

# Oceans of Opportunity

## *Southeast Asia's Shared Maritime Challenges*

By Danielle Fallin, Simon Tran Hudes, Amanda Ingram, and Gregory B. Poling

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With 9 out of 10 Association of Southeast Asian Nations (ASEAN) countries touching the sea, Southeast Asia is on the front lines of the world's shared maritime challenges. Everything from climate change, plastic pollution, and fisheries management to legal frameworks and maritime domain awareness present transnational problems that the region must overcome, or face the collective consequences. With this in mind, CSIS held a three-part [virtual conference](#) in June 2021 to address these challenges. Experts from the legal, political, and scientific communities discussed what Southeast Asia's shared maritime challenges mean for the region and its people and what regional states and partner nations can do to meet those challenges.

Those discussions informed the findings of this report. Except where conference participants are cited directly, what follows are solely the opinions of the authors.

### *Climate Change*

Climate change is a looming threat to the long-term social and geopolitical stability of Southeast Asia. Greenhouse gas emissions have only [accelerated](#) and the world's most ambitious climate accord, the Paris Agreement, has proven [vulnerable](#) to partisan politics. A recent [report](#) by the Intergovernmental Panel on Climate Change (IPCC) paints a bleak picture. The earth is projected to warm until at least the mid-century under all scenarios considered, and many greenhouse gas-induced changes are “irreversible for centuries to millennia, especially changes in the ocean, ice sheets and global sea level.” Extreme weather events around the world have increased in frequency and intensity. Individual nations' commitments to curb emissions place net carbon neutrality far in the future, and few leaders have demonstrated an understanding of the impact of climate change on the world's oceans.

The damaging effects of climate change—rising sea levels, threatened livelihoods and food security, warmer and more acidic oceans, and increasingly frequent extreme weather—are already the reality for many

people in Southeast Asia. Crumbling infrastructure in major cities like Jakarta, Bangkok, and Ho Chi Minh City have compounded the effects of climate change by exacerbating more frequent flooding. The likelihood that these phenomena will worsen in the coming years can seem like an inevitability to those already suffering from the region's frequent natural disasters. However, the worse outcomes are not, in fact, inevitable. Laura David, director of the Marine Sciences Institute at the University of the Philippines, [likens](#) climate change to heart disease:

If your family has a history of heart problems, there is a higher possibility you will also have heart problems. You can ignore that and face consequences or you can change your lifestyle to be healthier and reduce the probability you will also experience heart problems. I now equate climate change not with an inevitability, but with something that is highly likely to impact you. . . . You can't change your DNA, but you can change the possibility that you will survive.

In other words, understanding and taking corrective action on climate change today could help preserve ocean ecosystems tomorrow, as well as protect the livelihoods of those who depend on those oceans.

### **HOW CLIMATE CHANGE IMPACTS OCEANS IN SOUTHEAST ASIA**

One of the primary ways climate change impacts oceans is through sea level rise. A 2019 IPCC [report](#) found that under some scenarios, parts of major Southeast Asian cities like Ho Chi Minh City and Bangkok could be underwater by 2050. Across coastal communities in Southeast Asia, people have already begun to find short-term adaptations, including building houses on [stilts](#) or using makeshift aquatic vessels to get around where motorcycles were once prevalent. Understandably, people are reluctant to leave their homes, despite worsening conditions on the ground.

In the longer term, rising sea levels and frequent flooding will not only affect urban communities, but also low-lying agriculture areas. Rice paddies throughout Southeast Asia are located near the coasts, and as seawater floods in and extreme weather disrupts crop cycles, the effects of climate change will have greater cultural and economic impact throughout the region. Increases in groundwater salinity will have dire consequences on potable water and agricultural water stocks. Left unaddressed, these risk factors could eventually force [mass migration](#) that will not only inundate already overcrowded cities but could transcend borders, ultimately threatening regional geopolitical stability.

