 DOI: https://10.5281/zenodo.22921750

Sea-Level Rise and the Stability of Maritime Boundaries: Rethinking UNCLOS in a Changing Climate

Jasleen Kaur[1]

© The Author(s), under exclusive licence to Oxford Law Review 2026.

Abstract

This article addresses a critical contemporary challenge in the international law of the sea: the legal disruption caused by sea-level rise to established maritime baselines and outer zone limits. The central research question examines how the regulatory architecture of the *United Nations Convention on the Law of the Sea* (UNCLOS) can maintain the stability and predictability of maritime boundaries when the physical coastlines from which they are measured are permanently receding. Employing a doctrinal and jurisprudential methodology, this article evaluates the traditional "ambulatory baseline" theory against emerging state practice, regional declarations, and the ongoing work of the International Law Commission (ILC) study group on sea-level rise. The principal argument posits that a strict, literal interpretation of UNCLOS requiring baselines to move landward as sea levels rise is structurally destabilizing, threatening international peace, economic security, and the sovereign rights of coastal and small island states. The principal contribution of this article is the development of a coherent legal framework supporting the "freezing" or fixing of existing maritime zones. It demonstrates how dynamic treaty interpretation under Article 31 of the *Vienna Convention on the Law of Treaties* (VCLT), combined with regional state practice, can consolidate a customary rule of boundary permanence, ensuring legal stability without necessitating a formal amendment to UNCLOS.

Keywords: UNCLOS; Sea-Level Rise; Maritime Boundaries; Ambulatory Baselines; Law of the Sea; International Law Commission

1. Introduction

Sea-level rise caused by climate change presents an increasingly complex problem for the international law of the sea. The United Nations Convention on the Law of the Sea (UNCLOS) establishes maritime entitlements through a legal framework that is closely connected to coastal geography. Baselines provide the starting point for measuring the territorial sea and other maritime zones, while the geographical relationship between coastal States determines the allocation and delimitation of maritime space (UNCLOS 1982, arts 3, 5, 7, 57, 74 and 83). As sea-level rise causes coastal erosion, shoreline regression and the inundation or submergence of coastal features, questions arise concerning the continued legal effect of maritime entitlements established on the basis of geographical conditions that subsequently change.

[1] **Panjab University, Chandigarh, India.**

Copyright © Oxford Law Review. *(editor@oxfordlr.com)*

The legal problem is particularly significant because maritime zones are not merely geographical areas. They determine the scope of sovereign rights and jurisdiction exercised by coastal States. The exclusive economic zone, for example, confers upon the coastal State sovereign rights for the exploration, exploitation, conservation and management of natural resources and jurisdiction over specified activities (UNCLOS 1982, art 56). Continental shelf rights similarly provide coastal States with sovereign rights over the seabed and subsoil for the purpose of exploring and exploiting their natural resources (UNCLOS 1982, art 77). Consequently, any legal uncertainty concerning the persistence or extent of maritime entitlements may affect fisheries, offshore energy, seabed resources, environmental regulation and other State interests.

The traditional legal understanding has often treated the normal baseline under article 5 of UNCLOS as connected to the low-water line along the coast. On that view, significant physical movement of the coastline may create an ambulatory relationship between geography and maritime entitlements. The difficulty is that climate-induced sea-level rise is fundamentally different in scale and duration from ordinary coastal change. If baselines and maritime limits were continuously adjusted in response to physical changes, States could face continuing uncertainty concerning the geographical extent of their maritime rights. Conversely, if lawfully established maritime entitlements remain stable despite subsequent physical change, the question arises whether such stability can be reconciled with the geographical provisions of UNCLOS.

The distinction between baselines, maritime zones and maritime boundaries is therefore fundamental. A baseline constitutes the legal starting point for measuring maritime zones. A maritime entitlement refers to the rights and jurisdiction that a coastal State possesses within those zones. A maritime boundary, by contrast, determines the division of overlapping maritime entitlements between States. These concepts are related but legally distinct, and sea-level rise may affect each in different ways (Anggadi 2026).

The question of baseline stability has become particularly important because UNCLOS does not expressly establish a general rule requiring States to revise previously established baselines whenever coastal geography changes. Recent scholarship has therefore questioned whether international law actually imposes a continuing duty to update baselines. Anggadi's 2026 analysis of State practice concludes that, given the silence of UNCLOS and the mixed practice of coastal States, there is insufficient support for an implied general duty to update established baselines (Anggadi 2026). This is significant because the absence of such a duty provides a possible doctrinal basis for considering the temporal stability of maritime entitlements.

The issue has also moved beyond academic debate. The Pacific Islands Forum's 2021 *Declaration on Preserving Maritime Zones in the Face of Climate Change-related Sea-Level Rise* expressed the collective position of its members that established maritime zones should be maintained notwithstanding climate-related sea-level rise (Pacific Islands Forum 2021). The Declaration invoked legal stability, certainty and predictability and represented an important example of regional State practice concerning the preservation of maritime entitlements.

The International Law Commission's work has subsequently given the issue broader significance. In 2025, the Commission completed its consideration of sea-level rise in relation to international law. Its final conclusions recorded widespread support among States for the

Copyright © Oxford Law Review. (editor@oxfordlr.com)

preservation of lawfully established baselines, geographical coordinates and outer limits of maritime zones once duly deposited with the UN Secretary-General. The Commission further stated that general State practice existed concerning preservation of baselines and outer limits notwithstanding sea-level rise in the interests of legal stability, certainty and predictability (International Law Commission 2025). The ILC's conclusions are particularly important because they move the debate from a purely theoretical question concerning the future of maritime law towards an assessment of existing State practice and the interpretation of existing international legal rules. They do not constitute an amendment to UNCLOS, nor do they by themselves establish a universally binding new rule. Their significance instead lies in their assessment of State practice and in the possibility that such practice may contribute to the contemporary interpretation of UNCLOS.

