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# A Critical Overview of the Debate Over Baseline Fixation for the Maritime Boundary Delimitation Under International Law of the Sea

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**Abstract:** *This article critically examines the international legal debate over fixed versus ambulatory maritime baselines under the UN Convention on the Law of the Sea, driven by rising sea levels. It analyses the legal justifications, state practice, and equity considerations for vulnerable states. Fixed baselines promise stability and equity for vulnerable states but challenge traditional interpretations. Ambulatory baselines align with traditional principles but severely disadvantage states impacted by sea-level rise. This article provides a synthesised, critical overview of this urgent debate, juxtaposing legal principles with climate adaptation needs and highlighting the existing tensions and lack of a clear resolution. Its primary contribution is to propose a pragmatic path forward that moves beyond this binary deadlock, arguing for securing the outer limits of maritime zones through collective, equity-based interpretation, thereby offering a novel solution in response to the intractable challenges of fixing the baseline itself.*

**Keywords:** *Baselines, Maritime Delimitation, Sea-Level Rise, Fixed Baselines, Ambulatory Baselines, State Practice, Customary Law, Equity.*

## 1. Introduction

The scientific consensus indicates that average worldwide sea levels are demonstrably increasing, a trend projected to persist, which creates substantial challenges for low-elevation coastlines, islands, and entire island nations.[1] This phenomenon poses a fundamental obstacle facing international law, especially regarding the stability and definition of the baselines. Serving as the legal demarcation of the coastline, baselines function as the fundamental reference for the extent and outer boundaries of a nation's maritime zones, including the

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1 Intergovernmental Panel on Climate Change, 'Chapter 13: Sea Level Change' in Thomas F Stocker et al (eds), *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (CUP 2013) 1137–1205.

territorial sea,[2] contiguous zone,[3] exclusive economic zone (EEZ),[4] and continental shelf.[5]

A core disagreement stemming from rising sea levels concerns whether these demarcation lines should be treated as dynamic (shifting inland as the coastline recedes from flooding or erosion) or static (remaining in place regardless of physical coastal alterations). Historically, the interpretation drawn from United Nations Convention on the Law of the Sea ("UNCLOS") Articles, such as Article 5 regarding normal baselines (the low-water mark) and Article 7 on straight baselines, has typically favoured the perspective that these lines are dynamic, reflecting changes in the coastline. Yet, this interpretation was significantly influenced by the prevailing belief, during UNCLOS's negotiation, that sea levels would remain largely unchanged.[6]

The potential for shifting baselines to migrate inland due to rising sea levels generates serious apprehension, especially for susceptible low-elevation coastal and island nations. Such movement could diminish their maritime areas, causing a reduction in authority over substantial ocean zones and the resources they hold. Moreover, it could undermine the carefully negotiated equilibrium of the entitlements and obligations of coastal nations and other states that the UNCLOS seeks to maintain. Consequently, the international discussion increasingly focuses on identifying methods to maintain established baselines and the associated maritime rights. This focus has prompted considerable research and deliberation through global institutions such as the International Law Association ("ILA") and the International Law Commission ("ILC"). Various approaches are being explored, including arguing that UNCLOS provisions can be interpreted to permit the effective fixation of outer limits. Alternatively, some suggest that national actions give rise to a new customary international norm supporting permanent baselines. Justifications for static baselines frequently highlight the importance of legal consistency, security, clarity, and foreseeability regarding maritime borders, which are seen as essential for Global stability and the preservation of peaceful relations between nations and the efficient management of ocean resources. In 2021, leaders from Pacific Island nations officially declared that the rise in sea levels caused by climate change would not affect their recognised maritime zones or related entitlements. While consistent with their long-held position,[7] these

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2 United Nations Convention on the Law of the Sea (UNCLOS) (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 3, arts 2–3.

3 UNCLOS (n 2) art 33(1)-(2).

4 ibid arts 55, 57.

5 ibid Art 76(6).

6 D Freestone, 'International Law and Sea Level Rise' in Robin R Churchill and David Freestone (eds), *International Law and Global Climate Change* (Brill 1991) 114.

7 Pacific Islands Forum Secretariat, 'Framework for a Pacific Oceanscape: Strategic Priority 1 (Jurisdictional Rights and Responsibilities)' (2010); Government of Tuvalu, 'Statement at the UN Ocean Conference 2017, Partnership Dialogue 7: Enhancing the Conservation and

position contrasts with the common scholarly perspective that these boundaries inherently shift with coastal changes, which could lead to smaller maritime zones.

The discussion surrounding baseline permanence is multifaceted, encompassing legal analysis, evaluation of national conduct and established legal belief (*opinio juris*), alongside political, socio-economic, and ethical dimensions. It challenges traditional understandings and pushes the boundaries of how UNCLOS and general international law can accommodate the unprecedented implications of elevated sea levels. This study scrutinises applicable international legal structures, customary norms, relevant judicial precedents, fundamental legal principles, and academic writings to evaluate these conflicting factors and thereby proposes a balanced resolution regarding the legal status of baselines within the framework of climate change.

## 2. Foundational Concepts and Definitions

### *A. The Legal and Geographical Significance of Baselines in Maritime Delimitation*

The baseline marks the boundary separating a country's internal waters in contrast to the territorial sea.[8] Such serves as a fundamental reference point for determining how far the territorial sea extends seaward and additional maritime jurisdictional areas.[9] and it constitutes a vital element within the process of delineating maritime boundaries according to UNCLOS. It also represents the legal delineation of the coast.[10] A coastal State can adopt various forms of baselines, such as normal,[11] straight,[12] archipelagic,[13] or a combination[14] provided that the necessary conditions are fulfilled. The baseline holds crucial significance in the law of the sea because it acts as the foundational marker for setting the limits of a state's maritime areas.

### *B. Baseline Methodologies: Ambulatory and Fixed Approaches*

Ambulatory baselines are those that shift in response to coastal changes, such as erosion or accretion, whereas fixed baselines remain static regardless of physical changes to the coastline. The traditional view has held that maritime zone

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Sustainable Use of Oceans and Their Resources by Implementing the International Law as Reflected in the United Nations Convention on the Law of the Sea' (9 June 2017).