Another way that climate change has affected the waters around Southeast Asia has been through the ocean's absorption of excess heat. As Whitley Saumweber, director of the CSIS Stephenson Ocean Security Project, noted during his remarks at the Oceans of Opportunity conference, "We don't usually think of this as a major impact because so much of what we feel is on land, but the ocean has absorbed [93 percent](#) of excess heat generated by concentration of greenhouse gases." Rising ocean temperatures directly impact marine ecosystems in Southeast Asia and will affect the people whose lives and livelihoods depend on the food production capacity of those ecosystems. Another IPCC [report](#) shows that maximum yields from fishing are closely related to ocean temperature, with Southeast and Northeast Asia set to experience the largest declines in fish stocks as oceans warm. In other words, Southeast Asian communities that are dependent on fish may need to find new sources of food.

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The warming oceans are also expected to cause species to migrate to more suitable climates. Some species will continue and even thrive in the warmer, more acidic oceans of Southeast Asia. But the general pattern of migration is poleward, toward cooler climates. As a largely tropical region, this spells trouble for the prospects of biodiversity in Southeast Asia. Case in point is the current pattern of coral migration. Blue coral coverage has **increased** significantly in the waters around the Philippines in recent years. However, the IPCC **projects** with high confidence that coral species in general will decrease by 70 to 90 percent given a 1.5 degree Celsius increase this century. At 2 degrees, over 99 percent of coral reefs could be lost.

Warming oceans have also led to more intense storms in the region. The Philippines in particular has experienced some of the region's worst weather events, with an average of over 20 typhoons per year. Approximately **60 percent** of the population of the Philippines lives near the coast, amounting to about 64 million people. With over 7,600 islands and more than 22,000 miles of coastline, the Philippines ranks as the ninth most vulnerable country in the world to forced displacement and migration due to natural disasters according to the **2020 World Risk Index**. Typhoon Haiyan, or Yolanda, was a case in point, **causing** 6,300 deaths and \$2.2 billion in damages when it made landfall in 2013.

## **MANGROVES**

Mangroves have become an increasingly important part of safeguarding human, ecological, food, and climate security in maritime Southeast Asia. Among these habitats' **critical functions** are protecting shorelines from extreme weather like hurricanes, cyclones, and large waves; preventing erosion of sediment with their tangled root systems; maintaining water quality by filtering pollutants and trapping ecologically harmful sediments; and providing nurseries, including for endangered species. In short, mangroves protect coastal societies and farmers from sea water inundation and extreme weather. According to a 2012 **report** by the Nature Conservancy and Wetlands International, 100 meters of mangroves can reduce 13 to 60 percent of wind and wave impact. Additionally, Jurgenne Primavera, chief mangrove scientific advisor of the Zoological Society of London, noted during her remarks at CSIS that mangroves are critical for **carbon sequestration**: 6.7 million acres of mangrove results in 3.8 billion metric tons of carbon dioxide stored. Mangroves can store up to **four times** as much carbon as tropical forests and can collect up to 10 times as much carbon as other terrestrial ecosystems.

Mangroves throughout Southeast Asia have been cleared to make room for aquaculture, agriculture, logging operations, housing, and palm oil and rubber plantations. Approximately one third of mangroves across Southeast Asia were **deforested** between 1980 and 2020. In the Philippines, over half of the country's former 1.2 million acres of mangroves were **converted** to fishponds. About **70 percent** of the world's soil carbon lost due to mangrove deforestation between the years 2000 and 2015 came from Indonesia, Malaysia, and Myanmar, but governments in Southeast Asia have been slow to react. Manila officially **banned** the conversion of mangroves into fishponds in 1998. However, active restoration of mangroves has **fallen** to community-based organizations and nonprofits. In Indonesia, President Joko Widodo recently **extended** the tenure of an agency dedicated to restoring the country's peatlands and replanting mangroves. However,

activists have [pointed out](#) that the government's goal of increasing shrimp production as well as loose environmental provisions in the recent omnibus job creation bill could imperil mangrove restoration efforts. Meanwhile, the need for mangrove rehabilitation in the region is immediate. Mangroves in abandoned fish ponds can take 15 to 20 years to [regenerate](#) naturally, which is too little too late for a country like the Philippines, which is left with little coastal protection from the 20 typhoons that make landfall each year. Active planting, on the other hand, can yield a full canopy within 3 to 5 years.