The relationship between sea-level rise and maritime boundary agreements presents a further and distinct legal issue. A boundary established by agreement between States represents a negotiated settlement of overlapping maritime claims and cannot simply be equated with a baseline or unilateral maritime entitlement. The Vienna Convention on the Law of Treaties provides that a fundamental change of circumstances cannot be invoked as a ground for terminating or withdrawing from a treaty if the treaty establishes a boundary (VCLT 1969, art 62(2)(a)). The ILC's 2025 conclusions specifically affirmed that the doctrine of *rebus sic stantibus* does not apply to maritime delimitation agreements because of this boundary-treaty exception (International Law Commission 2025).

The principal legal question addressed by this article is consequently whether UNCLOS can accommodate the preservation of lawfully established maritime entitlements notwithstanding climate-induced sea-level rise. More specifically, the article examines whether the Convention requires the continuous revision of established baselines and maritime limits; whether subsequent State practice supports a more stable interpretation of the Convention; and whether agreed maritime boundaries enjoy a distinct and stronger form of legal stability.

The article adopts a doctrinal methodology based upon analysis of UNCLOS, the Vienna Convention on the Law of Treaties, relevant international legal materials, State practice, the work of the International Law Commission and contemporary scholarship. Particular attention is given to treaty interpretation under articles 31 and 32 of the Vienna Convention, including the relevance of subsequent practice under article 31(3)(b). The analysis also distinguishes the legal consequences of unilateral maritime entitlements from those arising from negotiated maritime delimitation agreements.

The central argument is that the emerging international-law response supports a contemporary interpretation of UNCLOS capable of preserving lawfully established maritime entitlements despite subsequent sea-level rise. This does not require treating the Convention as irrelevant to changing geography, nor does it require creating entirely new maritime rights. Rather, it requires distinguishing the physical evolution of coastlines from the legal stability of maritime entitlements already established under the Convention. Such an interpretation is increasingly supported by State practice and recent international legal analysis (International Law Commission 2025; Anggadi 2026).

Copyright © Oxford Law Review. (editor@oxfordlr.com)

The article proceeds in five substantive stages. It first examines the UNCLOS framework governing baselines, maritime entitlements and maritime delimitation. It then analyses the effect of sea-level rise on the legal stability of maritime zones and the question whether established baselines must be revised. The following section examines treaty interpretation and State practice, including the Pacific Islands Forum position and the ILC's 2025 conclusions. The article then evaluates the stability of maritime boundary agreements and, finally, proposes a climate-responsive interpretation of UNCLOS capable of reconciling the Convention's geographical foundations with the requirements of legal certainty and stability in a changing climate.

2. The UNCLOS Framework: Baselines, Maritime Entitlements And Maritime Delimitation

The legal consequences of sea-level rise must first be examined against the framework established by the United Nations Convention on the Law of the Sea (UNCLOS). The Convention does not treat the sea as an undifferentiated space. Instead, it establishes different maritime zones whose existence, extent and legal character depend upon legally recognised coastal features and methods of delimitation. The resulting relationship between coastal geography and maritime rights is therefore central to determining whether climate-induced changes to coastlines should affect previously established maritime entitlements.

2.1 Baselines and the Generation of Maritime Entitlements

The starting point under UNCLOS is the baseline. Article 5 provides that, except where otherwise provided by the Convention, the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on officially recognised large-scale charts (UNCLOS 1982, art 5). The territorial sea may extend up to 12 nautical miles from that baseline (UNCLOS 1982, art 3). The contiguous zone may extend up to 24 nautical miles, while the exclusive economic zone (EEZ) may extend up to 200 nautical miles from the baselines from which the breadth of the territorial sea is measured (UNCLOS 1982, arts 33 and 57). (United Nations)

UNCLOS does not, however, prescribe a single method for all coastlines. Article 7 permits the use of straight baselines in localities where the coastline is deeply indented and cut into or where there is a fringe of islands along the coast in its immediate vicinity. Significantly for the present inquiry, Article 7(2) expressly provides that where a coastline is highly unstable because of a delta or other natural conditions, appropriate points may be selected along the furthest seaward extent of the low-water line and, notwithstanding subsequent regression of the low-water line, the straight baselines remain effective until changed by the coastal State in accordance with the Convention (UNCLOS 1982, art 7(2)). (United Nations)

Article 7(2) is particularly relevant to the contemporary sea-level-rise debate. It demonstrates that the Convention itself contains at least one situation in which subsequent regression of the low-water line does not automatically invalidate an established baseline. This provision does not, however, expressly resolve the broader question whether similar stability applies

Copyright © Oxford Law Review. (editor@oxfordlr.com)

to normal baselines established under article 5. The existence of an express stability rule for unstable coastlines may therefore be regarded either as evidence of the Convention's capacity to accommodate geographical change or, conversely, as an indication that stability was intended only for the specific circumstances addressed by article 7(2). The issue remains central to the interpretation of the Convention in the context of climate-induced sea-level rise.

Article 13 further regulates low-tide elevations. A low-tide elevation may generate a baseline for measuring the territorial sea where it is situated within the breadth of the territorial sea from the mainland or an island. Where it lies beyond that distance, it has no territorial sea of its own (UNCLOS 1982, art 13). (United Nations) The potential disappearance or permanent submergence of such features therefore raises a separate question concerning the continuing legal relevance of geographical features that have contributed to maritime entitlements.

The Convention also requires coastal States to show the baselines or outer limits of maritime zones on charts or by geographical coordinates and to give due publicity to them (UNCLOS 1982, art 16). This requirement is significant because it introduces an important distinction between the physical geography of the coast and its legal representation through charts and coordinates. The legal consequences of subsequent geographical change cannot therefore be determined solely by observing physical changes in the coastline; they must also be examined in light of how States establish, publish and deposit their maritime limits.

