

The Future of the Law of the Sea: Emerging Challenges and the Niger Delta in a Changing Maritime Order

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Abstract

The international law of the sea is undergoing substantial transformation as climate change, sea-level rise, marine biodiversity loss, deep-seabed activities, marine genetic resources, autonomous shipping, maritime cybersecurity, illegal, unreported and unregulated fishing, maritime insecurity and geopolitical competition increasingly challenge established approaches to ocean governance. This article examined the capacity of the 1982 United Nations Convention on the Law of the Sea (UNCLOS) to respond to these emerging challenges, with particular attention to Africa, the Gulf of Guinea and the Niger Delta. Using a doctrinal methodology, the article analysed international legal instruments, judicial and institutional developments, regional arrangements, Nigerian legislation and scholarly literature. It argued that UNCLOS remains the foundational framework of the international law of the sea, but its continuing effectiveness depends upon adaptive interpretation, complementary treaty development, technological regulation, environmental protection, institutional cooperation and effective domestic implementation. The Niger Delta is a demonstration of how international maritime obligations intersect with petroleum pollution, marine ecosystems, fisheries, coastal livelihoods and maritime security. Recent developments, including the entry into force of the BBNJ Agreement in January 2026, the adoption of the non-mandatory MASS Code by the International Maritime Organization and recent proceedings before the International Tribunal for the Law of the Sea, demonstrate that the maritime legal order is evolving rather than being replaced. In conclusion, the future of the law of the sea lies in strengthening the UNCLOS system through progressive development and effective implementation, particularly in developing coastal States.

Keywords: *Law of the Sea, UNCLOS, Niger Delta, Climate change, Marine biodiversity, Maritime security.*

1.0 Introduction

Oceans are a critical part of the world economic, environmental and security system. They support global trade, offer food and energy resources, sustain coastal communities and provide vital ecological activities. Consequently, the law of the sea has become one of the most developed areas of international law. The adoption of the United Nations Convention on the Law of the Sea in 1982 provided a comprehensive legal framework for the regulation of maritime zones, navigation, marine resources, environmental protection and the settlement of disputes. ¹ UNCLOS is still the primary legal framework for the oceans. But the maritime environment has altered dramatically

since the Convention was negotiated. Climate change and sea-level rise have prompted debates about maritime zones and the entitlements of coastal States. With the advent of marine biotechnology, the interest in marine genetic resources has expanded and marine biodiversity has become a major international concern. Technology improvements have brought autonomous vessels, artificial intelligence and increasingly digitalised maritime infrastructure. New regulatory pressures have also been produced by deep-seabed mineral extraction, IUU fishing, piracy, armed robbery, trafficking, oil theft and other forms of marine crime. These developments raise a key question as to the ability of UNCLOS to accommodate conditions not fully envisaged at the time of its adoption. The evolving legal system shows that the answer is not simply to replace UNCLOS. Instead, international maritime law is gradually evolving through implementing agreements, judicial interpretation, international organisations, regional arrangements and local legislation. A prime example is the BBNJ Agreement. It was adopted in 2023 and will enter into force on 17 January 2026. It is the third implementing agreement to UNCLOS. It establishes standards relating to marine genetic resources, area-based management tools, environmental impact assessments, capacity-building and transfer of marine technology.² the evolutionary process is the same in technological regulation. The International Maritime Organization adopted the International Code of Safety for Maritime Autonomous Surface Ships in May 2026.³ The Code becomes effective on 1 July 2026 and is not mandatory at present. The African dimension is very essential. Gulf of Guinea is a confluence of significant shipping routes, offshore petroleum industries, fisheries, coastal communities and maritime-security problems. The Niger Delta is a key case study because it is an area where environmental degradation, hydrocarbon activities, fisheries, coastal livelihoods and maritime governance meet. Thus, the paper discusses the future of the law of the sea from the global and African perspectives with the Niger Delta as an important regional backdrop. It contends that UNCLOS remains important, but needs to be interpreted flexibly and supplemented by legal development if it is to continue to respond effectively to contemporary maritime concerns.