Primavera also warned, however, that active replanting efforts have [gone awry](#) in several instances, including using the wrong type of mangrove or planting trees in the wrong location. The poor implementation of mangrove restoration efforts only highlights the need for localized capacity building. Multilateral efforts like the [Mangroves 40 Cities Network](#) proposed by the Earth Security Group could help coordinate, aggregate, and accelerate collective action between the 40 locations around the world that account for the world's remaining 70 percent of mangrove habitats. National governments, meanwhile, can help provide capacity to cities by creating financing mechanisms, such as municipal mangrove bond funds. Multilateral and nonprofit networks can also lobby for and ensure consistent implementation of mangrove restoration mandates. Local governments can do better to ensure that mangrove restoration efforts are carried out sustainably by using the right kinds of mangroves, planting them in environments that will allow them to thrive, and following a 4:1 mangrove to aquaculture ratio. If need be, monitoring and evaluation of such efforts can temporarily fall to nonprofits while local governments build up capacity.

#### **OBSTACLES: RESEARCH AND EDUCATION**

One perennial obstacle in tackling climate change for developing Southeast Asia is the lack of comprehensive national and local climate data. The dearth of information leaves local governments with little to rely on when attempting to undertake scenario mapping efforts—an important prerequisite to policymaking on climate issues. Reliable maps of marine habitat distribution or clusters of community exposure to coastal flooding hazards; research on the impact of climate change on food availability and coastal livelihoods; and data on the number of fisherfolk per province could show, when viewed together, which specific areas and townships are at higher risk to the impacts of climate change and what types of risks each locality faces. Local townships can make use of this data to prepare themselves and adapt accordingly and appropriately, rather than rely on one-size-fits-all national plans or vague mandates emanating from the capital. Local leadership is likely to find localized data more persuasive and actionable.

Another potential problem with which developing countries in the region must contend is the lack of education on climate change. The median age in Southeast Asia is just 30 years old, and many young people will see the tangible effects of climate change on their lives. Educating this growing portion of the population is critical to ensuring a carbon-neutral or carbon-negative future for Southeast Asia. But it will require the creation of youth-targeted science materials and creative pedagogical methods. Universities have generally [siloed](#) energy studies and climate studies as developing countries in the region have placed an emphasis on energy development. Ideally, these would be taught in tandem to maximize Southeast Asia's potential to become a global renewable energy hub.

### *Plastic Pollution*

Plastic pollution poses a grave threat to marine health in Southeast Asia and the Covid-19 pandemic has only intensified the situation. Six of the ten ASEAN nations generate a combined [31 million tons](#) of plastic waste per year, and the ocean has become the largest recipient of this waste. Thousands of polluted rivers pour into the South China Sea, causing severe damage to the ocean's ecosystems. While policymakers have

acknowledged the severity of the situation, scaling remains a major obstacle to enacting widespread implementation of anti-waste laws.

During the Oceans of Opportunity Conference, Dini Trisyanti, the co-founder of Sustainable Waste Indonesia, highlighted that scaling down waste management systems is a necessary step to incorporate municipalities and individuals into a circular economy. Although areas outside metropolitan centers produce the same types of waste as cities, smaller districts do not have the waste infrastructure, financing, public education, and regulation systems needed to cope with recycling demands. The Philippines is the world's third largest plastic polluter, **with 2.7 million tons** of plastic waste generated each year. However, **70 percent** of the Philippines' population does not have access to disposal facilities and landfills, hence the prevalence of **illegal dumpsites** in the country. The rapid urbanization of the middle class across Southeast Asia has **increased** the purchase of consumer goods and single-use plastics.