8 J Ashley Roach, 'Baselines under the Law of the Sea: Benefits and Challenges' (Asian African Legal Consultative Organization, UN Headquarters, New York, 2 November 2016) 3.

9 UN Division for Ocean Affairs and the Law of the Sea, 'Baselines: An Examination of the Relevant Provisions of the United Nations Convention on the Law of the Sea' (1989) UN Doc Sales No E.88.V.5 para 11.

10 CG Lathrop, 'Baselines' in Donald R Rothwell and others (eds), *The Oxford Handbook of the Law of the Sea* (OUP 2015) 69.

11 UNCLOS (n 2) art 5.

12 UNCLOS (n 2) art 7.

13 UNCLOS (n 2) art 47.

14 UNCLOS (n 2) art 14.

baselines are dynamic, shifting following coastal geographical features and their specific locations. These ambulatory baselines adjust as the physical characteristics of a coastline change over time.[15] This view connects strongly to the doctrine that "land governs the sea", suggesting that entitlements in maritime areas are contingent upon the adjoining territory.[16] Therefore, baselines must remain closely linked to the actual physical coastline. Scholarly opinion has widely supported this view, with the ILA Baselines Committee initially concluding in 2012 that normal baselines are ambulatory based on their analysis of existing customary law, State practice, jurisprudence, and scholarship.[17]

Conversely, the static baseline perspective argues that after baselines and maritime zone boundaries are correctly established under UNCLOS and customary norms, they ought not to be altered, even when, as sea levels climb, the physical landscape of the coast is modified.[18] It aims to prevent the reduction or challenge of maritime zones due to climate change.[19] Supporters contend that Articles 5 and 7 of UNCLOS do not directly address whether baselines should remain movable (ambulatory) or be stabilised, given the challenges posed by sea level rise, as the Convention had been negotiated before rising sea level developed into a notable phenomenon within the context of the law of the sea.[20] Consequently, this matter can be approached through interpretative means within the framework of the Convention.

## 3. Justifications for Fixed Baselines under International Law

### *A. The Legal Framework for Baselines under UNCLOS*

Fixed baselines can align with UNCLOS Article 5 when understood according to its plain meaning, considering context, object, purpose, general principles, and customary international law. Article 5 specifies that the normal method for establishing the territorial sea's breadth is by using the low-water line that follows the coastline, as illustrated on officially approved large-scale charts of the coastal State. Both the International Court of Justice ("ICJ")[21] and the

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15 Kate Purcell, *Geographical Change and the Law of the Sea* (OUP 2019) 44–48.

16 María Teresa Infante, 'Legal Cooperation Issues on Sea-Level Rise' (2023) 38 American University International Law Review 711.

17 International Law Association, Committee on Baselines under the International Law of the Sea, 'Report of the Sofia Conference' (2012) 31.

18 International Law Association, 'Final Report of the Sea Level Rise Committee: Report of the Seventy-eighth Conference' (Sydney, 2018) 19.

19 Statement of the Maldives, UNGA 6th Committee, 75th Session (5 November 2020) UN Doc A/C.6/75/SR.13 para 57; Statements of Australia, Tonga and Micronesia at the 21st Meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (14–18 June 2021).

20 International Law Commission, 'First Issues Paper' (20 February 2020) UN Doc A/CN.4/740 28.

21 *Aegean Sea Continental Shelf (Greece v Turkey)* (Jurisdiction) [1978] ICJ Rep 3 [69]; *Temple of Preah Vihear (Cambodia v Thailand)* (Merits) [1962] ICJ Rep 6, [34].

International Tribunal for the Law of the Sea (ITLOS)[22] consistently stressed the significance of stability and permanence. ILA supports this, stating that coastlines used for baseline determination should not need recalculation due to sea level changes.[23] Considering that sea level rise is making coastlines recede, the legal principle of stability should be considered a key rule of international law[24] when interpreting Article 5 of the UNCLOS, thus favouring fixed baselines.[25]

### *B. Textual Interpretation*

The "ordinary meaning" under Article 31(1) of the Vienna Convention on the Law of Treaties ("VCLT"), UNCLOS Article 5, that pertains to the low water line "as marked on large scale nautical charts," suggests that the baseline is not strictly tied to the continuously changing actual low water line. The 'context' under Articles 31(1), 32 VCLT, UNCLOS does not impose an explicit obligation to continuously update charts or geographical coordinates to reflect every change in the low-water line, which may shift because of phenomena such as increases in the sea level.

### *C. Evolutive Interpretation and the Principle of Equity*

UNCLOS Article 5 should be interpreted considering its object and purpose,[26] considering its aim to achieve a "fair and equitable international economic order",[27] supported by the ICJ.[28] This "evolutive interpretation" must address current challenges like climate change and sea level rise.[29] Consequently, fixed baselines offer an equitable means to prevent rising seas from diminishing a state's EEZ,[30] eroding its rights and damaging its vital fishing industry.

### *D. Subsequent State Practice Favouring Fixed Baselines*

The interpretation of UNCLOS Article 5 should consider how nations have applied it over time.[31] There are more than a hundred nations that acknowledge

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22 *Bay of Bengal Maritime Boundary Arbitration (Bangladesh v India)* (Award) (PCA) (2014) [216], [218]; *Dispute Concerning Delimitation of the Maritime Boundary (Bangladesh v Myanmar)* (Joint Declaration of Judges Ad Hoc Mensah and Oxman) [2012] ITLOS Rep 4 [2].

23 International Law Association, Committee on International Law and Sea Level Rise, 'Resolution 5/2018' (2018) para 5.

24 Purcell (n 15) 151.

25 Vienna Convention on the Law of Treaties (VCLT) (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331, art 31(3)(c).

26 ibid art 31(1).

27 UNCLOS (n 2) Preamble.

28 *Dispute Concerning Delimitation of the Maritime Boundary (Bangladesh v Myanmar)* (Judgment) [2012] ITLOS Rep 147; *North Sea Continental Shelf (Germany v Denmark; Germany v Netherlands)* (Merits) [1969] ICJ Rep 3 [77]; *Continental Shelf (Tunisia v Libya)* (Merits) [1982] ICJ Rep 18 [71]; *Fisheries Jurisdiction (United Kingdom v Iceland)* (Merits) [1974] ICJ Rep 3 [78].