The International Law Commission's work confirms that this distinction has become central to contemporary international-law analysis. In its 2025 consideration of sea-level rise, the Commission examined whether States are required to modify or update charts to reflect changes in baselines. The Study Group recorded differing views, including the view that UNCLOS does not require modification or updating of charts to reflect changes in baselines, while also recognising that the absence of such an obligation does not by itself establish universal agreement that all baselines are legally fixed (International Law Commission 2025). (United Nations Legal Affairs) This distinction is doctrinally important. The absence of a duty to update charts is not necessarily equivalent to a general rule that all baselines are immutable. The two propositions must be analysed separately. The first concerns a State's obligation to revise its legal and cartographic representation of maritime limits; the second concerns the substantive legal effect of physical changes to the coast. Treating them as identical would risk simplifying a question that remains unsettled in international law.

2.2 Maritime Zones and the Nature of Coastal-State Rights

Once established from the applicable baselines, maritime zones generate different categories of rights and jurisdiction. The territorial sea is subject to the sovereignty of the coastal State, subject to UNCLOS and other applicable rules of international law (UNCLOS 1982, art 2). The EEZ has a different legal character. Article 56 grants the coastal State sovereign rights for exploring, exploiting, conserving and managing living and non-living natural resources and jurisdiction over specified activities, including artificial islands, marine scientific research and protection of the marine

Copyright © Oxford Law Review. (editor@oxfordlr.com)

environment (UNCLOS 1982, art 56). The EEZ may not extend beyond 200 nautical miles from the relevant baselines (UNCLOS 1982, art 57). (United Nations)

The continental shelf is governed by a distinct regime. Under article 76, it comprises the seabed and subsoil of the submarine areas extending beyond the territorial sea throughout the natural prolongation of the land territory, subject to the Convention's specific rules concerning its outer limits. Article 77 provides that the coastal State exercises sovereign rights over the continental shelf for the purpose of exploring it and exploiting its natural resources and that these rights do not depend upon occupation or express proclamation (UNCLOS 1982, arts 76–77). These provisions demonstrate that maritime entitlements cannot be treated simply as extensions of territory over water. Each zone has a distinct legal regime and confers different rights. Consequently, sea-level rise cannot be assumed to produce an identical legal consequence for the territorial sea, EEZ and continental shelf.

This distinction is particularly relevant to the question of legal stability. If the physical coastline retreats, a strict ambulatory approach might suggest that the baseline and consequently certain maritime limits should also move. Yet such an approach does not necessarily answer what should happen to rights that have already been formally established, charted, deposited or relied upon by the coastal State. Nor does it resolve the distinct legal position of continental shelf rights, which are governed by provisions that do not simply replicate the territorial-sea regime.

Article 121 introduces an additional complexity concerning islands. Under article 121(1), an island is a naturally formed area of land, surrounded by water, which is above water at high tide. Islands generally generate maritime zones in accordance with the Convention, subject to the special rule in article 121(3) concerning rocks that cannot sustain human habitation or economic life of their own (UNCLOS 1982, art 121). The physical transformation or submergence of islands therefore has potentially significant consequences for the maritime entitlements of States whose maritime zones depend upon them.

2.3 Maritime Delimitation and the Distinction Between Entitlement and Boundary

The legal concept of maritime delimitation must be distinguished from the creation of maritime entitlement. Entitlement concerns the existence and potential extent of a State's maritime zone. Delimitation addresses the division of overlapping entitlements between States.

UNCLOS provides specific rules for delimitation. Article 15 addresses the territorial sea between States with opposite or adjacent coasts and establishes an equidistance-based rule subject to historic title and special circumstances. For the EEZ and continental shelf, articles 74 and 83 require delimitation by agreement on the basis of international law in order to achieve an equitable solution (UNCLOS 1982, arts 15, 74 and 83). Article 74 further requires States to make every effort to enter into provisional arrangements of a practical nature pending final agreement, without prejudice to the final delimitation (UNCLOS 1982, art 74). (United Nations)

The distinction between entitlement and delimitation becomes critical in the context of sea-level rise. A change in the physical coastline may raise questions about the continued geographical basis of a State's maritime entitlement. A previously agreed boundary, however,

Copyright © Oxford Law Review. (editor@oxfordlr.com)

represents a separate legal settlement between States. It cannot simply be treated as a line that automatically moves whenever the underlying coastline changes.This distinction is recognised in the International Law Commission's work. Its consideration of sea-level rise has separately addressed the possible legal effects of sea-level rise on baselines and outer limits of maritime spaces, on maritime delimitations, and on the exercise of sovereign rights and jurisdiction (International Law Commission 2025). (United Nations Legal Affairs) The Commission's final work further concluded that the principle of *rebus sic stantibus*, as codified in article 62 of the Vienna Convention on the Law of Treaties, does not apply to maritime delimitation agreements because treaties establishing boundaries are expressly excluded from that doctrine under article 62(2)(a) (International Law Commission 2025). (United Nations Legal Affairs)

The distinction can therefore be expressed in three stages. First, the baseline provides the geographical starting point for measuring maritime zones. Secondly, those zones generate legally defined rights and jurisdiction. Thirdly, where the entitlements of neighbouring States overlap, delimitation determines the boundary between them. Sea-level rise may raise questions at each stage, but the applicable legal principles are not necessarily identical.

This three-stage structure is essential to the present research because the expression "maritime boundary" is sometimes used broadly to encompass baselines, outer limits and delimitation lines. A precise legal analysis should avoid that conflation. A baseline is not a maritime boundary between States; an outer limit of an EEZ is not necessarily a delimitation line; and an agreed maritime boundary is not simply an ambulatory extension of the coastline.

2.4 Good Faith, Stability and the Application of UNCLOS

The Convention's general provisions also have relevance to the stability question. Article 300 requires States Parties to fulfil their obligations under UNCLOS in good faith and to exercise the rights, jurisdiction and freedoms recognised by the Convention in a manner that would not constitute an abuse of right (UNCLOS 1982, art 300).

