse of a major Earth system due to anthropogenic climate change. Coral reefs—cradles of marine biodiversity, engines of coastal protection, and lifelines for half a billion people—have entered a new climatic reality from which natural recovery is no longer assured.

THIS DECLARATION IS NOT MERELY A SCIENTIFIC MILESTONE, IT IS A PLANETARY ALARM BELL. A planetary bleaching event without precedent. The ongoing 2023–2025 global coral bleaching—the fourth and unquestionably the most extensive

event ever recorded, has struck 84% of coral reefs worldwide.

From the Great Barrier Reef to the Red Sea, from the Caribbean to the sprawling Indo-Pacific archipelagos, vibrant underwater metropolises have turned ghostly pale. The once-resilient architects of the tropics now lie weakened, skeletal, or dead.

Thermal stress events that once arrived once a generation now strike every two to three years, leaving corals no time to recover. The stabilising nature of the ocean—our oldest climate buffer—is eroding in real time.

Compounding this are the pressures of acidification, pollution, sedimentation, unsustainable fisheries, and reckless coastal development. The combined force is a spiral that pushes coral ecosystems beyond their physiological and ecological limits. This is not seasonal bleaching. This is systemic unravelling. A collapse measured not in isolated tragedies, but on a planetary scale, ecological withdrawal.

The collapse of coral reefs is not an isolated tragedy, as coral reefs are foundational to planetary health:

- They support roughly 25% of marine life despite covering less than 1% of the ocean floor.
- They buffer coastlines from cyclones and surges, reducing storm damage by up to 97%.
- They sustain fisheries that feed hundreds of millions, especially in the tropics.
- Coral Reefs underpin tourism industries worth over US\$30 billion annually.

THE TIPPING POINT HAS PASSED. THE FUTURE IS OURS TO WRITE.

Their collapse threatens coastal defences, food security, biodiversity, and the stability of entire oceanic systems. Scientists warn of cascading climate feedback loops: weakened carbon sinks, declining ocean productivity, and further destabilisation of global climate patterns. The unravelling of coral reefs is beyond a regional crisis. It is a planetary destabilisation event.

“IRREVERSIBLE,” HOWEVER, DOES NOT MEAN HOPELESS. What is irreversible is the loss of coral reefs as we know—complex, colourful, high-diversity systems dominating shallow tropical waters. But parts of these ecosystems may persist, adapt, or transform under lower warming scenarios if humanity reacts with urgency and unity.

To preserve remnants of these underwater worlds and the coastal communities that depend on them, we must redefine our understanding of conservation strategy and scale.

The Imperative: What We Must Do Now. The report delivers a stark truth: local conservation alone is no longer enough. Marine parks, no-take zones, and restoration projects remain essential, but they cannot outpace the accelerating heat of our oceans.

To protect what remains of the world’s reefs and avoid triggering further Earth-system tipping points, the global community must:

- 1. Slash Global Emissions Immediately.** Rapid, aggressive reduction of greenhouse gases this decade is the only pathway to lower ocean temperatures and restore coral survival thresholds. Every year of delay locks in deeper loss.
- 2. Fund Large-Scale Global Reef Adaptation.** Investment must surge into reseeded, assisted evolution, selective breeding, marine cloud brightening trials, and high-resolution early-warning systems. Science must move with the urgency of a world on fire.

- 3. Eliminate Local Stressors.** Improve water quality, regulate coastal development, curb nutrient pollution, end destructive fishing, and expand marine protected areas. Local action remains our frontline defence for resilience.
- 4. Support Reef-Dependent Communities.** Millions of people, from small-island nations to coastal megacities, depend on reef systems for food, income, culture, and protection. Adaptation and transition plans are essential for their survival.
- 5. Elevate Coral Reefs Issue at All Climate Summits.** The collapse of coral reefs must be recognised as an Earth-system emergency and treated as a barometer of global climate health. Their survival is inseparable from humanity’s.