29 *Iron Rhine Railway Arbitration (Belgium v Netherlands)* (Award) PCA 2005 [80].

30 UNCLOS (n 2) art 57.

31 VCLT (n 25) art 31(3)(b).

the necessity of safeguarding maritime rights against the impacts made by climate change and increasing sea levels.[32] There exists ample evidence of this 'subsequent practice', observed in various global regions, including Asia, Africa, Europe, and South America.[33] Notably, EU member states,[34] several Asian nations within the UN,[35] South American countries,[36] Ireland,[37] The Marshall Islands,[38] Micronesia,[39] and the United Kingdom[40] have all expressed their plans to establish fixed baselines. Therefore, fixing the baseline can be justified by the principle of permanence, widespread state practice, and the need to minimise legal ambiguity concerning maritime borders, particularly as numerous coastal nations face the risk posed by rising sea levels.[41] However, the eventual legal impact of unilateral or regional declarations hinges on broader acceptance or acquiescence within the international community.

### *1) Equity Considerations for Vulnerable States*

Some argue for the adoption of fixed baselines to ensure a more equitable and sustainable framework for the use of natural resources, particularly for vulnerable coastal states. With fixed baselines, even if a state loses terrestrial land area to inundation, the submerged area landward of the fixed baseline may transition to internal waters,[42] preserving the overall extent of maritime jurisdiction without diminishing sovereignty over the established zones.[43] Furthermore, under a fixed baseline approach, the State's EEZ would not shrink[44] relative to its established coordinates, allowing the state to retain its sovereign rights over resources within that defined zone.[45] Therefore, the legal basis for establishing fixed baselines may be supported by interpretations of international maritime law, including UNCLOS

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32 UNGA 6th Committee, 78th Session, 'Report of the International Law Commission on the Work of its Seventy-Third and Seventy-Fourth Sessions' (2023) UN Doc A/C.6/78/SR.25 para 123.

33 International Law Association, 'Report of the Eightieth Conference' (2023) 526–30.

34 UNGA 6th Committee, 78th Session (n 32) para 53.

35 See UNGA 6th Committee, 78th Session, 'Singapore' (2023) UN Doc A/C.6/78/SR.23 para 81; UNGA 6th Committee, 78th Session, 'Bangladesh' (2023) UN Doc A/C.6/78/SR.24 para 89; UNGA 6th Committee, 78th Session, 'Malaysia and Indonesia' (2023) UN Doc A/C.6/78/SR.27 paras 56 and 68; UNGA 6th Committee, 78th Session, 'Japan, South Korea and Philippines' (2023) UN Doc A/C.6/78/SR.28 paras 13, 16 and 66.

36 See UNGA 6th Committee, 78th Session, 'Argentina' (2023) UN Doc A/C.6/78/SR.28 para7; UNGA 6th Committee, 78th Session, 'Chile' (2023) UN Doc A/C.6/78/SR.24 para 96; UNGA 6th Committee, 78th Session, 'Cuba' (2023) UN Doc A/C.6/78/SR.25 para 91.

37 UNGA 6th Committee, 78th Session, 'Ireland' (2023) UN Doc A/C.6/78/SR.25 para 42.

38 Maritime Zones Declaration Act 2016 (Republic of the Marshall Islands).

39 UNGA 6th Committee, 75th Session, 'Report of the International Law Commission on the Work of its Seventy-Second Session' (2020) UN Doc. A/C.6/75/SR.13 para 54.

40 United Kingdom, *Written Ministerial Statement on Maritime Zones and Sea Level Rise* (HCWS171, 28 October 2024).

41 ILA, 'Final Report on International Law and Sea Level Rise' (Athens Conference, 2024) 40.

42 UNCLOS (n 2) art 8.

43 ibid art 56.

44 ibid art 57.

45 ibid art 56.

Article 5, when considered in conjunction with fundamental principles of equity in international relations.

### *2) Emergence of Regional Customary International Law*

A regional custom develops through consistent practice by regional States compelled by a sense of legal responsibility (*opinio juris*).[46] Particularly, coastal States that are especially affected, for instance, those experiencing sea-level rise at rates higher than the global average[47] may establish regional customs by unilaterally determining their baselines.[48]

The Pacific Island States,[49] along with the Alliance of Small Island States[50] and the Polynesian States,[51] have adopted regional declarations to fix their baselines, demonstrating consistent and widespread State practice.[52] This regional behaviour is strengthened by a distinct sense of legal obligation, as shown by their adherence to UNCLOS[53] and the enactment of domestic laws[54] aligning with those regional declarations. Consequently, a regional customary norm has come to the forefront about how baselines are established. This approach was acknowledged by a committee constituting 'subsequent practice' under Article 31(3)(b) of the 1969 Vienna Convention on the Law of Treaties.[55] Yet, establishing regional customs obligatory for every state in the region, even those potentially disadvantaged or disagreeing, remains a significant legal hurdle.

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46 ILC, 'Draft Conclusions on Identification of Customary International Law, with Commentaries' (2016) UN Doc A/71/10, conclusion 16(2).

47 John Church and Peter Clark, 'Sea Level Change' in Thomas F Stocker and others (eds) *Climate Change 2013: The Physical Science Basis* (CUP 2014) 1140.

48 *North Sea Continental Shelf case* (n 28) (Merits) [1969] ICJ Rep 3 [73]; Kevin Jon Heller, 'Specially Affected States and the Formation of Custom' (2018) 112 American Journal of International Law 191, 202.

49 Declaration on Preserving Maritime Zones in the Face of Climate Change-Related Sea-Level Rise (made on 06 August 2021); Delap Commitment on Securing Our Common Wealth of Oceans (signed on 02 March 2018).

50 Alliance of Small Island States Leaders' Declaration (made on 22 September 2021).

51 Pacific Islands Forum Leaders Declaration on Climate Change Action (made on 10 September 2015).

52 ILC, 'Draft Conclusions on Identification of Customary International Law, with Commentaries' (n 46) 6(2).

53 See Pacific Islands Forum Leaders Declaration on Climate Change Action (n 51) and Delap Commitment on Securing Our Common Wealth of Oceans (n 49).