Plastics are ingrained at various levels of the economy, including cheap packaging for consumer goods and inexpensive tools for the fishing industry. Meanwhile, waste management systems in municipal areas lack the **capacity** to address the increasing amount of waste from consumer goods. Trisyanti cited that an average of 61 percent of ocean plastic consists of **low value plastics** made from materials such as bags and food packets. Furthermore, the general public does not adequately engage with existing waste management protocols, largely due to a lack of public education and awareness. Roughly **75 percent** of marine litter originates from uncollected trash. Until national waste management systems are scaled up and land-based waste is sufficiently recycled, plastic pollution will continue to proliferate in the marine environment.

Southeast Asian nations are both a source and victim of plastic pollution in the Pacific Ocean. As Deo Onda, deputy director of the Marine Science Institute at the University of the Philippines remarked at CSIS, the vast majority of marine plastic (**80 percent**) comes from land-based pollution that leaks into rivers and coastal waters. As transboundary rivers flow into the sea, they take plastic remnants with them. As a result, the South China Sea and the Pacific Ocean are littered with marine trash. But land-based pollution is not the only source of marine plastic. Illegal dumping in the South China Sea is also a significant contributor to pollution in the region's oceans. Sandra Whitehouse, a consultant at Ocean Conservancy, asserted during the conference that one of the most damaging forms of plastic found in the ocean is **ghost gear**—fishing nets abandoned at sea. Ghost gear constitutes **10 percent** of marine litter and **wreaks havoc** on natural ecosystems by blocking sunlight and entangling wildlife.

The Covid-19 pandemic has greatly exacerbated pollution by increasing the use of disposable personal protective equipment like masks as well as single-use plastics. This explosion of marine litter directly threatens regional fish populations and food sources that are vital to Southeast Asian health and economies. During his keynote speech at the CSIS Oceans of Opportunity Conference, Secretary of Environment and Natural Resources Roy Cimatu of the Philippines stressed the importance of the Coral Triangle, an area comprised of the waters around Indonesia, Malaysia, the Philippines, Papua New Guinea, Timor-Leste, and the Solomon Islands. Over 120 million people **depend** on its reefs for food, income, and storm protection. Because marine litter transcends national maritime boundaries, ASEAN states must take collective action to mitigate further degradation of the marine environment in the Pacific Ocean.

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Despite the complexities of enforcing legislation on national waste management, consolidated action on plastic pollution in Southeast Asia is progressing. In May 2021, ASEAN launched the [Regional Action Plan for Combating Marine Debris](#), paving the way for joint strategies to confront plastic contamination over the course of the next four years. Past frameworks have emphasized the management of plastic pollution rather than productive solutions that could lead to circular economies. Even so, it is evident that cooperation to conduct research on plastic's environmental impact, administer public education campaigns, and distribute funding to municipal waste services is necessary to implement effective curbs to plastic pollution in Southeast Asia.

### *Protecting Threatened Fisheries*

**Illegal, unreported, and unregulated (IUU) fishing** threatens the food security, livelihoods, and sovereignty of Southeast Asian states. IUU fishing is often highly associated with organized crime such as human trafficking, forced labor, and other human rights abuses, as well as drug and weapons trafficking and power projection by dominant countries in the industry.

Currently, over **90 percent** of global fisheries are either fully exploited, overfished, or subject to overfishing. According to Gloria Ramos of Oceana Philippines, most of the fisheries in the Philippines are currently overfished, including the West Philippine Sea (the Philippine exclusive economic zone, or EEZ, in the South China Sea), which needs protection. This is largely due to commercial fishing operations, which compete with artisanal fisherfolk for resources. Without proper fisheries management and enforcement, these fisheries often fall prey to the tragedy of the commons. The commercial fishing industry and distant water fishing nations place immense, unsustainable pressure on the marine ecosystem and fisheries that supply food and income for millions in Southeast Asia. In the Philippines, for instance, IUU fishing costs the country an estimated **\$1.3 billion** each year in environmental damage. IUU fishing has been further enabled by modernized commercial fishing techniques, which overexploit marine resources at unsustainable levels.