2.0 Methodology

This paper followed a doctrinal legal research technique. The main sources were UNCLOS, international treaties, judicial and arbitral rulings, institutional tools and appropriate Nigerian law. Special attention was paid to documents generated by the International Tribunal for the Law of the Sea (ITLOS), the International Maritime Organization (IMO) and the International Seabed Authority (ISA). Secondary materials included scientific journal articles and legal literature on climate change, marine environmental protection, marine biodiversity, deep-seabed operations, autonomous shipping, maritime security and Nigerian maritime governance. This was an analytical methodology, not an empirical one. This paper discussed the development, interpretation and interaction of relevant legal norms and explored their capacity to address current marine concerns.

2.1 UNCLOS and the Emerging International Maritime Legal Order

UNCLOS offers the essential jurisdictional framework for current ocean governance. It governs the high seas and the international seabed region, the continental shelf, the exclusive economic zone, the contiguous zone and the territorial sea. It also lays out norms on navigation, resource exploitation, marine scientific research, environmental preservation and conflict settlement. This Convention is a compromise between the authority of the coastal States and the international character of the waters. Coastal States enjoy sovereignty over the territorial sea and sovereign rights over natural resources inside their exclusive economic zones and continental shelf. The high

seas are subject to internationally accepted freedoms and obligations. The environmental requirements of UNCLOS are of special importance. Article 192 lays down the general obligation to protect and preserve the marine environment and Article 194 requires States to take such measures as are necessary to prevent, reduce and control marine pollution.⁴ The general formulation of these obligations has allowed the Convention to continue to be relevant to environmental problems which have emerged since its adoption. UNCLOS also establishes an institutional framework for the peaceful settlement of maritime disputes. The ongoing action of ITLOS illustrates that the Convention is a functioning legal instrument, and not a historical treaty. ITLOS issued judgement in *The M/T “Heroic Idun” (No 2) Case (Marshall Islands v Equatorial Guinea)* on 27 May 2026.⁵ ITLOS also formed a Special Chamber to deal with the maritime-boundary dispute between Ghana and Togo in the Gulf of Guinea. Orders 2026/5 of 12 June 2026 and 2026/7 of 6 July 2026 are part of the official case papers of the Tribunal.⁶ The proceedings are pending and should thus not be claimed to establish a final substantive border rule. Thus the modern law of the sea regime is best perceived as a growing regime with UNCLOS at its center. New agreements and institutional changes tend to build upon its fundamental framework rather than replace it.

2.2 Climate Change, Sea Level Rise and Protection of The Marine Environment

Climate change poses environmental issues and jurisdictional concerns for the law of the sea. The rise in sea levels, coastal erosion, warmer oceans, acidity and changes in marine environments have implications for coastal States and maritime populations. Sea-level rise is particularly important for low-lying coastal States and tiny island States. Traditional maritime entitlements are tied to coastal baselines, and hence changes in the physical configuration of coastlines raise legal difficulties. The issue then assumes a broader dimension than mere environmental preservation, and poses questions of maritime sovereignty, rights of resource exploitation and territorial stability. UNCLOS provides a substantial legal framework to address these environmental impacts. The requirements of the protection and preservation of the maritime environment and the avoidance, reduction and control of contamination of the marine environment are contained in Articles 192 and 194.⁷ International adjudication has helped to establish climate-related marine law. In May 2024, ITLOS issued its Advisory Opinion in the Request for an Advisory Opinion presented by the Commission of Small Island States on Climate Change and International Law. This was followed by the International Court of Justice’s Advisory Opinion on Obligations of States in Respect of Climate Change on 23 July 2025.⁸

These events illustrate the growing entanglement of the obligations of climate change and the law of the sea. An important practical backdrop for this subject is the Niger Delta. The coastal, estuarine and aquatic habitats are being threatened by petroleum-related pollution, industrial activity, erosion, and other environmental stressors. This region shows why the protection of the marine environment cannot be separated from actions on land. The legal challenge should not, therefore, be confined to isolated contamination instances. Environmental governance now has to focus more and more on cumulative harm, environmental impact assessment, ecosystem integrity, scientific monitoring and restoration.

