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The Law of the Sea Convention and Sea Level Rise in the light of the South China Sea Arbitration

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Abstract

Sea level rise from anthropogenic climate change is an increasing concern for the international community and especially for coastal States. The prospect of whole islands disappearing under rising waters raises serious questions as to the impact upon maritime jurisdiction and the ability of the United Nations Convention on the Law of the Sea to deal with the inundation of large areas of territory. The South China Sea Arbitration Tribunal recently considered these questions. Here, the Tribunal relied on a high standard for what constituted human habitability under Article 121 of the Law of the Sea Convention, which likely will have broad implications for small island States in the future. This paper will consider whether the Law of the Sea Convention can cope with sea level rise, and the likely effects of the restrictive definition adopted by the South China Sea Arbitration Tribunal. It also considers direct and indirect impacts of sea level rise for the application of the Law of the Sea Convention, focusing especially on implications for existing maritime boundaries and potential international litigation arising out of the consequences of anthropogenic climate change and sea level rise.

Keywords

south, light, rise, china, level, arbitration, convention, sea, law

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Stuart Kaye

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I. INTRODUCTION

Sea level rise from anthropogenic causes first came to global attention in the late 1980s. More recently, the physical, social and economic consequences of climate change have increasingly been the source of international debate. Still, addressing climate change has proven problematic, despite international conferences and the negotiation of significant international instruments, most notably the United Nations Framework Convention on Climate Change,¹ the

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The thoughts and opinions expressed are those of the author and not necessarily of the U.S. government, the U.S. Department of the Navy or the U.S. Naval War College.

1. United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107.

Kyoto Protocol² and the Ozone Convention.³ Scholars have also considered the plight of small island and developing States especially vulnerable to sea level rise, with some commentators even speculating that residents might abandon particularly low-lying States such as the Maldives or Tuvalu.⁴

Although sea level rise is now a widely discussed issue, the legal implications of this phenomenon have not received significant attention,⁵ particularly in relation to the United Nations Convention on the Law of the Sea.⁶ Sea level rise will effect land and sea use and present difficult legal questions. At the international level, addressing these legal questions will influence State practice for decades to come. Accordingly, this article will consider the legal ramifications for the regulation of the world's oceans in the event of a substantial rise in mean sea level, taking into account the recent *South China Sea Arbitration Award*.⁷

Before beginning this legal analysis, it is first necessary to frame the discussion by considering the scale of sea level rise that might occur within the next century. Obviously, a sea level rise of many meters would be catastrophic. For the purposes of this article, the limit of sea level rise will be restricted to the rise accepted by the Intergovernmental Panel on Climate Change (IPCC) in its most recent reports published in 2007⁸ and 2014.⁹ The IPCC sought to avoid sea level rise prediction, but noted that a rise in mean

2. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 37 INTERNATIONAL LEGAL MATERIALS 22 (1998).

3. Vienna Convention for the Protection of the Ozone Layer, Mar. 22, 1985, 1513 U.N.T.S. 293.

4. Derek Wong, *Sovereignty Sunk: The Position of 'Sinking States' in International Law*, 14 MELBOURNE JOURNAL OF INTERNATIONAL LAW 346 (2014); Katherine H. Regan, *The Case for Enhancing Climate Change Negotiations with a Labor Rights Perspective*, 35 COLUMBIA JOURNAL OF TRANSNATIONAL LAW 249 (2010).

5. David Caron provides one early example of scholarship that considers the relationship between climate change, sea level rise, and the Law of the Sea Convention. See David D. Caron, *When Law Makes Climate Change Worse: Rethinking the Law of Baselines in Light of a Rising Sea Level*, 17 ECOLOGY LAW QUARTERLY 621 (1990).

6. United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter Law of the Sea Convention].

7. South China Sea Arbitration (Phil. v. China), Award, PCA Case No. 2013-19 (Perm. Ct. Arb. 2016), <http://www.pcacases.com/web/sendAttach/2086> (noting that among other issues, this highly anticipated arbitration considered the legality of maritime zones generated by a number of very small and low-lying features).

8. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT (2007).

9. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: SYNTHESIS REPORT (2014).

sea level of up to one meter by 2100 represented the upper end of possible change.¹⁰ As such, this article will use an assumed rise of one meter when discussing sea level rise in relation to the Law of the Sea Convention and other international law pertinent to the world's oceans.

II. APPLICABLE LAW

The impact of sea level rise on national territory needs to be considered through the prism of the Law of the Sea Convention. Under the Convention, States are entitled to claim jurisdiction over maritime zones around certain features. The extent of the zones varies, from the territorial sea at a maximum of twelve nautical miles seaward of the baseline,¹¹ to the exclusive economic zone (EEZ) at a maximum distance of 200 nautical miles.¹² An isolated feature that generates a full 200-nautical mile EEZ could possess a maritime jurisdiction of in excess of 125,000 square nautical miles. As such, determining the status of a feature claimed to generate such a zone clearly has significant consequences.

There are two elements to consider when determining whether a feature qualifies to generate a maritime zone. The first element is that a feature must be natural in nature and clear of the water at high tide.¹³ This standard is found in Article 121 of the Law of the Sea Convention, which considers the maritime entitlements of islands. All land, including islands, is entitled to generate a territorial sea of up to twelve nautical miles under Article 3 of the Convention.¹⁴ In addition, under Article 121(3), rocks that are capable of human habitation or an economic life of their own are entitled to generate a territorial sea, an EEZ and continental shelf, the latter two extending to 200 nautical miles and beyond.¹⁵ The question of whether features were clear of the water at high tide, or whether they were capable of human habitation or

10. *Id.* at 4, 11.

11. Law of the Sea Convention, *supra* note 6, art. 3.

12. *Id.*, art. 57. The continental shelf could extend the distance even beyond 200 nautical miles. *See id.*, art 76.

13. *Id.*, art. 121(1) (“An island is a naturally formed area of land, surrounded by water, which is above water at high tide.”).

14. *Id.*, art. 3 (“Every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention.”).