FINAL FRONTIER OF HOPE

The world’s coral reefs are collapsing. That is the stark, plain truth. But the story does not end here.

What remains of our coral ecosystems, the last bastions of colour, complexity, and life, depends entirely on what we choose in the next five years. Our actions will determine whether surviving reefs remain living sanctuaries of biodiversity or drift into the realm of memory.

Coral reefs have endured asteroid impacts, ice ages, and mass extinctions over 240 million years. Their fate in the Anthropocene rests not in nature’s resilience, but our hands.

WE HAVE CROSSED THE TIPPING POINT, BUT WHAT REMAINS AHEAD IS OURS TO SHAPE.



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ANIMA HAI 海魂

Bearing Witness to the Last Living Reefs *An Ocean Geographic Legacy Project*



The world's coral reefs have crossed a threshold from which there may be no return. More than half are already gone. The rest are standing at the frontline of climate change with bleaching, acidification, deoxygenation and relentless human pressure pushing these ancient ecosystems beyond their limits. Even if humanity miraculously stabilises the climate at 1.5 °C, the probability of widespread coral reef loss exceeds 99% by 2055.

What will remain of our coral reefs in 2027? In corners of the Indian and Pacific Oceans, there are still reefs that pulse and shimmer with life. Reefs that hold stories of resilience. Reefs that must be documented now.

ANIMA HAI 海魂 – The Remains of Our World: Coral Reefs, is Ocean Geographic's most ambitious global initiative to date: a landmark art-science project led by **Michael AW**, with principal scientists **Dr. Sylvia Earle**, **Dr. Carden Wallace AM** and **Dr. Emma Camp**, to create a visual and scientific time capsule of Earth's remaining coral heritage.





From **2027**, carefully curated expeditions will sail to **SOME OF THE PLANET’S MOST SIGNIFICANT REEF** systems. These are not conventional dive trips. These are **WITNESS MISSIONS** where photographers, filmmakers, scientists, storytellers and committed ocean advocates work side-by-side to document reefs before they are lost forever.

Four Flagship Expeditions. Very Limited Places.

Ocean Geographic is now inviting **applications** from experienced underwater photographers, filmmakers, storytellers, naturalists, scientists and committed ocean advocates to join **four ANIMA HAI principal expeditions** in 2027. Each voyage is hosted aboard world-class expedition vessels and guided by Ocean Geographic’s leadership.



“Coral reefs are the crowns of our ocean – the living jewels of Earth’s blue heart. To protect them is to protect our own legacy.”

— Michael AW

Southern Maldives – MY Duke of York

March 2027

The southern atolls of the Maldives remain one of the Indian Ocean’s last strongholds of healthy coral meadows. Here, vibrant reefs coexist with sharks, rays and large pelagic life, while also revealing the fragile dependency between reef health and tourism.

Focus:

- Remaining healthy coral meadows
- Sharks, rays and pelagic ecosystems
- Human reliance on reefs in a warming ocean

This expedition will explore what resilience looks like, and how quickly it could be lost.

*snorkellers & scuba divers

Cenderawasih Bay & Raja Ampat – MV Gaia Love

20 – 31 August 2027

From the gentle giants of **Cenderawasih Bay’s whale sharks** to the unrivalled biodiversity of **Raja Ampat**, this expedition enters the beating heart of the Coral Triangle—the global epicentre of marine life.

Focus:

- Biodiversity hotspots
- Endemic species and whale sharks
- Community stewardship and traditional guardianship

Few places on Earth offer such abundance — and such urgency to protect it.

*snorkellers & scuba divers

Participants are not tourists. They become CLIMATE AVENGERS AND CONTRIBUTE TO A HISTORIC RECORD — A LEGACY FOR SCIENCE, POLICY, ART AND FUTURE GENERATIONS.