IUU fishing is commonly conducted by distant water fishing fleets, which often operate in the jurisdictional waters of developing countries with lucrative marine resources but limited capacity to manage their own fisheries or enforce regulations. Currently, China is the **predominant actor** in the distant water fishing industry and is also ranked as the worst offender on the [IUU Global Fishing Index](#).

The South China Sea disputes create additional incentives for IUU fishing and increased threats to the sovereign rights of coastal states. Since the mid-1980s, China has endorsed and subsidized fishing throughout the EEZs of Southeast Asian states, as far south as Indonesia, contrary to international law. At least some of those fleets have also made up part of China's maritime militia—a paramilitary force composed of fishing vessels that help assert Chinese claims. That dual nature complicates enforcement efforts for Southeast Asian claimants. And the pressure placed on other regional fishers, particularly those from Vietnam, who

have been driven from traditional fishing grounds in parts of the South China Sea leads many to operate illegally further afield, across Southeast Asia and even in Micronesia.

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Transparency in the seafood industry is imperative to Southeast Asia, as these resources are not only consumed by a huge portion of the population, but also exported to other countries. According to the U.S. Food and Agriculture Organization, the United States is the **largest importer of seafood** in the world, with the European Union following closely behind. Together they account for over 60 percent of the total imported seafood market. The United States has implemented a **Seafood Import Monitoring Program** to track seafood from bait to plate, which requires transponder data from where the seafood was originally caught and processed. However, this program lacks efficacy in several areas. First, it does not comprehensively cover the myriad species that fall under IUU fishing, and it should be expanded accordingly. The program also lacks a mechanism to identify vessels convicted of IUU fishing or human rights violations. Furthermore, nations that support and flag these vessels often experience corruption, poor regulation, or lack of capacity to enforce fisheries management laws.

The European Union by comparison has a relatively robust **carding system** that tracks this data and flags vessels and countries that are at high risk for engagement in IUU fishing to undergo further scrutiny in the importation process. This effectively bans seafood products sourced through IUU fishing and creates an incentive for countries to crack down on the practice on a global scale. As an example of how the carding system works, the Philippines in 2014 was **designated** as high risk for IUU fishing by the EU carding system, which placed extra scrutiny and prevented the importation of seafood products from the country. Following subsequent reforms by the Philippine government to better monitor IUU fishing, the European Union **revoked** its yellow card warning against the Philippines. The same happened a few years later when Thailand was given a yellow card for forced labor conditions in the fishing industry, which was subsequently lifted after regulatory and enforcement improvements. Vietnam is currently under a yellow card, which has led Hanoi to step up efforts to improve monitoring and enforcement of its fisheries regulations.

Beyond economic and sovereignty concerns, IUU fishing reduces biodiversity, making it difficult for many fish species to rebound to previous population levels, as has been the case with giant grouper, the fusilier fish, and blennies in the Philippines. Overfishing of larger fish could lead to a trophic cascade effect, which would allow medium-sized fish to overpopulate and decimate the smaller reef fish populations that were once abundant and crucial to reef health and algal control. Some fisheries have entered an extinction vortex, where species' populations have dipped below the threshold for being able to repopulate naturally due to limited genetic diversity and susceptibility to environmental factors.

The threat of IUU fishing in Southeast Asia presents a unique opportunity for collaboration with partner nations as this issue represents not only an economic and food security threat, but a national security con-

cern. Supporting regional fisheries enforcement and data sharing could have tremendous impacts for the future of these fisheries and the livelihoods of Southeast Asians.

## *Bolstering Maritime Domain Awareness*

Technological advances in remote sensing and data analytics capabilities are revolutionizing the way maritime domains are monitored and governed. The [International Maritime Organization \(IMO\)](#) defines maritime domain awareness (MDA) as “the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment.” As Chris Merritt with the U.S. Mission to ASEAN pointed out during his [remarks](#) at the Oceans of Opportunity conference, MDA is a nuanced and interconnected concept that is vital to security, maritime law, the blue economy, and the marine environment. Essentially, MDA includes the intelligence, surveillance, and analytic capabilities that allow agencies and researchers to monitor the oceans and lift the veil of sea blindness.