54 Marine Zones (Declaration) Act 2011, s 4 (Kiribati).

55 International Law Association, 'Final Report of the Sea Level Rise Committee' (n 18) 16–19.

## 4. Justifications for Ambulatory Baselines under International Law

### *A. Protection of the High Seas Regime (Mare Liberum)*

The typical baseline corresponds to the low-water line that runs along the coast.[56] Consistent international legal understanding, supported by the ICJ, [57] States,[58] and scholars,[59] dictates that the fluctuating low-water line serves as the basis for determining normal baselines. The *travaux préparatoires* of UNCLOS[60] further reinforces that baselines are ambulatory. The high seas lie beyond the authority of any single nation,[61] and every State enjoys the entitlement to engage in activities permitted under high seas freedoms.[62] As States are endowed with various rights and entitlements under the high seas' regime, they have a legal interest in retaining this regime as *mare liberum*.[63]

### *B. Critical Assessment of the "Land Dominates the Sea" Principle*

While proponents of fixed baselines might invoke the principle that "land dominates the sea", suggesting a permanence of entitlement derived from the territory, this concept offers limited guidance for interpreting Article 5 in the face of sea-level rise. Originating primarily in the context of maritime delimitation, as articulated by the International Court of Justice (ICJ) in the *Greenland/Jan Mayen* case where the Court linked maritime area attribution solely to the territory's possession of a coastline, the principle aimed to establish the foundational basis for maritime rights, not to address the dynamic nature of coastlines themselves or the specific method for defining baselines under Article 5. Applying this abstract principle, developed for a different legal context, to argue for freezing baselines against physical coastal recession due to climate change appears to be a transposition beyond its intended scope and fails to engage with the specific textual requirements of Article 5 regarding the low-water line.

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56 UNCLOS (n 2) art 5.

57 *Territorial and Maritime Dispute between Nicaragua and Honduras in the Caribbean Sea (Nicaragua v. Honduras)* (Judgment) (2007) ICJ Rep 659, 742.

58 UNGA 6th Committee, 'Statement by Ireland: 21st Meeting' (2021) UN Doc A/C.6/76/SR.21 para 26; UNGA 6th Committee, 'Statement by Romania: 21st Meeting' (2021) UN Doc A/C.6/76/SR.21 8; UNGA 6th Committee, 'Statement by the United States of America: 21st Meeting' UN Doc A/C.6/76/SR.21 (2021) 1.

59 S Murphy, 'Ambulatory Versus Fixed Baselines Under the Law of the Sea' (2023) 38(3) American University International Law Review 721, 723; AHA Soons, 'The effects of a Rising Sea Level on Maritime Limits and Boundaries' (1990) 37(2) *Netherlands* International Law Review 207, 210.

60 International Law Commission, 'First Issues Paper' (n 20) para 104(a).

61 UNCLOS (n 2) art 89.

62 Tanaka, *The International Law of the Sea* (2nd edn, CUP 2015) 400.

63 International Law Commission, 'First Issues Paper' (n 20) para 209.

### *C. Shift from the Lotus Principle to the Permissive Rule Standard*

In the *Lotus case*,[64] the Permanent Court of International Justice (PCIJ) asserted that limitations on State sovereignty must not be presumed, allowing States to act freely unless explicitly restricted.[65] Nonetheless, the International Court of Justice (ICJ) has moved away from applying the *Lotus principle*.[66] For instance, in the *Legality of the Threat or Use of Nuclear Weapons* advisory opinion,[67] the ICJ unanimously declined to base its reasoning on the *Lotus principle*, emphasizing that no authoritative rule exists permitting the use of nuclear weapons. Accordingly, states must demonstrate a permissive legal foundation under UNCLOS to justify fixed baselines. As set out in international law, the regular baseline corresponds to the low-water line bordering the coast, which the ICJ, States, and legal scholars consistently recognize as inherently ambulatory.

### *D. Challenges to Reinterpreting UNCLOS on Fixed Baselines*

The subsequent conduct of States can lead to a reinterpretation of a treaty provision[68] if it reflects a shared agreement[69] and mutual understanding among the parties.[70] However, in the context of fixed baselines under the UNCLOS, state practice may lack such consensus.[71] In particular, China,[72] Cuba,[73] Russia[74] and

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64 *SS Lotus (France v Turkey) (Judgment*) PCIJ Series A No 10, 18.

65 ibid (Dissenting opinion of Weiss J) 42.

66 *Asylum Case (Colombia v Peru)* (Judgment) [1950] ICJ Rep 266, 12; *Legality of the Threat or Use of Nuclear Weapons* (Advisory Opinion) [1996] ICJ Rep 226 (Separate Opinion of Judge Bedjaoui) 271; *Arrest Warrant of 11 April 2000 (Democratic Republic of the Congo v Belgium)* (Judgment) [2002] ICJ Rep 3 (Joint separate opinion of Higgins, Kooijmans and Buergenthal JJ) [78]; *Fisheries Case (UK v Norway)* (Judgment) [1951] ICJ Rep 116 (Separate opinion of Alvarez J) 152.

67 *Legality of the Threat or Use of Nuclear Weapons* (n 66) [105(2)]; H Handeyside, 'The Lotus Principle in ICJ Jurisprudence: Was the Ship Ever Afloat?' (2007) 29 Michigan Journal of International Law 71, 87–88.

68 VCLT (n 25) art 31(3)(b); *Dispute regarding Navigational and Related Rights (Costa Rica v. Nicaragua)* (Judgment) (2009) ICJ Rep 213 [64]; J Arato, 'Subsequent Practice and Evolutive Interpretation: 'Techniques of Treaty Interpretation over Time and Their Diverse Consequences' (2010) 9 Law and Practice of International Court and Tribunals 443, 445.

69 *Kasikili/Sedudu Island (Botswana v Namibia)* (Judgment) (1999) ICJ Rep 1045 [63]; *Whaling in the Antarctic (Australia v Japan: New Zealand intervening)* (Judgment) (2014) ICJ Rep 226 (Separate opinion of Greenwood J) [6].

70 ILC, 'Draft conclusions on subsequent agreements and subsequent practice in relation to the interpretation of treaties, with commentaries' (2018) UN Doc A/73/10 art 10(1).