Every ANIMA HAI expedition contributes to:

- A **Collector’s Edition Book**
- A **global travelling exhibition series (2029–2031)**
- A **geo-referenced digital archive**, to be revisited in **2051** when the same reefs will be re-documented to reveal humanity’s choices in the climate era

Halmahera & Morotai to Raja Ampat – MY Damai II

9 – 20 December 2027

Halmahera and Morotai represent reefs under increasing development pressure, yet still harbour extraordinary coral meadows and signs of resilience.

Focus:

- Reef resilience under development pressure
- Remaining healthy coral systems
- Early-warning signals of decline or adaptation

This expedition captures reefs at a crossroads, balanced between survival and loss.

*snorkellers & scuba divers

Who Should Apply

Ocean Geographic welcomes applications from:

- Experienced underwater photographers and filmmakers
- Marine scientists and conservation practitioners
- Storytellers, writers and visual artists with strong ocean credentials
- Dedicated ocean advocates aligned with conservation ethics

Spots are extremely limited on each expedition. Selection is based on experience, portfolio, conservation ethos and the ability to contribute meaningfully to the **ANIMA HAI legacy**.

A Call to Bear Witness

We stand at a tipping point. What remains of the world’s coral reefs over the next two decades will define not only the ocean’s future, but our own.

ANIMA HAI 海魂 is an invitation to those who are ready to bear witness, to document with integrity, and to help ensure that when the future looks back, there is still colour, life and hope beneath the waves.

Applications are now open.

Email expeditions@OGSociety.org to apply.

Spots are strictly limited.

Apply NOW. THIS IS YOUR LEGACY



Southern Red Sea – MY Argo Explorer

29 July – 5 August 2027

The Southern Red Sea is one of the planet's most important **thermal refugia**, home to corals with extraordinary heat tolerance and unique genetic traits. These reefs may hold vital clues for the future of coral survival.

Focus:

- Heat-resilient coral systems
- Unique coral genetics
- Climate refugia under accelerating stress

Access is extremely limited. This is one of the most scientifically significant reef regions on Earth.



Expedition Highlights – Solar eclipse of August 2, 2027, the “Eclipse of the Century,” is a total solar eclipse occurring at magnitude of 1.079, is the longest total solar eclipse on land in the 21st century, with a maximum duration of 6 minutes and 23 seconds.

*scuba divers only

WHAT WILL HAPPEN WHEN THE SUN DISAPPEARS?

On **2 August 2027**, daylight will vanish for **6 minutes and 23 seconds**—the longest total solar eclipse on land in this century. This is an event so rare, it has already been named **the Eclipse of the Century**, with a staggering **magnitude of 1.079**.

But while millions look upward, something far more mysterious may be unfolding **below the surface**.

On coral reefs, life is governed by light. By the Sun's rhythm. By cues older than

humanity itself. When darkness falls at noon, **what do reef animals believe is happening?**

Do corals mistake night for day, or day for night?

Do plankton rise, triggering a false twilight migration?

Do predators stir, sensing dusk where none should exist?

Do spawning clocks falter or accelerate?

For a brief, impossible window, therein the Red Sea may experience a **temporal illusion**—a sudden, alien night in the middle of the day. A stress test written in shadow.

Scientists know eclipses can alter bird flight, insect song, even mammal behaviour. But **what happens on a**

coral reef, an ecosystem ruled by light, when the Sun disappears?

No one truly knows. And in a climate era where reefs are already living on the edge, even a few minutes of darkness could reveal hidden thresholds, or extraordinary resilience.

During **ANIMA HAI 海魂**, Ocean Geographic will be there to witness, to document, and to listen as the ocean holds its breath under a darkened sky. Because sometimes, the most profound truths about life on Earth are revealed **when light disappears**.

AUGUST 2, 2027: LOOK UP, BUT ALSO LOOK DOWN.