Effective collaboration of maritime authorities, environmental regulators, petroleum institutions, fisheries authorities and impacted coastal communities is a sine qua non for the performance of international marine environmental commitments in Nigeria. International commitments under

UNCLOS can only generate meaningful effects where domestic institutions possess enough regulatory and enforcement power.

2.3 Marine Biodiversity, BBNJ and Deep-sea Resources

Marine biodiversity in areas beyond national jurisdiction has been a prominent field of international legal development. maritime genetic resources have scientific and potential commercial significance and maritime environments beyond national authority cannot be adequately safeguarded by unilateral State action. In this regard, the BBNJ Agreement is a big step forward. It becomes effective on 17 January 2026 as the third implementing agreement under UNCLOS. Its core areas include marine genetic resources and benefit-sharing, area-based management methods including marine protected areas, environmental impact assessments and capacity-building and transfer of marine technology.⁹ The Agreement is of particular importance to developing States, given the uneven distribution of marine scientific knowledge and technological capacity. Thus, capacity-building and transfer of technology are vital for the effective participation of developing States in the burgeoning marine biodiversity regime. Another difficulty is the deep seafloor mineral resources. Part XI of the UNCLOS stipulates that the Area beyond state jurisdiction is the common heritage of mankind and that it is to be administered by the International Seabed Authority.¹⁰ the main legal difficulty is to harmonise the exploitation of resources with the protection of the environment. The 2011 Advisory Opinion of the Seabed Disputes Chamber on sponsoring States established important principles relating to due diligence and environmental responsibility in activities in the Area.¹¹ The regulatory framework, however, continues to evolve as technological and commercial interest in deep seabed resources grows. In 2026 Nauru Ocean Resources Inc and Tonga Offshore Mining Ltd brought action against the International Seabed Authority and sought temporary measures. The Seabed Disputes Chamber, on 18 July 2026, made instructions under the provisional-measures clause. The ISA then stressed that the orders did not affect the jurisdiction of the Chamber in respect of the merits or the merits themselves.¹² the procedures should therefore be viewed as part of an ongoing legal discussion, not as decided substantive law. One of their significances is that they demonstrate the continuing usefulness of the UNCLOS institutional structure in addressing new conflicts concerning deep-seabed operations. The deep-seabed regime also poses questions of equity, participation, environmental protection, scientific research and technology transfer for African States. Consequently, African involvement in ocean governance should not just focus on the exploitation of resources, but also on scientific and institutional capacity-building.

3.0 Artificial Intelligence and Cybersecurity At Sea Autonomous Shipping

Innovations in technology are changing marine transportation. Autonomous and remotely operated vessels question standard legal assumptions about the master, crew, navigation, collision liability and accountability for vessel operations. However, UNCLOS does not offer a complete regulatory regime for autonomous seafaring. The creation of international regulations has, thus, increasingly taken place through the IMO. The MASS Code, adopted by the IMO in May 2026, has been a big step forward. It sets out a goal-based framework to promote the safe introduction of AI-enabled and remotely piloted commercial ships into global shipping. The Code came into force on 1 July 2026, but is specifically non-mandatory.¹³ The legal significance of the non-mandatory nature of the Code. It is a significant regulatory step but it does not have the weight of a binding international agreement. The IMO's ongoing work on an obligatory framework is evidence that autonomous-

shipping regulation is still a work in progress. Self-driving ships can raise thorny problems of liability. Where there is a collision or pollution event caused by an autonomous vessel, the owner, operator, remote-control center, manufacturer or software provider are all potentially liable. Therefore, the future legal framework must not allow technical complexity to lead to accountability gaps. Another challenge is cyber security. Modern ports and vessels increasingly rely on digital technology for navigation, communication, cargo management and logistics. So a cyberattack can have safety, economic and security ramifications. The future marine regulatory framework should consequently be a blend of technical innovation and recognisable legal obligation. Digitalisation must not compromise existing principles on safety, environmental protection and navigational responsibility.