Effective MDA now involves the utilization of data flowing from on-shore, at sea, and space-based sensors. Patrol aircraft and ships, and shore-based radar networks—the traditional workhorse of MDA—are still vital. But they are costly, limited, and insufficient to the task of effectively monitoring the vast EEZs and high seas of the world, particularly for cash-strapped developing states. This is where the revolution in access to low-earth orbit and the burgeoning commercial remote sensing sector are changing the game. There are now enormous opportunities for states in Southeast Asia and around the world to utilize technological advancements in both the public and private sectors to bolster MDA at scale and at manageable costs.

These technologies include vessel monitoring system (VMS) and automatic identification system (AIS) transponders on vessels. Neither of these are new, but the ability to effectively track them by satellite is. The first space-based AIS receiver was only launched in 2008 and today there are numerous platforms like [Marine Traffic](#) and [Global Fishing Watch](#) that allow publics to track AIS signals all over the world. Then there is satellite imagery, both the electro-optical imagery, of which most people are aware, and [synthetic aperture radar \(SAR\) imagery](#), which allows satellites to identify metal vessels, oil slicks, and many other objects at sea through cloud cover and over a wide area. The price of traditional electro-optical satellite imagery has plummeted over the last decade and its availability has greatly expanded as new players like Planet Labs have launched vast low-earth orbit satellite constellations to compete with legacy providers like Maxar and Boeing. SAR is at the start of a similar revolution, with multiple competitors set to launch low-earth orbit constellations over the next couple years in order to provide persistent global coverage at a much lower cost.

There are other technologies just now entering the field that will further increase maritime transparency and boost coastal-nation MDA. One of these is commercial space-based radio frequency detection. Companies like Hawkeye360 in the United States and Unseen Labs in France have put into orbit satellites that can detect marine radio, X-band radar, and other signals put out by vessels that might otherwise be running “dark” by disabling or spoofing AIS and VMS. With these technologies added to the existing suite of remote sensing, and the price of all of it rapidly coming down, the world is approaching the point at which every metal vessel of any size will be detectable anywhere on earth. Since so much of it is entering the market in the next few years, it will be widely available to coastal states through commercial platforms and those provided by partner nations, like the U.S. Navy’s SeaVision. The real question will be whether coastal states in Southeast Asia and beyond can effectively analyze that data in a timely manner and share it both within and between governments for effective enforcement. As NLA International’s Nick Lambert attested during the conference, adequate governance of the oceans requires not only transparency, but the ability to visualize and share data effectively utilizing available MDA technologies. Private sector compa-



nies, nonprofits, and partner governments are all developing machine learning tools and more intuitive platforms to combine and parse incoming data. When it comes to information sharing, there are no easy solutions. Government bureaucracies are naturally stove-piped and interagency, much less international data sharing is difficult. It will take a dedicated effort from governments throughout Southeast Asia, with assistance from partner nations, to change bureaucratic cultures and make data sharing the norm rather than the exception.

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### *Preserving the Law of the Sea*

The freedom of the seas is underpinned by a web of international laws and institutions, at the heart of which lies the United Nations Convention on the Law of the Sea (UNCLOS). The “constitution for the oceans” rests on the legal equality of all states, large and small, which share the same rights and responsibilities at sea. During the Oceans of Opportunity Conference, former Philippine Supreme Court associate justice Antonio Carpio noted that this equality is one of two foundational principles behind all modern international law. The other is the delegitimization of the use or threat of force to settle disputes.