WH MOK WINS INAUGURAL OGPICOTY BLUE MIND AWARD AT EARTH IN FOCUS FESTIVAL 2025

Photographs by **WH Mok**
Category Sponsor **Bunaken Oasis Dive Resort**

At the 2025 *Earth in Focus Nature Film Festival* in Singapore, WH Mok was announced as the first-ever winner of the Ocean Geographic Pictures of the Year (OGPICOTY) *Blue Mind: Dr Wallace J. Nichols Award of Excellence*.

Mok's award-winning portfolio—a hauntingly poetic series of in-camera double-exposure portraits of his wife and infant daughter merged with the vivid textures of coral gardens and reef fish—encapsulates the soul of the *Blue Mind* philosophy: that water calms, heals, and connects us all.

The *Blue Mind* category, inspired by Dr Wallace J. Nichols' acclaimed work on the neuropsychology of water and well-being, challenges photographers to express the emotional and cognitive power of the ocean. Mok's winning series does precisely that—melding family and reef in one breath, evoking serenity and belonging.

In recognition, Mok receives the Blue Mind Award of Excellence and a luxury dive retreat at Bunaken Oasis Dive Resort in North Sulawesi, Indonesia—a sanctuary perfectly aligned with the tranquil theme of the award. He also joins the rare ranks of officially designated Ocean Geographic Photographers (OGP), alongside Jørgen Rasmussen, Renée Capozzola, Mathieu Meur, and Nur Tucker.



Interview with the Winner - WH Mok with Michael AW

AW: Tell us, how do you interpret the *Blue Mind* category in your mind?

MOK: Firstly, based on my understanding of *Blue Mind*, it's reaching out to the element of water and how water can give a person a state of mind that is pleasant, calm, and peaceful. I looked at my portfolio and asked myself, which pictures give me peace just looking at them? These three images are quite special to me. They are all shot with in-camera double exposure. At that time, my thinking was to marry two things I love: one is the ocean, and the other is my family. When I look at these pictures, I feel serenity and joy. I wanted to share that feeling with the judges and hopefully they'd see that connection—that's how I interpret *Blue Mind*.

AW: And how exactly did you execute the three images? Share your secret.

MOK: The concept of double exposure isn't new—it goes back to the days of film. You expose a film frame once, and then again for the remaining unexposed emulsion, so you get two images merging. Usually, you shoot a silhouette first, so the dark areas absorb light from the second exposure.

When I realised this technique hadn't been tried underwater, I got really excited. That was around 2020. I began with a silhouette of my wife, Lavinia—she'd climb a ladder with the sun behind her so I could capture her outline. Then, I re-exposed that same frame underwater over corals and reef textures.

After our daughter was born, I wanted to make it a family affair. So, I created silhouettes of my wife holding our baby girl and exposed them again over a sea fan, a coral reef, or a school of fish. Those reef textures became the emotional and visual fabric of the final images.



AW: To clarify—you exposed a portrait of your wife on the same media card, reinserted it in the camera underwater, and then exposed that same frame again on the reef. That’s quite a meticulous method, isn’t it?

MOK: Very! Especially when using Canon. Many other brands let you merge two images digitally later, but Canon doesn’t—you have to do it live. So I had to execute the double exposure underwater in real time. That means I couldn’t really see how it would turn out on the LCD screen. There was a lot of trial and error, relying on gut feeling. Often, you’d only faintly see the first image on the coral and had to imagine how the two exposures would merge. After multiple tries, I got the feel of what to look for and how to compose.

AW: Similar to our film days—we’d rewind the roll in the dark and expose frame by frame. Tedious, but thrilling.

What does the ocean mean to you, personally and as a photographer?

MOK: It goes back to when I first started scuba diving. Like many beginners, I found that being underwater was my sanctuary. It’s where I find solace away from daily life. Over time, I became deeply involved in ocean conservation, using photography to share the beauty and importance of what I see.

When I started a family, priorities changed—but I still return to the ocean for peace. The ocean is my sanctuary, and I want my photographs to convey that serenity to others.