3.1 Maritime Security, Freedom of Navigation, Illegal, Unreported and Unregulated Fishing

Maritime security remains a core component of the international law of the sea. UNCLOS provides rules on piracy, navigation, coastal-State jurisdiction and freedoms of the high seas. But contemporary marine insecurity is increasingly characterised by behaviours that do not fit neatly into established classifications. Piracy within the context of UNCLOS has a specific legal connotation, primarily covering acts of assault, detention or devastation conducted for private objectives on the high seas or outside the authority of any State.¹⁴ Armed robbery against ships within territorial waters is legally separate from piracy. The Gulf of Guinea highlights the practical importance of these disparities. Piracy, armed robbery, kidnapping, trafficking, oil theft and IUU fishing have been issues in the region. Regional collaboration has thus become an important component of maritime governance. The Yaoundé Code of Conduct and accompanying regional architecture offer a framework for cooperation among West and Central African States to counter piracy, armed robbery and other criminal marine activities.¹⁵ IUU fishing is also an additional concern, undermining fisheries management, threatening marine environments and affecting coastal livelihoods and food security. It may also spill over into maritime insecurity where illegal exploitation of resources feeds into organised criminal activity. Maritime security should hence not be viewed as a naval or law-enforcement concern. Good governance demands an integrated strategy to maritime enforcement, fisheries management, environmental protection, port security and coastal development.

3.2 Africa, Niger Delta and Gulf of Guinea

Africa is an especially significant context in which to consider the changing marine legal order, as coastal States face overlapping concerns of maritime insecurity, environmental degradation, offshore petroleum operations, fisheries, port development and institutional capacity. The Gulf of Guinea is strategically vital because of its petroleum deposits and maritime routes. The security architecture emphasises the significance of regional collaboration in combating transnational criminal activities. The Ghana/Togo maritime-boundary procedures at ITLOS exemplify the continued importance of international adjudication in the region. In June 2026, the Tribunal constituted a Special Chamber to deal with the matter and subsequently made procedural orders.¹⁶ The case is still pending. This maritime ecosystem has a special place for the Niger Delta. Its vast network of waterways, its mangrove habitats, its fisheries and its petroleum infrastructure make for a direct link between the control of domestic resources and the international commitments concerning the maritime environment. Pollution in the Niger Delta highlights the difficulties of distinguishing between land-based and maritime environmental damage. Petroleum pollution can

be carried by rivers, streams and estuaries to coastal waters, damaging fisheries, biodiversity and populations that rely on aquatic resources. The Niger Delta is therefore significant to the international law of the sea in that it provides a practical setting for analysing the execution of responsibilities relating to the protection of the marine environment, the control of pollution and the sustainable use. The Suppression of Piracy and Other Maritime Offences Act 2019 is part of Nigeria's domestic legal system which reinforced the legal response to piracy and related maritime offences.¹⁷ However, legislation alone cannot guarantee efficient maritime governance. Equally crucial are the capacity for enforcement, institutional coordination, environmental monitoring and access to appropriate remedies. Recent Nigerian legal study has also noted ongoing issues with environmental pollution in the Niger Delta and the adequacy of existing anti-pollution legislation.¹⁸ The Niger Delta should consequently be perceived as more than a local environmental challenge. It is an important case study of the interplay of international maritime law, domestic environmental control, petroleum resource governance, coastal livelihoods and maritime security.