UNCLOS, unlike earlier components of the post-World War II international order, was a truly global creation. Delegates from 147 countries, including 41 from Asia, helped forge the treaty.<sup>1</sup> On the first day it was opened for signature in 1982, 119 countries signed—a record in legal history. In a speech commemorating the occasion, Singapore’s Tommy Koh, who had presided as president during the final stages of the negotiations, declared it “a monumental achievement of the international community, second only to the Charter of the United Nations.”<sup>2</sup>

Koh was not the only Southeast Asian jurist to play a major role in the forging of international maritime law. In 1957, Indonesia’s prime minister Djuanda Kartawidjaja was the first to declare that archipelagic states should be able to draw straight baselines connecting their islands. The Philippines took up that cause the next year and the two countries spent a quarter century promoting the archipelagic concept that finally gained acceptance in UNCLOS. Thailand’s Prince Wan Waithayakon presided over those initial arguments as president of the first two United Nations Conferences on the Law of the Sea in 1958 and 1960.<sup>3</sup>

Most Southeast Asian states, along with neighbors including China, took active part in the UNCLOS negotiations from 1972 to 1984. By 1996, all but Cambodia had ratified the convention. That year, Indonesia’s Hasjim Djalal, one of the UNCLOS negotiators, was elected the first president of the assembly of the Inter-

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1 Ann L. Hollick, *U.S. Foreign Policy and the Law of the Sea* (Princeton, NJ: Princeton University Press, 1981), 24.

2 Tommy Koh, *Building a New Legal Order for the Oceans* (Singapore: National University of Singapore Press, 2020), *Building a New Legal Order*, 174.

3 *Ibid.*, 48.

national Seabed Authority, which had been established by the convention to govern deep seabed mining.<sup>4</sup> For more than 60 years, Southeast Asia has helped write and defend the international regime of maritime law. But that regime is increasingly under threat, and nowhere more so than in Southeast Asia itself.

In the South China Sea, Beijing continues to push a concept of “historic rights” throughout most of the waterway, which has no grounding in UNCLOS. And it increasingly does so through the threat of force by its coast guard and maritime militia. China’s demands for resource rights and restrictions on maritime freedoms up to 1,000 nautical miles from its coast would make Brunei, Indonesia, Malaysia, the Philippines, and Vietnam unique among the nations of the world. It would deprive them of the “exclusive” use of their EEZs as guaranteed by UNCLOS. And this would have far-reaching consequences for each.

In opening the second day of the conference, Secretary of Environment and Natural Resources Roy Cimatu of the Philippines [declared](#),

We have our very national interests at stake here [in the West Philippine Sea/South China Sea] in terms of territorial and food security, sovereignty and sovereign rights, and biodiversity and other natural resources. . . . We hope that this Oceans of Opportunity Conference can help sustainably secure freedom of navigation and better international protection for the sovereign rights of developing countries in our part of the planet.”

In 2016, Manila won a landmark ruling before an arbitral tribunal in The Hague that invalidated most of Beijing’s maritime claims in the South China Sea and reinforced Philippine fishing and seabed rights under UNCLOS. The arbitration set an important precedent, reinforcing that the law of the sea applies equally to all. Upholding that precedent, and supporting the ruling, is therefore of paramount importance to all Southeast Asian countries. As Tara Davenport showed throughout her presentation at the Oceans of Opportunity conference, the waters of Southeast Asia are home to a dizzying array of overlapping rights to both waters and seabed. There is a legal regime to settle those crisscrossing boundaries and prevent resource disputes from spilling over into violence, but it rests on UNCLOS and the institutions it established. Without that regime, the region will be prey to a “might makes right” maritime order in which small developing states will lose desperately needed food and seabed resources to larger, more powerful neighbors.

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UNCLOS is not, of course, the answer to every question. The convention expanded on preexisting norms and established new rules and institutions, but there are still gaps in maritime law that must be plugged. As Xiao Recio-Blanco pointed out during the conference, “The ocean does not care about administrative and political boundaries.” One of the largest gaps in modern maritime law involves the management of the high seas beyond EEZs. These areas are what the architects of UNCLOS dubbed the “common heritage

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<sup>4</sup> Ibid., 138

of mankind.” But they are increasingly home to a lawless competition to overexploit fish stocks. Ongoing negotiations at the United Nations for a new treaty on biodiversity beyond national jurisdiction (BBNJ) present an important opportunity to avert ecological catastrophe in the high seas—though progress has been slow, and success remains uncertain.