AW: You’ve been a long-time participant in OGPICOTY. How many awards have you won?

MOK: I've been very blessed. I've won multiple times in Ocean Geographic competitions, including the Photojournalist category twice, and once received the Wyland Grand Prize. My work has also been recognised by Underwater Photographer of the Year (UPY), Sony World Photography Awards, and Earth in Focus Singapore, where I was named Underwater Photographer of the Year last year.

AW: What's your advice for emerging underwater photographers in Singapore?

MOK: It's not easy—there are probably fewer than ten of us here. Most start with macro, but I wanted to find a niche that sets me apart. My advice: find a genre that resonates with you, specialise, and keep refining it. Hone your skill until you develop a signature style instead of following the masses.

AW: Brilliant work. As the first *Blue Mind* category winner, you'll also receive a special OGP Gold Winner Pin and the title of Ocean Geographic Photographer.

MOK: I'm honoured and humbled. It's truly special to be part of this family. Thank you.

About the Blue Mind Award

Named in honour of Dr Wallace J. Nichols, author of *Blue Mind*, the award recognises photographic portfolios that express the emotional, cognitive, and spiritual benefits of water. It is one of eight major categories in the Ocean Geographic Pictures of the Year Competition, showcased at the *Earth in Focus Nature Film Festival* in Singapore.

About Bunaken Oasis Dive Resort

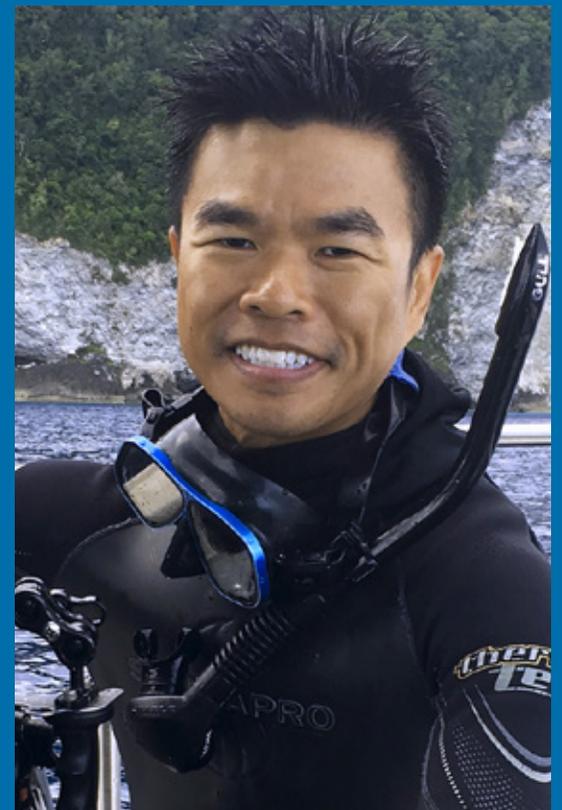


Perched above the renowned Bunaken Marine Park, Bunaken Oasis Dive Resort redefines eco-luxury diving with personalised service, sustainable design, and access to some of the richest coral reefs in the world—offering an ideal retreat for Blue Mind rejuvenation.

About Mok Wai Hoe

Mok Wai Hoe, PhD., is a multi-award-winning photographer from Singapore who has a special interest in underwater photography and marine life. Known as 'Mok' in the scuba diving community, he is a member of Ocean Artists Society, he has been placed in photography competitions, such as Underwater Photographer of the Year, Ocean Geographic Photos of the Year, Siena Photo Awards and Sony World Photography Award, with his most notable accolade being the Master of Ocean Geographic Competition Wyland Award.

His images have appeared in NatGeo online, the cover of Ocean Geographic (57:7 2021), and in an OG special feature, "OGX Emerging Pro Wildlife Photographer" (2016). He has been named Singapore Nature Photographer of the Year (2018) and Singapore Underwater Photographer of the Year (2024).