71 ILA, 'Interim Report of the Committee on International Law and Sea Level Rise (Lisbon Conference, 2022) 21; ILA, 'Final Report on International Law and Sea Level Rise' (n 41) 41.

72 UNGA 6th Committee, 'Statement by China: 20th Meeting' (2021) UN Doc A/C.6/76/SR.21 4.

73 UNGA 6th Committee, 'Summary record of the 21st Meeting' (2021) UN Doc A/C.6/76/SR.21 para 31.

74 UNGA 6th Committee, 'Summary record of the 22nd Meeting' (2021) UN Doc A/C.6/76/SR.21 para 93.

Iceland[75] have expressed that existing state practice concerning sea level rise is inadequate to definitively establish the legality of fixed baselines. Absent such agreement, states might not demonstrate that a reinterpretation of UNCLOS allows it to claim exclusive rights based on fixed baselines to what are, as a matter of law, parts of the high seas. When interpreting a treaty provision, one must consider the legal context in force at the time of application.[76] UNCLOS must be construed in conformity with prevailing principles of international law.[77] However, states may argue that no general customary international law has emerged that would allow States parties to fix baselines in violation of the UNCLOS.[78] The freezing of baselines fails to meet the strict requirements of State practice and *opinio juris*.[79] Particularly, for a rule to become a regional customary international law, it must be accepted as law by all States of the region.[80] Furthermore, establishing regional custom requires acceptance by all States concerned, and persistent objection can prevent a State from being bound. A State's inaction may constitute acceptance of a purported rule as law[81] if it amounts to acquiescence.[82] This occurs if two requirements are met:[83] there must be a circumstance that calls the State to react;[84] and the State must be in the position to so react.[85] If the State does not acquiesce in the practice, the practice does not attain the status of customary international law.

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75 UNGA 6th Committee, 'Statement by Councillor Anna Pála Sverrisdóttir on behalf of Denmark, Finland, Iceland, Norway and Sweden: 19th Plenary Meeting' (2021) UN Doc A/C.6/76/SR.21 5–6.

76 *Dispute regarding Navigational and Related Rights* (n 68) [64]; *Island of Palmas Case (Netherlands v United States of America)* (1928) RIAA 829, 845.

77 VCLT (n 25) art 31(3)(c); ILC, 'Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law' (2006) UN Doc A/CN.4/L.682 para 478; *Request for an Advisory Opinion Submitted by the Commission of Small Island States on Climate Change and International Law* (Advisory Opinion) (2024) ITLOS Rep 1 [135].

78 International Law Commission, 'Report of the International Law Commission: Seventy-Fourth Session' (2023) UN Doc A/78/10 para 225; International Law Commission, 'First Issues Paper' (n 20) para 104(h)(i).

79 *North Sea Continental Shelf case* (n 28) [77].

80 ILC, 'Draft Conclusions on Identification of Customary International Law with Commentaries' (n 70) conclusion 16(7).

81 ibid para 8.

82 Sophia Kopela, 'The Legal Value of Silence as State Conduct in the Jurisprudence of International Tribunals' (2010) 29(1) Australian Year Book of International Law 87.

83 ILC, 'Draft Conclusions on Identification of Customary International Law with Commentaries' (n 70) conclusion 10(3); *Temple of Preah Vihear case* (n 21) 23.

84 *Sovereignty over Pedra Branca/Pulau Batu Puteh, Middle Rocks and South Ledge (Malaysia v Singapore)* (Judgment) (2008) ICJ Rep 51 [121].

85 ILC, 'Draft Conclusions on Identification of Customary International Law with Commentaries' (n 70) conclusion 10(3).

### *E. Evidence from Travaux Préparatoires Supporting Ambulatory Baselines*

The principle of equity is firmly established in international law,[86] requiring ICJ to deliver decisions that are fair.[87] However, equity must be applied within the framework of the law[88] and not used to override it,[89] as doing so would undermine the legal order.[90] A method cannot be justified on equitable grounds if it leads to an unfair outcome.[91] In evaluating this, the Court examines all relevant circumstances[92] consistently and predictably,[93] giving appropriate weight to its prior rulings.[94] For instance, in assessing equitable outcomes, the Court has considered factors such as the access of local fishing communities to migratory fish stocks.[95] While equity demands consideration for vulnerable States, applying it *intra legem* means it cannot, on its own, justify actions like fixing baselines if those actions fundamentally contradict core legal provisions (the link of Article 5 to the physical coast) or established principles (*mare liberum*), potentially creating various inequities for the broader international community.

A more detailed interpretative method can be achieved by examining the *travaux préparatoires* associated with Article 5 of UNCLOS and by referring to Article 32 of the Vienna Convention on the Law of Treaties. It also demonstrates that the primary goal was to ensure an objective and easily identifiable spatial reference for determining baselines. Proposals during the 1930 Hague Conference[96] and later during ILC discussions,[97] such as using a charted low-water line or even a high-water line as a reference, reflect a pragmatic intent to

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86 *Continental Shelf case* (n 28) [71].

87 *North Sea Continental Shelf case* (n 28) [88].

88 *Territorial Dispute (Libyan Arab Jamahiriya v Chad)* (Judgment) (1994) ICJ Rep 6, (Separate opinion of Ajibola J) [30]; J Hendel, 'Equity in the American Court and World Court' 6 Indiana International & Comparative Law Review 637, 660.

89 *Barcelona Traction, Light and Power Company, Limited (Belgium v Spain)* (Second Phase) [1970] ICJ Rep 3, 32 [92]; ILC, 'Report of the International Law Commission: Seventy-Fourth Session' (n 78) para 198; JM White, 'Equity - A General Principle of Law Recognized by Civilized Nations?' 4 *Queensland University of Technology Law and Justice Journal* 103, 115.

90 R Rossi, *Equity in International Law: A Legal Realist Approach to International Decision Making* (Transnational Publishers 1993) 175.

91 *Continental Shelf case* (n 28) [70]; *Maritime Delimitation in the Area Between Greenland and Jan Mayen (Denmark v Norway)* (Judgment) (1993) ICJ Rep 38, (Separate opinion of Weeramantry J) 222–224.