3.2 Toward an Adaptive and Sustainable Law of the Sea

The above study suggests that the future of the law of the sea will be mostly in the adaptation rather than the replacement of UNCLOS. First, international adjudication should continue to clarify existing legal responsibilities as they apply to novel circumstances. The relevance of judicial interpretation continues to be proven by the climate-related advisory opinions and current maritime proceedings. Second, more treaty-making should clarify the scope of existing norms. The BBNJ Agreement shows how agreements can be implemented to promote ocean governance within the UNCLOS framework. Third, the utilisation of scientific evidence in marine administration is on the rise. Environmental impact assessment, marine scientific research, ecosystem monitoring and data sharing are crucial to informed maritime decision making. Fourth, emerging States need adequate institutional and technological capabilities to take an effective part in the international maritime order. Capacity-building and technology transfer should thus be regarded substantial aspects of egalitarian ocean governance. Finally, international commitments must be properly executed at the home level. The Niger Delta shows that wide-ranging international responsibilities on maritime environmental protection have little practical relevance if domestic regulatory agencies cannot stop pollution, enforce environmental standards and offer effective remedies.

4.0 Recommendations

Nigeria should improve domestic implementation of UNCLOS commitments by improved cooperation across marine, environmental, fisheries and petroleum sector entities. Special attention should be given to the Niger Delta by enhancing environmental monitoring, pollution prevention, environmental impact assessment and restoration systems. Regulators should be more concerned about the cumulative damage to the ecosystem than individual pollution incidents. Nigeria should improve its engagement in the execution of the BBNJ Agreement and relevant international procedures on marine biodiversity, marine scientific research, capacity-building and transfer of marine technologies. The country should also create relevant legal and institutional capacity for autonomous shipping, artificial intelligence and marine cybersecurity as these technologies become more important to Nigerian shipping and port operations. Gulf of Guinea States should improve information exchange, maritime-domain awareness, coordinated enforcement and implementation of the Yaoundé maritime-security architecture at the regional

level. International institutions should continue to develop the UNCLOS system through complementary agreements, judicial interpretation, technical standards, scientific cooperation and capacity-building, while preserving the fundamental balance between coastal-State rights and international freedoms established in the Convention.

5.0 Summary

The future of the law of the sea is being affected by environmental change, technological innovation, rivalry for resources, and changing maritime-security challenges. UNCLOS continues to be the core framework, since it provides the essential jurisdictional framework for marine spaces, navigation, rights over resources, environmental protection and dispute settlement.

Its continued significance, however, will depend on its capacity to function within a changing maritime environment. Progressive interpretation, supplementary regulation and successful execution are needed in respect of climate change, sea-level rise, marine biodiversity loss, deep-seabed activities, autonomous ships, cyber security and IUU fishing. The entry into force of the BBNJ Agreement in 2026 demonstrates that the UNCLOS system can evolve through the creation of complementary treaties.¹⁹ The IMO's MASS Code provides an example of a similar process of responding to autonomous shipping, although its non-binding status confirms that the regulatory framework is still evolving.²⁰ Recent developments at ITLOS also highlight the continued relevance of international adjudication. The *Heroic Idun* judgement was handed out in May 2026, but the *Ghana/Togo* maritime-boundary and *Nauru/Tonga* seabed cases are still pending.²¹

The Niger Delta offers a major practical environment in which to appreciate these changes for Nigeria. Marine environmental protection, petroleum activities, fisheries, coastal livelihoods and maritime security are interlinked. Therefore, effective fulfilment of international maritime duties must be combined with domestic environmental governance and regional maritime cooperation.

Hence, the future of the law of the sea should be seen as the adaptive and sustainable evolution of the UNCLOS framework. Its success will depend on a combination of legislative stability with regulatory innovation, scientific cooperation, technical preparedness, responsibility for the environment, and effective domestic execution. In the case of Nigeria, a better synergy between international maritime law and domestic governance is particularly crucial to protect the ecological and socioeconomic interests of the Niger Delta, while also contributing to a secure and sustainable maritime order.

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