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CURRENT PROJECTS

- Coral Triangle - Assessment & Conservation Initiatives
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- Antarctic Climate Epic 2023
- Shark Conservation: Say No to Shark Fins Campaigns
- Photographic Index for education and research assessment.
- Ocean Watch: Updates
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BINGQIAN GAO WINS

The OGPICOTY 2025
Dr Sylvia Earle Award
of Excellence at Earth
in Focus Festival,
Singapore



NAUTILUS'S WINDOW



Munkiana Aggregation Through a Bird's Eye

Viewed from the sky, the aggregation takes the shape of a slow, swirling mass - hundreds of Mobula munkiana moving in coordinated circles near the surface. They swirl and drift like a cloud, yet so coordinated as if orchestrated by an invisible conductor. With the lone snorkeler's tiny presence against the vast scale of the school, it is a reminder of both the ocean's abundance and our small place within it.

Sydney, Australia — London-based Chinese photographer, freediver, and former corporate data leader, Bingqian Gao has been awarded the prestigious Dr. Sylvia Earle Award of Excellence in the *Endangered Marine Animals* category of the Earth in Focus – Ocean Geographic Pictures of the Year (OGPICOTY) 2025 competition.

Her evocative portfolio, *The Ocean's Orchestrated Wonder*, captures the ethereal beauty and fragile choreography of the Pygmy devil ray (*Mobula munkiana*), one of the ocean's most mesmerising yet vulnerable natural spectacles, in Mexico's Sea of Cortez.

With less than six months of underwater photography experience, Bingqian's meteoric rise will stun many underwater image-makers. Her award not only marks a career-defining milestone but also earns her a once-in-a-lifetime polar expedition aboard the MV *Sylvia Earle* named for Dr Sylvia Earle by Aurora Expeditions.

Curated by the photo editors of *Ocean Geographic*, the *Endangered Marine Animals* finalists were judged by Dr Sylvia Earle, Michael AW, and Jayaprakash Bojan. The Sylvia Earle Award recognises exceptional photographic storytelling that illuminates the plight

ABOUT BINGQIAN GAO WINNER



Mission Statement: *“Bring technology to better serve the ocean, and stories from the ocean to inspire urban living.”*

Bingqian Gao is a London-based photographer, freediver, and entrepreneur whose work bridges data, art, and conservation. After a decade leading teams and projects in consulting and AI, she reinvented her path to explore creative lenses guided by mission, meaning and her love for the ocean.

A dedicated freediver, Bingqian explores the ocean on one breath, finding freedom and restorative energy while creating work that advocates for marine conservation. Her photography, poetry, short films, and data visualisations reflect a deep connection with the ocean and explore themes of authenticity, introspection, and resilience.

Believing that technology and innovation can better serve the ocean, Bingqian also seeks to bring the ocean's wisdom back to inspire workplaces and urban life. She continues to explore how data and visual storytelling can help advance conservation, while developing projects that help people in modern cities cultivate greater balance, awareness, and connection with the ocean.

Rays of Hope

Taken with an upwards angle, this image presents a unique view of the majestic group of the Mobula munkiana in silhouette. Shot from beneath, the school becomes a slow-moving cloud of changing geometry, gliding with elegance and ease. The countless shadows and the light rays shining through the musty greenish water gives off a dreamy feeling. It's a rarely seen perspective of this nature's spectacle.

of endangered marine species. Bingqian's portfolio was praised for its *artistry, emotional depth, diverse composition and rare insight* into mobula behaviour—a testament to both technical mastery and deep empathy for marine life.

Mobula munkiana, also known as Munk's pygmy devil ray, was first described by Giuseppe Notarbartolo di Sciara and named in honour of legendary oceanographer Dr. Walter Munk. Listed as *Vulnerable* on the IUCN Red List, this inshore ray faces mounting threats from bycatch, habitat degradation, and the trade in gill plates for the Asian market. These rays

are renowned for their astonishing mass gatherings — thousands moving in synchronised spirals, leaping from the water in balletic displays of power and grace.