15. *Id.*, art. 121(3) (“Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.”).

having an economic life of their own were key issues in the *South China Sea Arbitration* and are discussed below.¹⁶

It is possible if the feature is only clear of the water at low tide, but inundated at high tide, that it may still extend the breadth of the territorial sea. Under Article 13, such a low-tide elevation is entitled to generate a baseline from which other maritime zones are measured if it lies within twelve nautical miles of land.¹⁷ If the feature is more than twelve nautical miles from land, then it generates no maritime zone and, based on the Tribunal's holding in the *South China Sea Arbitration*, it does not create a separate claim of sovereignty.¹⁸ If the feature is entirely artificial, the jurisdiction claimed is limited to a relatively small safety zone of 500 meters.

As noted above, Article 121 of the Convention provides for the generation of maritime zones and states that all islands are entitled to generate the full range of maritime zones.¹⁹ An island is defined as being a naturally formed area of land, surrounded by water that is above water at high tide.²⁰ As this definition could have allowed small isolated outcrops to generate vast maritime zones, Article 121(3) contains a qualification that states: "Rocks which cannot sustain human habitation or an economic life of their own shall have no exclusive economic zone or continental shelf."²¹

Nonetheless, this qualification did not resolve the debate as to which outcrops were entitled to an EEZ and continental shelf. First, the text did not define the term "rock," which led scholars to adopt two different meanings. Some scholars take the view that a "rock" is simply just that, and accordingly, the exception embodied in Article 121(3) does not apply to features that are not "rocky."²² The alternative approach is that "rock" is simply a description of a feature that is too small to be an island, and that it is irrelevant to consider the geological make-up of the feature to determine whether it falls within Article 121(3). This is the view of Hodgson and Smith, which accords more with

16. See *South China Sea Arbitration*, *supra* note 7, ¶ 504.

17. Law of the Sea Convention, *supra* note 6, art. 13.

18. *South China Sea Arbitration*, *supra* note 7, ¶ 309; see also *Territorial and Maritime Dispute (Nicar. v. Colom.)*, 2012 I.C.J. 624, ¶ 26 (Nov. 19).

19. Law of the Sea Convention, *supra* note 6, art. 121(2).

20. *Id.*, art. 121(1).

21. *Id.*, art. 121(3).

22. See the discussion in Jon M. Van Dyke & Robert A. Brooks, *Uninhabited Islands: Their Impact on the Ownership of the Oceans' Resources*, 12 OCEAN DEVELOPMENT AND INTERNATIONAL LAW 265, 283 (1983) (noting that sand cays and coral atolls are exempt from the qualification); see also HARIITNI DIPLA, *LE RÉGIME JURIDIQUE DES ÎLES DANS LE DROIT INTERNATIONAL DE LA MER* (1984) 82–85.

the spirit of the article, and is consistent with preexisting nomenclature for referring to physical features.²³

The second element is determining what the terms “capable of human habitation” and an “economic life of its own” mean, as well as what they legally require. Indeed, there is a lack of consensus on the meaning of these terms. Moreover, the level of external support that disqualifies a rock from receiving the full ambit of maritime zones also remains an unresolved question.

The *South China Sea Arbitration* considered both the nature of a “rock” and what the terms “capable of human habitation” and “economic life of its own” encompass.²⁴ However, while this consideration provided the first detailed judicial assessment of these issues, it is unlikely to settle these arguments conclusively. A more definitive assessment will require additional cases that apply the arbitration’s findings on these issues.

III. DIRECT IMPACTS

The most obvious impact of a rise in sea level for the Law of the Sea Convention would relate to its provisions concerning water depth. Obviously, for a provision that specified a particular depth, a rise in sea level would create demonstrable consequences. Accordingly, such provisions are an appropriate starting point for inquiry. However, contrary to what might be expected, very few provisions in the Law of the Sea Convention pertain to water depth, and for those provisions that do, they do so on a scale that renders the rise of one meter of little consequence. The only explicit depth criterion in the Convention is in Article 76(5),²⁵ which addresses the continental shelf and requires a depth criterion based on the 2,500-meter isobath.²⁶ Article 76 provides for the definition of the continental shelf, and does so using multiple elements. Article 76(1) defines the continental shelf as generally extending to at least 200 nautical miles from the baseline of a

23. Robert D. Hodgson & Robert W. Smith, *The Informal Single Negotiating Text (Committee II): A Geographical Perspective*, 3 OCEAN DEVELOPMENT AND INTERNATIONAL LAW 225, 230 (1976).

24. South China Sea Arbitration, *supra* note 7, ¶¶ 475–506.

25. Law of the Sea Convention, *supra* note 6, art. 76(5)

The fixed points comprising the line of the outer limits of the continental shelf on the seabed, drawn in accordance with paragraph 4 (a)(i) and (ii), either shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured or shall not exceed 100 nautical miles from the 2,500 metre isobath, which is a line connecting the depth of 2,500 metres.

26. See Catherine Redgwell, *UNCLOS and Climate Change*, 106 AMERICAN SOCIETY OF INTERNATIONAL LAW PROCEEDINGS 406, 407 (2012).

State²⁷ based on the configuration of the seabed in the context of two complex and highly technical definitions.²⁸ Over and above these definitions, Article 76 imposes two general constraints on the maximum extent of the continental shelf. The first constraint is based on distance and the second is based on a combination of depth and distance.²⁹

The constraint factors, requiring either a maximum of 350 nautical miles from the coast or 100 nautical miles beyond the 2,500-meter isobath, whichever distance is greater, provide the only explicit use of depth criteria in the Convention. Obviously, a sea level rise of one meter has at best a marginal impact on the application of Article 76. First, a rise of one meter represents a tiny fraction of the total depth at issue. Second, charts indicating depth of that magnitude typically have an accuracy that uses soundings of one sounding every five nautical miles. Since the difference in depth a one-meter rise would cause is only 0.04 percent, it is well within the error range of these charts. Even more telling, within the requirements for States lodging data concerning their extended continental shelf, Article 76(7) provides that data should be provided to construct a constraint line at intervals of 60 nautical miles.³⁰ This means that a State has only to find one point in 60 nautical miles of seabed to satisfy the Commission, and it would seem that a variation of only one meter could be easily offset, even if another State challenged the location of a constraint line.