Article 300 cannot independently create a rule that freezes every maritime entitlement against geographical change. Nevertheless, it provides an important interpretative context for considering how States exercise rights under the Convention. Where an established maritime entitlement has been lawfully exercised and relied upon over time, questions concerning abrupt alteration of that entitlement engage broader concerns of good faith, legal certainty and stability.

These considerations have become particularly prominent in the ILC's contemporary work. The Commission's 2025 final report records widespread State support for the preservation of lawfully established baselines, geographical coordinates and outer limits of maritime zones despite sea-level rise. It further records general State practice supporting preservation in the interests of legal stability, certainty and predictability (International Law Commission 2025). (United Nations Legal Affairs) The significance of this development should nevertheless be carefully stated. The ILC's conclusions do not amend UNCLOS, and the existence of general State practice supporting preservation does not eliminate every unresolved question concerning the legal status of baselines. Indeed, the Commission itself recorded differing views concerning whether the concept of fixed

Copyright © Oxford Law Review. (editor@oxfordlr.com)

baselines should be accepted and emphasised that fixed baselines should not simply be equated with immutable boundaries (International Law Commission 2025). (United Nations Legal Affairs)

The UNCLOS framework therefore provides both the source of the problem and the legal resources for addressing it. Its baseline provisions establish the geographical relationship between land and sea; its provisions on maritime zones establish differentiated rights; its delimitation provisions protect the settlement of overlapping claims; and its general principles provide a context in which good faith and legal stability can be considered.

3. Sea-Level Rise And The Legal Stability Of Maritime Entitlements

3.1 Ambulatory Baselines and the Question of Continuing Change

The principal difficulty created by sea-level rise is that the conventional law of baselines is closely connected to the physical configuration of the coast. Under the normal baseline rule in Article 5 of the United Nations Convention on the Law of the Sea (UNCLOS), the relevant reference point is the low-water line along the coast as marked on officially recognised charts. If the physical coastline moves landward as a consequence of erosion or inundation, an ambulatory conception of the baseline would therefore appear to require corresponding adjustment. On that approach, the outer limits of maritime zones measured from the baseline could also move landward, potentially reducing the territorial sea, exclusive economic zone (EEZ) and other maritime entitlements generated from the affected coast (UNCLOS 1982, arts 5, 57).

The traditional legal understanding of baselines has often been described as ambulatory because the baseline is linked to the physical coast rather than permanently fixed at a particular geographical position. This approach reflects the geographical foundations of the law of the sea and the principle that maritime rights are generated by land territory. It also explains why coastal change caused by ordinary geomorphological processes has historically been capable of affecting maritime limits. Sea-level rise, however, presents a qualitatively different problem because the geographical change is potentially widespread, continuous and attributable to a global environmental process rather than simply to ordinary local coastal dynamics (Anggadi 2026).

The legal question is therefore not merely whether coastlines can change. They plainly can. The more difficult question is whether UNCLOS requires a State to translate every subsequent physical change in its coastline into a corresponding legal modification of previously established baselines and maritime zones. The distinction is important. A rule recognising the geographical mobility of the normal baseline does not necessarily establish an affirmative international obligation requiring States to continuously revise their deposited geographical coordinates and outer limits whenever the physical coastline changes.

This distinction becomes particularly significant in light of Article 7(2) of UNCLOS. In the case of a coast characterised by a delta or other highly unstable conditions, the Convention expressly provides that straight baselines remain effective notwithstanding subsequent regression of the low-water line until they are changed by the coastal State in accordance with the Convention. The provision demonstrates that the Convention is not based upon an absolute requirement that every

Copyright © Oxford Law Review. (editor@oxfordlr.com)

physical movement of the coast must automatically produce an immediate legal adjustment. Rather, UNCLOS itself contains circumstances in which legal stability is expressly accommodated despite geographical change (UNCLOS 1982, art 7(2)).

The 2025 work of the International Law Commission (ILC) is particularly important in clarifying the present state of the debate. The Commission recorded substantial State support for the preservation of lawfully established baselines, geographical coordinates and outer limits notwithstanding sea-level rise. At the same time, it also recorded that States and Commission members did not hold a completely uniform view that all baselines are inherently fixed or immutable. In particular, the absence of an obligation to update charts or geographical coordinates does not, by itself, establish a universally accepted rule that every baseline is permanently fixed against all future geographical change (International Law Commission 2025).

The distinction prevents two opposite propositions from being treated as established law. First, it would be excessive to conclude that every coastline change necessarily invalidates or reduces an existing maritime entitlement. Secondly, it would equally be premature to state that UNCLOS has already established an absolute rule of immutable maritime zones applicable in every circumstance. The emerging legal position lies between these propositions and is increasingly concerned with whether lawfully established maritime entitlements should acquire a degree of legal stability once they have been determined and notified in accordance with the Convention.

Recent scholarship has developed this distinction through the concept of the 'legal stability of maritime zones'. Anggadi's 2026 study identifies the contemporary debate as a movement away from the assumption that sea-level rise necessarily results in the progressive loss of maritime zones and towards an interpretation under which existing maritime zones may, in appropriate circumstances, be preserved through the interpretation of UNCLOS itself (Anggadi 2026). This development is significant because it treats stability not simply as a policy preference but as a question capable of being examined within the existing legal framework of the law of the sea. The issue can therefore be framed in terms of two competing legal models. Under the ambulatory model, the physical movement of the coastline remains determinative and established maritime zones may correspondingly contract. Under the stability model, a maritime zone lawfully established under UNCLOS may retain its legal effect notwithstanding subsequent climate-induced geographical change. The latter does not necessarily deny the geographical basis of maritime entitlements; instead, it treats the legal consequences of an entitlement once established as capable of becoming sufficiently stable to withstand a particular category of subsequent physical change.