92 *Continental Shelf case* (n 28) (Separate opinion of de Arechaga J) 109; *North Sea Continental Shelf case* (n 28) [93].

93 *Continental Shelf (Libyan Arab Jamahiriya v Malta)* (Judgment) (1985) ICJ Rep 13 [45].

94 *Maritime Delimitation in the Area Between Greenland and Jan Mayen* (n 91) [58].

95 ibid [75].

96 League of Nations, 'Bases of Discussion for the Conference Drawn up by the Preparatory Committee: Volume II — Territorial Waters' (15 May 1929) LN Doc C.74.M.39.1929.V 36; F François, 'Report of the Second Committee: Territorial Sea' (1930) 24(3) American Journal of International Law 234, 247.

97 International Law Commission, 'Report of the International Law Commission: Covering the Work of its Sixth Session, UN GAOR (1954) 9th session Supp 9 UN Doc A/2693 14.

align legal definitions with visible and permanent features of the coast. The eventual removal of the "proviso", which would have fixed the baseline to a specific tidal measurement, supports the interpretation that normal baselines were meant to remain flexible and reflective of actual coastal conditions. This development, when viewed considering the distinction between normal and straight baselines, underpins the conclusion that Article 5 implies an ambulatory approach, where baselines adjust naturally with changes in the coastline. Consequently, this ambulatory reading aligns both with the text and the intention behind Article 5 and presents significant challenges to the legal sustainability of fixed baseline regimes in the context of rising sea levels.

## 5. Contemporary Developments, State Practice, and International Perspectives

### *A. Perspectives from International Law Bodies*

Since 2020, several States and international organisations have shifted their positions and now demonstrate a willingness to consider a fixed-baseline approach. Examples include New Zealand, Portugal, Hungary, the United States of America, Italy, Slovenia, Romania, Bulgaria, Germany, Cyprus, Ireland, Spain, Greece, and the European Union.[98]

The 2024 *ILA Report on Sea-Level Rise* highlights an emerging trend since mid-2022 that supports interpreting Article 5 as permitting the use of "fixed baselines."[99] However, the 2023 ILC Report takes a more cautious stance, stating that it was considered premature to draw definitive conclusions regarding the presence of broad State practice and *opinio juris* backing the use of fixed baselines and the maintenance of maritime zones, both at regional and international levels.[100] It further noted that the current practice remains insufficient to establish whether as a regional or general norm of customary international law.[101] According to the Final Report of the ILA Committee on Baselines under the International Law of the Sea, presented at the 2012 Sofia Conference, an important conclusion was reached concerning the character of the normal baseline defined in Article 5 of UNCLOS. After extensive discussion on whether the baseline corresponds to the actual low-water line or the line shown on nautical charts, the Committee concluded that "the legal normal baseline is the actual low-water line along the coast at the vertical datum, also known as the chart datum, indicated on charts officially recognised by the coastal State".[102]

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98 See 6th Committee, 78th session, 'Statement by the USA in the UN Security Council' (2023) UN Doc S/PV.9260 15.

99 ILA, 'Final Report on International Law and Sea Level Rise' (n 41) [41]–[45].

100 ibid [149].

101 ibid [152].

102 International Law Association, 'Second Report of the Committee on Non-State Actors in International Law: Lawmaking and Participation Rights' (75th ILA Conference, Sofia, 2012) 25, 31.

Additionally, the report directly examined the effects of environmental changes, noting that the normal baseline is "ambulatory", shifting landward due to processes such as erosion and rising sea levels. The Committee cautioned that in severe cases, sea-level rise might result in "total territorial loss and the consequent total loss of baselines and the maritime zones measured from those baselines", concluding that the existing legal framework concerning the normal baseline "does not offer an adequate solution to this potentially serious problem".[103] Unsurprisingly, the area of treaty interpretation has caught the attention of both the Committee and the Co-Chairs of the ILC. While Articles 31–33 of the Vienna Convention on the Law of Treaties establish the framework for interpretation, they do not impose a strict hierarchical structure on the interpretive criteria. Instead, they afford considerable discretion to the interpreter. This flexibility becomes even more pronounced when the treaty text does not address a particular issue, such as whether to adopt ambulatory or fixed baselines. Furthermore, it is widely recognised that, in recent decades, international courts and tribunals have increasingly embraced an evolutionary approach to treaty interpretation.

### *B. United Nations Security Council Discussion*

The matter has also been discussed at the United Nations Security Council, notably during the session held on 14 February 2023, in response to a letter dated 2 February 2023 sent by Malta's Permanent Representative to the Secretary-General.[104] During this session, the United States announced a new policy on sea-level rise and maritime zones, reaffirming its commitment to recognise and respect maritime zones and related rights established in line with international law, even if these zones are not later revised to account for coastline regression due to climate change. The U.S. policy is consistent with the approaches taken by the Pacific Islands Forum (PIF) and the Alliance of Small Island States (AOSIS), and it urges other countries to follow suit.[105] Japan also expressed its position during the same session, declaring that coastal States are allowed to maintain their existing baselines and maritime zones established under UNCLOS, even if their coastlines recede due to climate change. Japan emphasised that this interpretation promotes legal stability and predictability, particularly for the Small Island Developing States (SIDS).[106]

### *C. Legal Constraints on Unilateral Action: The Fisheries Case Precedent*

Any argument in favour of fixing baselines must be reconciled in line with established principles of international law. The International Court of Justice (ICJ), in the *Fisheries case*, determined that although the process of delimitation

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103 ibid 31.
104 6th Committee, 78th session, 'Statement by the USA in the UN Security Council' (n 98).
105 UNSC, 'Verbatim Record' (2023) UN Doc S/PV.9260 12.
106 ibid 11.

of baselines and maritime zones is indeed a unilateral act carried out by the coastal State, its legitimacy concerning other States is determined by international law.[107] As stated in the judgment: "The delimitation of sea areas always has an international aspect; it cannot be dependent merely upon the will of the coastal State as expressed in its municipal law."[108] This precedent can be cited to support the argument that any attempt to fix baselines unilaterally, such as through a so-called "Freezing Law", would lack international validity unless the same is consistent with established rules of international law. This principle creates inherent tension with unilateral actions, even those driven by legitimate concerns over sea level rise impacts.