Nonetheless, the near total absence of depth criteria should not be taken as a dismissal of the relevance of sea level rise to the Law of the Sea Convention. Sea level rise becomes more relevant in two other contexts, both of which are highly significant in the Convention's application. The first of these instances relates to the impact of sea level rise on the definition of what constitutes land, and the circumstances that permit land to generate the full range of maritime zones. The second instance pertains to the impact upon archipelagos, under Part IV of the Convention. Each is considered below.

The definition of land and the circumstances in which it may generate the most extensive maritime zones may be directly affected by sea level rise.

27. Law of the Sea Convention, *supra* note 6, art. 76(1).

28. *Id.*, art. 76(4).

29. *Id.*, art. 76(5).

30. *Id.*, art. 76(7)

The coastal State shall delineate the outer limits of its continental shelf, where that shelf extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by straight lines not exceeding 60 nautical miles in length, connecting fixed points, defined by coordinates of latitude and longitude.

Obviously, where States possess territory that is less than one meter in elevation, that territory may disappear completely, or at least cease to be clear of the water at high tide. Further, in cases where some land remains above water, the increase in sea level may cause periodic inundation through storm surges or high spring and autumnal tides. Such periodic inundation may render territory incapable of human habitation or of generating an economic life of its own, as productive soil may be lost to salinity and thus unable to sustain human life.

Were a State's territory to be submerged, it would cease to be land, and would not generate any maritime zones.³¹ Even if the territory did remain free of permanent inundation by the sea, by virtue of Article 121(3), it might lose the right to generate an exclusive economic zone or continental shelf if it no longer could support human habitation.³² The loss of maritime zones of at least 200 nautical miles in width would be a substantial loss to any State, but the loss would be particularly great for small island developing States whose economies overwhelmingly depend on exploiting their ocean resources.³³

While the loss of productive agricultural land to saline soils may present a substantial problem for current and future governments,³⁴ the relevance of this loss for the application of the Law of the Sea Convention is limited. First, very little land around the globe is entirely less than one to two meters in elevation. Moreover, the Convention requires only some land to be naturally clear of the water, and there is no restriction on the works that the coastal State may undertake to achieve this outcome.³⁵ Indeed, provided the land itself is naturally formed, there is no limitation in international law on the construction of harbor works, dikes, groynes or similar features designed

31. See Caron, *supra* note 5, at 634.

32. Wong equates the possession of territory with habitability, which seems to incorrectly conflate Articles 121(1) and 121(3). See Wong, *supra* note 4, at 384–85.

33. Michael Gagain, *Climate Change, Sea Level Rise, and Artificial Islands: Saving the Maldives' Statehood and Maritime Claims Through the 'Constitution of the Oceans'*, 23 COLORADO JOURNAL OF INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 77, 94 (2012).

34. See, e.g., R.J. Nicholls, S.P. Leatherman, K.C. Dennis & C.R. Volonté, *Impacts and Responses to Sea-Level Rise: Qualitative and Quantitative Assessments*, 14 JOURNAL OF COASTAL RESEARCH 26 (1995).

35. Harbor works can even be used as baselines for the measurement of the territorial sea. See Law of the Sea Convention, *supra* note 6, art. 11 (“For the purpose of delimiting the territorial sea, the outermost permanent harbor works which form an integral part of the harbor system are regarded as forming part of the coast. Off-shore installations and artificial islands shall not be considered as permanent harbor works.”).

to protect the land from erosion or inundation.³⁶ As such, the complete loss of a State's territory is unlikely and remedial action could be taken to prevent it. Second, while land may be rendered unproductive because of periodic inundation, it is unlikely that it be rendered uninhabitable, or incapable of sustaining an economic life of its own.³⁷

The interpretation and application of Article 121(3) was central to the Tribunal's reasoning in the *South China Sea Arbitration*. In that case, the Tribunal was asked to determine whether certain named features in the region were land for the purposes of the Convention, and whether they could generate the full range of maritime zones. The Tribunal undertook a detailed examination of Article 121(3) drawing important conclusions from the text:

- a. First, the use of the term "rock" does not require that a feature be composed of rock in the geologic sense in order to fall within the scope of the provision.
- b. Second, the use of the term "cannot" makes clear that the provision concerns the objective capacity of the feature to sustain human habitation or economic life. Actual habitation or economic activity at any particular point in time is not relevant, except to the extent that it indicates the capacity of the feature.
- c. Third, the use of the term "sustain" indicates both time and qualitative elements. Habitation and economic life must be able to extend over a certain duration and occur to an adequate standard.
- d. Fourth, the logical interpretation of the use of the term "or" discussed above indicates that a feature that is able to sustain either human habitation or an economic life of its own will be entitled to an exclusive economic zone and continental shelf.³⁸

The Tribunal's approach set a very high standard for demonstrating what constitutes human habitation or an economic life of its own. By discounting actual habitation as a basis, and focusing on the creation of a largely self-sustaining community,³⁹ it found that none of the features in the South China Sea qualified as capable of human habitation or an economic life of their

36. See A.H.A. Soons, *The Effects of a Rising Sea Level on Maritime Limits and Boundaries*, 37 NETHERLANDS INTERNATIONAL LAW REVIEW 207, 216–17 (1990).

37. See Gagain, *supra* note 33, at 93.

38. South China Sea Arbitration, *supra* note 7, ¶ 504.

39. *Id.*, ¶ 520.

own. The Tribunal made this finding in spite of the many hundreds of military personnel from China, Malaysia, the Philippines, Taiwan and Vietnam living on these islands on a permanent basis.⁴⁰ This finding even included the largest island in the Spratlys, Itu Aba, which the Tribunal noted was over forty hectares in area, possessed numerous fruit trees, some potable water and a population of several hundred Taiwanese armed forces personnel.⁴¹

The Tribunal noted that historical activity was of great importance in determining whether a feature was capable of sustaining human habitation, as it found that there was a need to have a community present over a “sustained period.”⁴² As such, demonstrating that an island had been settled by a community that had sustained itself independently over a long period would be sufficient to meet this standard.