The significance of this distinction becomes greater where a State has already deposited geographical coordinates and established its maritime zones in accordance with UNCLOS. The Pacific Islands Forum Declaration of 2021 expressly affirmed that its members consider the Convention not to impose an affirmative obligation to keep baselines and outer limits under review or to update charts and lists of geographical coordinates after their deposit with the United Nations Secretary-General. The Declaration further stated that maritime zones established and notified in accordance with UNCLOS should continue to apply without reduction notwithstanding climate change-related sea-level rise (Pacific Islands Forum 2021). This represents an important

Copyright © Oxford Law Review. (editor@oxfordlr.com)

 DOI: https://10.5281/zenodo.22921750

development in State practice, although it should not be treated as conclusive evidence that a universal customary rule has already crystallised.

3.2 Sea-Level Rise, Coastal Features and the Continuity of Entitlements

The effect of sea-level rise is not uniform across all geographical features or maritime zones. UNCLOS differentiates between islands, rocks, low-tide elevations and other coastal formations, and the legal consequences of physical change depend substantially upon the status of the relevant feature. Article 121 establishes the general regime applicable to islands, while Article 121(3) limits the capacity of rocks which cannot sustain human habitation or economic life of their own to generate an EEZ or continental shelf (UNCLOS 1982, art 121).

This creates a particularly difficult problem where a feature that previously satisfied the relevant legal requirements is progressively reduced through erosion or inundation. A purely geographical approach might suggest that the loss or alteration of the physical feature should correspondingly affect the maritime entitlements associated with it. Yet such an approach may produce considerable uncertainty where the legal status of the feature fluctuates in response to gradual environmental processes. It also raises questions concerning the point at which a physical change becomes legally significant and whether every incremental alteration should have immediate consequences for established maritime limits.

The problem is especially acute for small island and low-lying coastal States whose maritime jurisdiction may substantially exceed their terrestrial territory. For such States, maritime zones are not merely spatial extensions of the coastline. They constitute the legal basis for jurisdiction over marine resources and economic activities and may form an important component of long-term national planning. The Pacific Islands Forum has consequently linked preservation of maritime zones with economic development, resource governance and the continuing exercise of rights under UNCLOS (Pacific Islands Forum 2021).

Nevertheless, the legal stability argument should not be reduced to a special exception for vulnerable States. If preservation is justified solely by the particular vulnerability of small island States, its wider doctrinal basis would remain uncertain. The stronger legal argument concerns the stability of lawfully established rights and the function of UNCLOS as a framework intended to provide an enduring legal order for the oceans. The Pacific Islands Forum itself framed its Declaration in terms of legal stability, security, certainty and predictability as principles relevant to the interpretation and application of UNCLOS (Pacific Islands Forum 2021).

This distinction is also consistent with the broader structure of UNCLOS. The Convention does not treat every maritime right as having identical geographical and temporal characteristics. Continental shelf rights, for example, arise *ipso facto and ab initio*, while the territorial sea and EEZ are measured from specified baselines and are subject to distinct legal regimes (UNCLOS 1982, arts 3, 56, 57, 76 and 77). Consequently, the legal effects of sea-level rise cannot be resolved through a single proposition that 'the coast moves, therefore all maritime rights move'. Each entitlement must be examined according to its legal source, the relevant Convention provision and whether the entitlement has already been lawfully established.

Copyright © Oxford Law Review. (editor@oxfordlr.com)

Accordingly, sea-level rise should not be understood as producing a single legal consequence for all maritime spaces. The relevant inquiry must instead distinguish between the continuing geographical operation of baselines, established maritime entitlements, outer limits and maritime boundaries. This differentiated approach provides a more precise basis for determining which elements of the existing maritime order can remain legally stable despite physical changes to the coast.

3.3 Legal Stability, Certainty and Predictability as Emerging Doctrinal Considerations

The strongest development in contemporary international law concerning sea-level rise is the increasing emphasis on legal stability. The concept is significant because it addresses the temporal dimension of maritime entitlements: once an entitlement has been lawfully established, what legal consequences should follow from subsequent environmental changes beyond the control of the State concerned?

The ILC's 2025 final work reflects the growing importance of this consideration. The Commission recorded general State practice supporting preservation of lawfully established maritime zones in the face of sea-level rise and identified legal stability, certainty and predictability as important considerations underlying that practice. It nevertheless acknowledged continuing differences concerning the precise legal status of fixed baselines and the relationship between fixed baselines and immutable maritime boundaries (International Law Commission 2025).

This qualification is doctrinally important. 'Legal stability' should not automatically be equated with 'immutability'. Stability means that the law provides continuity and predictability in the application of established rights; it does not necessarily mean that every geographical coordinate, baseline or maritime limit is permanently insulated from every form of legal change. Treating stability as absolute immutability would go further than the present evidence supports.

The emerging principle can instead be understood as a presumption in favour of preserving lawfully established maritime entitlements where subsequent sea-level rise would otherwise produce legal uncertainty or unintended loss of rights. Such a presumption would operate within, rather than outside, the UNCLOS framework. It would therefore remain subject to the Convention's provisions concerning baselines, maritime zones, delimitation and the legal status of maritime features.

This approach also explains why State practice is increasingly relevant. The Pacific Islands Forum Declaration does not amend UNCLOS. Rather, it expresses the collective understanding of a group of States concerning how existing Convention obligations and rights should operate in circumstances not expressly contemplated during the negotiation of the Convention. The Declaration therefore provides evidence relevant to the contemporary interpretation of UNCLOS, while its precise legal weight depends upon the wider pattern of State practice and the requirements of international treaty interpretation (Pacific Islands Forum 2021).