## 6. Identified Challenges and Concerns

### *A. Challenges to Fixed Baselines: Legal and Practical Concerns*

Fixed baselines risk creating inequities in resource distribution and potential maritime overreach, contrasting with the ambulatory method's demonstration of how international law and coastal geography are constantly evolving. Fixed baselines enable States to unilaterally claim areas of the high seas, which can restrict other nations' rights to fish in those waters.[109] Because, a State's fixed baselines might contravene the unrestricted access to and all states' ability to navigate and utilize the high seas,[110] they are void *ab initio.* Furthermore, any attempt to fix baselines unilaterally such as through a so-called "Freezing Law" would lack international validity unless pursuant to accepted principles of international law, as validated by the *Fisheries case.* The fluctuating nature of ambulatory baselines can lead to ambiguity in defining maritime zones such as territorial seas, exclusive economic zones (EEZs), and continental shelves. This uncertainty may result in disputes between states over resource rights and jurisdictional boundaries. Ambulatory baselines can exacerbate international tensions, especially in regions where maritime boundaries are already contested. The lack of fixed baselines may lead to overlapping claims and conflicts between neighboring states. Regularly updating maritime charts and legal documents to reflect changing baselines imposes significant technical and administrative demands on coastal States. This poses a significant challenge for developing nations with limited resources.

### *B. Challenges to Ambulatory Baselines: Legal and Practical Concerns*

The concept of ambulatory baselines, which shift with the natural coastline, may fail to adequately address the worries of countries at risk from the impacts of

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[107] *Fisheries Case* (n 66).
[108] ibid 132.
[109] ibid (Dissenting opinion of Read J) 77.
[110] Barnes and Long, *Frontiers in International Environmental Law: Oceans and Climate Challenges* (Brill 2021) 190.

rising sea levels.[111] Maintaining such shifting baselines could potentially conflict with established international legal principles concerning equity, together with maintaining maritime border security. The complications arising from sea level rise may disproportionately impact States characterised by smaller land sizes and low-lying topography. Under an ambulatory baseline system, as the coastline's low-water mark moves inland because of rising sea levels, a country's Exclusive Economic Zone (EEZ) may also shrink accordingly, potentially moving maritime boundaries away from previously accessible valuable resource areas.[112] Communities and industries that depend on fixed maritime borders for fishing, navigation, and resource exploitation face disruptions due to shifting baselines, resulting in economic losses and social tensions. For low-lying island nations, sea-level rise threatens to submerge a considerable extent of their land, potentially altering or nullifying their maritime entitlements. This poses existential threats to their sovereignty and economic viability.

## 7. Towards a Solution: Balancing Competing Interests

This article has critically examined the relevant international legal frameworks, customary international law, pertinent case laws, general principles of international law, and scholarly opinions to analyse these competing considerations. The path forward requires proposing a balanced resolution regarding the legal status and implementation of baselines amid the challenges of climate change, acknowledging the tension between traditional ambulatory principles reflecting coastal dynamics and the pressing needs for stability and equity for States threatened by sea-level rise. Finding a universally acceptable solution continues to be an important issue for the international community. A critical challenge stemming from sea-level rise involves the adjustment of maritime boundaries. Addressing this requires consideration of two fundamental aspects: first, identifying the most desirable substantive outcome for these boundaries, and second, determining the legal process through which such an outcome can be formally established or codified.

Regarding the substantive outcome, some possibilities have emerged. The first involves fixing both existing baselines (the lines from which maritime zones are determined) and the outer limits of maritime zones fixed permanently at their current positions, irrespective of coastal changes. The second option proposes keeping the baselines ambulatory, allowing them to shift with the physical coastline, while simultaneously fixing the external limits of maritime jurisdictions, including both the territorial sea and the EEZ, fixed at their current locations. The third possibility suggests allowing both baselines and zones to

[111] ILC, *'*Sea-level Rise in Relation to International Law: Member States in the 6th Committee of the General Assembly*'* (2023) UN Doc A/CN.4/761 para 170.

[112] UNCLOS (n 2) art 57.

remain ambulatory, shifting with the coast, but granting the affected coastal State preferential rights for exploitation in areas previously under its sovereign rights.

Currently, fixing both baselines and maritime zones is garnering the most significant attention. Several small island nations have declared their intent to adopt this approach,[113] often collectively, and larger states such as Germany[114] and the United States[115] have expressed supportive interpretations of the UNCLOS that accommodate this view. However, a significant drawback to this approach concerns the near-shore consequences: it could create extensive areas of internal waters between the now-offshore fixed baseline and the actual receding coastline. Critically, the standard right of innocent passage for vessels would not apply within these newly classified internal waters, representing a substantial alteration of established maritime rules.

In contrast, another possibility is maintaining ambulatory baselines while fixing outer zone limits as potentially optimal. This approach preserves the traditional link between the baseline and the physical coast, maintains innocent passage rights adjacent to the shore, and allows the coastal state to retain its maritime entitlements by effectively extending sovereignty over newly submerged territory.[116] The third option, involving ambulatory boundaries coupled with preferential rights, is acknowledged as more complex, although it draws upon concepts of preferential treatment already embedded within UNCLOS.[117]

Despite the potential substantive advantages of the second option, the practicalities of the legal process appear to favour the first. Amending UNCLOS is exceedingly difficult, leading States towards addressing the challenge of sea-level rise through interpretations of the existing Convention, primarily via state practice. The interpretation supporting the first option hinges on the idea that UNCLOS requires baselines to be depicted on officially recognised nautical charts or through lists of geographical coordinates. Proponents argue that by publishing these charts or lists and subsequently refraining from updating them as

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[113] United Nations, *Report on the Work of the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea at its Twenty-First Meeting* (16 July 2021) UN Doc A/76/171, [15 ff].

[114] Germany, 'Comments and Observations of Germany on Sea-level rise in relation to international law' (Submission to the International Law Commission, 74th Session, 2023).

[115] United States of America, 'Statement by the United States of America on Cluster 2 (ch VI, VII & VIII)' (Statement to the 6th Committee of the UNGA, 77th Session, 27th Meeting, 3 November 2022).