“To witness their movements, hundreds gliding and swirling in silent harmony, is to glimpse the intelligence and order that exists beneath the surface,” says Bingqian. “Wildlife photography has the power to forge emotional connection between humanity and nature.” Bingqian's portfolio reminds us that the ocean still holds immense wonder, magic and mystery, and that our future is inseparable from our ocean's health.





Leaping Ray and The Mating Train (top image)

A Mobula munkiana bursts from the water while others form a dynamic courting display known as the “mating train” beside it, all captured in a single frame, a rare glimpse of their courtship ritual, exuberant yet precarious.

Freedom in Formation (bottom image)

A close-up of a Mobula munkiana within a large school, gliding just beneath the photographer in breathtaking proximity – comfortable, as if travelling alongside teammates of its own kind. The delicate details leave imprints: the scratch marks across the skin, the gradients of colour across the body, the anatomy of its pelvic fins, and open wings that speak of freedom in the flow. Vulnerability becomes personal in the gaze of this one individual.



Float Above The Cloud

A snorkeler follows a vast gathering of Mobula munkiana, arm stretched out holding an action camera attempting to capture this rare spectacle. It serves as a strong invitation to see the beauty and what's at risk: to recognise the delicate line between abundance and loss, to witness the possibility of harmony, and to act now so future generations may experience these spectacular ocean wonders with their own eyes.





Munkiana In The Blue

In the Sea of Cortez, many wildlife encounters unfold in the green plankton-rich, hazy water, that is where the food is. But once in a while, you get to see animals in the clear, fresh blue, and it is quite a different experience.

On this rare occasion, a small group of Mobula munkiana glides through beams of sunlight in crystal water, their wings catching the glittering light like mirrors. Their elegance seems suspended in the blue—a scene of serenity, and a quiet plea for their future.



ABOUT SINA RITTER RUNNER UP

Sina is an award-winning underwater photographer, conservation storyteller, and global expedition leader, known for her emotionally powerful imagery and deep connection to ocean giants. Based between the Maldives, French Polynesia, and Mexico, her work focuses on redefining how we see sharks - through intimate, artistic portraits that reveal their true nature.

While Fuvahmulah is globally renowned for its resident Tiger sharks, it is the rare and elusive deep-sea Thresher sharks that captured Sina's heart. Every deep dive in search of them is a mission and a reminder of their vulnerability. This series was photographed entirely in Fuvahmulah, where Sina will be co-opening a dedicated shark conservation dive centre in November 2025, designed as a creative hub for storytellers aiming to redefine the narrative around sharks.



That huge, dark eye holds an entire universe of stories. They say threshers are shy, but this one came close enough to share a quiet kind of curiosity. I still wonder what she saw when she looked back.



She rose from the deep like a whisper, backlit by thousands of reef fish that scattered in her wake. Her body arched in mid-turn, as if gravity had no grip on her at all. Some moments feel like you are watching a creature from another world.



The light slid across her body like mercury, revealing every detail of her armour. She moved slowly past me, unfazed, blending into the deep hues of the reef. Threshers bring this tension between power and softness.



Drifting through the open blue, the thresher glides with perfect composure, its tail trailing like a ribbon of silk. There is nothing around but space and silence, and still it moves with purpose. These rare encounters always feel like a dream you barely remember—except I have proof this one was real.



Just shape and movement. No detail, no distraction. A silhouette against a fading sky, and that unmistakable tail cutting the water like a scythe. I never knew emptiness could feel so full.

There is something disarming about a direct look from a shark that should not even be there. She swam straight toward me with effortless grace, wings open, tail curled like a question mark. You never forget the ones that come to meet you halfway.