For a feature that was previously inhabited, but had been rendered uninhabitable by sea level rise, the Tribunal gave some hope of a different treatment than to that of an uninhabited rock. After a discussion concerning the value of historical data for determining whether a feature was inhabited, the Tribunal stated:

In such circumstances, the Tribunal should consider whether there is evidence that human habitation has been prevented or ended by forces that are separate from the intrinsic capacity of the feature. War, pollution, and environmental harm could all lead to the depopulation, for a prolonged period, of a feature that, in its natural state, was capable of sustaining human habitation.⁴³

This finding suggests that the original or natural condition—and not human intervention—will determine whether the feature is habitable or not. Arguably, human intervention could include a sea level rise caused by anthropogenic climate change. Accordingly, this change would not alter the “intrinsic capacity of the feature” and presumably would not affect the feature’s status. On this basis, a coastal State whose island territory was rendered uninhabitable by sea level rise could make a case that the territory was previously inhabited, and thus retains the character of land by being clear of the water at high tide. Still, a State would be well advised to ensure that part of

40. *Id.*, ¶ 620; see also Andrew S. Erickson & Austin Strange, *Pandora’s Sandbox: China’s Island-Building Strategy in the South China Sea*, FOREIGN AFFAIRS (July 13, 2014), <https://www.foreignaffairs.com/articles/china/2014-07-13/pandoras-sandbox>.

41. South China Sea Arbitration, *supra* note 7, ¶¶ 580–614.

42. *Id.*, ¶ 491.

43. *Id.*, ¶ 549.

the territory remained above high water by using appropriate construction activities. Doing so will allow the State to retain its EEZ and continental shelf based on the territory retaining its original character as land.

While the Tribunal was generally dismissive of State practice,⁴⁴ some examples are nonetheless useful to consider how States might protect key features from eroding away or submergence. Ironically, the island building that the Tribunal viewed negatively may demonstrate how coastal States can protect an existing feature. In the *South China Sea Arbitration*, almost all the claimants have engaged in island construction to varying degrees, with some features being built up from relative modest rocks and sand cays into sizeable military facilities with runways, helipads and barracks.⁴⁵

Although the South China Sea is the most disputed area concerning whether features qualify as land, it is not the only disputed area. For example, Japan has claimed the tiny feature of Okinotorishima, which consists of three small rocks less than one meter above the mean high water mark. Japan not only maintains that this feature is land, but also that it generates the full range of maritime zones.⁴⁶ To preserve this territory, Japan has built extensive concrete and rock breakwaters around the natural features to protect them from erosion. Japan has also constructed living accommodation and a helipad, presumably to illustrate that Okinotorishima is capable of sustaining human habitation.⁴⁷ Tellingly, the living accommodation stands on stilts in the feature's lagoon rather than on the feature's "land."⁴⁸

44. *Id.*, ¶¶ 552–53.

45. See David Whiting, *The Spratly Islands Dispute and the Law of the Sea*, 26 DENVER JOURNAL OF INTERNATIONAL LAW AND POLICY 897 (1998).

46. GOVERNMENT OF JAPAN, JAPAN'S SUBMISSION TO THE COMMISSION ON THE LIMITS OF THE CONTINENTAL SHELF PURSUANT TO ARTICLE 76 PARAGRAPH 8 OF THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA: EXECUTIVE SUMMARY (2008), http://www.un.org/Depts/los/clcs_new/submissions_files/jpn08/jpn_execsummary.pdf.

47. *Tokyo Governor Stirs Reef Dispute*, BBC NEWS (May 20, 2005), <http://news.bbc.co.uk/2/hi/asia-pacific/4561403.stm>.

48. *Id.*

Neighboring States view these claims with understandable skepticism, and both China⁴⁹ and the Republic of Korea⁵⁰ have protested Japan's claimed continental shelf generated by these tiny features. Applying the *South China Sea Arbitration* Tribunal's approach to this dispute would almost certainly find against Japan's claim, but this matter has yet to see formal resolution.

Of potentially greater relevance to sea level rise are the Law of the Sea Convention provisions concerning archipelagic waters and low-tide elevations. Under Article 13, a State may utilize a low-tide elevation to generate a territorial sea baseline where the elevation is located within twelve nautical miles of land.⁵¹ As such, providing that there is at least a rock clear of the water at high tide, all surrounding drying reefs may qualify to generate at least a territorial sea. For many States, the loss of low-tide elevations to extend their territorial sea baseline seawards would have a significant impact upon the areas subject to their maritime jurisdiction.

Sea level rise could have a detrimental impact upon these areas. Features only clear of the water at low tide would usually be very low to the water, hence their periodic inundation at high tide. With sea level rise, even of no more than one meter over the coming century, such features likely would be completely submerged, and hence lose their status as low-tide elevations. Still, even under this scenario, some States would not be adversely affected. Instead of applying Article 13 of the Convention dealing with low-tide elevations, island States could turn to Article 6. This Article concerns reefs and provides that: "In the case of islands situated on atolls, or of islands having fringing reefs, the baseline for measuring the breadth of the territorial sea is

49. Note Verbale, Permanent Mission of the People's Republic of China to the United Nations, Notification Regarding Japan's Submission on the Continental Shelf Beyond 200 Nautical Miles to the Commission on the Limits of the Continental Shelf, Ref. No. CML/2/2009 (Feb. 6, 2009), http://www.un.org/depts/los/clcs_new/submissions_files/jpn08/chn_6feb09_e.pdf.

50. Note Verbale, Permanent Mission of the Republic of Korea to the United Nations, Notification Regarding Japan's Submission on the Continental Shelf Beyond 200 Nautical Miles to the Commission on the Limits of the Continental Shelf, Ref. No. MUN/046/09 (Feb. 27, 2009), http://www.un.org/depts/los/clcs_new/submissions_files/jpn08/kor_27feb09.pdf.