The legal stability approach also responds to a broader concern regarding the predictability of the international maritime order. If every climate-induced alteration of a coastline automatically required a corresponding reduction of maritime zones, States could face continuing uncertainty concerning the geographical extent of their jurisdiction. Such uncertainty could affect resource

Copyright © Oxford Law Review. (editor@oxfordlr.com)

rights, fisheries management, seabed activities, navigation and relations with neighbouring States. For States with overlapping maritime claims, repeated geographical changes could also complicate the maintenance of established arrangements. At the same time, stability cannot be invoked in isolation from the consensual structure of international law. The fact that sea-level rise is exceptional and externally caused does not itself create a new rule overriding UNCLOS. The legal argument for stability must therefore be derived from the Convention, subsequent State practice, general principles relevant to the operation of treaty regimes and the broader requirement of legal certainty. This is why the question of treaty interpretation is central to the debate and why the emerging practice should be examined through the framework of Articles 31 and 32 of the Vienna Convention on the Law of Treaties.

The contemporary position can therefore be characterised as an evolving legal question rather than a completely settled rule. There is substantial and increasingly organised State practice supporting the preservation of maritime zones, particularly among Pacific States, and the ILC's 2025 work confirms the growing international recognition of legal stability as a relevant consideration. Yet the evidence does not justify treating all aspects of the stability approach as universally settled customary international law. The more defensible proposition is that UNCLOS can be interpreted in a manner that accommodates stability where the Convention's text, subsequent practice and the object and purpose of the treaty support that conclusion.

The resulting legal problem is consequently one of interpretation rather than simple geographical adjustment. Sea-level rise does not merely ask whether coastlines are moving; it asks whether the legal consequences traditionally associated with geographical mobility should continue to operate in the same manner when the change results from an unprecedented and accelerating global phenomenon. That question requires examination of the Convention's terms in their contemporary context, the subsequent practice of States and the principles governing treaty interpretation.

4. Treaty Interpretation, State Practice And The Stability Of Maritime Boundaries

4.1 Treaty Interpretation and UNCLOS

The legal consequences of sea-level rise must ultimately be examined through the established rules of treaty interpretation. UNCLOS contains no express provision dealing comprehensively with climate-induced sea-level rise and its consequences for established maritime zones. This does not prevent its application to circumstances that were not specifically contemplated when the Convention was negotiated. The Convention must be interpreted in accordance with the general rules reflected in Articles 31 and 32 of the Vienna Convention on the Law of Treaties (VCLT 1969, arts 31–32).

Article 31 requires interpretation in good faith according to the ordinary meaning of the treaty's terms, their context and its object and purpose. It also requires subsequent agreements and subsequent practice concerning the interpretation or application of the treaty to be taken into account. Article 32 permits supplementary means of interpretation where necessary (VCLT 1969,

Copyright © Oxford Law Review. (editor@oxfordlr.com)

arts 31–32). Applied to sea-level rise, these rules support a distinction between the geographical basis of maritime entitlements and the legal consequences of an entitlement once lawfully established. Article 5 of UNCLOS links the normal baseline to the low-water line, but it does not expressly state that every subsequent physical movement of that line automatically requires the revision of previously established maritime zones. Moreover, Article 7(2) demonstrates that UNCLOS itself can preserve legal baselines despite subsequent coastal regression in particular circumstances (UNCLOS 1982, arts 5, 7(2)).

The Convention's object and purpose are also relevant. UNCLOS establishes a comprehensive legal order for the oceans, requiring a balance between competing maritime interests. An interpretation that produces continuous uncertainty concerning established maritime rights may therefore be difficult to reconcile with the Convention's function as a stable legal framework. This does not mean that stability overrides the Convention's geographical requirements; rather, geographical rules must be interpreted alongside the Convention as a whole.

4.2 Subsequent State Practice and Legal Stability

Subsequent State practice provides an increasingly important basis for the preservation of maritime zones. The 2021 Pacific Islands Forum Declaration states that maritime zones established in accordance with UNCLOS and notified to the UN Secretary-General should be maintained notwithstanding climate change-related sea-level rise. The Declaration expressly connects this position with stability, security, certainty and predictability and presents it as an interpretation of UNCLOS rather than an alternative legal regime (Pacific Islands Forum 2021).

The Declaration is significant but cannot, by itself, establish a universally binding interpretation of UNCLOS. Article 31(3)(b) of the VCLT concerns subsequent practice establishing the agreement of the parties, while the Pacific Islands Forum represents a regional grouping. Its importance therefore lies principally in demonstrating coordinated State practice and an emerging legal understanding. The 2025 ILC final report provides stronger evidence of this development. The Commission recorded widespread State support for the 2021 Pacific Islands Forum Declaration and identified general State practice supporting the preservation of baselines and outer limits notwithstanding sea-level rise, particularly in the interests of legal stability, certainty and predictability (International Law Commission 2025).

The ILC's conclusion should nevertheless be interpreted carefully. Earlier stages of its work recorded disagreement concerning whether existing practice was sufficient to establish a customary rule requiring fixed baselines. The Commission noted that the practice could support an interpretation of UNCLOS without necessarily establishing a new rule of customary international law (International Law Commission 2023).

Accordingly, the strongest present proposition is not that maritime entitlements have universally become immutable as a matter of customary international law. Rather, State practice increasingly supports an interpretation of UNCLOS under which lawfully established maritime zones can be preserved against climate-induced sea-level rise. This distinction permits the law to

Copyright © Oxford Law Review. (editor@oxfordlr.com)

respond to an exceptional environmental circumstance without claiming that every aspect of the stability approach is already conclusively settled.

4.3 Maritime Boundary Agreements and Rebus Sic Stantibus

The position is particularly strong where maritime boundaries have already been established by agreement. A negotiated maritime boundary is legally distinct from a unilateral baseline or maritime-zone claim. Its stability is reinforced by the VCLT's treatment of boundary treaties.