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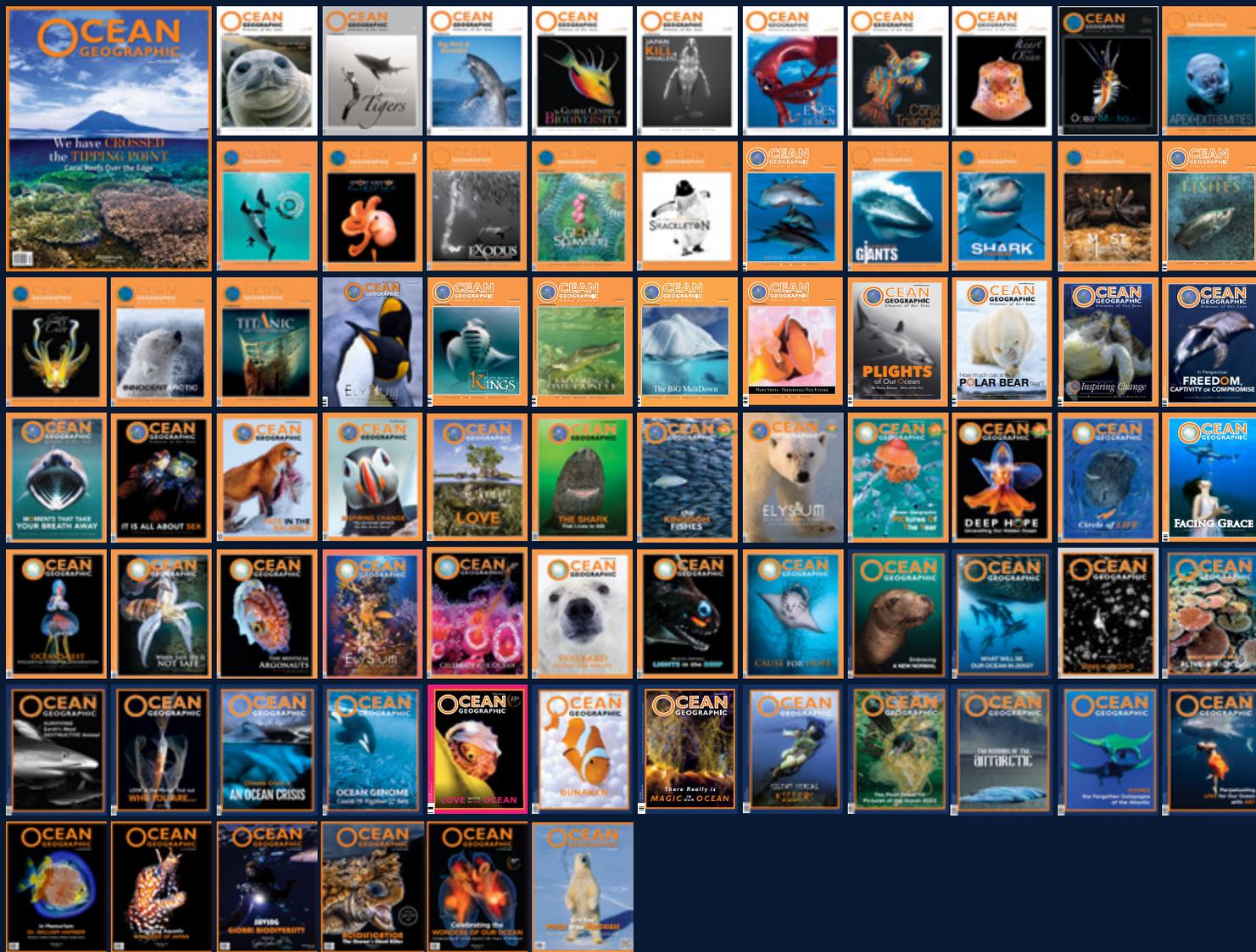


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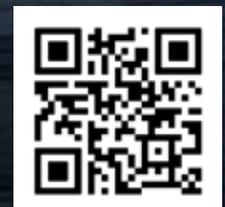


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