51. Law of the Sea Convention, *supra* note 6, art. 13(1)

A low-tide elevation is a naturally formed area of land which is surrounded by and above water at low tide but submerged at high tide. Where a low-tide elevation is situated wholly or partly at a distance not exceeding the breadth of the territorial sea from the mainland or an island, the low-water line on that elevation may be used as the baseline for measuring the breadth of the territorial sea.

the seaward low-water line of the reef, as shown by the appropriate symbol on charts officially recognized by the coastal State.”⁵²

Unlike Article 13, there is no requirement for the reef to be a low-tide elevation, although the reference to “low-water line of the reef” might impute this conclusion. Given that Article 47 of the Convention uses the term “drying reef” in a different context, the requirement that the reef be a low-tide elevation could have been explicitly made, and since it was not, it is reasonable to assume such a requirement does not exist. Certainly, State practice supports this conclusion, as there are reefs that clearly do not currently qualify as low-tide elevations that some States have moved to enclose with territorial sea baselines. For example, several South Pacific States, which have extensive reef structures surrounding much of their coasts, as well as new coral features in the process of forming, have relied upon Article 6 for a substantial extension of their maritime jurisdiction.⁵³ For islands States that are likely to face the greatest hardship from sea level rise, making use of Article 6 may ensure that their maritime jurisdiction does not diminish, even if their arable land does.

In the case of archipelagos, the Convention provides that an archipelagic State may enclose its territory and waters in straight baselines, subject to certain criteria. Article 47 sets forth these criteria:

1. An archipelagic State may draw straight archipelagic baselines joining the outermost points of the outermost islands and drying reefs of the archipelago provided that within such baselines are included the main islands and an area in which the ratio of the area of the water to the area of the land, including atolls, is between 1 to 1 and 9 to 1.
2. The length of such baselines shall not exceed 100 nautical miles, except that up to 3 per cent of the total number of baselines enclosing any archipelago may exceed that length, up to a maximum length of 125 nautical miles.
3. The drawing of such baselines shall not depart to any appreciable extent from the general configuration of the archipelago.
4. Such baselines shall not be drawn to and from low-tide elevations, unless lighthouses or similar installations which are permanently above sea level have been built on them or where a low-tide elevation

52. *Id.*, art. 6.

53. *See, e.g.*, Maritime Zones Act 1999, 1999 No. 18, s.6 (Samoa), http://www.ffa.int/system/files/Maritime_Zones_Act_1999.pdf.

is situated wholly or partly at a distance not exceeding the breadth of the territorial sea from the nearest island.⁵⁴

Each of these requirements could be problematic for a low-lying archipelagic State affected by sea level rise. First, for some archipelagic States, there is the challenge of meeting the land-to-water ratio. For widely scattered archipelagoes with small islands, the land-to-water ratio is a difficult, if not insuperable problem, as they have too much water to enclose. Kiribati, which claims archipelagic status, but took over twenty years to construct limited archipelagic baselines around its capital Tarawa, provides an instructive example.⁵⁵ A rise in sea level might remove drying reefs from the archipelagic State's calculation in relation to land, and therefore it might struggle to retain its archipelagic status.

The same problem may arise in the use of low-tide elevations as basepoints for archipelagic baselines. Low-tide elevations can only be used where there is a lighthouse or similar installation built upon them. An archipelagic State, faced with the loss of archipelagic basepoints because of sea level rise, could take remedial action to retain its basepoints through the construction of features upon them. Since there is no requirement under Article 47(4) for lighthouses to be crewed, or even capable of occupation, a relatively modest installation could meet this requirement.

While these issues could pose a problem, there are several reasons why the land-to-water ratio likely will not become a problem in fact. First, the ratio is not restricted to land as defined in Article 1 of the Convention. Article 47(7) provides that waters inside the fringing reefs of islands or atolls may be regarded as land when calculating this ratio.⁵⁶ Inundated lands could be regarded as a fringing reef, essentially keeping ratios at their present levels. Second, the Maldives—the archipelagic State often referred to as the most

54. Law of the Sea Convention, *supra* note 6, art. 47.

55. VICTOR PRESCOTT & CLIVE SCHOFIELD, *THE MARITIME POLITICAL BOUNDARIES OF THE WORLD* 176 (2d ed. 2004).

56. Law of the Sea Convention, *supra* note 6, art. 47(7)

For the purpose of computing the ratio of water to land under paragraph 1, land areas may include waters lying within the fringing reefs of islands and atolls, including that part of a steep-sided oceanic plateau which is enclosed or nearly enclosed by a chain of limestone islands and drying reefs lying on the perimeter of the plateau.

at risk through sea level rise—presently has a land-to-water ratio of 1:2.63.⁵⁷ Much of the “land” area in this ratio includes the waters contained in the lagoons of the Maldivian atolls. Provided at least some built up area on an atoll can remain above water, even through human construction, the totality of the atoll and its lagoon can continue to be treated as land when calculating the ratio. Thus, even if this outcome were possible for only half the atolls in the Maldives, the land-to-water ratio requirement would still be met.

IV. INDIRECT IMPACTS

The effects of sea level rise may also create indirect impacts on the application of the Law of the Sea Convention, as well as treaties concluded pursuant to it. These effects typically will not affect the Convention directly, but could create indirect impacts via the manner in which States interact and exercise their jurisdiction. In some respects, these effects could have a much greater impact on international law than the direct impacts considered above.

A. *Maritime Boundaries*

A sea level rise could alter coastlines, which in turn could affect maritime boundaries, and therefore impact State jurisdiction in a fundamental way. Where maritime boundaries are calculated from the shape and configuration of the coast, the inundation of large areas of coastline clearly could affect maritime boundary delimitation.⁵⁸

The Law of the Sea Convention addresses the delimitation of maritime boundaries. Article 15 addresses maritime boundary delimitation with respect to the territorial sea, while Article 74 addresses delimitation with respect to the EEZ and Article 83 with respect to the continental shelf. All three Articles indicate that the primary manner to delimitate a boundary is by agreement, allowing coastal States to determine the course of any boundary between them. When agreement is not possible, States may use an equidistance line to delimit their boundaries with respect to the territorial sea.

In contrast, the Convention does not provide a methodology for delimiting maritime boundaries for the EEZ or continental shelf, as no consensus

57. BUREAU OF OCEANS AND INTERNATIONAL ENVIRONMENTAL AND SCIENTIFIC AFFAIRS, U.S. DEPARTMENT OF STATE, LIMITS IN THE SEAS NO. 126: MALDIVES: MARITIME CLAIMS AND BOUNDARIES (Sept. 8, 2005), <https://www.state.gov/documents/organization/57678.pdf>.