Article 62(2)(a) of the VCLT excludes treaties establishing boundaries from the operation of the doctrine of fundamental change of circumstances (*rebus sic stantibus*) (VCLT 1969, art 62(2)(a)). The ILC's 2025 final report expressly confirmed that *rebus sic stantibus* does not apply to maritime delimitation agreements because they fall within this boundary-treaty exception (International Law Commission 2025). This is important in the context of sea-level rise. Climate-induced geographical change cannot ordinarily be invoked under Article 62 to terminate or withdraw from a maritime boundary agreement. The rule reflects the wider importance of stability and predictability in international boundary arrangements.

The distinction between agreed boundaries and unilateral maritime entitlements must nevertheless be maintained. Article 62(2)(a) does not itself establish that every baseline or maritime zone is immutable. Rather, it demonstrates that international law already recognises a particularly strong presumption of stability where States have formally agreed upon a boundary.

Taken together, the VCLT framework, subsequent State practice and the ILC's 2025 conclusions provide a developing legal basis for preserving established maritime arrangements in the face of sea-level rise. They do not, however, eliminate the geographical foundations of UNCLOS or establish unlimited immutability. The more defensible approach is therefore one of legal stability within the existing Convention framework.

5. Rethinking UNCLOS: Towards A Climate-Responsive Interpretation

The preceding analysis demonstrates that the principal difficulty posed by sea-level rise is not the inadequacy of UNCLOS as the governing legal framework, but the uncertainty concerning how its geographically based rules should operate under unprecedented and continuing environmental change. The emerging practice of States and the ILC's 2025 work indicate that preservation of lawfully established maritime zones is increasingly regarded as compatible with UNCLOS, particularly where such preservation promotes legal stability, certainty and predictability (International Law Commission 2025). (United Nations Legal Affairs)

A climate-responsive interpretation should therefore be developed within, rather than outside, the Convention. Such an approach would not convert every maritime entitlement into an immutable legal right. Instead, it would distinguish between the establishment of maritime entitlements and subsequent physical changes caused by climate-related sea-level rise. Where a State has lawfully established and notified its maritime zones in accordance with UNCLOS, subsequent climate-induced changes should not automatically require their reduction.

Copyright © Oxford Law Review. (editor@oxfordlr.com)

This approach finds substantial support in the 2021 Pacific Islands Forum Declaration. The Declaration expressly states that its members do not regard UNCLOS as imposing an affirmative obligation to continually review baselines or update deposited geographical coordinates as a consequence of sea-level rise. It further declares that established maritime zones and the rights flowing from them should continue without reduction notwithstanding physical changes associated with climate change-related sea-level rise (Pacific Islands Forum 2021). (Pacific Islands Forum Secretariat)

Three safeguards are nevertheless necessary.

First, preservation should apply to lawfully established and notified maritime entitlements, rather than creating new entitlements unsupported by UNCLOS. This would prevent the stability principle from becoming a mechanism for extending maritime claims beyond the Convention's existing rules.

Secondly, preservation should not eliminate the distinction between maritime zones and maritime boundaries. Agreed maritime boundaries possess an additional basis in the consent of the States concerned, while unilateral maritime entitlements arise under the Convention. The stability of each must therefore be assessed according to its particular legal source.

Thirdly, climate-responsive interpretation should not be treated as an unlimited principle of immutability. The ILC's work recognises the growing practice of preservation but also records continuing questions concerning the precise status of fixed baselines. (United Nations Legal Affairs) The better formulation is therefore stability of established maritime entitlements, rather than absolute immutability of every baseline or geographical feature.

Such an interpretation is particularly relevant to small island and low-lying coastal States. The Pacific Islands Forum has emphasised that these States have planned their development in reliance upon maritime rights established under UNCLOS. (Pacific Islands Forum Secretariat) Preservation therefore protects not merely abstract geographical lines but the continuity of jurisdictional and resource rights upon which States may have legitimately relied.

The approach also promotes consistency within international law. The protection of maritime boundary agreements from *rebus sic stantibus* demonstrates that international law already gives particular importance to the stability of spatial arrangements between States (VCLT 1969, art 62(2)(a)). The preservation of established maritime zones in response to climate-induced sea-level rise can similarly be understood as an effort to maintain the predictability and continuity of the international maritime order.

Nevertheless, preservation should not be confused with a complete rejection of geographical change. Physical coastlines will continue to evolve, and UNCLOS will remain the principal source for determining maritime entitlements. The proposed approach instead separates physical change from automatic legal reduction. This distinction allows international law to acknowledge the reality of sea-level rise while preventing an automatic erosion of rights that were lawfully established under the Convention. The question is consequently no longer simply whether maritime boundaries should move with the coastline. The more legally precise question is whether international law should permit physical changes caused by climate change to automatically diminish rights that States have already established under UNCLOS. The developing practice reflected in the Pacific Islands Forum

Copyright © Oxford Law Review. (editor@oxfordlr.com)

 DOI: https://10.5281/zenodo.22921750

Declaration and the ILC's 2025 conclusions provides substantial support for answering that question through a principle of legal stability, while leaving the underlying structure and authority of UNCLOS intact. (Pacific Islands Forum Secretariat)

6. Conclusion

Sea-level rise presents a distinctive challenge to the international law of the sea because it alters the physical geography upon which maritime entitlements are traditionally constructed. Coastal erosion, inundation and the possible submergence of low-lying islands can affect the geographical features used for determining baselines and maritime zones. The resulting uncertainty is particularly significant for small island and low-lying coastal States whose economic security, natural resources and sovereign rights are closely connected with the surrounding maritime space.

UNCLOS remains the principal legal framework for determining maritime entitlements. Its provisions concerning baselines, territorial seas, exclusive economic zones and continental shelves continue to provide the basic legal structure governing coastal-State rights (UNCLOS 1982, arts 3, 5, 57 and 76). The difficulty lies not in the continuing relevance of UNCLOS, but in determining how its geographical rules should operate when the physical environment changes as a consequence of climate change.