[116] UNCLOS (n 2) arts 17–32 (providing an explanation of the rules governing the right of innocent passage through the territorial sea).

[117] UNCLOS (n 2) arts 69(5), 149, 203.

coastlines recede, states can effectively fix their baselines and maritime zones. This interpretive approach is gaining traction within international law bodies.[118]

However, this interpretation faces several significant difficulties. Fundamentally, UNCLOS dictates that baselines are determined by its rules, which refer to the physical coast, rather than being solely established by the charts published by a coastal State; charts that no longer reflect physical reality may arguably fail to comply with the Convention. Furthermore, the delineation of maritime zones has consistently been recognised as having an international character, not determined solely by the unilateral discretion of the coastal state, as affirmed by the ICJ.[119] Questions also arise regarding whether this interpretation should apply only to sea-level rise or to any coastal regression, potentially leading to disputes over causation. Finally, adopting an interpretation that diverges from the text and past practice raises concerns about setting precedents for other self-serving interpretations of the Convention.

Notwithstanding these substantive challenges, if a uniform State practice develops supporting the fixation of baselines and maritime zones, this interpretation could attain legitimacy. According to the VCLT, subsequent state practice that reflects agreement among the parties can function as an authoritative method of interpreting a treaty.[120] encompassing both active conduct and passive acquiescence. Such a consensus, developed over time, might eventually crystallise into customary international law.[121] Further solidification could potentially occur through a formal declaration endorsed by the States Parties to UNCLOS or through an advisory opinion requested from relevant international judicial bodies such as the International Tribunal for the Law of the Sea or the ICJ.

The political feasibility of pursuing these more formal routes remains uncertain. It is plausible that states may prefer to allow state practice concerning the progressive development of UNCLOS interpretation in response to sea-level rise, rather than seeking more visible and potentially contentious methods of codification or clarification.

## 8. Conclusion and Proposal: Securing Maritime Zones Through Collective Interpretation and Equity

The debate concerning fixed versus ambulatory baselines under the international law of the sea, particularly within the framework of the UNCLOS, has acquired heightened urgency in light of anthropogenic sea-level rise, as fixed

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118 International Law Association, *Sydney Conference*, Resolution 5/2018 (2018); International Law Commission, 'First Issues Paper' (n 20) para 104(f).

119 *Fisheries Case* (n 66) 132.

120 VCLT (n 25) art 31(3)(a).

121 ILC, 'Draft conclusions on subsequent agreements and subsequent practice in relation to the interpretation of treaties, with commentaries' (n 70) Draft Conclusion 11(1)(c).

baselines, while presenting apparent advantages in terms of ensuring legal stability, predictability, and equity for vulnerable coastal states. It is increasingly supported by evolving state practice and interpretative approaches that emphasise the object and purpose of UNCLOS, yet simultaneously face formidable challenges rooted in the traditional textual interpretation of Article 5, adherence to the principle of *mare liberum*, and concerns about the permissible extent of unilateral action by states. On the other hand, the traditional ambulatory approach, which remains grounded in the physical reality of the ever-changing coastline and finds support in both historical context and customary understandings of maritime boundary delimitation, increasingly struggles to offer coherent solutions to the profound and accelerating impacts of coastal retreat triggered by climate change, with the divergent views of international bodies such as the ILA and the ILC, together with evolving yet inconclusive state practice, further highlighting the intricate complexity and deeply contentious nature of the issue, such that reconciling the imperatives of legal stability and equity for affected states with the demands of established legal norms and the inherently dynamic character of the coastal environment emerges as one of the most pressing and difficult challenges confronting contemporary international law.

The core equity concern for vulnerable States relates to the potential loss of their established maritime zones (especially the EEZ and continental shelf) and the sovereign rights therein. Interpretive efforts, leveraging VCLT Articles 31 and 32 (object and purpose, subsequent practice, evolutive interpretation),[122] should concentrate on establishing that the outer limits of maritime zones, once lawfully established and deposited (e.g., via coordinates with the UN Secretary-General), achieve a necessary permanence against involuntary regression caused specifically by climate change-induced sea level rise.[123] This addresses the stability and resource security needs most directly.

The textual connection within Article 5 between the normal baseline and the physical low-water line is strong, and the navigational implications (e.g., internal waters expansion if baselines are fixed far offshore) are significant. While fixing outer limits is gaining traction, attempting to definitively "fix" the baseline itself through interpretation presents greater legal friction and practical complications. This approach would implicitly favour the "ambulatory baseline, fixed outer limits" model discussed in the paper, focusing political and legal capital on securing the more critical aspect (zone extent) first.

The interpretive approach must be explicitly grounded in principles of equity, stability, and the object and purpose of UNCLOS (including achieving a 'just and equitable international economic order'), applied within the existing legal *intra*

[122] VCLT (n 25) arts 31, 32.

[123] International Law Commission, 'Report of the International Law Commission on the work of its 73rd session' (2022) UN Doc A/77/10 ch IX [196]– [207].

*legem*. It is not about overriding the law, but about interpreting it dynamically[124] to address an unforeseen existential challenge in a way that upholds the Convention's fundamental aims.[125]

However, focusing the interpretive effort on securing the outer limits addresses the most pressing equity concerns related to resource loss and jurisdictional stability for vulnerable States, while potentially side-stepping the most difficult textual and practical issues associated with rigidly fixing the baseline itself far from a receding coast. It leverages existing legal mechanisms (treaty interpretation via state practice) and seeks validation through collective international processes, rather than unilateralism or the near-impossible route of formal amendment.[126] This, I propose, represents the most promising, *albeit* challenging, direction for reconciling the conflicting demands of legal tradition and climate justice within the Law of the Sea.

[124] Often referred to as evolutive interpretation, linked to VCLT (n 25) arts 31(3)(b) (subsequent practice) and 31(3)(c) (relevant rules of international law applicable between the parties).

[125] See International Law Commission, 'Sea-level rise in relation to international law: Second issues paper prepared by the Co-Chairs of the Study Group' (18 February 2020) UN Doc A/CN.4/740 [80]–[85].

[126] UNCLOS (n 2) arts 312-316 (provisions outlining the amendment procedures, which are widely considered politically unfeasible for this issue).