58. For a full discussion of this issue, see Soons, *supra* note 36, at 210.

on delimitation emerged during the negotiation of the Convention. Delimitation is to be achieved by “agreement,” but unlike the regime for the territorial sea, in the absence of agreement there is no specified methodology for resolving this issue beyond stating the result ought to be an “equitable solution.” What impact then would the inundation of land have on questions of delimitation given the absence of a methodology for resolving disputes concerning EEZ and continental shelf boundaries?

This impact could manifest itself in a number of ways. First, in respect of existing boundaries, where no coordinates have been specified, but a method of calculation, such as equidistance, has been agreed upon, the loss of land area beneath the sea might detrimentally affect the course of the boundary. While such boundaries without coordinates are unusual, they do exist and they may be affected by sea level rise. The maritime boundary between Tuvalu and France in respect of Wallis and Futuna was an example where only a method is specified.⁵⁹ In the case of Tuvalu, were some of its southernmost islands submerged or disqualified for determining its EEZ by virtue of Article 121(3), France would have been able to argue that the boundary ought to run north of its present location, as the boundary provides for a methodology rather than coordinates.⁶⁰ Fortunately, for Tuvalu, a new boundary has been negotiated. This boundary replaces the 1985 agreement and uses coordinates that should not be affected by sea level rise.⁶¹

Despite this example, few established maritime boundaries are constructed in this fashion. Most maritime boundaries are delimited by stating a series of coordinates, defined with reference to a geodetic datum, rather than any physical feature that might be affected by sea level rise. Further, most maritime boundary treaties do not specify a methodology for how they were

59. Exchange of Notes between France and Tuvalu Constituting an Agreement Concerning Provisional Maritime Delimitation between the Two Countries, Fr.-Tuvalu., Aug. 6, 1985 – Nov. 5, 1985, 1506 U.N.T.S. 1987, <http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/TREATIES/FRA-TUV1985MD.PDF>. See also Redgwell, *supra* note 26, at 408.

60. Although ostensibly concerned with Tuvalu, Rayfuse does not address the potential for an ambulatory boundary. See Rosemary Rayfuse, *W(h)ither Tuvalu? International Law and Disappearing States* 4 (University of New South Wales Faculty of Law Research Series, No. 9, 2009), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1412028.

61. The text of the agreement is yet to be published. See *Agreement Reached Between Fiji, Tuvalu and France on Maritime Boundaries*, THE COMMONWEALTH (Dec. 12, 2014), <http://thecommonwealth.org/media/news/agreement-reached-between-fiji-tuvalu-and-france-maritime-boundaries>.

constructed. These treaties merely state the points through which the boundary will run. As discussed below, this absence of methodology makes arguing that a boundary treaty would be rendered inoperative due to *rebus sic stantibus*, a fundamental change in circumstances, extremely difficult.⁶²

Article 62 of the Vienna Convention on the Law of Treaties describes the nature of *rebus sic stantibus*. This article provides that where there has been a fundamental change in the circumstances underlying a treaty, this change can give one of the parties cause to terminate or withdraw from the treaty unilaterally.⁶³ Applying Article 62 to maritime boundary delimitation raises two significant problems. First, Article 62(2)(a) states, “[a] fundamental change of circumstances may not be invoked as a ground for terminating or withdrawing from a treaty if the treaty establishes a boundary.”⁶⁴ Accordingly, regardless of whether the circumstances surrounding a maritime boundary delimitation have changed, including the disappearance of a feature beneath a rising sea, a State could not terminate or withdraw from a treaty based on a *rebus sic stantibus* argument.

That said, there may be some latitude when interpreting Article 62(2)(a). The Convention does not specify whether it applies to all boundaries, including maritime boundaries, or whether the term “boundary” should be read only to include land boundaries. When seeking assistance for interpreting this Article, it is permissible to consider the *travaux préparatoires* of the Convention. In the discussion of the draft text in 1966, the International Law Commission does not refer to maritime boundaries, noting the example of the *Free Zones Case*,⁶⁵ which involved a terrestrial boundary and discussed the impact of self-determination on terrestrial boundaries.⁶⁶ It is also well to note that when the text was finalized in 1966, before its adoption in 1969, there were very few maritime boundary cases, and almost no maritime boundaries in the modern sense had been settled by agreements between

62. John K. Setear, *An Iterative Perspective on Treaties: A Synthesis of International Relations Theory and International Law*, 37 HARVARD INTERNATIONAL LAW JOURNAL 139 (1996).

63. Vienna Convention on the Law of Treaties art. 62, May 23, 1969, 1155 U.N.T.S. 331.

64. *Id.*, art. 62(2).

65. *Free Zones of Upper Savoy and the District of Gex* (Fr. v. Switz.), 1932 P.C.I.J. (ser. A/B) No. 46, at 120 (June 7) (“The determination of the frontier between Switzerland and Sardinia was left to a direct agreement between those two States.”).

66. *Report of the International Law Commission to the General Assembly*, 21 U.N. GAOR Supp. No. 9, U.N. Doc. A/6309/Rev.1 (1966), reprinted in 1966 YEARBOOK OF THE INTERNATIONAL LAW COMMISSION 169, 259, http://legal.un.org/ilc/publications/yearbooks/english/ilc_1966_v2.pdf.

States. As such, it is reasonable to conclude that Article 62(2)(a) ought not to apply to maritime boundaries.

The second problem is whether a rise in sea level amounts to circumstances that “constituted an essential basis of the consent of the parties to be bound by treaty” and whether the effect of sea level rise “is radically to transform the extent of obligations still to be performed under the treaty.”⁶⁷ Clearly, this is an exceptionally high burden to meet. As an example, assume that two States concluded a maritime boundary treaty based on the equidistance between the features of two States, but merely stated a series of coordinates through which the boundary line will pass. Now assume that several key features in the construction of the equidistance line have disappeared because of sea level rise. The treaty itself gives no basis for its construction, and therefore the loss of several features is irrelevant to its content. Thus, without an express acknowledgement of the treaty’s methodology, the loss of land does not present a fundamental change in the circumstances of the treaty.