The analysis demonstrates that a distinction must be maintained between physical coastal change, maritime entitlements and maritime boundaries. The movement of a coastline does not necessarily require the automatic disappearance or reduction of every maritime entitlement previously established in accordance with international law. The position is particularly strong in relation to agreed maritime boundaries, where the principle of stability and the special protection afforded to boundary treaties support the continuation of existing legal arrangements (Vienna Convention on the Law of Treaties 1969, art 62(2)(a); International Law Commission 2025).

Recent international developments reinforce this approach. The 2021 Pacific Islands Forum Declaration represents important regional State practice in favour of preserving established maritime zones notwithstanding climate-related sea-level rise (Pacific Islands Forum 2021). The International Law Commission's completion of its work in 2025 further demonstrates the increasing recognition that legal stability, certainty and predictability are central to addressing the consequences of sea-level rise (International Law Commission 2025).

The emerging approach does not require the geographical foundations of UNCLOS to be abandoned. Nor does it require the creation of unlimited or entirely new maritime rights. Rather, it supports a distinction between the continuing physical transformation of coastlines and the legal stability of maritime entitlements that have already been lawfully established. Such an approach can protect existing rights while allowing UNCLOS to continue governing maritime claims that remain unsettled or arise in the future.

The issue is also one of equity and climate justice. States that are particularly vulnerable to sea-level rise may face the loss of land and other territorial consequences despite having contributed comparatively little to global climate change. Preventing climate-induced geographical change from automatically resulting in the loss of established maritime entitlements can therefore form an

Copyright © Oxford Law Review. (editor@oxfordlr.com)

important element of international legal adaptation. It does not resolve the wider consequences of climate change, but it can prevent an additional erosion of the sovereign and economic rights of vulnerable States.

Accordingly, this article concludes that stability of lawfully established maritime entitlements provides the most coherent basis for responding to sea-level rise within the existing framework of UNCLOS. Preservation of established maritime zones, continued stability of agreed maritime boundaries and cooperative approaches to unresolved claims can allow the law of the sea to adapt to climate change without undermining the Convention's fundamental structure. The future development of international law should therefore focus not on replacing UNCLOS, but on ensuring that its application remains capable of providing certainty, stability and equitable protection in a rapidly changing physical environment.

References

United Nations Convention on the Law of the Sea (1982) 1833 UNTS 3.UN Treaty Collection – UNCLOS

Vienna Convention on the Law of Treaties (1969) 1155 UNTS 331.UN Treaty Collection – Vienna Convention

International Law Commission, *Sea-Level Rise in Relation to International Law: Final Report of the Study Group* (2025), in *Report of the International Law Commission on the Work of its Seventy-Sixth Session*, UN Doc A/80/10.International Law Commission – Sea-Level Rise Materials

International Law Commission, *Sea-Level Rise in Relation to International Law: First Issues Paper* (2020), UN Doc A/CN.4/740.

International Law Commission, *Sea-Level Rise in Relation to International Law: Second Issues Paper* (2022), UN Doc A/CN.4/752.

International Law Commission, *Sea-Level Rise in Relation to International Law: Final Consolidated Report of the Study Group* (2025), UN Doc A/CN.4/783.ILC Seventy-Sixth Session Documents

Pacific Islands Forum, *Declaration on Preserving Maritime Zones in the Face of Climate Change-related Sea-Level Rise*(2021).Pacific Islands Forum Declaration

Pacific Islands Forum, *2050 Strategy for the Blue Pacific Continent* (2022).2050 Strategy for the Blue Pacific Continent

International Law Association, *Sydney Declaration on Sea Level Rise and International Law* (2018).

Anggadi F, *Sea-Level Rise and the Legal Stability of Maritime Zones* (Oxford University Press 2026).Oxford Academic – Sea-Level Rise and the Legal Stability of Maritime Zones

Copyright © Oxford Law Review. (editor@oxfordlr.com)

Churchill R, Lowe V and Sander A, *The Law of the Sea* (4th edn, Manchester University Press 2026).Cambridge/Manchester University Press – The Law of the Sea

Tanaka Y, *The International Law of the Sea* (4th edn, Cambridge University Press 2023).Cambridge University Press – The International Law of the Sea

Oral N and Aurescu B, 'Sea Level Rise and Maritime Boundaries: The Case for Stability, Legal Certainty, and Peaceful Relations' in *By Peaceful Means: International Adjudication and Arbitration – Essays in Honour of David D Caron*(Oxford University Press 2024) 437.Oxford Academic – Sea Level Rise and Maritime Boundaries

Vidas D and Freestone D, 'Legal Certainty and Stability in the Face of Sea Level Rise: Trends in the Development of State Practice and International Law Scholarship on Maritime Limits and Boundaries' (2022) 37 *International Journal of Marine and Coastal Law* 673.Article information – Vidas and Freestone

'UNCLOS and Sea Level Rise' (2023) *Marine Policy*.ScienceDirect – UNCLOS and Sea Level Rise

'Mitigating Effects of Sea-Level Rise on Maritime Features through the International Law-Making Process in the Law of the Sea' (2022) *Frontiers in Marine Science*.Frontiers in Marine Science – Sea-Level Rise and International Law

Lilienthal GI, Rahim F and Azreem S, 'Sea Level Rise and the Law of the Sea: Adapting Maritime Boundaries and Rights' (2025) 8(2) *AR-RĀ'IQ* 91.AR-RĀ'IQ – Article

Publisher's Note

Oxford Law Review remains neutral with regard to jurisdictional claims in published maps and institutional affiliations. Oxford Law Review or its licensors retain the rights to this article pursuant to the applicable publishing agreement with the author(s) or other rightsholder(s). Any self-archiving, reproduction, distribution, or reuse of the accepted manuscript or published version is subject to the terms of the applicable publishing agreement and applicable law.

OXFORD LAW REVIEW
Copyright © Oxford Law Review. *(editor@oxfordlr.com)*