An equally important opportunity is the governance of small-scale fisheries in municipal waters. Internal and coastal fisheries under direct national sovereignty are not governed by UNCLOS; their health depends on the quality of national and local laws and the capacity of stakeholders to enforce those regulations. In these waters, it is not up to external parties to help set rules, but there are significant opportunities for states to work together to share data, understanding, and best practices. In all these areas—municipal fisheries, the EEZs and continental shelves established by UNCLOS, and the high seas beyond its remit—the freedom of the seas and sustainable resource exploitation can only be secured by the application of fair and robust legal regimes. Some of those are still being written, while most already exist but require constant upkeep and defense.

## Conclusion

Few regions are as reliant on the marine ecosystem for food security, economic growth, and national security as maritime Southeast Asia. The Coral Triangle at large, and the South China Sea in particular, are among the most biodiverse marine habitats on the planet. But mounting environmental and security challenges in the region’s oceans present a serious threat to the lives and livelihoods of the people of Southeast Asia.

A rapidly warming planet creates problems for the region on multiple fronts. Rising sea levels have forced coastal communities to create unsustainable short-term adaptations and could, in the long run, cause mass migration. Flooding and extreme weather patterns have worsened throughout the region and show no signs of slowing down. Scientists have long warned of the disastrous consequences of global warming on underdeveloped communities globally, and recent IPCC reports reinforce that much of the damage has already been done. Southeast Asia is also one of the largest contributors to plastic pollution in the world’s oceans. But with swift policy action, including much stronger commitments to cut greenhouse gas emissions coupled with proactive policies like mangrove restoration, development of circular economies, and comprehensive environmental education, Southeast Asia could still head off the worst of these consequences.

Climate change and plastic pollution also threaten Southeast Asia’s critical fishing industry. The South China Sea accounts for an estimated 12 percent of global fish catch and employs as much as half of the fishing vessels in the world, mostly small-scale operators from the Philippines, Indonesia, Malaysia, Thailand, and Vietnam. But this shared marine environment is teetering on the brink of environmental catastrophe. Fish stocks have been heavily depleted and coral reefs have shrunk significantly. China has intentionally destroyed tens of thousands of acres of coral reef to build artificial islands, while destructive clam harvesters from Hainan have destroyed tens of thousands more. The growing competition for marine resources also worsens interstate competition as fishers are forced to operate farther from shore, often in neighboring EEZs and without permission. Formerly lawful artisanal fishers have become today’s illegal fishing fleets, often operating in disputed waters. Most violent incidents in the South China Sea emerge from fishing competition, not oil and gas or military activities.

This region that is so reliant on the marine ecosystem and so threatened by illegal activities at sea is also woefully sea-blind. MDA capabilities remain underdeveloped throughout Southeast Asia; law enforcement agencies lack the numbers and platforms to enforce the laws even when they can detect illicit activity; and information sharing both within and between countries remains terribly underdeveloped.

Even with the support of the United States—through efforts like the Maritime Security Initiative—and partners like Japan and Australia, the needs remain overwhelming. While the last decade has seen the rapid development of cheaper, commercially available remote-sensing technologies that hold the promise of revolutionizing MDA for developing coastal states, Southeast Asian nations remain unprepared to take advantage of those opportunities.

By bringing together top experts to discuss the marine environment, fisheries management, MDA, marine plastics, and maritime law in a globally accessible virtual conference, CSIS and the University of the Philippines sought to raise awareness of the stakes facing the region on these fronts as well as the tools available to confront them. The threats to oceans in this part of the world are especially daunting. In many ways, any policy action now can only hope to limit damage already done. But with decisive, coordinated, and proactive efforts at the international, national, and local levels, Southeast Asia can buttress the region's human, ecological, food, and climate security for future generations. ■

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