Moreover, the reduction in land would not necessarily be detrimental to the State when calculating its maritime boundary. Since there is no compulsory methodology for maritime boundary delimitation within international law,⁶⁸ no mechanism could force a State to forfeit jurisdiction over ocean space because of sea level rise. While a State that lost land through sea level rise would hold a weaker position in bilateral negotiations, it could nonetheless reject compulsory maritime boundary delimitation. Further, sea level rise would not adversely affect most land used in the calculation of basepoints for a maritime boundary. Indeed, a few points along a coast and a few islands in an archipelago may be sufficient to calculate an equidistance line. Only the loss of a crucially placed island or feature would adversely affect the calculation of a boundary.

The atoll of Kapingamarangi, the southernmost territory in the Federated States of Micronesia (FSM), provides a good example of the crucial role an individual island might play in the calculation of a maritime boundary or the generation of maritime zones. Kapingamarangi is three hundred kilometers south of the nearest island in the FSM. It is clearly entitled to generate an EEZ and continental shelf, as a population of several hundred people inhabits it. The atoll has two inhabited islets, with a mean elevation of be-

67. Vienna Convention on the Law of Treaties, *supra* note 63, art. 62(1)(a)–(b).

68. Law of the Sea Convention, *supra* note 6, arts. 74, 83.

tween one and four meters, meaning that while it would not be lost completely to a one-meter sea level rise, it would certainly be at risk. Kapingamarangi is the only point of calculation in delimiting the EEZ boundary between Papua New Guinea and the FSM, as it is the only territory the FSM possesses within four hundred nautical miles of Papua New Guinea. The submersion of this atoll would not only permanently displace up to five hundred people, but it would also cost the FSM more than 30,000 square nautical miles of EEZ.⁶⁹

B. *Dispute Resolution*

Part XV of the Law of the Sea Convention details a range of compulsory dispute resolution procedures applicable to States parties. As sea level rises, States will likely find themselves increasingly relying on these procedures to resolve a variety of issues arising from the Convention. Indeed, although States can avoid compulsory resolution in limited instances concerning certain types of disputes, most disputes invoke compulsory jurisdiction. If referred, these disputes confer jurisdiction to an arbitral tribunal, the International Tribunal for the Law of the Sea or the International Court of Justice.⁷⁰

The *South China Sea Arbitration* provided the first opportunity to see a referral under Part XV that included an environmental component. Here, the Tribunal considered the general duty to protect and preserve the marine environment under Article 192, as well as the legality of China's island building activities from an environmental perspective.⁷¹ Having concluded that no features in the South China Sea generated an EEZ, the Tribunal identified certain waters as within the Philippines' EEZ as generated from its archipe-

69. *Kapingamarangi (Greenwich)*, PACIFIC WRECKS, http://www.pacificwrecks.com/provinces/fed_kapingamarangi.html (last updated May 22, 2017).

70. *See generally* NATALIE KLEIN, DISPUTE SETTLEMENT IN THE UN CONVENTION ON THE LAW OF THE SEA (2005).

71. *South China Sea Arbitration*, *supra* note 7, ¶¶ 976–93.

logic baselines. The Tribunal then concluded that the construction of a number of artificial islands on low-tide elevations in these waters violated Articles 192,⁷² 194(1),⁷³ 194(5),⁷⁴ 197,⁷⁵ 123⁷⁶ and 206⁷⁷ of the Convention.⁷⁸

While no State has yet brought a legal action with respect to sea level rise caused by anthropogenic climate change, States have certainly considered such actions. The Prime Minister of Tuvalu indicated a willingness to pursue Australia and the United States before an international court, but ultimately

72. Law of the Sea Convention, *supra* note 6, art. 192 (“States have the obligation to protect and preserve the marine environment.”).

73. *Id.*, art. 194(1)

States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and they shall endeavor to harmonize their policies in this connection.

74. *Id.*, art. 194(5) (“The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life.”).

75. *Id.*, art. 197

States shall co-operate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features.

76. *Id.*, art. 123

States bordering an enclosed or semi-enclosed sea should co-operate with each other in the exercise of their rights and in the performance of their duties under this Convention. To this end they shall endeavor, directly or through an appropriate regional organization:

(a) to co-ordinate the management, conservation, exploration and exploitation of the living resources of the sea;

(b) to co-ordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment;

(c) to co-ordinate their scientific research policies and undertake where appropriate joint programs of scientific research in the area;

(d) to invite, as appropriate, other interested States or international organizations to co-operate with them in furtherance of the provisions of this article.

77. *Id.*, art. 206

When States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practicable, assess the potential effects of such activities on the marine environment and shall communicate reports of the results of such assessments in the manner provided in article 205.

78. South China Sea Arbitration, *supra* note 7, ¶ 993.

declined to do so.⁷⁹ Of course, there are significant impediments to pursuing such an action. For example, pursuing an action against a high carbon emitting State under the Law of the Sea Convention requires identifying responsibility for the harm. As Doelle has noted, the causes of increased carbon dioxide cannot be ascribed to a single State, and the relative responsibility of one State may be too small to make it an effective respondent.⁸⁰

Nonetheless, the *South China Sea Arbitration* Tribunal permitted the Philippines to pursue China for breaches of the general duty to protect the environment arising from China's island building activities, even though China was not the only State to engage in these activities.⁸¹ Thus, it is not entirely out of the question that a State party to the Convention would pursue another State party for a breach of Article 192 in relation to the release of greenhouse gases. Such an action could align with Tribunal's wide-reaching interpretation of Article 192, which found that the Article imposed a positive duty and negative obligation on States despite the Article's general terms. Indeed, the Tribunal stated that "Article 192 thus entails the positive obligation to take active measures to protect and preserve the marine environment, and by logical implication, entails the negative obligation not to degrade the marine environment."⁸²

79. HUNT JANIN & SCOTT A. MANDIA, RISING SEA LEVELS: AN INTRODUCTION TO CAUSE AND IMPACT 86 (2012); Wong, *supra* note 4, at 384.

80. Meinhard Doelle, *Climate Change and the Use of the Dispute Settlement Regime of the Law of the Sea Convention*, 37 OCEAN DEVELOPMENT AND INTERNATIONAL LAW 319 (2006).

81. South China Sea Arbitration, *supra* note 7, ¶ 941.

82. *Id.*

Article 192 of the Convention provides that "States have the obligation to protect and preserve the marine environment." Although phrased in general terms, the Tribunal considers it well established that Article 192 does impose a duty on States Parties, the content of which is informed by the other provisions of Part XII and other applicable rules of international law. This "general obligation" extends both to "protection" of the marine environment from future damage and "preservation" in the sense of maintaining or improving its present condition. *Article 192 thus entails the positive obligation to take active measures to protect and preserve the marine environment, and by logical implication, entails the negative obligation not to degrade the marine environment.* The corpus of international law relating to the environment, which informs the content of the general obligation in Article 192, requires that States "ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control." Thus States have a positive "duty to prevent, or at least mitigate" significant harm to the environment when pursuing large-scale construction activities." The Tribunal considers this duty informs the scope of the general obligation in Article 192.

(emphasis added).

V. CONCLUSION

Sea level rise raises a variety of serious concerns, perhaps none more so than its physical impacts on low-lying land and coastal communities. Nonetheless, the Law of the Sea Convention remains poised to respond to how these impacts may effect States' maritime jurisdiction. Certainly, the consequences of anthropogenic climate change on the world's oceans could be catastrophic, and the law of the sea is at the heart of the international regulatory regime of the oceans and the resources contained within. However, this regime is well positioned to cope with these consequences, and the inundation of land will not necessarily affect State jurisdiction over ocean space in an adverse manner.

This conclusion follows from several considerations. First, the Convention's provisions are not based on depth. Implicitly, the Convention accepts that coastlines change in the short term, through the movement of the tides, and in the long term, through erosion and the accretion of the coastline. A change in sea level might have significant effects on communities, or the configuration of low-lying coastal areas, but it will not have a significant effect on the Convention's operation. Accordingly, the Convention does not need to be rewritten to determine how sea level rise could affect maritime jurisdiction.

Further, the *South China Sea Arbitration* Tribunal's findings suggest that an environmental disaster will not impact the status of a feature. Likewise, the Tribunal found that neither the amount of construction, nor the establishment of a community based on external supply could change the status of a feature. This finding spares a State the kind of wasteful economic investment to retain jurisdiction that scholars such as Caron feared.⁸³ If anything, the Tribunal's statements suggest that as long as something of a feature remains, the fact that the feature was habitable in the past, but has ceased to be habitable presently will still allow the feature to continue to generate an EEZ or continental shelf.⁸⁴

Still, some States are already taking steps to prepare for sea level rise by designating not just new archipelagic waters, an action taken in the past five

83. Caron, *supra* note 5, at 636–41.

84. South China Sea Arbitration, *supra* note 7, ¶ 549.

years by Kiribati,⁸⁵ the Marshall Islands⁸⁶ and Tuvalu,⁸⁷ but also by designating the outer edges of their EEZs.⁸⁸ Presumably, States undertake this action to present the extensive coordinates generated by the outer edge of the EEZ, at 200 nautical miles from the present coast, and through the tacit acceptance of the international community, to assert that this remains the outer edge of the EEZ, even if the islands generating it cease to be habitable, or disappear altogether. Here, States appear to be using international recognition in an attempt to “cement” their maritime jurisdiction in the event that features disappear. Nonetheless, if States that have lodged extensive EEZ limit coordinates are doing so for this reason, it would be helpful for them to articulate the object of the exercise, so the acceptance of other States is evident.⁸⁹

In sum, the Law of the Sea Convention—at least when applied in the same manner that it was applied in the *South China Sea Arbitration* Tribunal—

85. Baselines around the Archipelagos of Kiribati Regulations 2014 (2014), http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/KIR_2014_archipel_baselines_regulations.pdf.

86. Republic of the Marshall Islands Maritime Zones Declaration Act 2016, P.L. 2016-0005, http://www.ffa.int/system/files/Maritime_Zones_Declaration_Act_2016.pdf.

87. Declaration of Archipelagic Baselines 2012, LN No. 7 of 2012 (Tuvalu), http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/tuv_declaration_archipelagic_baselines2012_1.pdf.

88. For Kiribati, the applicable regulation is 100 pages. Exclusive Economic Zone Outer Limit Regulations 2014 (2014) (Kiribati), http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/KIR_2014_eez_outer_limits_regulations.pdf (Kiribati). For the Marshall Islands, the applicable regulation is 451 pages. Declaration of Baselines and Maritime Zones Outer Limits 2016 (2016) (Marshall Islands), http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/DEPOSIT/mhl_mzn120_2016_2.pdf.

89. Certainly, the Marshall Islands has taken an approach to the lodgment in total that undermined the objective. The Marshall Islands’ data includes the outer edge of the EEZ generated by Wake Island, which the Marshall Islands claims is part of its territory, notwithstanding that it has been in United States possession for over one hundred years. Not surprisingly, the Marshall Islands’ data was immediately the subject of a protest by the United States. This tactic must be counterproductive to the Marshall Islands’ quest for the tacit recognition of the outer limits of its EEZ. *But see*, Giff Johnson, *US: Time to Wake Up*, THE MARSHALL ISLANDS JOURNAL (May 6, 2016), http://marshallislandsjournal.com/Journal_WP/?p=3283

Although the United States claims Wake Island as its territory, the Marshall Islands has now put its competing claim on record at the United Nations, reaffirming that the RMI considers Eneen Kio’ home territory.

The Marshall Islands has ties to Wake—which is known as Eneen Kio in Marshallese language—that predate US claims to this north Pacific island possibly by centuries.

can cope with the inundation of small features and the retreat of the coastline. Of course, there is certainly room for debate regarding the consequences of anthropogenic climate change in relation to international law, particularly should climate change and rising sea level lead to the loss of productive lands or even the abandonment of national territory. This does not mean, however, that the Law of the Sea Convention cannot cope with changes to the world's coasts. For the present, the threat of sea level rise has yet to claim any State, and there is reason to hope that the Convention will not need revision or redefinition to cope with this eventuality being made manifest.